

Congruence Engine in action – an emergent editorial

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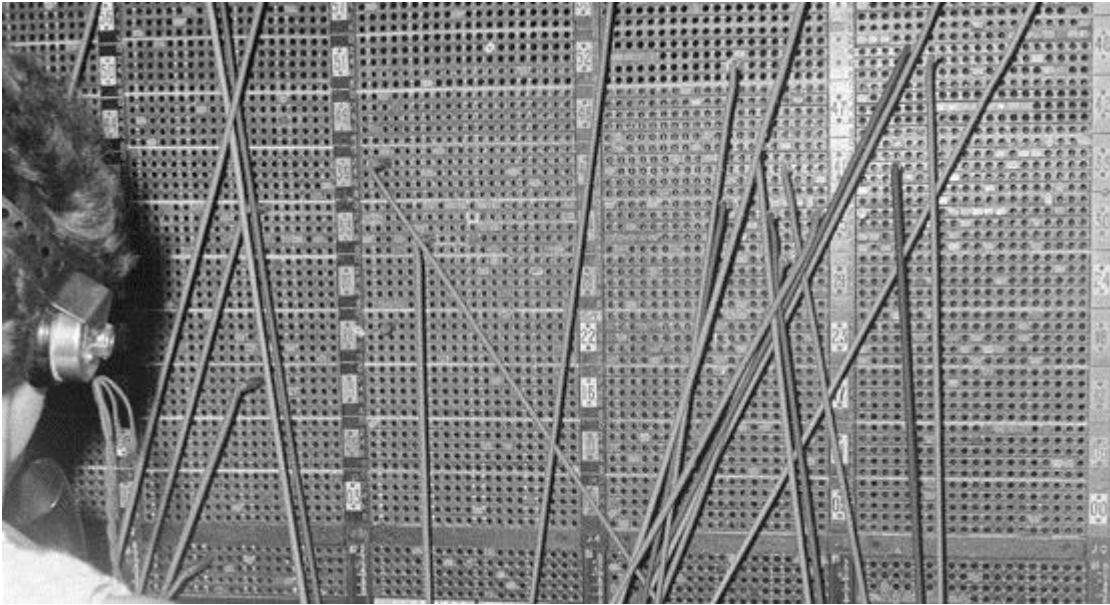
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Introduction

This special issue of the *Science Museum Group Journal* is designed to mark a year of the Congruence Engine project, which began in November 2021. The special issue has been shaped to offer a view into the active workings of Congruence Engine, one of five projects funded by the Arts and Humanities Research Council-led UKRI Strategic Priorities Fund-supported Towards a National Collection programme.^[1] The special issue includes contributions from many people working to realise the potential of the Congruence Engine, consciously crystallising their thoughts, feelings and knowledge through writing.

As a group of people, we are a motley crew of researchers: professionals and academics, senior and early career, freelancers and company directors, paid and voluntary. We are digital humanists, historians, museologists, curators and archivists. We are practicing photographers, filmmakers and creative technologists. We have shared interests, but within those interests that are shared we also have divergent interests. We have similar working practices, as well as different working practices. We are a distributed project, working across the UK, primarily through digital tools, and with differing life circumstances, capacities and priorities. Whilst, as Tim Boon put it in a blog launching the project in 2021, ‘we are Congruence Engine’ (Boon, 2021, emphasis added).^[2] In a project of this size and variety, the ‘we’ needs to make space for a plurality of voices, find points of resonance and shared interest, and allow for more than a degree of *incongruence* too.

In Congruence Engine writing is a fundamental form of action in the project. We do not write just to communicate outcomes; we write as a way of making sense, articulating and elucidating – as part of the research, not only as a result of research. This, so often, manifests in the form of reports, emails, posts to our project Basecamp^[3] and blogs (Congruence Engine blog, 2021–).

However, this special issue is a concerted effort to experiment and formulate an insight into our thinking at the end of our first year of research. In this opening essay, we are looking to frame this special issue as an active unfolding of the process of creating a national collection, situating action research as a method of doing, of opening up, and of activating the multiplicity of ways of creating the connections that transform discrete ‘nationally held’ collections into a national collection that is born out of the process of doing historical research. As Tim Boon puts it in his contextual article, our approach is not that ‘a national collection exists awaiting discovery’:

but that such a national collection must actively be created by acts of linkage; that the research desires of people who explore the past using its material – and intangible – sources should be the motor for creating a national collection; as we have begun to say: ‘to national collection’ – or perhaps ‘to realise a national collection’ – is a verb, not a noun[4] ([Boon, this issue](#)).

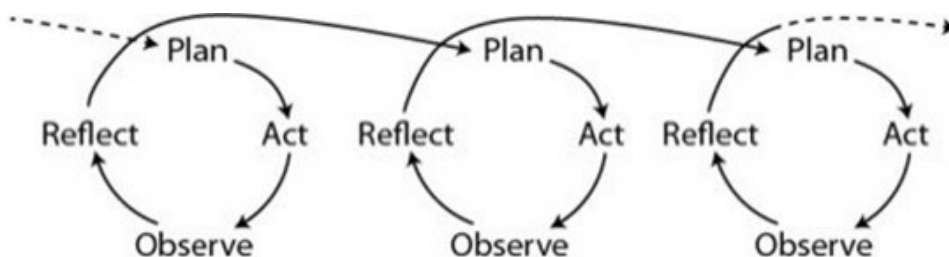
In working through the role of Congruence Engine in unfolding the process of creating a national collection, Alex Butterworth evokes, in his early manifesto for the project, the idea of the Congruence Engine as a ‘social machine’ – as a project that ‘coordinates and harmonises a range of digital technologies, and human curiosities and capabilities, to generate new constellations of collective knowledge’ ([Butterworth, this issue](#)). As such, we see the project as an experiment in active ways of linking. In using a variety of different digital tools and technologies to enable connection making, in using co-production and participatory methods to understand what forms of organising and infrastructure might be needed to enable ‘national collectioning’, and in examining institutional and individual experiences and practices to develop better insights into the barriers to bridging the siloes that have developed through our collecting institutions as they have formed.

Action research and Congruence Engine

Congruence Engine is an action research project. Definitions of action research abound (and some might not put it precisely as we have here) but the simplest is that it is a way of knowing through doing, doing defined by and followed by lots of talking and reflecting (as noted by Popple et al in their contribution, citing [Ripamonti et al, 2016](#)). In the case of Congruence Engine, the action research is a way of driving the need for complex connections between us – the project’s motley crew – and others who we meet along the way and who, as they join us, shift and adjust our course.

We loosely structure and articulate the action research through the traditional action research cycles of planning, action, observation and reflection ([Lewin, 1946](#)), with a strong helping of ‘a slow rhythm of reflection and action which [...] allow making adjustments along the path of transformations’ ([Fals-Boda, 2016, p 159](#)). We’ve been using a simple model of action research cycles (Figure 1) as a way to illustrate and communicate the different modes and phases of our research.

Figure 1



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Ejbye-Ernst, D and Jørring, N T, 2017, p 53

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Beyond the basic action research cycle, there are two other principles from different flavours of action research that have proven key. One – especially important given the size of the project – is to enable forms of self-organisation and for people to go where their energy is (Burns, 2007, p 130). We have needed to and continue to seek forms that allow people to shape project inquiries that are meaningful and exciting for them as well as create space for whole project contact and sense-making. In other words, incongruence as well as congruence. For this, we have developed a loose working group model, where anyone in the project, who has identified a shared interest with others, can set up and take responsibility for a working group and strand of research. This mode of working on the project – self-organising, forging connections driven by interest – is also a mirror to the very social-technical processes we are seeking to understand, those that might drive the national collection as verb and as social machine.

Another is to see knowing as a pragmatic and contextual practice. Researchers interested in undertaking action research have purposefully shifted from ‘idealist question[s] in search of “Truth” towards a concern for engagement, dialogue, pragmatic outcomes, and an emergent, reflexive sense of what is important’ ([Bradbury and Reason, 2001, p 343](#)). For us, action research:

[...] reaches forward, toward an emergent quality of participation which is self-aware, reflexive, in which human experience is highly autonomous and differentiated, and yet recognizes it is embedded in its world ([Reason, 2005, p 39](#)).

We see these principles at work in the special issue. The whole of the special issue could quite easily be seen an act of reflection – from singular-authored pieces organising the emerging findings of the project alongside their own historical expertise, as seen in Ashworth’s piece, to very overt forms of collective sense-making in Popple et al’s dialogue and to new connections and potential being drawn out in vivid detail by Little et al. Yet it is of course not only reflection; we also see planning at work as Gooday et al and Agar look ahead to the Energy and Communications strands of work planned for 2023 and 2024.

We also see the whole of the special issue as an action in its own right; it has brought us into different constellations, sped up and crystallised different relationships and thought processes, and shown where our expertise and social relations are already energised. Small groups have self-convened, attracted to each other by shared interests, disciplinary connection, allied museum collections or by an invitation to join a conversation. We’ve seen people organise themselves to work together to write about their disciplines (see [Winters and Sichani, this issue](#)), people actively seeking to write across disciplines and backgrounds (see Popple et al, this issue; Rees et al, this issue), people coming together to explore similar disciplines through different angles ([Calow, this issue](#); [Stack and Unwin, this issue](#)), and people coming together from different institutions to highlight points of connection and resonance in their collections ([Cocroft and Russell, this issue](#); [Gooday et al, this issue](#)).

