

Documenting Practice Research: Constraints and Opportunities

Dr Sebastian Messer FHEA RIBA

Department of Architecture & Built Environment, Northumbria University, Newcastle upon Tyne, The United Kingdom of Great Britain

<https://orcid.org/0000-0003-1608-0378>

Corresponding author's contact details:

Room 005, Sutherland Building, Northumbria University, Newcastle upon Tyne, NE1 8ST,
UK

e. sebastian.messer@northumbria.ac.uk

Documenting Practice Research: Constraints and Opportunities

Abstract

This Research Note discusses when creative practice becomes practice research and the challenges for and approaches to the documentation of this. It asks the practitioner-researcher to consider why and how they archive their practice, and then, when and what they need to archive. Practice research has been recognised in academia for 40+ years, expanding rapidly since around the millennium. Preservation and sharing is of critical importance to the continuing development of practice research and fundamental to the development of an integrated 'Web of Arts'. The contribution made by this paper is to seek to bridge the diverse disciplinary perspectives involved in this process.

The problem of documenting practice as research sometimes feels as though nothing can be resolved until everything is resolved (by the arrival of an archival infrastructure that works for us!). This paper suggests some choices or workarounds for the practitioner-researcher related to the current degrees of development towards that infrastructure and it also critiques some current archival developments.

Keywords: archive, exegesis, research portfolio, practice research, Web of Arts

Introduction

This Research Note is concerned with how we document the knowledge generated through practice research. It is addressed to practitioner-researchers (artists, architects, designers, etc. who undertake academic research) and research support professionals (archivists, librarians, managers and developers of Current Research Information Systems/Institutional Repositories (CRIS/IR).) While these two groups ostensibly have the same goals – the documentation and dissemination of new knowledge – they approach these goals from divergent perspectives, and even with different language. The first half of this paper addresses the historical development of practice as research and the corresponding forms of documentation which have evolved, and the second half of the paper discusses the attempts to improve the capture and dissemination of practice research, bridging the language gap, and how practitioner-researchers might use the current systems better to our advantage. This paper synthesizes current research and best practice to make this accessible to both researchers and research support professionals.

Practice simply refers to any activities or actions taken to achieve a particular objective. It is not limited by discipline and might be considered a synonym of “the art of...” However, with respect to current discourses around research undertaken in academia, this is often more narrowly understood to mean creative practices; the visual and performing arts, craft, architecture and design, music and literatureⁱ. That is, research in which practice is the methodology, rather than just the subject, and especially in which the outcome of the practice (processual, artefactual, or a proxy documentation thereof) is also a fundamental component of its explicationⁱⁱ.

This paper aims to provide answers to some of the questions which I asked when I first embarked upon my PhDⁱⁱⁱ including, “can an artwork, exhibition, or building “count” as

research?” (Frayling 1993; Till 2008) and “why do I have to write about it as well as do it?” (Krauth 2011). These seem to be perennial questions, as I am now asked them by both colleagues newer to academia and postgraduate research students.

As a model of undertaking research, creative practice has been gaining in recognition and acceptance for over 40 years^{iv}. To further the academic legitimacy of practice research, that is for it to become recognised universally as an epistemology as well as a methodology, there is a broad consensus that it is a critical, collective project to improve how practice research is documented and preserved, shared and used, in order to develop the corpus of knowledge^v. This paper also aims to highlight how this might benefit the individual practitioner-researcher in considering their ‘back catalogue’ as the source of future research.

Why do creative practitioners do research?

Intrinsic motivation:

- To inform their own practice or knowledge about practice
- To share work with their research and practice communities

Extrinsic motivation:

Institutional/ contractual requirements

- internal auditing:
 - performance management
 - workload
- external auditing:
 - institutional esteem
 - funding allocation

Following the academic trajectory from the conversion of polytechnics to universities in the UK and Australia in the early 1990s, accompanied by the introduction of national research audits (in 1986 in the UK, 1993 in Hong Kong, and 2010 in Australia), their subsequent expansion in to ‘non-traditional’ forms of research (with the UK Research Assessment Exercise 2008), and the inclusion of many more staff (in the UK Research Excellence Framework 2021), the requirement to articulate creative practices in terms of research outputs has become increasingly pertinent and pressing for practitioners employed on academic contracts. However, the need to create a Web of Arts^{vi} both to facilitate the dissemination, and for the long-term preservation, of practice research extends far beyond satisfying instrumental auditing for institutional esteem or allocation of national block funding – the ‘black holes’ into which much of that creative activity and research knowledge currently disappears.

Many of the issues around what and how to document practice research are common to all creative practices, albeit with disciplinary nuances and the vanities of institutional differences, and this is a live topic for practitioner-researchers and for research support professionals. There are issues at every level – strategically/ institutionally, tactically/ organisationally, and operationally/ in implementation – which cannot be addressed by any one actor, group, or organisation on their own. This is inherently an interdisciplinary (and anti-hierarchical) ‘wicked problem’. Therefore, this paper starts with a Theory of Change approach. Working backwards from ‘where we want to get to’ to ‘where we are’ – and derived from the literature review informing this paper – the Theory of Change framework maps a sequence or pathway of ‘if this – then that’ conditions: the outcomes from one step become the inputs for the next. This paper primarily concerns the ‘implementation’ stage, and identifies the current ‘gaps’ or impediments in the pathways between ‘enablers’ and ‘implementation’ and between ‘implementation’ and the ‘intermediate goals’ (fig. 1).

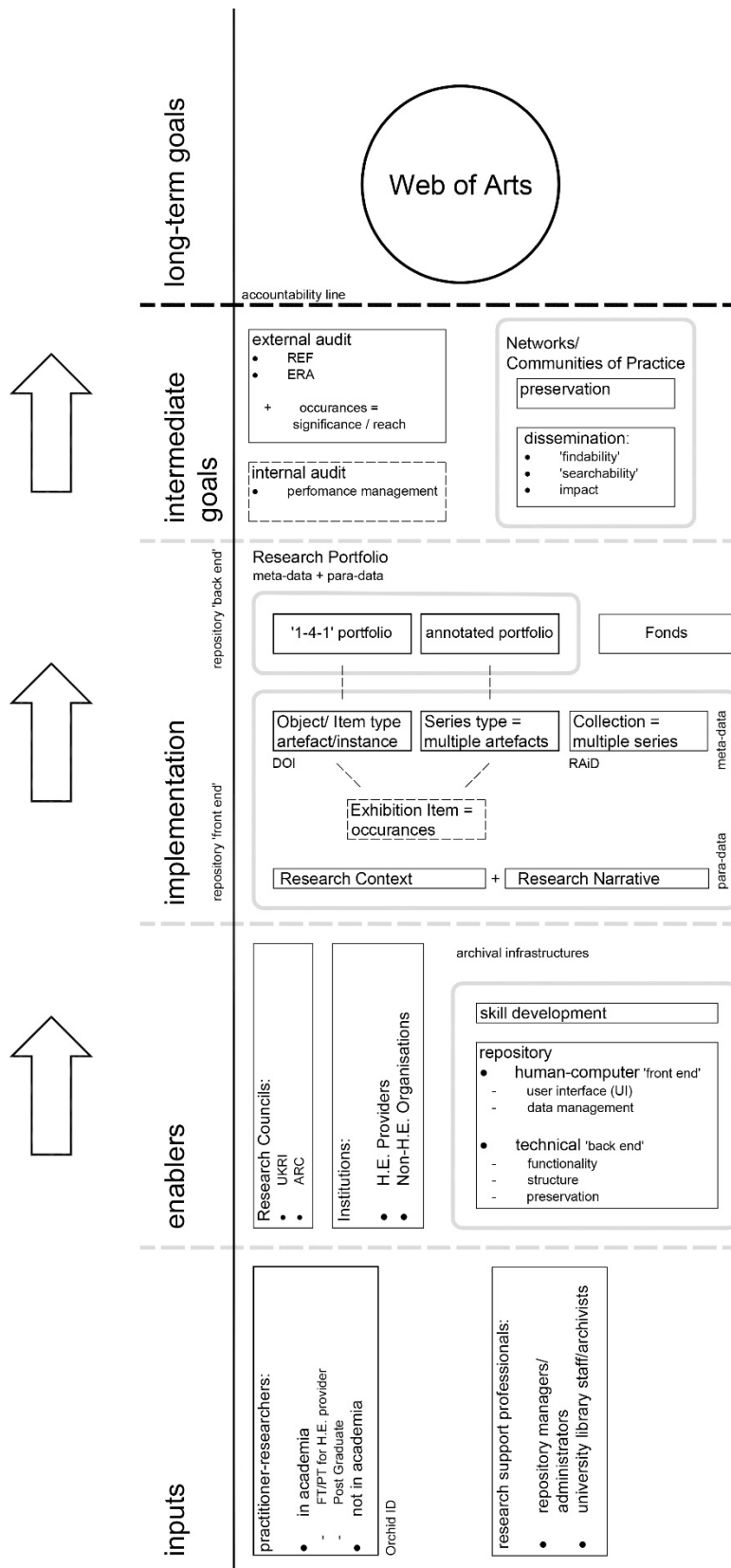


Figure 1. Theory of Change Framework – a strategic overview of the documentation of practice research

From that strategic overview, the paper develops a ‘bottom up’ approach to actions and workarounds for practitioner-researchers.

Jisc, the UK digital data and technology agency for tertiary education, identifies eight key challenges for documenting practice research (Clare 2019). These include, distinguishing between practice and practice research; what and how to capture knowledge from practice; the time required, firstly to plan for, and then to capture the processes contemporaneously; the preservation and accessibility of the documentation of the practice as technology ages and software develops; intellectual property and copyright (this will likely become an even greater issue with generative AI); and the discoverability and retrievability of the knowledge gleaned.

In documenting and sharing practice as research, the purpose is not to facilitate its ‘reproducibility’ in the sense that a laboratory experiment is repeatable (under the same conditions, with the same equipment and tacit lab craft, but by a different team of researchers), although this might exceptionally be the case^{vii}. (In an artistic paradigm, such reproducibility could be considered as plagiarism or even forgery^{viii}). Rather, rigorous documentation demonstrates trustworthiness and enables subsequent research to build on the knowledge claimed without having to restate it or rediscover it from first principles.

The current practice research landscape

Practice research in academia has been led by developments in doctoral studies. James Elkins (2013) observed the UK and Japan were the first countries to begin offering PhDs in ‘studio-art’ starting in the late 1970s. At the time little was known in the Anglo-European academic sphere about the Japanese development of PhDs in the arts.

Higher Level Degrees (3rd Cycle Awards) by practice research

Higher Education (HE) providers across the UK, Australia, and Canada^{ix} have increasingly recognised creative practice as a legitimate research methodology in postgraduate research [in the arts]. Doctoral programmes that incorporated a practical or professional element for examination of the research developed, approximately concurrently, in the early 1980s centred on Leicester Polytechnic in the UK^x and at the University of Wollongong, New South Wales in Australia^{xi}. After the millennium the number of similar programmes increased exponentially bearing a plethora of titles including ‘practice-led’, ‘practice-based’, ‘studio-based’, ‘creative practice’, ‘research through design’ (or RtD) and ‘artistic research’^{xii}. Some of these terms are used only by particular disciplines, thus making it difficult to find the most current research and articles even if they are addressing aspects of practice research more generally. From around 2010, practice research in Doctoral programmes have been introduced by several Northern European and Nordic universities (where some or all of the tuition is in English^{xiii}). Surprisingly then, and perhaps uniquely, the most radical early example of artistic work being accepted as research is found at the University of Provence, France, which awarded a PhD (*cum laude*) in December 1979 to Lucien Clergue for a dissertation consisting solely of photographs^{xiv} (Rowe 1995).

The websites of the Creator Doctus project^{xv} (2018-2021) lists 40 institutions from 19 countries as having participated, with the numbers of students enrolled in this route ranging from one to hundreds, but often with an emphasis on building a cohort and supervisory experience (3rd Cycle in the Arts n.d.; Advancing Supervision for Artistic Research Doctorates n.d.).

Evidencing a thesis undertaken through creative practice research at Doctoral-level generally has resolved around the presentation of *two* components: a textual *exegesis* (this

term is widely used in Australia but is not so common in the UK, where the inquiry and the written component often are both referred to as *the Thesis*) and the presentation of an exhibition, portfolio, or performance, etc. which collectively makes an original contribution to knowledge and to practice in some combination. (In the UK, the assessment of a PhD typically also requires an oral defence of the Thesis, or *viva voce* examination, as a third component, although this is generally not held in public and any clarifications required by the examiners are incorporated into the textual component as ‘corrections’)^{xvi}. There now exists multitudinous exegetical examples across many creative disciplines and practices. The relationship between the presentation and the content of the exegesis to the practice has emerged osmotically, been extensively explored (by Milech & Schilo 2004; Candy 2006; Hamilton & Jaaniste 2010; Ravelli et al. 2013; and Candy & Edmonds, 2018) and, to a certain extent, also codified (for example, see Yee, 2010, and Messer 2019, 260).

The principle of the binary format has been widely adopted for both Masters/ MPhils and Doctorates/ PhDs whenever HE institutions have offered higher level degrees by practice research. However, this is not entirely unproblematic. Elizabeth Price (2021) has challenged its regressive tendency to prioritise ‘traditional’ text forms and standards of scholarship derived from the humanities over those established *a posteriori* in the relevant creative discipline(s). Pointedly she characterises this as, in the worst instances, ‘a sort-of joint honours degree at PhD level, in which the thesis was made up of half of a humanities PhD along with “some art”.’

Nevertheless there is a familiarity to this, in how we now assess students’ process work in taught art and design courses (see Frayling 1993), and – retrospectively – an intellectual consistency to the ‘artefact + exegesis’ format of Doctoral Theses (see Manghani 2021), even though it did not originally come about for those reasons (Krauth 2011).

Problems that can arise are not inherent in the format, but in ensuring that both parts are examined equally and in how the permanent record of the practice is then made.

Alternative Formats

Doctoral students in Australia do not typically have a *viva voce* examination. Students at Royal Melbourne Institute of Technology (RMIT) are required to exhibit their practice's outcomes and their research outputs publicly in an exhibition and an hour-long oral presentation followed by questions, during their final biannual Practice Research Symposium (PRS). The presentation and questions are filmed and this recording is subsequently hosted on the PRS website as a permanent, openly accessible, document linked to the digitally-archived exegesis (whilst the exegeses themselves can also be visually and formally richer than the usual prescription for a textual dissertation). During the State of Victoria's lengthy Covid lockdown, RMIT's students' exhibits of their practice began to converge with those final, expository presentations in the form of pre-recorded, carefully constructed and edited videos, that both show the work produced and explain the research findings (see for example: l'Heureux 2022, and Muggeridge 2021). Although, in some respects, this development is quite specific to RMIT's PRS model and doctoral examination procedure (notwithstanding that the model has been 'franchised' to partner institutions in Europe and Asia, and from 2024 in North America), these developments demonstrate the possibility for a richer form of archival record capturing the whole *praxis* – especially (but by no means, exclusively) in durational and performance-based arts and spatial practices.

External Research Audits (REF/ERA)

The national research funding agencies of the UK and Australia perform periodic audits of research undertaken by Higher Education (HE) providers^{xvii}. Combined with the requirement in REF 2021 for returns from all academic staff with 'substantial responsibility' for

independent research in UK HE institutions, these have (inadvertently) helped embed practice research into non-specialised institutions with departments of art, design, architecture, performance, and creative writing, etc. As Ashley Mason & Adam Sharr note, ‘It is perhaps a curious quirk that the bureaucratic exercise of REF in the UK has straightforwardly granted creative researchers [the] legitimacy...’ that some institutional ‘gatekeepers’ had previously been reluctant to admit (2022, 5).

Although a huge amount of time and attention is committed to these exercises – perhaps especially so in the UK where quality-related (QR) funding is allocated directly from government to universities in proportion to the results of the Research Excellence Framework (REF) – the broader, cultural impacts of these exercises remain contested (for example, see Adams 2022).

Whilst there are some key differences between the application of REF and Excellence in Research for Australia (ERA), in both, practice researchers are typically expected to present their research outputs in the form of a short, textual statement (of around 250 - 300 words) summarising the knowledge claimed from the work. In the UK’s REF, these claims are qualified with respect to the headings of *originality*, *rigour*, and *significance*^{xviii} (table 1). In the ERA 2023 audit, researchers were asked to explicate the *research background*; the *research contribution* (i.e. the innovation demonstrated, or new knowledge created); and the *research significance* (comprising of a list that evidences their recognition, citation and esteem as proxies for judging ‘excellence’; and measures that can act as an analog for peer-review, such as success in a design competition or receiving funding through a competitive process). It is worth noting that *research significance* is used only to demonstrate *eligibility* for ERA, not as part of the assessment of the research itself and knowledge claimed, and the definition of ‘significance’ for ERA might be considered more akin to that of ‘impact’ in the

UK's REF. These 300 words textual statements are then supported by the documentary evidence of the practice.

Researcher:	Title:
Description (or Abstract)	
Briefly explain the imperative, motivation, or rationale for undertaking the research (e.g. 'Research Question' or Aims and Objectives, etc.), its relevance and/or application.	
Originality (approx. 100 words)	
Definition: the extent to which the output makes an important and innovative contribution to understanding and knowledge in the field.	
Rigour (approx. 100 words)	
Definition: the extent to which the work demonstrates intellectual coherence and integrity, and adopts robust and appropriate concepts, analysis, sources, theories and/or methodologies.	
Significance (approx. 100 words)	
Definition: the extent to which the work has influenced, or has the capacity to influence, knowledge and scholarly thought or the development and understanding of policy and/or practice.	

table 1. A proforma for recording the research output from practice research for REF

Proxies for Practice

Although the format of that documentation has not been specified in the official guidance documents for either REF or ERA, by the REF 2021 cycle it seems to have become common practice to present these outputs in the form of a ‘research portfolio’. Combining text and images (typically as a single PDF file) these – often retrospectively – document the aspects of the process and production of a project relevant to *defining and then answering* ‘research questions’^{xix}. They mirror the requirements for taught students formally and explicitly to demonstrate their inquiry and coursework development for each studio assignment. Effectively then the ‘research portfolio’ forms a new type of grey literature, a ‘design report’ or ‘pictorial’^{xx} rather than a portfolio of work in the traditionally understood sense^{xxi}.

Examples of the ‘research portfolios’ returned in REF 2021^{xxii} typically detail the research *output*, or knowledge claims, from a *single* project or practice *outcome* undertaken during the reference period. Arguably, perhaps in a majority of cases, this correlation of one outcome for one output (1-4-1) may be appropriate and sufficient. In ‘traditional’ fields of academic research, outputs *are* the outcome of the research. For creative practitioners outcome and output are quite distinct, and the practice outcome may have more importance for their personal sense of identity and their professional affiliations or community of practice. In comparison with the multiple, multi-authored, journal paper outputs which can be generated from lab work or fieldwork etc. by researchers in other disciplines, that 1-4-1 ‘ratio’ appears to be a high stakes commitment! In this respect, a ‘research portfolio’ could perhaps be likened more to a monograph than to a journal paper. It can therefore feel to some practitioner-researchers as if they are being asked to do this work twice in order to present aspects of it to different audiences. Höök et al. observe this is “an almost defensive move that can serve as a distraction” (2015: 36) to have to legitimise the research in terms recognisable to another field.

Neither the external research audits of HE institutions nor internal performance management processes themselves contribute to the preservation and dissemination of research. Nevertheless, the outputs produced to ‘package’ the practice and specify the research contribution could be one starting point for greater accessibility and sharing knowledge of *praxis* with a wider practice research community. Impeding this currently is the ad-hoc way in which they are shared leading to a lack of ‘discoverability’. The short-term, instrumental functions (for which the ‘research portfolio’ were produced) have been prioritised over their long-term preservation and dissemination to the wider research community.

When does practice become research?

Summary:

Personal/ tacit knowledge:

Praxis (doing): “theory into action”/ reflection-in-action/ a bounded ‘project’

Poiesis (making): “action theorised”/ reflection-on-action/ an emergent ‘theme’

Plus the practice is situated in

Research Context or an ‘artistic audit’ (Haseman, 2006; Nelson 2013)

+

Research Narrative (Bulley & Şahin 2021a)/ Annotation (Gaver & Bowers 2012) or
Argument

The knowledge claimed is made explicit and shared/ disseminated.

Much has been written drawing a distinction between practice and practice research, initially at least, for fear of losing sight of the objective of art (for art’s sake) or what is ‘canonically good’. In a position paper originally written for the Royal Institute of British Architects (RIBA) Research Committee, Jeremy Till (2008: 5) noted,

A ‘good’ building is not necessarily good research, and good research may lead to ‘bad’ buildings... A ‘good’ building, far from pushing towards new forms of knowledge, merely establishes or incrementally shifts the status quo. Equally buildings that are normatively described as ‘bad’ may be the outcomes of good research... Of course ‘good’ buildings dominate architectural culture, which means that the research lessons from the ‘bad’ buildings are hardly ever transferred across.

Christopher Frayling’s seminal 1993 Royal College of Art research paper^{xxiii} outlined a taxonomy of relationships between art & design practices and applications in research (table 2) which has formed the undercurrent to most subsequent discussion of practice research in the UK. When we talk about practice research now, most often [I believe] we really are referring to what Frayling called ‘research *through* art & design’. ‘These types of research resemble Herbert Read’s ”teaching through art” – so...’ he states, ‘we’re clear about what is [to be] achieved.’ The extent of the project is delineated and bounded^{xxiv}, explained and interpreted. A report describes the context (the relationship of the work to a community or communities of practice, aesthetic and intellectual proximity to a body of work, precedents or exemplars – whether extant, lost or proposed – and to relevant theories); the process undertaken; and its significance (why it matters).

Research which arises through practicing, in which the “thinking is, so to speak, *embodied in the artefact...*” (1993:5. Original emphasis)^{xxv}, have a defining characteristic. Irrespective of discipline, the research is exemplified by the *praxis*. The presence of the artefact (or the proxy documentation of it or of its making, *poiesis*) is necessary to understand the knowledge claimed. Self-evidently this requires either the artefact/ outcome or its proxy documentation to be available for the recipient to apprehend the knowledge claim – i.e. information which is embodied in the artefact and the knowledge is demonstrated by or

Definition	Characteristics	
<p>Research <i>for</i> Practice</p> <p>This is ‘referencing’ rather than academic ‘capital-R’ Research</p>	<ul style="list-style-type: none"> • tacit knowledge, not made explicit/ shared • just ‘good enough’, not exhaustive or systematic 	<ul style="list-style-type: none"> - canonically ‘good’/ fitting - disseminated in professional/ trade press - creates Intellectual Property (IP)
<p>Research <i>into</i> Practice</p> <p>This research is not necessarily undertaken by practitioners themselves</p>	<p>often arising from a qualitative research paradigm</p> <ul style="list-style-type: none"> • new understanding <i>about</i> practice(s) or • new forms <i>of</i> practice 	<ul style="list-style-type: none"> - historical - visual - theoretical - ethnographical
<p>Research <i>through</i> or <i>by</i> Practice*</p> <p>1. Practice is the means of discovery:</p> <p>2. Research used for the practice:</p>	<p>creates and makes explicit new knowledge through original, creative work</p> <ul style="list-style-type: none"> • “theory into action” • “theorising action” 	<ul style="list-style-type: none"> - challenges disciplinary/ canonical boundaries “reflection-in-action” e.g. - knowledge in artefact, or - technological &/or - material investigation “reflection-on-action” e.g. - heuristics - action research
<p>Research <i>informed</i> by Practice**</p> <p>Practice is used for the research, it is not inherent to the research methodology or results</p>	<ul style="list-style-type: none"> • mode of inquiry inspired by... visual method, an artwork, etc. • research using ‘mixed methods’ • ‘novel’ forms of <i>representation</i> 	

* Clemente et al. propose 1. should be ‘Research *through* designing’ and 2. ought to be ‘Research *from* design’.

table 2. Taxonomy of practice research (based on Frayling 1993, and **Rolling Jr. 2010)

expressed through it. But the artefact or instance is rarely sufficient on its own to explain the research's context and methods.

Bill Gaver proposes that the research activities are bookends to the practice – the initial proposal and the eventual publications – which describe the project's trajectory and frame it with respect to extrinsic research imperatives or to the emergent lessons learnt. A work of art might 'speak for itself' or a design might denote its function. Your choices of one make or model of mobile phone, car, fridge, or outfit over another one may connote your social affiliations, aspirations, wealth or status. These are understood contextually, but often known tacitly, the meaning being communicated implicitly. Annotations serve to highlight what is important in the practice, process or artefact, but can only '*partially describe*' or exemplify it. Conversely, while the artefacts act to ground or situate the knowledge, they do not themselves '*specify* what you think is important about them' (Gaver 2023. Original emphasis). Gaver therefore describes the artefact and annotation as being 'mutually dependent'.

The new insight or contribution to knowledge which is claimed by the researcher is communicated *in-between*, in the dialogue between the practice outcome and its annotation, narrative, or argument [the latter aspect is conventionally textual, but could be conceived otherwise. Returning briefly to Clergue's 1979 PhD, central to Roland Barthes' acceptance of the dissertation was that the 'photographic suite' comprised a *discourse*. It was the *argument* which was examined, presented through the relationships between the images, not the images as artworks]. The research output is a *derivative* of the practice (the processual or artefactual outcomes) rather than the product of it, and this is [partly] what distinguishes a practice epistemology from 'traditional' research modes (see Glanville 2005; and Brabazon, Hunter & Quinton 2022).

Sophie Hope (2016: 77) asserts,

Running through practice research is [a common thread] where methodologies emerge because of the practice rather than prior to it... this does not mean the process is any less rigorous, rather the theory and analysis come at different points...

For UK universities 'Research' has been defined as 'a process of investigation leading to new insights effectively shared' (Research Excellence Framework 2019: 90) ^{xxvi}. It is useful briefly to consider how each of the three elements of that definition interact.

Creative practice generates originality by a process of abductive inference: intuition, speculation, reflection, and iteration (Wood 2000: 52, Kolko 2010: 21) applied to a material, a process, or a brief, etc. Lawson (1997) describes this – design-thinking – as 'solution-focussed': the nature of the 'problem' becomes better understood through successive approximations to and testing out of tentative 'answers'. Tacit knowledge and past experience – typically acquired through a specialised education and embodied practicing – are required for the initial intuition to narrow the distance between this first, best guess, and the eventual, but currently unknown, solution. This is not entirely dissimilar to a hypothesis – building from a known position to an uncertain one – in which you have reason to believe your hunch will be more likely to be successful rather than just lucky. A scientific approach would be to devise a protocol before embarking on the testing phase eliminating or accounting for all other variables. Lawson describes this as 'problem-focussed'. However, a 'designerly way' of thinking (Cross 1982) often begins with what Rittel & Webber (1973) termed a 'wicked problem' – based on ill-defined or incomplete information – and in which the practitioner is catalytic, actively engaged in discovering the problem *and* the solution. Judgement is required and the *resolution* (*one*, rather than *the*, solution) will be unique to both the circumstances and to the creative practitioner.

To become academic, capital-R Research, as distinct from ‘good enough’ research *for* practice (referencing on the one hand, or “R&D” - Research & Development – leading to intellectual property on the other), this process of inquiry must be interpreted, and made explicit so that it can be shared with others. Rigour is evidenced by a systematic documentation of an analysis or critique of the process and the outcomes, which reassures peers of the practitioner-researcher’s knowledge claim’s trustworthiness.

As discussed at the beginning of this section, not all practice leads to new insights and not all research leads to ‘good’ practice outcomes. So, an *output* of practice research must not be open-ended, but defined or delineated in some way. Jisc assert ‘there is a need to question “where/ what is the research?” at all times’ (Clare 2019). However, as a heuristic means of discovery and an embodied way of knowing, the research emerges out of practice. Practice can become a research methodology through ‘reflection-in-action’, while practice outcomes can become research retrospectively, as a result of ‘reflection-on-action’ (figs. 2 & 3). The fundamental question the practitioner-researcher (or PhD supervisor) must ask is whether the practice is the best means of discovery and if so, how it is used? [Similarly, *all* researchers also ought to ask if text is the best means of communicating their research, or if it could be better *informed by* practice^{xxvii}, such as Florence Nightingale’s rose diagram (1858), John Snow’s map of the 1854 London Cholera outbreak, or the entomological and botanical illustrations of Maria Sibylla Marian (1647-1717).]

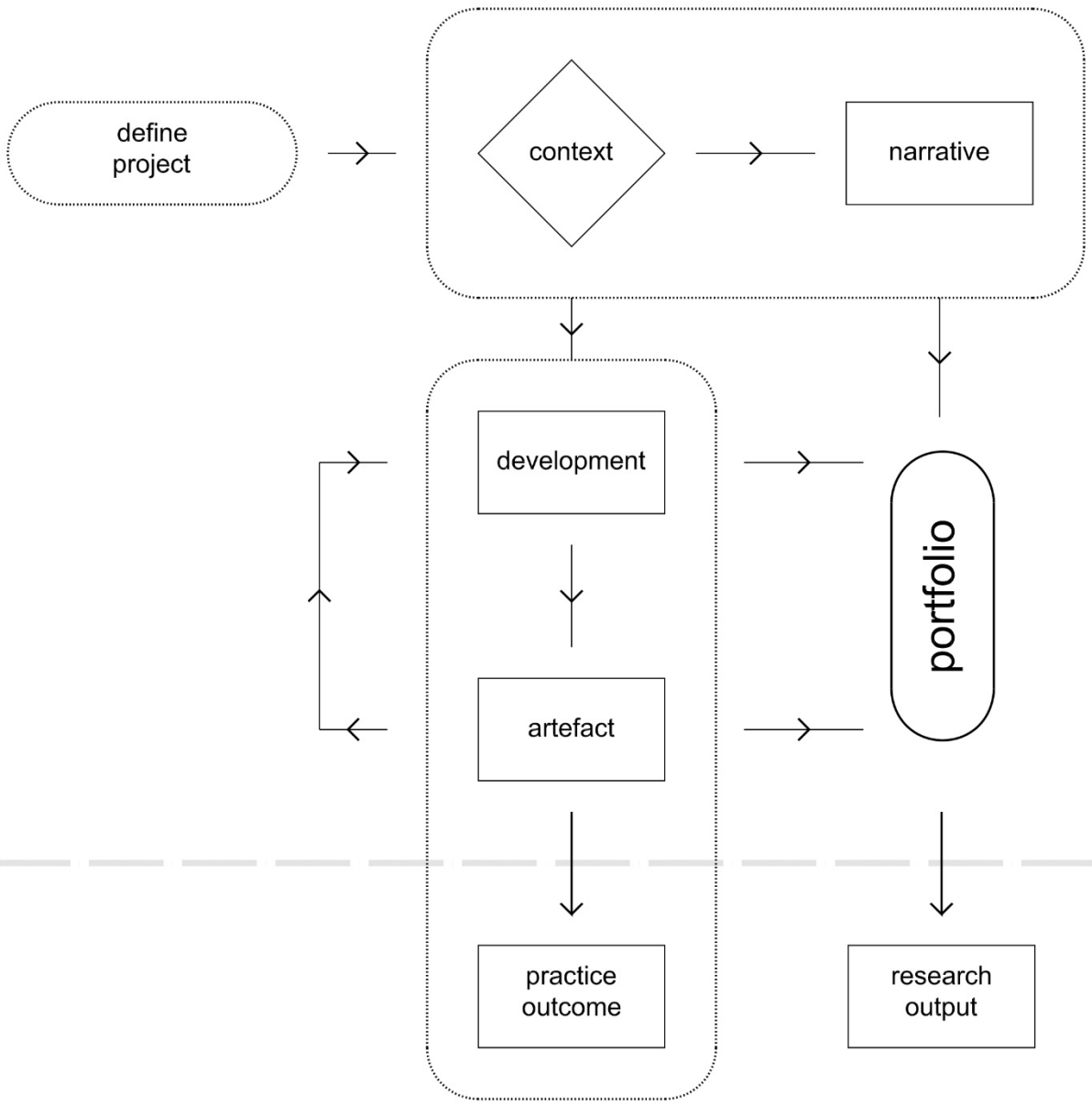


Figure 2. Mapping of a 1-4-1 ‘research portfolio’ (“reflection-in-action” or “research through designing”)

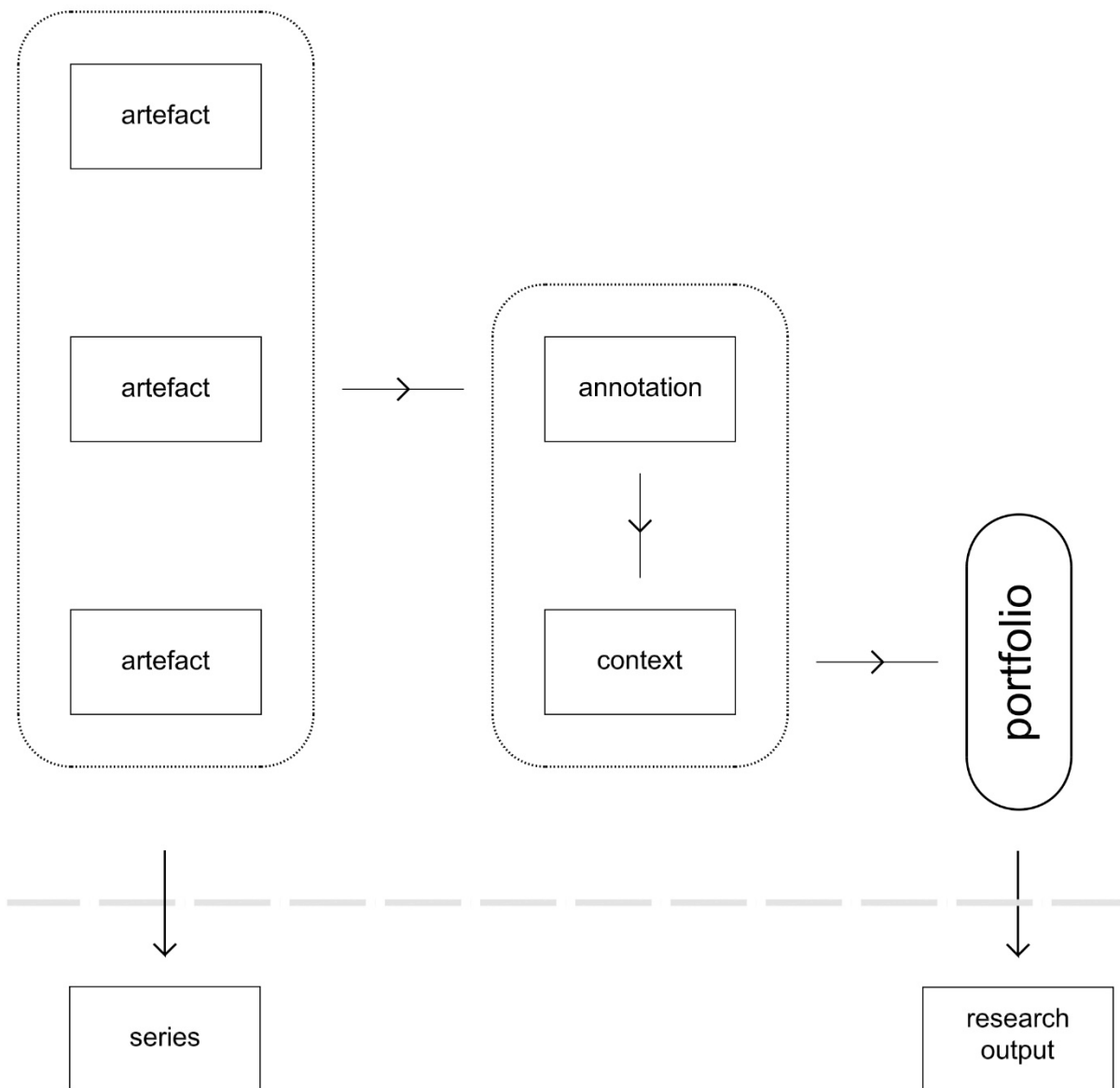


Figure 3. Mapping of an ‘annotated portfolio’ (“reflection-on-action” or “research from design”)

How should we document doing practice research?

The methods for documenting practising as the mode of research are somewhat under-theorised (Nimkulrat 2007). Foundational to any discussions of practice research methods is Donald Schön’s (1991) *The Reflective Practitioner*. Maarit Anna Mäkelä and Nithikul Nimkulrat observe reflection-*in*-action and reflection-*on*-action are not necessarily temporally discrete, equating just to a ‘during’ and an ‘after’. “[D]ocumentation can serve as the

references *of* making artefacts... documentation can [also] be used as basis *for* making artefacts” (2018: 9). More work on such methods might be a productive area for further investigation.

Owain Pedgley (2007) and Peter Dalsgaard & Kim Halskov (2012) each present similar conceptual approaches to documenting the design research process. To maintain this discipline over the course of a project, they concur that the system employed must be as simple to use as possible and deliberately generic, since detailed templates and prescribed terms constrain the researcher’s ability to make records that are meaningful to them and to the project^{xxviii}.

Pedgley’s PhD in industrial design principally concerned an investigation of polymer materials in the production of acoustic guitars requiring collaboration between musicians, technologist and engineers. He determined he would require a tool with which to capture the design activity systematically. A diary format was decided upon, which was portable and could be undertaken independently to capture personal experience and perceptions extending beyond ‘plain logs of “time spent and work done”.’ (2007, 471). Pedgley devised a simple, paper-based approach, with a set of consistent ‘instructions’ and ‘good practice’ guidelines, which he completed at the end of each day (ibid, 473)^{xxix}. This near-concurrent recording did not interfere with the practice and permitted a brief ‘grace period’ in which to decide what was worth recording, while not overly post-rationalising.

Peter Dalsgaard & Kim Halskov (2012) developed an online tool to record their design processes, enabling multiple authors to contribute. Their ‘Project Reflection Tool’ (PRT)^{xxx} was organised around two types of folder with two layers of information (ibid, 431) (fig. 4).

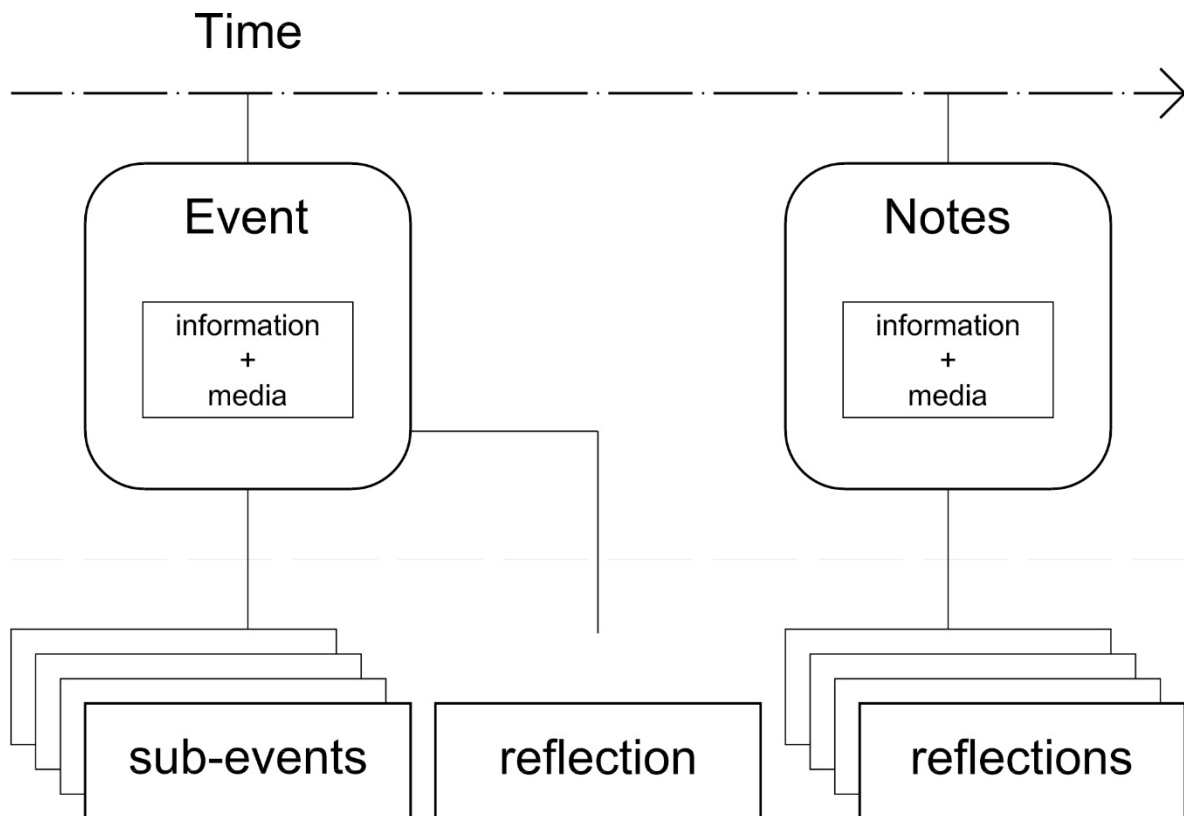


Figure 4. Diagram of the 'Project Reflection Tool' archival structure (based on Dalsgaard & Halskov 2012, 430)

Both paper-based and online approaches result in, at least, two types of data: rich, qualitative data that can be analysed using both *a priori* and emergent content analysis, and timeline charts that, for example, can reveal project phases. In Dalsgaard & Halskov's PRT, the timeline also enables navigation and filtering of the Events, Sub-events, and Notes. Online platforms^{xxxi} now provide templates for documenting design processes, but these are separate from the institutional CRIS/IR discussed below. Moore et al. (2018) detail *ActiveNavigator*, a project at Stamford University to capture and analyse in real-time teamwork in design workspaces, but this level of 'technological ensemble' – the combination of hardware and software – is beyond the scope and aims of this paper. Finally, in an aside,

Galdon and Hall warn merely documenting and collecting information “does not imply *per se* any contribution to knowledge except if it is a novel method in itself.” (2022: 920).

Why should we document practice research?

Summary:

For the practitioner-researcher:

- To *collate* their practice
- To *share* research results
- To *access* other’s research
- To make and *preserve* a permanent record

Functionality which is missing from current repositories:

- To link practice outcomes across ‘items’ (artefacts and proxies/ file types) and over time (continually updated, while also recording iterations), between different institutions, organisations and practitioners
- To generate research reports for:
 - peer review
 - external audit
 - to support future funding applications, etc.
- ‘Searchability’ of different file types and their links
- Preservation of both the ‘items’ in time, and the links between them

In order for research to be discoverable and searchable, institutional repositories use indexical data with common, shared or comparable terms. Current Research Information Systems (CRIS) and Institutional Repositories (IR) were developed to support ‘traditional’ research and, typically, text-based outputs and file types. They use terminology and classifications

which are often alien to creative practices and to practitioners: abstract instead of description, document instead of file(s), research question instead of imperative or motivation, item or object instead of the work. The second of Bulley & Şahin's reports (2021b) *How can Practice Research be Shared?* considers the current adaptation and readiness of CRIS/IR's metadata, and for digital file formats, which are more applicable and user-friendly for practice researchers as a precursor to a Web of Arts.

While much work has already been conducted in the archival field to adapt these systems through more expansive categories such as Goldsmith's *Defiant Objects* (Nadim & Rendell 2013), the metadata collected still confuses form – or practice outcomes – and content – the research outputs. On the other hand, 'controlled list' classifications^{xxxii} can be both overly-prescriptive and incomplete, while a lack of interest, basic training or understanding by the researcher in operating the institution's CRIS/IR and terminology can lead to misclassifications (or no record at all).

How to recognise or articulate when practice is or becomes research is still ill-defined for both practitioners new to research and research support professionals. In part this is because the form of 'traditional' research has been assumed to be a passive or 'transparent' vehicle for the content (such that, for example, the clarity of communication should be entirely uninfluenced by whether it was typeset in Comic Sans or in Times New Roman), while questions of form are of inherent interest to artists and designers.

The concept of rankings for scientific journals also demonstrates not all text is even considered equal, if the context of where it is published alone implies greater or lesser credibility for the content. Unfortunately this misapprehension sometimes is also transferred on to practice research, where the prominence (of the outcome or the venue of its

presentation) is confused for its significance (the influence of the output or its putative impact beyond academia).

Current Research Information Systems (CRIS) and Institutional Repositories (IR)

CRIS/IR often are expected to perform two distinct functions which can be in conflict: (1) as a showcase: to record and make available the knowledge generated by the researcher, and (2) for organisational management and auditing (e.g. personal performance reviews and promotion or workload allocations) – for which they were not designed. Furthermore, practitioner-researchers in academia have to make use of the same CRIS/IR systems to record both practice outcomes and research outputs, which creates numerous archival problems^{xxxiii}, not least for the increasing amounts of data storage and the energy consumption needed by data farms. A research repository is not generally the endpoint for creative practitioners and nor is it the first place we would turn to find their work. Therefore CRIS/IR currently offers little value to creative practice and hence is not of intrinsic interest to the practitioner. I perceive this messy conflation as a key issue for the accuracy and permanence of the records and hence the discoverability and searchability of practice research contributions.

The secondary use of digital CRIS/IR for institutional managerial purposes creates tensions for practitioner-researchers and for research support professionals alike and can sometimes lead to unintended or perverse consequences. Quantitative metrics used in some universities for internal, annual performance and workload reviews, may unintentionally favour and promote atomisation in the reporting of activities by practitioners in art and design disciplines. Consequently, it still could be administratively necessary or even beneficial for an individual academic to record separately in the university's CRIS/IR database each instance of an artefact, exhibition, or performance, etc. although potentially and inadvertently

undermining the greater effort to make practice research more interconnected, readily discoverable and searchable.

CRIS/IR were not designed to distinguish between the form and content of research. As practice-researchers, it is important that we do make that distinction as explicit as is possible within the systems' protocols (and attempt to resist defaulting to the 'other' category when we have another choice, or a free-text option). The 'container' and the 'content' of the knowledge converge, yet they perform separate tasks in communicating practice research (including in text-based creative practices). I propose it is necessary to distinguish explicitly between a *practice outcome* – e.g. a tangible or intangible artefact, effectively this is the 'object' or 'item type' currently recorded by the IR metadata – and the *research output* – as the knowledge claimed which is derived from the practice as produced through the *praxis* or *poiesis*.

Currently this can only be done in the textual description (or Abstract) and /or through keywords, but adopting this approach might begin to improve the 'searchability' of the records and, as discussed later, to enable connections to be created.

Practice outcomes: what to document?

What is metadata?

Categories:

- **Artefact/ 'item type'** (each instance)
- **Series** (of thematically linked artefacts/ 'items')
- **Collection** (of thematically linked 'series')

The metadata recorded by institutional repositories describes an 'object' or 'item type' rather than the research contribution or knowledge claimed. This is also true for 'traditional'

research outputs of course. As already discussed, the form of a journal article or conference paper is not generally expected to embody the argument or the knowledge, merely to communicate it^{xxxiv}. Goldsmiths Research Online (2013) *Defiant Objects: non-standard research outputs in Institutional Repositories* guide proposes useful metadata descriptions for non-traditional research object types^{xxxv}. Bulley & Şahin's report (2021a) *What is Practice Research?* – also undertaken at Goldsmiths, University of London, funded by UKRI (Research England) and commissioned by PRAG-UK – identifies the challenges for the documentation and evidencing of practice research^{xxxvi}.

Recent research that has begun to address some of these issues includes the 2022 AHRC-funded projects: Leeds University's *Sustaining Practice Assets for Research, Knowledge, Learning and Engagement* (SPARKLE), with the British Library and EDINA; and Westminster University's *PR Voices*, undertaken with Jisc, Cayuse, the British Library, and Kings College London. Both projects published their final reports and recommendations in 2023. SPARKLE defines a performance specification for a universal practice research repository^{xxxvii}, to be linked to the researcher rather than an institution, and recommendations for its development and implementation (Jackson et al 2023). Westminster University, working with their technology partner Cayuse (formerly Haplo), trialled changes to their existing IR system with stakeholders and wider communities to propose a new framework for a purpose-built platform designed for practice research (Evans et al. 2023).

Both SPARKLE and PR Voices' recommendations identify practitioner-researchers will need the ability to create links between archival data and files, to cross-reference different artefacts and projects over time, and across institutions and with non-HE organisations. Current CRIS/IR lack the ability to interconnect practices and researchers in this way. The benefits of developing this functionality would include both greater

searchability and to introduce more automation to the peer-review/ research auditing processes. The value added to the practice – for the practitioner-researcher engaging with a research repository thus enabled – would be that it then acts, in the term coined by PR Voices, as a ‘scribe on the side’ to track and map the connections and, perhaps, even to generate ‘research portfolios’/ design reports^{xxxviii} (fig. 5).

PR Voices’ report notes that their proposals are for a research repository not a practice repository, and so the question of what and when to document therefore remains ambiguous. The nature of some practice is incompatible with the information collected by current CRIS/IR database. For example, the requirement for a singular, finite ‘publication date’ would render the CRIS/IR unable to handle reworking of previous artworks or evolving computer games, without their authors having to regard these as all discrete instances in a series, rather than the same piece with multiple dates, i.e. this would create unnecessary duplication and potential confusion^{xxxix} (fig. 6).

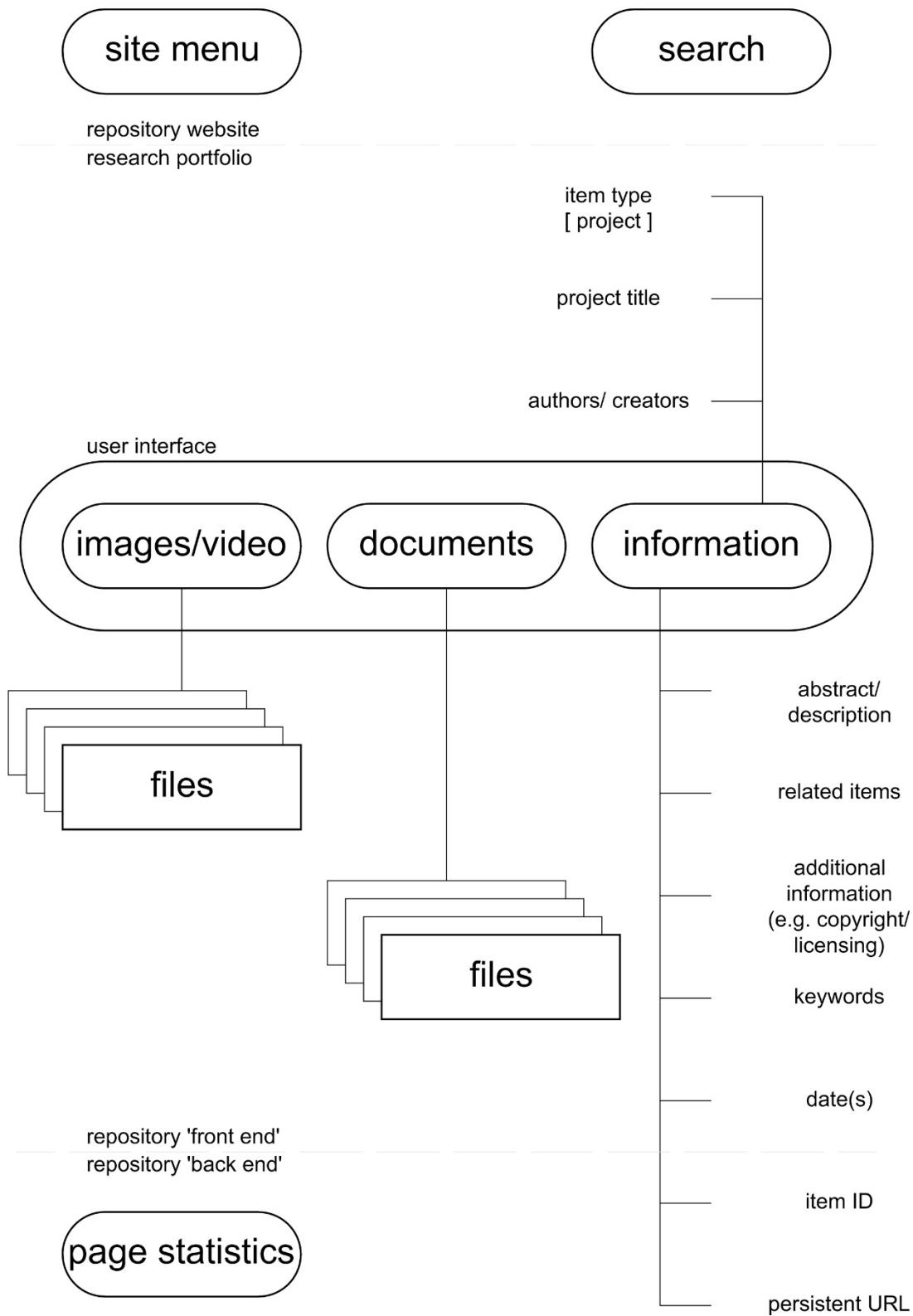


Figure 5. Diagram of Goldsmiths Research Online project record. (For an example, Boucher, A. and W. Gaver 2018. *Energy and Co-Designing Communities (Energy Babble)*. Accessed: 22 August 2024 <https://research.gold.ac.uk/id/eprint/25260/>)

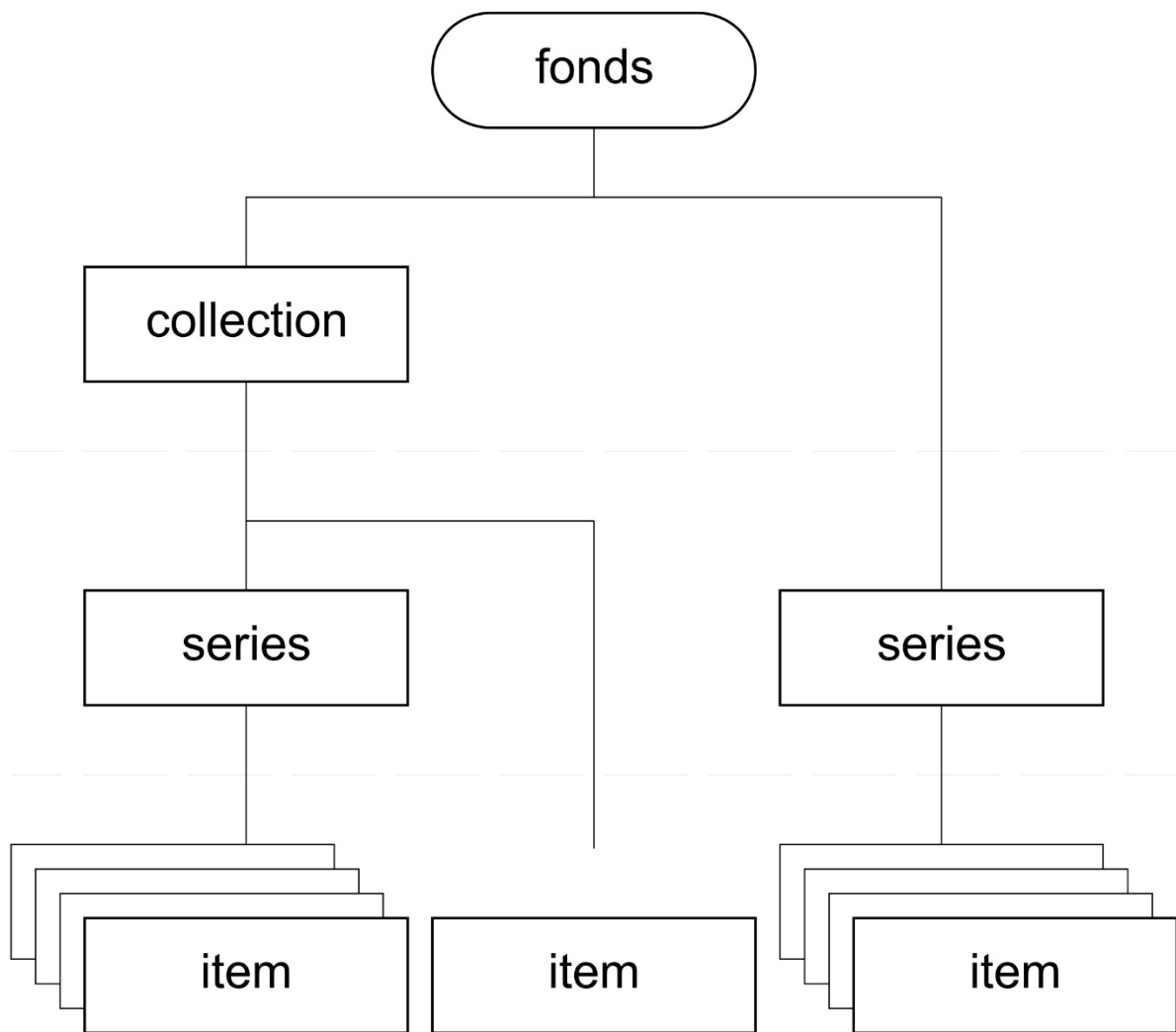


Figure 6. A simplified diagram of layers in archival hierarchy (based on ISAD(G) 2000, 36)

Research outputs: what to document?

What is paradata?

i. the **Research Imperative:**

- what is the motivation/ need for the research? e.g.
 - A question or hypothesis
 - New material/ technology or technology transfer
 - Response to social change or personal impetus

ii. the **Research Context/ ‘artistic audit’**:

- Community/ies of practice
 - Who else is/has done work in this area?
 - What have you done before in this area?
 - Similarities and differences?

iii. the **Research Narrative/ Annotation**:

- Why is this of interest?
- What are you doing that is distinctive/ original?
- Methodology, methods/ approaches used

iv. the **Occurrences** (as a proxy measure of esteem)

- when and where?
 - ‘reach’ (or, how widely it was disseminated)
 - Impact (or, influence on others)

Paradata typically refers to the conditions pertaining to the collection of ‘findings’ (such as the date and location of an interview) or documentation of how data was handled and processed. While it seems pedantic (even counterintuitive) to debate the classification of the various types of extraneous textual and numerical information collected about practice as being either more quantitative and descriptive (meta-) or more qualitative and contextual (para-) data, I propose these are actually important distinctions to make by/for the practitioner-researcher themselves because it signifies the *purpose* to which that information will be put. For example, an artwork exhibited in an internationally renowned gallery has

‘significance’, as it is defined by ERA, conferred on it by the selection process. This location may also be used to justify the ‘significance’ in REF terms due to the number of people who will see it, although this is more accurately ‘reach’ rather than ‘influence’ (i.e. affecting change). But information about a venue does not tell us anything at all about the research undertaken or knowledge claimed. Where and when it is exhibited and by whom (or by how many people) it is seen are not even inherent qualities of the practice outcome – the tangible or intangible artefact – but they may be used analogically as a measure of esteem or to demonstrate the equivalence to a peer review process.

For site-specific or durational creative practices and performances, paradata could include useful information about where and when the activity occurred, which would then be fundamental to the identification of any proxy object (such as a recording)^{x1}. As Peggy Phelan (1993, 146-147) asserts, watching a recording is a different aesthetic experience to watching a live performance^{xli}; the live experience being unique on each occasion (and the recording process potentially influencing the performance). However, while the tacit knowledge in a dancer’s or musician’s body might be a part of the research method, they are not the same type of knowledge as any new insight which the practitioner-researcher can claim to have derived from their reflection-in or reflection-on those performances (Hann 2015). The question remains whether the CRIS/IR record is to be made of the practice outcome – and if this is of each instance or for the whole run of the performances (its occurrences) – or of the research output, or all of these?

Annotated Portfolios

I have explained that *a* research output will not be an open-ended investigation, but is delineated in some way (Carole Gray & Heather Delday (2011) also tells us that a PhD by practice is not a life’s work). However, the lived experience of the practitioner-researcher

may be to conceive of each piece, artefact or project as *also* comprising a facet of some personal ongoing meta-project (whether defined as such or just scratching at the itch of the practitioner's recurring concerns, preoccupations, and preferences – the 'extrinsic constraints', in Lawson's term, which each designer 'brings' to a new problem).

In 'Annotated Portfolios' (2012) Bill Gaver & John Bowers suggest making connections and comparisons between their projects enables a practitioner-researcher to proceed from making observations about one particular circumstance and the properties of that specific project (for example, the 1-4-1 'research portfolio' for REF and ERA discussed above), to generalize a theoretical position or application in a wider '*praxis* space'^{xlii}. By definition, the annotated portfolio is retrospective – the researcher reflects on particular commonalities between previously completed artefacts and practices to make explicit their/ the designer's 'extrinsic constraints.' Clemente et al. (2019) describe this retrospective mode as 'research *from* practice.' This contrasts with Pedgley's (2007) design diary and Dalsgaard & Halskov's (2012) 'PRT' for capturing the process ('reflection-in-action') concurrently.

Echoing Sophie Hope's statement on rigour, Gaver & Bowers note that their own design choices are '*underdetermined*' by theories (ibid, 40. Original emphasis). The design process progresses via relevant, concrete examples as inspirations or references ('research *for* practice'), which are then abstracted, conceptualised and theorised, articulating what they believe is topical and important in the artefact outcome. They suggest annotations 'in design research [will] have an *indexical character*. That is, they point to features of our designs and connect them to matters of further concern' (2012, 43. Original emphasis). A reader can follow the researcher's 'clew'^{xliii} - as 'subtly distinct from [a] "clue"... drawing attention to the thread of the researcher's doing-thinking' (Nelson 2013, 11). The Annotated Portfolio inverts the relationship between the practice outcome and archival record, using the latter to

inform the research output and giving shape to the practitioner-researcher's itch (fig. 4). For the individual practitioner-researcher, this has the advantage of being able to use one project outcome to inform multiple research outputs, closer to the returns for 'traditional' research through multiple journal articles. Gaver & Boucher (2024, 13 of 26) stress the annotated portfolio is a concept, rather than a form of presentation, although current examples closely follow the format of Gaver & Bower's 2012 paper (see Hoby, 2014, and Gaver & Boucher, 2024)^{xliv}.

While variations on the 1-4-1 'research portfolio' are embedded in parts of UK academia following REF 2021, I predict the 'annotated portfolio' may become more prevalent as the guidance for REF 2029 develops. The Future Research Assessment Programme (FRAP) tasked with developing a 'policy roadmap' for this assessment exercise have published their 'key decisions' emphasising their intentions for a more holistic approach than previously, which prioritises the institutional research environment over the assessment of individuals, and will reward those which are deemed more supportive (jisc.ac.uk n.d.). A combination of 'annotated portfolios' addressing themes and practices across research groups and in departments, as well as reflective surveys of individual practitioner-researchers' body of work, may develop as a response to FRAP over the next four years to demonstrate a positive, collegiate research culture.

Conclusion

For practitioner-researcher readers, this paper discusses two deceptively simple questions about their work:

Why document it?

What to document?

Fundamental to answering these questions is the distinction between practice and practice research (and behind that lies our sense of personal and professional identity, and affiliations to communities of practice). The motivation to document practice research should be primarily to benefit the researcher and their wider communities within and beyond academia, and to advance their disciplines.

Existing university regulations for higher level degrees typically imply creative practice is a methodology, and thus fits it within a quantitative research paradigm where the hypothesis precedes the methods, and the textual explication supersedes the practice. This may sometimes be the case, but is at best only partly ‘true’ to the practitioner’s experience.

It is my view that practice research is epistemological (as well as methodological), and communicated through human-made material cultures (their processes and the tangible and intangible artefacts – *poiesis* and *praxis*). This is a way of knowing distinct from, but equivalent to, quantitative research in the natural sciences (symbolically communicated numerically) and qualitative research in the social sciences and humanities (symbolically textual).

Therefore, in answer to the ‘perennial questions’ posed in the Introduction – namely, ‘can an artwork, exhibition, or building “count” as research?’ (Frayling 1993; Till 2008) and ‘why do I have to write about it as well as do it?’ (Krauth 2011) – the process leading to an artwork, exhibition, or building, can become the research methodology, the artefact/outcome may embody the knowledge or exemplify the research, but it is less likely that the artefact will be able to communicate the research context and the narrative of the inquiry too. Therefore, it is probable this explanation or argument will be in writing – which may form the exegesis of a PhD^{xlv}, a ‘research portfolio’ for REF/ERA or, this paper suggests, may be paradata in CRIS/IR. The singular example of Lucien Clergue’s PhD and the hybrid

exhibition-presentation videos at RMIT's Practice Research Symposium suggest that the explanation or argument does not inevitably have to be written. However, to become academic, capital-R Research, it is not sufficient for the work just to be novel, systematic or even exhaustive, but it must also be communicated – interpreted, articulated and shared effectively with others.

This Research Note outlines current challenges and opportunities for documenting practice research and offers examples of how this might be improved (in the short term, by individual practitioner-researchers repurposing of CRIS/IR categories and free textboxes; and in the longer term, by the development of these capabilities in those systems), with links to further references, research and recommendations for the reader.

It is noteworthy that the ongoing work to develop current CRIS/IR systems to become more inclusive of practice research has primarily been led by research support professionals and software developers in partnership with institutions, and has involved ever-expanding categories which attempt to keep up with, or anticipate, the evolving nature of practice outcomes and outputs. This is for the perfectly sound reason of maintaining common, comparable indexical terms, which is a completely logical approach for observers (to use Ranulph Glanville's term) outside of practice. Whereas the systems devised by practitioner-researchers to document their own research and design processes (Pedgley, 2007; Dalsgaard & Halskov 2012) have been predicated on simplicity and the use of free-text fields. A repository designed from within practice research would use the researchers' own terms for 'searchability'. Rather than predetermining 'controlled lists', these 'keywords' could be emergent, more like prompts for the most commonly used 'hashtags' on social media platforms, allowing practitioner-researchers more easily to cluster around common

terminology so it was more 'discoverable'. This would also allow research trends to be traced over time.

Using the Theory of Change framework identifies where the 'gaps' exist between the requirements of researchers and institutions and the provisions in CRIS/IR systems for the documentation of practice and research. This empowers individual practice-researchers and research groups to understand their archival and training needs better, and enables research support professionals, CRIS/IR managers and developers, or archivists working with art and design media, to consider the requirements for future functionalities necessary for an integrated Web of Arts.

Declaration of competing interest

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

My gratitude is owed to Professor Richard Tucker, Deakin University, and Professor Chris Smith, University of Sydney, for hosting me as a visiting academic in my sabbatical in April – June 2022, during which some of this paper was conceived and researched. My thanks to everyone at RMIT, Monash University, University of Newcastle and University of Melbourne who also welcomed me and gave me their time. Thanks too to the Department of Architecture and Built Environment at Northumbria University for the sabbatical which gave me that opportunity and for their financial contributions to my travel. My thanks are also due to Cameron McEwan, Philip Cash and Jaap Daalhuizen for helping to develop this manuscript and to the three anonymous peer reviewers who pushed me very hard to ensure this is a much better paper than the one I started with, and as always, to William Messer for his forensic proof-reading of numerous earlier draft versions.

References

- 3rd Cycle in the Arts n.d. “3rd Cycle in the Arts”. Accessed: 11 April 2024 <http://3rdcycleinthearts.eu>
- Adams, J. 2022. “Make this REF the last”. *Research Professional News*, 4 May 2022. Accessed: 20 March 2023. <https://www.researchprofessional.com/0/tr/news/uk/views-of-the-uk/2022/5/Make-this-REF-the-last.html>
- Advancing Supervision for Artistic Research Doctorates n.d. *Advancing Supervision for Artistic Research Doctorates Strategic Partnership Project 2018-2021*. Accessed: 11 April 2024 <https://advancingsupervision.eu>
- andrewstonyer.com 2023. “Bio”. Accessed 14 April 2024 <https://www.andrewstonyer.com/bio>
- Australian Research Council 2022. “ERA 2023 Submission Guidelines”. Accessed: 3 July 2022. https://www.arc.gov.au/sites/default/files/2022-07/era_2023_submission_guidelines_0.pdf
- Brabazon, T., N. Hunter & J. Quinton (2022) “The Scientist, the Artefact, and the Exegesis: Challenging the Parameters of the PhD”. *International Journal of Creative and Arts Studies* 9(1). Accessed, 9 October 2024 <https://journal.isi.ac.id/index.php/IJCAS/article/view/6409/2681>
- Brown, B. 2021. “Introduction: The Creator Doctus Challenge” in *The Creator Doctus Constellation: Exploring a New Model for a Doctorate in the Arts*. Amsterdam: Gerrit Rietveld Academie, EQ-Arts. Accessed: 29 March 2024 <https://merz-akademie.de/wp-content/uploads/CrD-constellation-online.pdf>
- Bulley, J. & Ö. Şahin. 2021a. “What is Practice Research?”. *Practice Research*. London: PRAG-UK.
- Bulley, J. & Ö. Şahin. 2021b. “How Can Practice Research be Shared?”. *Practice Research*. London: PRAG-UK.
- Candy, L. 2006. “Practice Based Research: A Guide”. *Creativity and Cognition Studios Report* 1. Accessed: 16 April 2016. https://www.researchgate.net/publication/257944497_Practice_Based_Research_A_Guide
- Candy, L. & E. Edmonds. 2018. “Practice-based Research in the Creative Arts: Foundations and Futures from the Front Line”. *LEONARDO* 55(1). Accessed: 25 July 2023. http://lindacandy.com/wp-content/uploads/2018/02/018-LEON_a_01471-Candy-web.pdf
- Clare, H. 2019. “Practice research is for life, not just REF – event report”. *Jisc Scholarly Communications*, 29 March 2019. Accessed: 26 March 2023.

<https://scholarlycommunications.jiscinvolve.org/wp/2019/03/29/practice-research-is-for-life-not-just-ref/>

Clemente, V., K. Tschimmel, & F. Pombo 2019. “Mapping the territories around Design Research: A four-layer analysis”. Paper presented at *International Research & Education in Design Conference 2019 — REDES2019 14*, Lisbon, Portugal. Accessed: 21 August 2024 DOI: 10.1201/9781003046103-17

Cross, N. 1982. “Designerly Ways of Knowing”. *Design Studies* 3(4): 221-227. Accessed: 17 April 2024 <https://oro.open.ac.uk/39253/8/Designerly%20Ways%20of%20Knowing%20DS.pdf>

Dalsgaard, P. & Halskov, K. 2012. “Reflective Design Documentation” *In the Wild – DIS Conference*, June 11-15, 2012. Newcastle upon Tyne, UK. Accessed: 21 August 2024 https://web.archive/web/20170810070435id_/http://peterdalsgaard.com/documents/publications/dalsgaard%20-%20reflective%20design%20documentation.pdf

Durrant, A., J. Vines, J. Wallace, & J. Yee (2015) “Developing a Dialogical Platform for Disseminating Research through Design”. *Constructivist Foundations* 11(1), 8 -21. Accessed: 12 October 2024 https://eprints.ncl.ac.uk/file_store/production/222512/918EF0E5-7AF8-4E86-9F5C-A29C850784A5.pdf

edwardcowie.com 2024. “Biography”. Accessed 14 April 2024 <https://edwardcowie.com/biography/>

Elkin, J. 2013. “Six Cultures of the PhD”. In *SHARE Handbook for Artistic Research Education* edited by Wilson, M. and S. van Ruiten. Amsterdam: ELIA (European League of Institutions in the Arts)/ DIT (Dublin Institute of Technology)/ GradCAM (Graduate School for Creative Arts and Media), Ireland. Accessed: 22 August 2024. <https://cdn.ymaws.com/elia-artschools.org/resource/collection/22A440F4-F60B-43F8-9C8F-EE8AEB3B4972/share-handbook-for-artistic-research-education-high-definition.pdf>

ernestedmonds.com n.d. “Bio”. Accessed 14 April 2024 <https://www.ernestedmonds.com/www/Contact/about.htm>

Evans, J., A. Vials Moore, H. Bailey, J. Basford, R. Kotarski, J. Mead, H. Ranger, A. Stone, N. Watts, & N. White 2023. *Practice Research Voices Final Report & Recommendations*. London: University of Westminster. Accessed: 17 April 2024 <https://doi.org/10.34737/w3803>

Frayling, C. 1993/4. “Research in art and design”. *Royal College of Art Research Papers* 1(1). London: Royal College of Art.

Fisher, T. & J. Mottram 2006. “Researching the Research Culture in Art & Design: The Art and Design Index to Theses”. *Wonderground – DRS International Conference 2006*, Lisbon, Portugal, edited by Freidman, K., Love, T., Corte-Real, E. and Rust, C. Accessed 13 April 2024

<https://dl.designresearchsociety.org/drs-conference-papers/drs2006/researchpapers/67>

Galdon, F. & Hall, A. 2019. “The Ontological Nature of Design: Prospecting New Futures Through Probabilistic Knowledge” in Rodgers, Paul (ed.) *Design for Change*. Lancaster University, Lancaster UK: 111-128. Accessed 1 October 2024 <https://researchonline.rca.ac.uk/id/eprint/4227>

Galdon, F. & Hall, A. 2022. “(Un)Frayling Design Research in Design Education for the 21Cth” *The Design Journal*, 25(6): 915-933. Accessed: 1 October 2024

<https://doi.org/10.1080/14606925.2022.2112861>

Gaver, B. & J. Bowers. 2012. “Annotated portfolios”. *Interactions*, July + August: 40 – 49.

Gaver, B. 2023. “Annotated portfolios: text is important but shouldn’t eclipse practice”. PowerPoint presentation of keynote at *Northumbria Practice Research Group Symposium: Milestones for PhDs in practice research*. Northumbria University, Newcastle upon Tyne, May 12, 2023.

Gaver, W. & Boucher, A. 2024. “Designing with Data: An Annotated Portfolio” *ACM Trans. Comput.-Hum. Interact.* Advance online publication. Accessed: 22 August 2024

<https://doi.org/10.1145/3685272>

Glanville, R. 2005. “A (Cybernetic) Musing: Certain Propositions Concerning Preposition”. *Cybernetics & Human Knowing* 12(3): 87 – 95

Goldsmiths Research Online 2013. “Defiant Objects”. Accessed: 25 November 2022.

https://research.gold.ac.uk/deposit_guide.html

Gray, C. 1996. “Inquiry Through Practice: Developing Appropriate Research Strategies” keynote lecture in *No Guru, no Method? Discussions on Art and Design Research*, University of Art & Design, UIAH, Helsinki, Finland. Accessed 19 March 2024.

<https://www.carolegray.net/assets/inquiry-through-practice.pdf>

Gray, C. & H. Delday 2011. “A Pedagogy of Poiesis: possible futures for ‘artistic’ practice-led doctoral research’. *Art as Research* edited by Smite, R. Mey, K. & Smit, R. Accessed 19 March 2024

<https://www.carolegray.net/assets/a-pedagogy-of-poiesis.pdf>

Godin, D., and Zahedi, M., 2014. “Aspects of Research through Design: A Literature Review”, in Lim, Y., in Niedderer, K., Redstrom, J., Stolterman, E. and Valtonen, A. (eds.), Paper presented at

Design's Big Debates - DRS International Conference, June 16-19, 2014. Umea, Sweden. Accessed: 21 August 2024 <https://dl.designresearchsociety.org/cgi/viewcontent.cgi?article=2006&context=drs-conference-papers>

Hamilton, J. & L. Jaaniste. 2010. "A connective model for the practice led research exegesis: An analysis of content and structure". *Journal of Writing in Creative Practice*, 3(1): 31 - 44.

Hann, R. 2015. "Practice matters: arguments for a 'second wave' of practice research". *The Future Practice Research @4junegroup*, July 28, 2015. Accessed: 20 August 2018 <https://futurepracticeresearch.org/2015/07/28/practice-matters-arguments-for-a-second-wave-of-practice-research/>

Haseman, B. 2006 'A Manifesto for Performative Research'. *Media International Australia incorporating Culture and Policy*, 118. Accessed: 23 August 2024 <https://eprints.qut.au/3999/>

Herriot, R. 2019 "What Kind of Research is Research Through Design" *International Association of Societies of Design Research (IASDR 2019: Design Revolutions) Conference*, 2-5 September, Manchester UK. Accessed: 1 October 2024 https://adk.elsevierpure.com/ws/portalfiles/portal/65550495/Herriott_R_2019_What-kind-of-research-is-RtD.pdf

Hoby, M. 2014 "Designing for Homo Explorens: Open Social Play in Performative Frames" PhD diss., Malmö University. Accessed: 23 August 2024 <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1404339&dswid=-3289>

Höök, K., J. Bardzell, S. Bowen, P. Dalsgaard, S. Reeves, & A. Waern 2015 "Framing IxD Knowledge" *Interactions*: 33- 6. Accessed: 12 October 2024 <https://dl.acm.org/doi/pdf/10.1145/2824892>

Hope, S. 2016. "Bursting Paradigms: A Colour Wheel of Practice-Research". *Cultural Trends*, 25(2), pp. 74-86. Accessed: 17 August 2018 <https://core.ac.uk/download/pdf/141225221.pdf>

International Council on Archives 2000. *ISAD: General International Standard Archival Description – Adopted by the committee on Descriptive Standards, Stockholm, Sweden, 19-22 September 1999* 2nd edn. Accessed: 17 April 2024 https://assets-global.website-files.com/623d8d774e095722fd35306c/62bc19ea090ba528ae181670_CBPS_2000_Guidelines_ISAD_G_Second-edition_EN.pdf

Jackson, T., C. Knowles, S McLaughlin, R. Kotarski, A. de Little, M. Warren & A. Horne 2023. *Sustaining Practice Assets for Research, Knowledge, Learning & engagement (SPARKLE): Final*

Report and recommendations. Leeds: Leeds University. Accessed: 17 April 2024

<https://eprints.whiterowse.ac.uk/203045>

jisc.ac.uk n.d. 'Evaluating research assessment'. Accessed: 23 August 2024

<https://www.jisc.ac.uk/future-research-assessment-programme/evaluation-activities>

Jonas, W. 2015. "Research through design is more than just a new form of disseminating design outcomes". *Constructivist Foundations*, 11(1): 32-6. Accessed: 12 October 2024

<https://constructivist.info/11/1/032.jonas.pdf>

Kolko, J. 2010. "Abductive thinking and sensemaking: the drivers of design synthesis". In *Design Issues*, 26(1): 15 - 28.

Krauth, N. 2011. "Evolution of the exegesis: the radical trajectory of the creative writing doctorate in Australia". *TEXT*, 15(1). Accessed: 25 July 2023. <http://www.textjournal.com.au/april11/krauth.htm>

Krauth, N. 2018. "Exegesis and artefact as a woven work: Problems of examination", *TEXT*, 22(1). Accessed: 2 November 2019. <http://www.textjournal.com.au/april18/krauth.htm>

Lawson, B. 1997. *How Designers Think: The Design Proces Demystified* 3rd edn. Oxford: Architectural Press.

l'Heureux, E. 2022. "Hot air: monoliths, deep veils, and the urban equator" PhD diss., RMIT.

<https://practice-research.com/presentations/prs-australia-and-asia/hot-air-monoliths-deep-veils-and-the-urban-equator>

Mäkelä, M. & N. Nimkulrat (2018) "Documentation as a practice-led research tool for reflection on experiential knowledge". *FormAkademisk - forskningstidsskrift for design og designdidaktikk*.

Accessed: 29 September 2024

https://www.researchgate.net/publication/328238873_Documentation_as_a_practice-led_research_tool_for_reflection_on_experiential_knowledge

Manghani, S. 2021. 'Practice PhD toolkit'. *Journal of Visual Art Practice*, 20(4): 373-398. Accessed: 12 April 2024 <https://doi.org/10.1080/14702029.1988276>

Mason, A. & A. Sharr eds. 2022. *Creative practice inquiry in architecture*. Abingdon, Oxon: Routledge.

McEwen, I.K. 2003. *Vitruvius: writing the body of architecture*. Cambridge, MA: The MIT Press.

Messer, S. 2019. 'AGENCY | ARCHITECTURE | APPROPRIATION : an exploration of participation in the production of the City', PhD diss., Northumbria University, Newcastle upon Tyne.

<https://nrl.northumbria.ac.uk/id/eprint/45883/>

Milech, B. & A. Schilo. 2004. "Exit Jesus': Relating the Exegesis and Creative/Production Components of a Research Thesis'. *TEXT*, (8)1. Accessed: 29 September 2017.

<http://www.textjournal.com.au/speciss/issue3/milechschilo.htm>

Moore, D., X. Ge, D. Sirkin, D. Stenholm, & W. Ju 2018. "ActiveNavigator: Towards Real-Time Knowledge Capture and Feedback in Design Workspaces". *International Journal of Engineering Education*, 34(2): 723-33. Accessed: 13 October 2024

https://web.stanford.edu/~xiaog/files/18_ijee3593.pdf

Muggeridge, F. 2021. "A knowing wrongness: innovation in graphic design through combinations of traditional mastery and deliberately unconventional approaches" PhD diss., RMIT. <https://practice-research.com/presentations/prs-europe-november-2021/a-knowing-wrongness>

Nadim, T. & R. Rendell. 2013. *Defiant Objects Project Report*. London: Goldsmiths, University of London. Accessed: 25 November 2022. <http://defiantobjects.wordpress.com>.

Nelson, R. 2013. *Practice as research in the arts: principles, protocols, pedagogies, resistances*. London: Palgrave Macmillan

Nimkulrat, N. 2007. "The role of documentation in practice-led research". *Journal of Research Practice*, 3(1). Accessed: 29 September 2024

https://www.researchgate.net/publication/26460719_The_Role_of_Documentation_in_Practice-Led_Research

Parks, J. 2022. "The Anxiety of Architectural Archives". *The Routledge companion to architectural drawings and models: from translating to archiving, collecting and displaying* edited by F. Goffi. Abingdon, Oxon: Routledge: 486 – 499.

Pedgley, O., 2007. "Capturing and analysing own design activity". *Design Studies*, 28(5): 463-483. Accessed: 22 August 2024 <https://www.sciencedirect.com/science/article/pii/S0142694X07000257>

Phelan, P. 1993. *Unmarked: the politics of performance*. London: Routledge.

PRAG-UK n.d. "Home". Accessed: 30 January 2023. <https://praguk.wordpress.com/>

Price, E. 2021. “The form of the academic thesis - an artist's perspective”. Keynote presentation at Practice Research Assembly: 'What do we mean when we mean practice research?' Scottish Graduate School for Arts & Humanities, May 26, 2021. <https://www.youtube.com/watch?v=Sz9sy8woVcg>

Ravelli, L., B. Paltridge, S. Starfield, K. Tuckwell. 2013. “Extending the notion of ‘text’: the visual and performing arts doctoral thesis”. *Visual Communication* 12(4): 395-422.

Research Excellence Framework (2019) *Guidance on Submissions*. Accessed: 27 March 2023. <https://ref.ac.uk/publications-and-reports/guidance-on-submissions-201901/>

Rolling Jr. J.H. 2010. ‘A Paradigm Analysis of Arts-Based Research and Implications for Education’. *Studies in Art Education: A Journal of Issues and Research*, 51(2): 102-114

Rittel, H. & M. Webber. 1973. “Dilemmas in General Theory of Planning”. *Policy Science* (4): 155 – 169.

Rowe, W. 1995 ‘The Wordless Dissertation: Photography as Scholarship’. *Journal of Interdisciplinary Studies* (8): 21 – 30. Accessed: 26 March 2024. <https://dspace.calstate.edu/bitstream/handle/10211.3/144903/rowe.pdf?sequence=1>

Stonyer, A. K. Ford, M. Hughes, R. Lindford, & J. Holloway 1986. “Solar-Powered Kinetic Sculpture: A Collaborative Educational Experience”. *Leonardo* 19(1): 35 – 38. Accessed 19 March 2024. <https://muse.jhu.edu/article/600385/pdf>

Sullivan, G.L. 2009. “Making space: The purpose and place of practice-led research”. *Practice-led Research, Research-led Practice in the Creative Arts*. Edinburgh: Edinburgh University Press: 41-65.

susanteby.co.uk 2023. “Biographical Details”. Accessed: 14 April 2024 http://www.susanteby.co.uk/biographical_details.htm

Till, J. 2008. “Three Myths and One Model”. *Building Material* 17: 4-10

UK Council for Graduate Education 1997. *Practice-Based Doctorates in the Creative and Performing Arts and Design*. Accessed: 29 September 2024 <https://ukcge.ac.uk/assets/resources/4-Practice-based-doctorates-in-the-Creative-and-Performing-Arts1997.pdf>

Vial, S. 2017. ‘A Look at Design Research in France through Design Journals: Building a Design Discipline’ *she ji The Journal of Design, Economics, and Innovation* 3(2): 146-56. Accessed: 28 September 2024 <https://doi.org/10.1016/j.sheji.2017.10.002>

Wood, J. 2000. "The Culture of Academic Rigour: Does Design Research Really Need It?" *The Design Journal* 3(1): 44-57.

Yee, J. 2010. "Methodological Innovation in Practice-Based Design Doctorates". *Journal of Research Practice* 6(2).

Endnotes

ⁱ The UK Council for Graduate Education's (1997) *Practice-Based Doctorates in the Creative and Performing Arts and Design* elaborates on the rationale around these definitions. It also explains the anomalous historical situation that musical composition (in itself) is accepted as the explication of research equivalent to, and without requiring a further, extended complementary text or *exegesis*.

ⁱⁱ Richard Herriott posits an intriguing counter-position, arguing that there is no meaningful difference between the 'scientific method' and what, after Nigel Cross (1982), we could call a 'designerly way of knowing'. Herriott's proposition is, in effect, 'Research' is epistemological and any distinctions between quantitative, qualitative and practice research are, at most, methodological and occur only at a disciplinary level. That is, they represent differential approaches to finding out rather than fundamentally different types of knowledge (2019: 6). As he sees it, the positional and methodological differences are only matters of degree in a single field called Research, defined as *any* systematic inquiry to discover communicable knowledge. His argument is that all researchers interact with the object of their study to some degree (lightly or strongly) because all experiments are designed and therefore inherently all are artificial situations. Consequently tangible and intangible artefacts in practice research are the discipline-specific mode of articulating a hypothesis (i.e. through the 'terms' which are inherent to art and design), and therefore they are either the equivalent of a research question, or of conducting an experiment (ibid: 8) in a scientific discipline. Iterations are just the conducting of more experiments which provide further results leading to deductive conclusions. Jamie Quinton suggests, 'one could argue that most PhDs are in fact Creative PhDs in disguise. It is merely the notion that the artefact is embedded within the standard thesis and is separated in the Creative PhD, the two modes are rendered equivalent' (Brabazon, Hunter, Quinton 2022: 62). In the same paper, Tara Brabazon observes that the boundaries of the 'traditional' dissertation have already become more porous, with hypertext enabling other forms of research dissemination to be

incorporated, both as references and to demonstrate the processes and outcomes of the research. In all but name, these are research artefacts (2022:64).

Conversely, Fernando Galdon and Ashley Hall (2019, 2022) argue that knowledge created through design is of a different type to that in either the sciences or in the arts. Their argument is both the sciences and arts are concerned temporally with the present, while design practice, which is propositional (or, in the term which they use, ‘prospective’), is concerned with what does not yet exist and has an influence over the outcome (it is intended to facilitate or enact some change). Consequently, they distinguish between empirical knowledge of the past and present and ‘probabilistic’ knowledge which is contingent [or *more* contingent, since all scientific knowledge hypothetically is contingent and subjected to Karl Popper’s principle of ‘falsification’ can be superseded by a better explanation].

The two examples which Galdon & Hall provide of probabilistic types of knowledge are (1) anthropology, and (2) economic forecasts. Both anthropology and economic forecasts are models extrapolated from observations of the past; anthropology also considers the past propositionally, while economic forecasting applies observations of patterns in the past to anticipate likely future patterns. I believe the latter is only partially analogous: while forecasters like designers are addressing ‘wicked problems’ (economics, weather, fashion etc.), generally they are not seeking to *intervene* in it – they can tell you *what* might happen, but not *how* to act (similarly, Glanville (2005: 92-3) describes a proprietary life-cycle assessment software which tells an architect that their design is wrong, but does not suggest how it might be improved). It also would be hard to demonstrate the influence which making an economic forecast has had on the economy as we cannot know what would have occurred if the forecast did not exist. However, Galdon & Hall’s point with this example is more limited, that economic forecasts are subjected to continual revision which allows for fine-tuning, or for the model to be adjusted. Like winding a clock so that it does not slow down, tuning the model ensures the parallel with the real-life situation is maintained and trustworthy; for the forecast to be perpetuated. In

design, the metaphor of fine-tuning allows for the elimination of errors (as in the case of software updates), for optimisation towards the original purpose, or for modification towards another goal.

ⁱⁱⁱ A brief autobiographical note is perhaps useful to the reader to understand this paper's genesis and frames of reference. I am a chartered architect, with ten years' experience in architectural practice and over fifteen years' teaching architecture full-time. During the Covid pandemic, I completed the first PhD by Practice in the Faculty of Engineering and Environment at my institution, which was undertaken part-time while teaching. This PhD was ostensibly about young people and their degrees of agency in The City and drew on several interdisciplinary projects undertaken over a period of around ten years. Inevitably this also led me into thinking about undertaking practice research almost from first principles (and I am extremely grateful both to my supervisors and to colleagues in the Faculty of Art, Design and Social Sciences for their confidence in me and generous guidance, including what I should leave out. On the evidence of this paper, a lesson I have still yet fully to embrace!). The *viva voce* examination of my PhD was initially delayed, and then undertaken online, during the first lockdown in the UK in the spring and summer of 2020. The latter period of my PhD also coincided with preparations for and submissions to the Research Excellence Framework (REF) 2021. Following this, I undertook a sabbatical in Australia as a visiting academic to two institutions, discussing my REF experience as a practice-researcher in relation to the presentation of 'Non-Traditional Research Outputs' for the, then upcoming, Excellence in Research for Australia (ERA) 2023 audit. While there I also participated in MA and PhD practice research symposia at other universities. Those opportunities enabled me to consider the similarities and differences in approaches to supporting practice research, contributing to this paper and to what I referred to (after the manner of the late architect and educator, John Hejduk) as an 'exorcism' of these considerations.

^{iv} From a review of Abstracts, Fisher & Mottram (2006) state there were thirty-eight PhDs awarded in art & design related disciplines between 1957 and 1975 and one hundred between 1976 and 1985. The first PhD they identify was awarded by the University of Manchester to Paul Albert Chew in 1957 for

‘Some Recent British Sculptors: A Critical Review’. Yee (2010) notes the first engineering design-related PhD was also awarded by the University of Manchester to Brian Lawrence Stevens in 1966 for ‘A Design for an Electronic Control System for a Limb Prosthesis’.

With reference to the second edition of the Allison Research Index for Art & Design (ARAID 2, 1996) Carole Gray (1996: 6) lists the ‘first generation’ of UK practice research pioneers as:

- 1978 Stonyer, sculpture (PhD)
- 1980 Raz, Fashion & Textiles (PhD)
- 1980 Connor, Fine Art (M.Phil)
- 1980 Newling, Fine Art (M.Phil)
- 1981 Salah, Graphic Design (PhD)
- 1982 Cooper, Graphic Design (PhD)
- 1982 Scrivener, Computer-Aided Graphic Design (PhD)
- 1982 Goodwin, Painting (PhD)
- 1982 Newton, Fine Art/ Computing (M.Phil)
- 1983 Tebby, Sculpture (PhD)
- 1984 Greenhill, Sculpture (M.Phil)
- 1985 Onyeneke, Fashion & Textiles (M.Phil)
- 1986 Jerrard, Industrial Design (PhD)
- 1987 Rivlin, Graphic Design (PhD)
- 1987 Miszewska, Sculpture (M.Phil)
- 1988 Pepper, Fine Art/ Holography (PhD)
- 1988 Power, Sculpture (M.Phil)

^v Indra Kagis McEwen asserts Roman architect-engineer Vitruvius first used the analogy of the body (*corpus*) to mean completeness in *De Architectura*. However, she argues this analogy is more ‘opaque’ than it seems, and has multiple levels of meaning in Vitruvius’ writing beyond simply meaning encyclopaedic knowledge. He equates nature hierarchically to geometry, to the human (male) body, and to architecture, and through this justifies the imperialist and colonialist project of his sponsor and dedicatee, the first Roman Emperor, Octavian-Augustus (2003: 12).

^{vi} One of the Aims of the Practice Research Advisory Group, established in 2017, was to ‘[p]roduce a framework to underpin the development of an archival infrastructure for a “Web of Arts”...’ (PRAG-UK n.d.) through which the results of practice research will be preserved, discoverable and searchable. It is acknowledged achieving that will be a long-term goal. The infrastructure for sharing practice research has yet to mature. Practice research is often multimodal and digital evidence of the practice is often dispersed on an artist’s own or a third-party website, rather than contained by a CRIS/IR designed primarily for handling text-based file types and ‘traditional’ outputs such as journal papers and book chapters. The technical issue for the repository managers and software developers therefore are how multimodal data is collated, ‘findable’, ‘searchable’ and citable.

^{vii} For example, the open-source publication of the data underpinning the work of Turner Prize-nominated research agency, Forensic Architecture. See: <https://forensic-architecture.org/about/agency>

^{viii} Consider, for example, the recent newspaper investigation into a number of ‘artificially aged’ formaldehyde works produced by artist Damien Hirst, which might be considered self-plagiarism, but certainly raises questions about his trustworthiness.

In: McLenahan, M. 2024. “Damien Hirst formaldehyde animal works dated to 1990s were made in 2017” *The Guardian*, March 19, 2024. Accessed: 7 April 2024

<https://www.theguardian.com/artanddesign/2024/mar/19/damien-hirst-formaldehyde-animal-works-dated-to-1990s-were-made-in-2017>

^{ix} Godin and Zahedi (2014) imply there have been parallel developments in Montreal, Quebec Canada in, what they call, Research through Design (RtD), after Alain Findeli's 2004 conference paper *La recherche-projet: une méthode pour la recherche en design*, which introduced Christopher Frayling's 1993 'Research in Art and Design' to the French language. Wolfgang Jonas (2015: 33 table 1) presents an English language comparison between Frayling (1993) and Findeli (1998). Stéphane Vial (2017) observes that in France, unlike in the UK, specialised art and design education has remained separate from the university system and 'design' is not recognised officially as an academic discipline by the Conseil National des Universités (<https://conseil-national-des-universites.fr/cnu/#/>). Language barriers between the parallel research cultures in French and International English also have impeded the awareness of and cross-fertilisation of these developments. Within the French language, perhaps the terms 'decorative arts' (*les arts décoratifs*) to describe design – coined as a counterpart to 'fine arts' but sometimes pejoratively interpreted as 'lesser art' – and *décorateurs* – which to English ears sounds more like decorator than designer – conceptually has made the acceptance of research arising from within (or endogenous to) the practices of design slower in France than elsewhere, even than in French-speaking regions like Quebec in Canada and parts of the Swiss Confederation.

Similarly, Findeli's choice of the term 'research project' (*recherche-projet*), seems rather more generic than any of the multitude of English expressions which this paper groups together under the heading of practice research (to which we could also add Findeli's own 'project-grounded' – a combination of Grounded Theory and Action Research), and therefore French language literature in this area may be less easily discoverable. Vial describes the plural *sciences* in French as defining "épistémé, in the sense of Foucault" (207: 155) – the structure or formation of knowledge legitimised by/in a particular culture and period – which is perhaps more akin to 'field' in English? Again to English readers, *Sciences du Design* could be taken to refer to Design Science rather an expanded

field of research in design as intended. (See also Laurent, S. 2012. ‘Why a Culture of Design in France Never Took Off’ *Design Issues* 28(2): 72 – 77. Accessed: 29 September 2024

https://doi.org/10.1162/DESI_a_00144).

Findeli (translated and quoted by Vial) states, “What fundamentally separates design...is that it sees the world as a *project* where other sciences see it as an *object*. The subject/object relationship is therefore radically modified by the fact that, in project-grounded disciplines, the subject is inevitably *engaged, situated* within its object.” The English Abstract to ‘*L’eclipse de l’object dans les theories du project en design/ The Eclipse of the Product in Design Theory*’ (Findeli & Bousbaki 2005) suggests the ‘eclipse’ represents a shift in emphasis from the product as the object of study to the process and function, and then to the actors in the process and the experience of the user. Jonas (2015) seems to take this more literally, that the artefact should be superseded by more traditionally-recognised textual representations of research. While there is much of interest in Jonas’ reflections on ‘Research through Design’ (RtD) over the period of 2005-15, it will be clear I disagree with this conclusion (see also the quote from Jamie Quinton in endnote iii).

^x At Leicester Polytechnic (now de Montfort University) under the stewardship of Ernest Edmonds; the first practice-based PhD (comprising of an exhibition and 60,000 word dissertation which included slides showing the work) was awarded to Susan Tebby for ‘Rhythmic Proportion: a Study of the Relationship Between Art and Mathematics’ by the Council for National Academic Awards (CNAA) in 1983 (susantebby.co.uk 2023). However, sculptor Andrew Stonyer had been awarded the first PhD for studio-based research in fine art by CNAA in 1978 for his work on solar energy in kinetic sculpture (See Stonyer et al. 1986 and andrewstonyer.com 2023).

^{xi} In 1984 Edward Cowie was invited by the University of Wollongong to design the Doctorate in Creative Arts (DCA) degree; the first DCA was awarded to Peter Shepherd in 1988 for ‘More than the Portrait: The Intangible with the Immediately Visible as a Painter Interprets his Subjects on a

Surface'. Wollongong's DCA was followed closely by Royal Melbourne Institute of Technology in 1986 and the PhD by Practice by Invitation in architecture instigated by Leon van Schaik.

It seems significant that both Edward Cowie (b. 1943) and Ernest Edmonds (b. 1942) are interdisciplinary practitioners and researchers. Cowie is a composer and musician, receiving his first Doctorate (DMus) from the University of Southampton. He studied physics as an undergraduate and holds a second PhD that combined studies in physics, mathematics, music and fine arts (edwardcowie.com 2024). Edmonds is a digital artist and is internationally recognised for his work in human computer interaction. After studying mathematics and philosophy at Leicester University as an undergraduate, he was awarded a PhD in Logic from Nottingham University in 1973 (ernestedmonds.com n.d.).

^{xii} At Flinders University, Adelaide, New South Wales, Tara Brabazon (then Dean of Graduate Research) introduced the terminology, “the artefact and exegesis PhD” to describe the mode of the doctorate rather than the methodology. This enabled the multimodal approach to become equally accessible to all disciplines including science and engineering, medicine, nursing and allied health (2022: 51). For Brabazon, while it is necessary to demonstrate the methodology (‘the how’ – how an artefact was produced, how the research was undertaken) in the exegesis, the ‘PhD-ness’ lies in ‘the why’ of the research (2022: 59). Later in the same paper, Jamie Quinton notes academics from science disciplines have traditionally tended not to consider beyond the soundness and alignment of the methodology adopted for demonstrating the credibility of the research (2022:60 - 1).

^{xiii} The Aalto Doctoral Programme in Arts, Design, and Architecture offers either a Doctor of Arts in:

- Fine Art
- Design
- Film

-
- Media (television and scenography)

or, a Doctor of Science in Architecture.

<https://aalto.fi/en/study-options/aalto-doctoral-programme-in-arts-design-and-architecture>

Liepāja University (LiepU) and Rīseba University of Applied Science, Riga, jointly offer a Doctoral Degree in Media Art & Creative Technologies. <https://mplav.lv/en/IZGLITIBA/6/>

The Oslo National Academy in the Arts award PhDs in artistic research in

- Art & craft
- Dance
- Fine art
- Opera & theatre

<https://khio.no/en/research/phd-in-artistic-research>

See also Lien, L.H. Strøm, G. & Milde, I. 2024. “Artistic Research in Norway: A Brief History”

Research Catalogue. Accessed: 20 March 2024

<https://www.researchcatalogue.net/view/1405414/1405289#:~:text=%20norwegia%20artistic%20rese arch%20fellowship,d>

^{xiv} To be accepted onto a PhD programme at an *Ecole Doctorales* (Doctoral School) in France the student first must sign a dissertation agreement with the University’s Dissertation Director. At the University of Provence, this role was held by philosopher, Roland Barthes, one of the founding figures in semiology. Barthes described Clergue’s photo-dissertation, *Langage des Sables* (Language of the Sands) as, ