Journal of the International Society for the Systems Sciences | 67th Meeting of the International Society for the Systems Sciences
J.M. Wilby, Editor

PROFESSIONALISING SYSTEMS THINKING IN PRACTICE: WHAT'S NOT TO CELEBRATE?

Martin Reynolds

The Open University, UK

martin.reynolds@open.ac.uk

Abstract

2020 marked a significant landmark for professional recognition of systems thinking in practice (STiP) in the UK. Government approval was secured for a new Level 7 (postgraduate) Apprenticeship Standard associated with an occupational role for the systems thinking practitioner (STP). Professional recognition for the STP can be celebrated on several counts; primarily with installing greater confidence amongst users of, and potential commissioners for, STiP. But professionalization also prompts potential systemic downsides. The paper provides a systemic inquiry into the professionalization of STiP based on a lite-touch framing of four sources of influence from critical systems heuristics (CSH): who gets what (motivation)? who owns what (control)? who does what (knowledge/ expertise)? and who suffers what (legitimacy)? The framing opens up conversation and questions regarding four key stakeholding issues: (i) what value is generated by STiP as a profession and for whom? (ii) what are appropriate governance structures for steering STiP ? (iii) how might the increasing diversity and creativity of STiP be guaranteed and (iv) what ethos of professionalism might circumscribe purposeful development of STiP? On this last question, the paper contrasts two models of possible direction for STiP – client professionalism and civic professionalism. The latter suggests STiP as ultimately generating value as a 'public good' (source of motivation), through 'public work' with appropriate governance to allow for autonomy (control) enabling trusted expertise based on resonance and relevance as much as reliability (knowledge), and adaptable for variable contexts informed by an ethos of social justice and 'public service' (legitimacy); an ethos not to be confused with serving only the public sector. The two models can be considered as occupying opposite poles on a systematic - systemic spectrum of professional development, with client professionalism caricatured as a Systems-industrial complex and the more systemic civic professionalism retaining features of a Systems-adaptive complex. Maintaining ongoing conversation around features of each model may help mitigate concerns around STiP losing her ultimate transformative power – similar to the Ancient Greek tragedy regarding the God of Fire - Prometheus Bound.

Keywords
Civic professionalism, Critical systems heuristics, Public work, Systems thinking in practice, Systems thinking practitioner

1. Introduction: Prometheus (un)bound?

Systems thinking in practice (STiP) is an expression of systems thinking as actually applied in various forms of conventional professional practice – ranging from professions of computer engineering to healthcare and counselling support. STiP might also be viewed as a lifeworld activity inviting lively discussion and contrasting viewpoints from a rich historic lineage of cultural traditions including spiritual and indigenous beliefs, and disciplinary traditions cutting across the spectrum of sciences and humanities (cf. Klein et al., 2022; Wilby et al., 2014). STiP is also the namesake of a postgraduate programme developed and delivered by Open University (OU) colleagues since 2010. The OU STiP programme embodies a means of praxis – an interplay between being systemic and systematic - that

by its very nature defies capture in any purely systematic manner (Reynolds, 2011; Reynolds et al, 2016).

Such capture though is increasingly being advanced through shifts towards the professionalisation of systems thinking. In 2020, for example, the UK Government approved a Level 7 (postgraduate) Apprenticeship Standard supporting a professional role for a Systems Thinking Practitioner (STP).[1] An overview of the occupational role is provided on the Government's website:

> "Support decision-makers in strategic and leadership roles to understand and address complex and sometimes even 'wicked' problems through provision of expert systemic analysis, advice and facilitation." (UK Govt., 2020)

The STP Apprenticeship Standard emerged from an action research programme initiated by the OU in 2014 involving alumni from the postgraduate OU STiP programme (Reynolds and Shah, 2018). Most participants on the programme are mature-age 'students' studying part-time, many of whom hold senior levels of conventional professional responsibility in a range of public to private sectors. They join the programme largely for the benefit of supplementing their existing professional skills with STiP. The active pedagogy offered by the OU provides opportunity for (i) practising, experimenting and developing STiP skills in the workplace, whilst (ii) exchanging experiences with their study colleagues on the programme (Blackmore et al, 2015). The initial outcome from the action research programme revealed extensive frustrations of alumni in continued post-study practising of their STiP skills after completing their STiP studies at the OU. The OU subsequently provided support for some STiP alumni to spearhead the establishment of a government endorsed Trailblazing Group (TBG) for developing a new STP Standard.

Figure 1 illustrates the timeline involving the three phases of action research contributing to the postgraduate Apprenticeship Standard. Whilst Level 7 approval is equivalent to postgraduate standard, the STP Apprenticeship does not have a mandated Higher Education degree (PG Diploma or Masters) status. Planned delivery of the 30 month Apprenticeship by a range of providers (mostly though not exclusively Universities) was triggered after UK government 2020 approval.

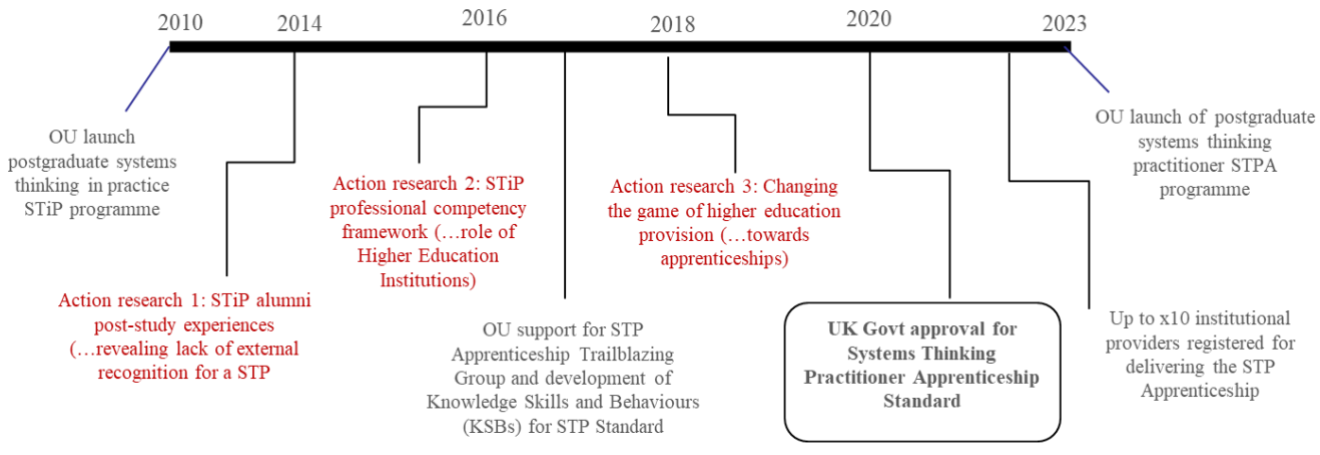

Fig. 1 Timeline of three phases of action research associated with the postgraduate systems thinking in practice (STiP) programme at the Open University (UK) contributing to the Level 7 Apprenticeship Standard for the Systems Thinking Practitioner (STP)

Many benefits come with this emergent professionalisation, including much needed external and elevated recognition/ appreciation of STiP, carrying associated opportunities for more appropriate

[1] At the time of writing, the STP Apprenticeship is available only for employers and employees in England.

financial reward and secure career progression, along with nurturing a sense of collective belonging and confidence amongst disparate, often isolated practitioners. Professionalisation also provides regulation against potential 'rogue', 'charlatan', 'fraudster' practitioners. So, what's not to celebrate?

Concerns associated with the 'capture' of STiP might be understood through an analogy using the ancient Greek legend *Prometheus Bound* authored by the poet Aeschylus (c. 450 BC). Here the renegade God Prometheus is punished by the tyrannically domineering God, Zeus, by being bound to a rock for eternity, for the crime of providing humanity with the gift of 'fire' to shape human destiny. Where Prometheus and 'fire' might be analogous to the agent and agency of 'technology' – including systems thinking - the storyline provides a helpful way of appreciating the challenge of professionalising STiP.

The purpose of this paper is to open conversation around the future destiny of systems thinking as a professional practice. Given the potential benefits with professionalising STiP, how might we better shape its emergence, avoiding possible corrosive and potentially corrupting tendencies of excessive external regulation and privileging of particular interests? A lite-touch approach to using critical systems heuristics (CSH) is deployed as a framing device for triggering the conversation. I draw also on the works associated with public policy support from Albert Dzur, Harry Boyte, and Thomas Schwandt for identifying risks and opportunities for professional support.

In a later alternative and more optimistic follow-through play - *Prometheus Unbound* - by the English poet Percy Shelly (published in 1820), the God Hercules comes to the rescue with unchaining Prometheus from the Caucasus Mountains. The use of pluralistic 'Gods' in our storytelling is worth retrieving in our framing of conversation around professionalising STiP

2. Framing the Conversation: Political Ecology of Professionalising STiP

West Churchman frequently played with theological ideas of God and Gods in his first rendition of the twelve categories of planning (Churchman, 1979), underpinning what Werner Ulrich (1983) later mapped out and eventually translated as twelve critical systems heuristics questions (CSHq1 - q12). The theological focus was particularly prevalent in Churchman's discussion of the Guarantor category (CSHq9) – the stakeholding issue associated with sources of knowledge (the third of four sources of influence in CSH[2]). Guarantors invite a sense of assurance (or certainty) around successful implementation of a system (cf. Churchman, 1979 pp. 97-101). Quoting his marketing friend, Wroe Alderson, Churchman quipped around an acronym - GOD (guarantor of destiny) – as a potentially helpful source of systems support (ibid, p.98). Whilst such assurance is required by those 'involved' with implementing any system, Churchman also identified 'religion' as one of the key 'enemies of the systems approach'[3] – occupying what Ulrich would later call sources of legitimacy (the fourth source of influence in CSH). So as with Ancient Greek traditions and storylines, systems interventions from a CSH perspective may suggest one dominant form of guarantor underpinning those 'involved' with the system, though importantly other guarantors ('Gods') might be at play as expressed by those 'affected' by the system.

An adapted CSH template can be used as a tool for exploring any situation of interest with questions of political ecology (relating to successive sources of influence): (i) who gets what (motivation)? who owns what (control)? who does what (knowledge/ expertise)? and who suffers what (legitimacy)? Capitalised initials of each active verb in successive questions (Gets, Owns, Does, and Suffers) speaks neatly to a theological imprint (GODS). Following the theological theme in requiring some sense of guarantor, the four sources successively question the level of assurance associated with an unfolding of any reference system. The last question recognises that assurance around system design is never

[2] Sources of motivation, control, knowledge and legitimacy (Ulrich, 1983)

[3] The other 3 'enemies' being politics, aesthetics, and morality (Churchman, 1979 Part 4).

going to be full-proof (fully guaranteed). Core to a critical systems thinking tradition (Jackson, 2019) storylines of STiP invite attention to multiple sources (of rationality) beyond any assumed monotheistic deity.

Figure 2 illustrates the use of the template in raising particular questions regarding the professionalisation of STiP - a situation of interest – rendered as a CSH reference system.

Sources of influence	**Professionalising STiP** as a *complex* system Dimensions of 'political ecology' using critical systems heuristics (CSH)		
Sources of **motivation** **..beneficiaries**	*Who* **Gets** *what?*	…employer market, labour market, individual practitioners, professions requiring STiP, economy, civil society, planet Earth… ??	The 'involved'
Sources of **control** **..decision makers**	*Who* **Owns** *what?*	…STiP professional bodies, government regulatory bodies (e.g. IfATE* in UK), commercial interests…??	
Sources of **knowledge** **…practitioners/ experts**	Who **Does** what?	…expert practitioners, training providers (e.g. consultants and/or HEIs), assessors (e.g. End point assessor organisations in UK)… ??	
Sources of **legitimacy** **…victims/ disaffected**	*Who* **Suffers** *what?*	…existing management regimes, hierarchical governance structures, mechanistic mindsets, individual experiences, beyond the mainstream…??	The 'affected'

* Institute for Apprenticeships and Technical Education

Fig. 2 Conversation space for exploring professionalising of systems thinking in practice (STiP)

I describe the reference system used here as 'complex' based on the distinction I hold that whilst 'complicatedness' is about interrelatedness of entities in a situation, complexity particularly invokes different stakeholder perspectives on the interrelatedness in a situation. CSH flushes out four perspectives: intended beneficiaries of the system; decision makers in command of resources to enact the system; 'experts' with relevant know-how to enact the system; and those potentially disaffected or falling victim to the reference system (the latter being a perspective often marginalised or ignored altogether in typical so-called 'win-win' interventions).

The stakeholding issues relating to systems thinking as a profession sketched in Fig.2 are by no means exhaustive, but rather indicative of what perhaps need to be in the fold of any purposeful conversation on professionalising STiP. A further unfolding of the system for professionalising STiP can prise out contrasting models of professionalism. With the influence of Thomas Schwandt (cf. Reynolds and Schwandt, 2017) I draw here upon scholars of professionalism based in USA.

From a general historical perspective Albert Dzur (2008) identifies three models of professionalism. Firstly, social trusteeship, where professionals work on behalf of citizens giving voice to their concerns, though remaining dispassionate in the process. A second model of technocratic professionalism emerged in the 1960s with a surge of professional bodies amidst distrust of ruling elites. Technocratic professionalism is characterised as being disempowering of democratic publics – convincing decision makers that lay expertise is not to be trusted. Technocentrism is also

depoliticising, by converting complex political issues into solve-able problems using the skills of the profession, thus making allegiance to government administration and bureaucracy rather than civil society. The third model identified by Dzur is democratic professionalism; a revitalisation of earlier social trusteeship but where beneficiaries are not regarded as clients or customers but rather as citizens, each with a stake in professional decision making. Democratic professionalism "seeks public good *with* and not merely *for* the public (*ibid*, p.129 original emphasis).

Harry Boyte (2011; 2014) provides a potential ethos to underpin democratic professionalism in demarcating a difference between deliberative democracy and 'public work'. Drawing on the work of John Forester, Boyte signals the problems of the deliberative practitioner in focusing excessively on language "We always face the danger that we will listen to what is said and hear words, not power; words, not judgement; words, not inclusion and exclusion; 'mere words' and not problem-framing" (Forester, 1999 cited in Boyte, 2014 p.1). Boyte's notion of public work goes beyond deliberation as a strand of civic practice and invites more a sense of civic agency, where professionals and citizens act together in order to co-create the world rather than just deliberate about the world. The sentiment here chimes with the epistemological shift in STiP towards second-order cybernetics: "… the transition of oneself from an *observer of a reality* which is considered to be outside oneself, to a participant in the same reality, and then towards being a *co-creator of that reality*, requires fundamental cognitive and emotional reorientation" (Buddrus, 1996, quoted in Bell and Morse, 1999 p. 85. My italics)".

A model of STiP professionalism based on generating a public good as public work can be considered in terms of providing a public service. This invites attention to socio-ecological responsibility. The best that might be achieved in developing professional responsibility based on public work is to have some means of continual conversation amongst practitioners, and with civic society around changing flux of ethical positioning, rather than seeking an idealized single framework. Thomas Schwandt (2015) draws out the challenges of nurturing professional responsibility in citing the work of Steven Brint: "It will not be possible to do so without acknowledging the contested terrain of social responsibility and the role of non-professional actors in definitions and redefinitions of this terrain" (Brint, 2015 p.34). The best that may be achieved is providing an appropriate framework for enabling such conversation.

The contours of professionalism described above enable two models of professionalising STiP to be expressed; one depicting sources of concern, and one expressing potential opportunity. The first is what I have called a model of *client* professionalism, and described as a systems-industrial complex (Prometheus bound). The second is referred to as a model of *civic* professionalism and described as a systems-adaptive complex (Prometheus unbound).[4]

3. Sources of Concern (Prometheus Bound)

To be clear from the outset, I personally support, and indeed have played a modest part in, the development of the STP Apprenticeship. The opportunities afforded are significant; not least for rethinking the 'teaching' of systems thinking through an apprenticeship programme. Engaging first-hand with colleagues on re-purposing our existing academic programme of STiP at the OU towards

[4] The term 'systems-industrial complex' is adapted from the idea of military-industrial complex used originally by Dwight Eisenhower to describe a malign set of relationships perpetuated in the US economy in the early 1960s; one symptom of which was the so-called arms race between the then USSR and USA. A similar set of systematic triadic dynamics – an iron triangle - has been adapted in describing an Evaluation-industrial complex (Reynolds, 2015) and a Conservation-industrial complex (Reynolds et al., 2019). In each case, more benign systemic expression based on normative ideals of boundary critique were explored and referred to in terms of a contrasting 'adaptive complex'.

delivering a postgraduate level apprenticeship programme has generated exciting possibilities for the future of STiP. It has also generated some potential unease.

Figure 3 illustrates some initial sketch features of what a model of *client professionalism* may look like in specific relation to a systems thinking practitioner (STP).

Sources of influence		Model 1: professionalising a systems thinking practitioner (STP) Systems-**Industrial** Complex (Client professionalism…Prometheus bound)	
Sources of **motivation** **Values**	**Who Gets what?**	• Clients as '**consumers**' with capacity to pay for STP services • Serving customers' **prescribed** needs and objectives • based on utilitarian ethos in delivery of **instrumental value**	The 'involved'
Sources of **control** **Power**	**Who Owns what?**	• Single STP professional body as **gatekeeper** representing multiple clients • with command over systems literacy based on set **constitutive rules** • regulated by **technocentric** informed power ('expertocracy')	
Sources of **know-how** **Knowledge**	**Who Does what?**	• Practitioners qualified by **merit** • reflecting '**competence**' in STP knowledge, skills, and behaviours (KSBs) • to ensure guarantor attributes of **reliability**	
Sources of **legitimacy** **Politics**	**Who Suffers what?**	• **Negatively affecting** prevailing **lifeworld** of systems practitioner as 'amateur' though experienced capable bricoleurs working with ethos of embedded pragmatism - 'adaptive thinking in action'	The 'affected'

Fig. 3 Modelling systems thinking in practice as *client* professionalism

Concerns are mostly centred around the potential of generating a diminished expression of systems thinking. The phrase 'client professionalism' is not in any lexicon of professional studies that I could find, though rhetoric around 'listening to the client' and 'customer knows best' is of course pervasive in most professional traditions. I use the phrase here in specific relation to systems thinking in practice for two reasons. Firstly, the term 'client' might be proxy to describing an intended beneficiary from any 'systems change' or transformation underpinning interventions supported by STiP. Secondly, in coupling 'client' with 'civic' professionalism as a bipolar construct, I wish to bring out the systematic sensibilities of 'client' in specific opposition with wider systemic sensibilities associated with 'civic'.[5] To avoid further ambiguity, client should not be confused with sole reference to private sector interventions. The term 'client' can equally be used for beneficiaries in public and third (voluntary) sectors.

Serving clients' interests is the bedrock of most professional bodies. But where basic ethical principles of 'do no harm' and 'do no wrong' are only (systematically) focused on the 'client', at the expense of wider stakeholder interests, professional practice might be described as shallow – conforming more to a 'trade' than a profession. For effective STiP, following Churchman and Ulrich, systems intervention will inevitably cause harm (i.e. those disaffected by a system of intervention), and such harm may itself be expressed through discomfort of the 'client'. For STiP the terms of reference associated with the customer/ client for a STiP intervention may not always turn

[5] In terms of cognitive mapping, the contradistinction between 'client' and 'civic' provides a bipolar construct reducing possible ambiguity of meaning, as rooted in George Kelly's personal construct theory (cf.

out to be 'right'. Typically as STPs we are dealing not in the first instance with (systematic) problem solving but rather more (systemically) with problem structuring (or resolving).

Doing work through *client* professionalism may typically be associated with a singular source of command and control with a professional body acting as gatekeeper to a professional Standard; governed by set systems approaches each having strict technocratic constitutive rules to be adhered to by STPs. The work therefore requires disciplined benchmarking against externally constructed set of knowledge, skills and behaviours (KSBs), providing a source of *reliability* based on standardised replicability across previous situations of interest.

This description of client professionalism – with its dominance of systematic over systemic - reflects what I have called an ethos of industrial thinking in action; STiP used in a purely instrumental manner. The peculiar triadic relationship between 'client' and the professional systems thinking practitioner, as mediated through a 'professional body', can be further caricatured as a systems-industrial complex; an iron triangle of mutually serving interests. An alternative model of deeper professionalism might be envisioned with a different source of motivation for the STP; one driven by wider systemic attention to socio-ecological betterment.

4. Sources of Opportunity (Prometheus Unbound)

The metaphor of 'gardening' is often used to distinguish emancipatory features of STiP. 'You Can't Grow Roses in Concrete' is the title of an action research report using systems thinking ideas on organisational reform to support high quality safe practice for childcare services in UK (Munro et al. 2016). The title epitomises the need for focussing on developing appropriate institutional creative space. In my reading of the report, the 'roses' can refer immediately to the Children of childcare services and to the multitude of professionals responsible in different ways to support the children.

Nurturing a culture of care is as relevant for professionals as those for whom professionals may serve. Whilst systems ideas can technically support the analytical demands required with interventions – for example the excellent use of system dynamics deployed in the Munro Report - a deeper sense of civic professionalism for STiP may also prompt systemic sensibilities amongst other professionals for nurturing a culture of care.

Figure 4 illustrates some sketch features of a model of *civic* professionalism in relation to professionalising STiP. This alternative description of civic professionalism – with its dominance of systematic over systemic - reflects what I have called an ethos of adaptive thinking in action; STiP used in a pragmatic manner, where the triadic relationship between a generic 'citizen' and the professional systems thinking practitioner, as mediated through a 'professional body', can be regarded more as a systems-adaptive complex; a triangle of systemic betterment serving wider socio-ecological interests.

Sources of influence		Model 2: professionalising a systems thinking practitioner (STP)	
		Systems-**Adaptive** Complex (civic professionalism…Prometheus unbound)	
Sources of **motivation** **Values**	**Who** Gets **what?**	• Beneficiaries ultimately as **citizens** within civil society • in support of providing **public good** (common good) • based on pragmatic ethos on co-developing **value** (personal/ collective)	The 'involved'
Sources of **control** **Power**	**Who** Owns **what?**	• Collective range of STP professionals as **stewards** in nurturing STiP • with **co-operative** influence on an evolving systems literacy • regulated by flux of events, people and ideas constituting civic **lifeworlds**	
Sources of **know-how** **Knowledge**	**Who** Does **what?**	• Practitioners qualified by **experiential** wisdom • reflecting '**capabilities**' beyond STP knowledge, skills, and behaviours (KSBs) • to ensure co-guarantors of **resonance** and **relevance** with reliability	
Sources of **legitimacy** **Politics**	**Who** Suffers **what?**	• **Negatively affecting** prevailing oppressive governance structures including **System** world of technocratic meritocracy and corporate autocracy, with systems practice measured against rigid competence standards of conformance and compliance associated with an ethos of instrumental 'industrial thinking in action'	The 'affected'

Fig.4 Modelling systems thinking in practice as *civic* professionalism

In contrast with client-professionalism, the beneficiary of any intervention supported by STiP is envisioned more in terms of the generic citizen. A systems-adaptive complex is motivated by professional attention to developing value with intended beneficiaries rather than merely determining value (cf. Schwandt and Gates, 2021). As with the gardening metaphor, STPs might be seen as stewards of an intervention nurturing an evolving systems literacy with participants regarded as co-actors in developing systemic betterment, subject to the changing flux of events, people and ideas as the intervention unfolds. STPs are here equipped not just with know-how regarding reliability with systems tools ('disciplinary' aptitudes), but also with co-guarantors (CoGs) of resonance (interdisciplinary aptitudes) and relevance (transdisciplinary aptitudes). Wider attention from singular attention to 'reliability' to multiple CoGs represents a shift from what I earlier termed rigour-mortis (Reynolds, 2015) to what might be called rigour-poiesis; enabling a flourishing of guarantor attributes beyond scientific reliability. Such practice might be referred to as 'bricolage' – an approach that privileges experiential agency (capability rather than competence) of the practitioner (the bricoleur or STP) in working *with* (rather than on) other actors, over and above purely the disembodied agency of tools and techniques; an underpinning approach to STiP as presented in the OU STiP programme (Reynolds et. al, 2020).

5. Key Challenge for the Professional STP

The two models are presented here as extreme ideal types and occupy what I have called two different though interrelated worlds. The terms Lifeworld and System (world) are borrowed and adapted from works of Jurgen Habermas (1984).[6] I have found the distinction helpful in situating the actual practice of STiP as part of the lifeworld, amidst the artefactual products of STiP that sometimes migrate to the more reified System world (with capital initial to denote such reification). The latter is where we, as citizens, are continually subject to rules and regulations and codes of practice – including professional practices. The lifeworld is the everyday world that we share with others, comprising value judgements associated with multiple actors. Relatedly, Gerald Midgley makes a helpful distinction between Sacred (highly valued – beyond dispute) and Profane (more 'earthly'/human/ secular – implicitly more open to dispute) to describe rituals of marginalisation between value judgements (Midgley, 1992). Where systems become reified as social technologies there is an implicit firming up of value judgements as more bounded (boundary) judgements – thus assuming a more sacred status. Clearly the professional Standard itself is now part of this more sacred System world; a bounded set of regulatory rules associated with benchmarking STiP.

Figure 5 illustrates these two worlds along a timeline in relation to the development of the STP Apprenticeship standard. A key challenge for the STP is in navigating between the two worlds.

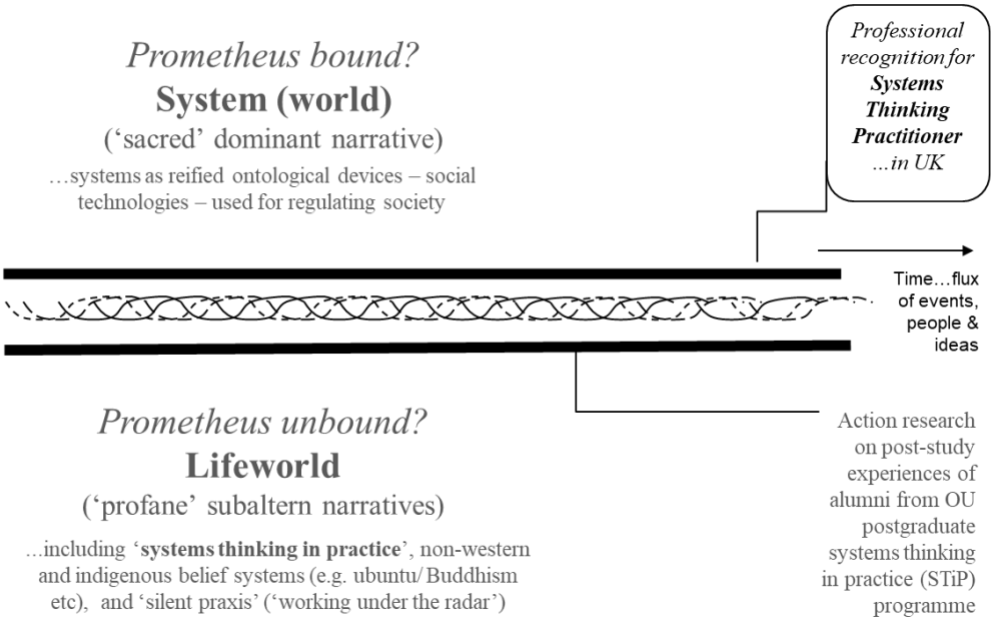

Fig. 5 Timeline of two 'worlds' of systems thinking drawing on Habermas' distinct spheres of interaction (Habermas, 1984) between: the professional and administrative sphere in which we work and/or interact with institutional authority (System), and the social arena which comprises our interactions with society at large (Lifeworld).

[6] Habermas uses 'System' rather than 'System world' to denote the administrative sphere of institutional authority. my preference for

In any intervention the peculiar role of the STP is to support practitioners in navigating between an essentially *systemic* lifeworld (in which the practice of systems thinking is mainly situated) and the various *systematic* regulatory devices (as sometime artefacts of STiP) that inhabit the System world. Moreover, the STP needs also to navigate between her own lifeworld and the emergent collective standardisation of STiP now emerging in the System world.

In earlier times, Mary Parker Follett expressed well the challenge of living between these two worlds: "Experience is the power-house where purposes and will, thought and ideals, are being generated. I am not of course denying that the main process of life is that of testing, verifying, comparing. To compare and to select is always the process of education. . . When you get to a situation it becomes what it was plus you; you are responding to the situation plus yourself, that is, to the relation between it and yourself… Life is not a movie for us; you can never watch life because you are always in life… [T]he 'progressive integrations,' the ceaseless interweavings of new specific respondings, is the whole forward moving of existence; there is no adventure for those who stand at the counters of life and match samples" (Follett 1924, p. 133-134)

Systems thinking practitioners straddle between these two worlds. The responsibilities are of two orders: (i) 1st order responsibility to stakeholders in supporting their navigation between the two worlds, whatever the level of intervention; and (ii) 2nd order responsibility in navigating between their own lifeworld of STiP and emergent expressions of a professional STP Standard. Perhaps somewhat uniquely, the professional challenge of being a STP involves continuing the conversation around standardising of STiP such that any Standard remains adaptive to the changing flux of events, people and ideas influencing both worlds.

6. Summary

The framing exercise adopted here for exploring the professionalisation of STiP is, like all exercises in boundary judgments, partial in two senses; partial in being incomplete, and partial in being inevitably biased (cf. Ulrich, 1996). In terms of being incomplete, the two framing models presented – client professionalism and civic professionalism – are perhaps better understood as extremes on a spectrum of professionalism, rather than being mutually exclusive. The spectrum relates more generically from what might be called shallow professionalism (with a systematic focus on needs of immediate 'clients') and deep professionalism (with more systemic 'civic' attention to wider, longer-term, socio-ecological society). Variants of framings may exist across the spectrum amongst different practitioners, with different viewpoints. Encouragingly, my own experience with the emergence of the STP Standard in the UK suggests key players veering more towards the civic than the client model.

There may of course also be more appropriate framings beyond both poles of this spectrum. The sketch notes in Figures 2 and 3 reflect concerns about professionalising STiP coming from my own experiences and practice. My own bias in generating this particular framing rests explicitly on CSH and the wider critical systems thinking tradition of boundary critique (Ulrich and Reynolds, 2020). Drawing on this tradition, a number of principles might be discerned that speak to the peculiar power of STiP - akin to the power of 'fire' exercised in Greek mythology by the God of Fire, Prometheus.

One core principle of STiP is that of relational thinking (in practice), and particularly the continual need for exercising the interplay between being systemic and being systematic. Having a systemic ethos of civic professionalism does not preclude systematic attention to any particular intended beneficiary (whether considered a client or customer), but critically neither should such attention preclude or discount attention to the wider systemic influences and impacts. STiP involves the *craft* of managing the interplay between systemic and systematic, as against merely being a *trade* in exercising prescribed systematic deliverables.

A second core principle is perspective thinking (in practice). The adapted models from CSH provide a narrative of questions involving four perspectives relevant to the political ecology of any situation of interest – who gets what (intended beneficiaries)? who owns what (key decision makers)? who does what ('experts' required)? and who suffers what (victims or disaffected)? The advantage of using CSH as a references framing is not only the explicit attention given to different perspectives (i.e. what might be called a 'complex system'), but in particular the continual dynamic conversation between those involved in any system design (GOD-like) and those dis-affected in the process and/or by the resulting system (presence of alternative GODS). The theological storyline of multiple Gods underpinning the political ecology adaptation of CSH presented in this paper challenges autocratic and/or technocentric concerns regarding the professionalising of STiP.

The third principle is that of adaptive thinking (in practice). Any complex system of design (for example for regulating professional practice) might be expressed either as a malign non-adaptive system of self-serving interests (for decision makers and experts serving 'clients') or as a more benign adaptive system serving wider everchanging interests (including those of previous disaffected). The principle is based on Ashby's Law of Requisite Variety:

" …if a system is to be able to deal successfully with the diversity of challenges that its environment produces, then it needs to have a repertoire of responses which is (at least) as nuanced as the problems thrown up by the environment. So a viable system is one that can handle the variability of its environment. Or, as [Ross] Ashby put it, only variety can absorb variety." (adapted from Naughton, 2017)

Ensuring some level of requisite variety underpins a core feature of any governance system, but particularly one associated with the professional Standard for a systems thinking practitioner. It lends attention to the risks of moving to a Systems-industrial complex from a Systems-adaptive complex.

Figure 6 attempts to summarise some features of a model of adaptive civic professionalism and criteria for evaluating performance. As a shortcut, it uses a simple systems model (three dimensions of what/how/why questions) to simplify attributes of the complex systems model (provided by four dimensions of CSH sources of stakeholder influence).

System parameters What? How? Why?	**System change…** **Towards** a model of deeper STiP professionalisation	**Measures of success** Criteria for evaluating
(What?) *Motivation* and values	A profession for …(co-)Developing individual and collective value as a ***public good*** (or 'common good' with ecocentric sensibilities) from an **interplay of instrumental (utilitarian) value and intrinsic (whole 'systems') value**…as against merely 'determining value' according to existing market or administrative demands	**Efficacy** …does the system of professionalising STiP work in terms of generating a public (common) good?
(How?) *Control* and power	By means of… ***public work*** in supporting civil 'agency' to question and challenge governance structures associated with existing/ conventional frameworks including market framings around economic growth; leveraging **relations of power-within, power-with and power-to**… as against reproducing technocentric ('power-over') relations and/or serving existing ('power-over') governance structures	**Efficiency** …does the system best use available resources - non-human (natural and artefactual) and human (know-how) - through *public work* to meet the purpose (the What) in line with it's wider meaning (the Why)?
(How?) *Knowledge* and expertise	Through…***public work*** in leveraging co-guarantors **(CoGs) of reliability, resonance, and relevance** in supporting an interplay between recovery of systemic sensibilities and enhancing systems literacy, with emergent STiP capabilities …as against relying *only* on 'reliability' of externalised competency frameworks and professional Standards	
(Why?) *Legitimacy* and politics	In order to…promote an ethos of ***public service*** support through adaptive thinking in action based on a model of **civic professionalism** (ongoing civic 'conversation') **….**as against an ethos of industrial thinking in action based on a model of client professionalism with constraining and contentious framings reinforcing a culture of meritocracy	**Effectiveness**…. does the system of professionalism have wider legitimacy as a public service generating systemic betterment?

Fig. 6 Summary of systems change envisioned for a shift from 'client' to 'civic' professionalism

This paper is not intended to be a creed or manifesto but rather a space for ongoing conversation. Other spaces may be contrived using different techniques. They may foster different conversations. What *is* to celebrate are the opportunities afforded by the opening of this conversation space to continually co-evolve/co-design a profession that retains pride and trust and integrity of STiP. The alternative is letting the opportunity slip into another mainstream form of praxis subject to elite capture by prevailing interests of either outside kleptocrats (using systems literacy as a form of 'systems washing' – revealing either impoverished systemic sensibilities and/or as a device for defending positions of power) or technocrats within the community (what John Seddon might call 'toolheads' – reliant dogmatically, rather than adaptively, on constitutive rules of systems approaches).

The God of fire, Prometheus, provides in my view a suitable analogy for the STP. There is in STiP a kernal of potential power relations (power-over, power-with, and power-to) that can be mobilised for improving complex situations of change and uncertainty. We can overplay the power – particularly when STiP artefacts are inappropriately deployed as part of a System world of inappropriate governance structures (Ison and Straw, 2020). Churchman was continually alert to this God-like tendency in referring to the warnings and downsides of being a 'heroic' systems practitioner (Churchman, 1979)

References

Ackermann, F., & Eden, C. (2020). Strategic options development and analysis. In Reynolds and Holwel, eds. (2020) *Systems approaches to making change: A practical guide*, 139-199. London. Springer-Verlag

Bell, S. and S. Morse (1999). *Sustainability Indicators: Measuring the Immeasurable*. London, Earthscan.

Blackmore, C.; Reynolds, M.; Ison, R. and Lane, A. (2015). **Embedding sustainability through systems thinking in practice: some experiences from the Open University.** In: Wyness, Lynne ed. *Education for Sustainable Development Pedagogy: Criticality, Creativity, and Collaboration.* PedRIO occasional papers (8). Plymouth University: Pedagogic Research Institute and Observatory (PedRIO), pp. 32–35

Boyte, H. C. (2011). "Constructive politics as public work: Organizing the literature," *Political Theory* 39: 630-660.

Boyte, H.C. (2014) "Deliberative democracy, public work, and civic agency," *Journal of Public Deliberation*: Vol. 10: Iss. 1, Article 15. Available at: http://www.publicdeliberation.net/jpd/vol10/iss1/art15

Brint, S. (2015). "Professional responsibility in an age of experts and large organizations" (pp. 89-107) in D.E. Mitchell & R.K. Ream (Eds.), *Professional Responsibility: The Fundamental Issue in Education and Health Care*. London: Springer.

Churchman, C. W. (1979). The Systems Approach and its Enemies. New York: Basic Books

Dzur, A. (2008). *Democratic Professionalism: Citizen Participation and the Reconstruction of professional ethics, Identity, and Practice.* University Park, PA: The Pennsylvania State University Press.

Follett, M. P. (1924). Creative Experience. New York, Longman Green and Co

Habermas, J (1984) *Theory of Communicative Action* Boston. Beacon Press

Ison, R., & Straw, E. (2020). *The hidden power of systems thinking: Governance in a climate emergency*. New York. Routledge.

Jackson, M. C. (2019). *Critical systems thinking and the management of complexity*. John Wiley & Sons.

UK Government (2020) Systems Thinking Practitioner Level 7 (postgraduate) Apprenticeship Standard https://www.instituteforapprenticeships.org/apprenticeship-standards/systems-thinking-practitioner-v1-1 (accessed 10/08/2024)

Klein, L., Buckle, P., Nguyen, N., Preiser, R., & Ison, R. (2022). Growing a community of conversation and understanding: The 2023 agenda for the systems community. *Systems Research and Behavioral Science*, *39*(6), 1103-1107.

Naughton, J. (2017) Ashby's Law of Requisite Variety. Blog posting on series of invited contributions from different authors *What Scientific Term or Concept Ought to be More Widely Known?* Published by Edge https://www.edge.org/response-detail/27150 (accessed 24th March 2021)

Midgley, G**. (1992**). The sacred and profane in critical systems thinking. *Systems practice*, *5*, 5-16.

Munro, E., Turnell, A., & Murphy, T. (2016). You can't grow roses in concrete. *Action research final report). Perth: Resolutions Consultancy*.

Reynolds, M. (2011). **Critical thinking and systems thinking: towards a critical literacy for systems thinking in practice.** In: Horvath, Christopher P. and Forte, James M. eds. *Critical Thinking.* New York, USA: Nova Science Publishers, pp. 37–68.

Reynolds, M. (2015). **Rigour (-mortis) in evaluation**. *Evaluation Connections: The European Evaluation Society Newsletter*, June 2015, Special Edition, pp.2-4.

Reynolds, M.; Shah, R.; Wedlock, E.; Ison, R. and Blackmore, C. (2016). ***Enhancing Systems Thinking in Practice at the Workplace: eSTEeM final report.*** The OU Centre for STEM Pedagogy. Milton Keynes: The Open University

Reynolds, M.; and Shah, R. (2018). **Researching capability development: developing systems thinking in practice capabilities.** In: *Symposium on Governing Complexity: developing appropriate praxis with citizens and organisations*, 12 Jun 2018, Milton Keynes, The Open University.

Reynolds, M.; and Schwandt, T. (2017). **Evaluation as public work: an ethos for professional evaluation praxis.** In: *UK Evaluation Society Annual Conference: The Use and Usability of Evaluation: demonstrating and improving the usefulness of evaluation*, 10-11 May 2017, London, UK Evaluation Society

Reynolds, M.; Ison, R.; Shah, R. and Wilding, H. (2020). **Beyond employability: a more radical role for Higher Education in developing workplace capabilities.** In: *Employability Conference 2020 Expanding the narrative for a rapidly changing world*, 11 Mar 2020, Walton Hall, Milton Keynes.

Reynolds, M. and Ison, R. (2023) *Evidencing systems thinking in practice (Block 1: Introduction)*. Postgraduate module (OU code: TBXY874) in the Systems Thinking Practitioner Apprenticeship programme. Milton Keynes, UK. Open University https://www.open.ac.uk/business/apprenticeships/programmes-england/systems-thinking-practitioner-apprenticeship (accessed 21st August 2023)

Schwandt, T.A., (2015). *Reconstructing professional ethics and responsibility: Implications of critical systems thinking.* Evaluation, 21(4), pp.462-466.

Schwandt, T. A., & Gates, E. F. (2021). *Evaluating and valuing in social research*. New York: Guilford Publications.

Ulrich, W. (1996). Critical systems thinking for citizens. In *Critical systems thinking: Current research and practice* (pp. 165-178). Boston, MA: Springer US.

Ulrich, W. and Reynolds, M. (2020). 'Critical systems heuristics: the idea and practice of boundary critique', in: Reynolds, M.M. and Holwell, S. (eds). Systems approaches to making change: a practical guide. 2nd edn. London: Open University and Springer, pp. 255–305.

Wilby, J., Rousseau, D., Drack, M., Midgley, G., Billingham, J., & Zimmermann, R. (2014, April). Philosophical Foundations for the Modern Systems Movement. In *IFSR Conversation* (pp. 43-53).