As much as convergences have facilitated this journal, they also allow us to notice divergencies, where we touch less, where touch is harder, or sticky ([Ahmed, 2004, p 16](#)), in more difficult and potentially productive ways. Winters and Sichani point to this in their note on the imagined role of Digital Humanities in the project:

Indeed, DH has been structurally conceived as the ‘glue’ that, on the one hand, will help to shape the investigations by ‘translating’ historical inquiries into a set of technical requirements and computational processes and, on the other hand, will monitor, interrogate and seek to mitigate biases in collections, associated metadata and programming techniques employed throughout the project ([Winters and Sichani, this issue](#)).

Different epistemic and ethical responsibilities touch and circulate across these pages in ways that prompt us to ask where we need ‘glue’ or where we need space and light or where we need tighter warp and weft and where we need loose binds, to activate metaphors given to us by the Textiles strand. This played out interestingly in the reflections on the word ‘improvisation’ in the Rees et al piece, where the need to be responsive to the ever-changing atmosphere, interests, needs and approaches of the project was embraced, but not without acknowledgement that this can be disruptive, and laden with challenges and failures.

In refusing to work with ideas of singular world views, we open ourselves to an expanded epistemology – one that actively

encourages a plurality of ways of knowing. The idea of an expanded epistemology was first introduced to action research discourses by John Heron and Peter Reason as four ways of knowing: experiential, presentational, propositional and practical ([Heron and Reason, 2008; 2006](#)). Experiential knowing comes from our own lived experiences, presentational knowing is that which manifests through visual and creative communicative forms, propositional knowing derives from theorising, and practical knowing is grounded in knowing how to do something ([Heron and Reason, 2008](#)). As the project develops we are developing a mode of action that regularly reminds us and our colleagues that all forms of knowledge are valid and important, without having to impose a definition. We, of course, acknowledge that to maintain this approach to knowing requires active work by us as facilitators of the action research. Just stating that all forms of knowledge are important does not remove the inherent power of the dominant forms of knowledge and ontological framings that established heritage discourses, participatory practices and technological service/client modes have left us with.[\[5\]](#)

This came through in the conversation piece Popple et al offer to this special issue. They suggest the ways in which connecting collections requires an expansion of what counts as legitimate knowledge – for example, the way in which requirements for secondary sources in *Wikipedia* reinforce dominant knowledge generation structures. A plurality of ways of knowing are not just discussed but enacted in these pages too. Tim Smith has documented the textiles industry in Bradford over many years, the textiles themselves, the physicality of the work, the trans-local, human-human and human-machine relationships. Here, Smith uses photography to tell the story of Bradford's industry, demonstrating visual forms of knowing as hugely productive ways of navigating the links between collections material, contemporary photography practice, and narrative in stitching together parts of a national heritage story. We also see an alternative form of visual knowing expressed by Paul Craddock whose video essay on connecting industrial collections using video production methods illustrates how the relationship between people and textile machines can be explored and understood.

We are greatly encouraged by rich, discursive, reflective and flourishing forms of thought, reflection and knowledge being actualised through this special issue. The act of writing as a form of action, a year into the project, has unearthed more than just a few potential lines of inquiry for the next year of the project.

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National collection as something 'we' make

Bubbling up in a number of the pieces is something utopian.[\[6\]](#) A national collection, connected, easily navigable, ripe for exploring at scale in a way that has never been possible. This desire for the innumerable artefacts, documents and collections that reside in the UK to come together as one is the driving force behind the Towards a National Collection (TaNC) programme. In the words of Butterworth, the Congruence Engine is working within this space to prototype 'a framework for the creation of a national datascape of cultural heritage as an act of cathedral building' ([Butterworth, this issue](#)). We recognise this work needs to be incremental, or as Butterworth notes, 'generational in its trajectory, with the capacity to incorporate new methods of knowledge representation, data integration, and mediated exploration' ([Butterworth, this issue](#)).

Research commissioned centrally by the TaNC programme has surfaced the multiple ways in which people would expect to be able to interface with this imagined national collection. Drawing on the views of a wide range of people, including historians, museum and archive professionals, teachers, collection users, and non-users of cultural collections, the research found that people were uncertain about what 'national' meant in this context, and that if a national collection was realised, then it would need to allow connections to be made between people and material in the collections, generating new knowledge, and not just linking data and information ([Woodley and Towell, 2022](#)). Within the group of exciting TaNC Foundation projects, Congruence Engine is developing its distinct character that supports a number of the TaNC User Report findings. Following the emergent sense from first full cycle of action research, that a national collection should be understood as 'generational in its trajectory', something that is constantly in formation, we are seeking to purposefully work across multiple scales, collaborate at different levels, and actively work with the notion of national to better understand what technical and social infrastructure might be needed to enable a distributed process of national collectioning.

Wilson's paper focuses specifically on the issue of scale within digital humanities and data science projects, and provides us

with some very useful food for thought on what is gained and what is lost when we focus only on big data and the ability to spot patterns at large. Within the project, we have been relying on our faithful textiles-specific metaphors to think about this via the idea of 'hand-stitched' and 'machine learning' approaches to connecting collections. Wilson sums up some of our initial reflections nicely by noting that the collection holders working with us in the project should be 'operating at whatever scale is most appropriate to the material in their possession, rather than that being pushed by the purveyors of new techniques and technologies regardless'.

Within that wide scale of activity, we cannot escape or skirt around the fact that we are working with people and organisations that have different levels of resources and power to participate in the project and influence decisions. A challenge for us, in investigating the requirements of a national collection as verb, will be to establish a set of experiments that seeks to understand the different relationships and modes of participation that could enable distributed, accessible and equitable approaches to the processes of creating a national collection. We see active thinking around negotiating power in our relationships with people in the contributions from Popple et al and Rees et al. From where we are now, we believe the project needs to continue to develop deeper understandings on the infrastructural requirements for institutions to work better together, to enable greater interoperability between collections data and databases, and to create pathways for non-institutional knowledge to be included into the cultural heritage data landscape that will make up a national collection.

In his contribution, Ashworth begins to point towards the question of 'national', noting that the global and colonial aspects of the histories in question 'scream out' in what could seemingly be a domestic project. We see references to local, regional, national and international scattered throughout other contributions in the issue, unsettling the geographical delineations usually applied in museum and archive collections. Towards the latter half of our first year, we have been working to clearly articulate in our work that none of the thematic topics for Congruence Engine can be separated from Britain's history of capitalist expansion, colonialism and exploitation,^[7] and that a national collection cannot be compartmentalised, just to include artefacts and archives that sit within the UK national borders today.

Congruence Engine is still developing, shaping and flexing as a project. However, what this special issue has highlighted for us is that in working through the intricacies and complexities of forming a national collection, Congruence Engine must not only highlight the technical infrastructure needed to support a digitally-connected national collection, but also help create and enable communities, made up of loose ties and desire to research and share knowledge, to feel empowered and encouraged to commit energy to a collective endeavour of developing a national collection. It is becoming clearer, but not yet certain, that if the potentials of the insights shared in this special issue are realised, then a national collection will only come to exist if people are empowered to actively create it.^[8]

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Emergent editorial

Finally, we want to take the time to note that this editorial cannot claim to do the work of a traditional editorial. We have not pinned down interventions or charted an especially safe course through the articles. Instead, we are using it to sense out what we need to move on to our next action research phase, of how we crew ourselves. It is emergent in the sense that it has lightly noticed and crystallised sites of potential in a project which is still in formation. As Danny Burns puts it 'emergent understandings [...] fashion new pathways for action in the "real time" of their creation' (2007, p 33). The very act of reading everyone's contributions and writing this opening piece has been as much a part of the action research as anything else we have done in the project so far.

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Tags

- [Museum collections](#)
- [Research in museums](#)

- [Collaborative research](#)

Footnotes

1. <https://www.ukri.org/blog/five-projects-join-the-towards-a-national-collection-community/>;
<https://www.nationalcollection.org.uk/about>
2. <https://ceblog.sciencemuseumgroup.org.uk/2022/02/22/we-are-congruence-engine-metaphors-and-project-conduct/>
3. Basecamp is a digital project management space that enables different forms of collaboration, both synchronous and asynchronous in nature.
4. See project blog: Reflecting on the Textiles pilot, <https://ceblog.sciencemuseumgroup.org.uk/2022/08/22/reflecting-on-the-textiles-pilot/> (accessed 25 August 2022).
5. The importance of different roles in collaborative research was emphasised by Keri Facer and Briony Enright in their report on the Arts and Humanities Research Council's Connected Communities programme – these include the facilitator but also the designer, the diplomat and the conscience, among others (2016, pp 4, 74–5).
6. Patricia Gaya and Mary Brydon-Miller suggest the intimate connections between action research as a prefigurative practice and utopian orientations. In the context of universities they 'propose action research as a productive means of engaging with the challenge of re-imagining higher education, positioning this as a critical utopian and prefigurative project which also involves enlightened recognition of the entanglement between presents and futures' (2017, p 36).
7. See our call for participation in the latest round of workshops on the textiles industry:
<https://www.sciencemuseumgroup.org.uk/wp-content/uploads/2022/09/Manchester-Textiles-Workshop.pdf>
8. Thinking museums through emergent action research has implications for persistent debates in museum participation, enabling the mission of museums to be re-conceptualised as being an inquiry into conservation (in material, and social ways) of collections (e.g. Graham, 2019).

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13. Woodley, S and Towell, P, 2022, *Towards a National Collection User Research*, Arts and Humanities Research Council

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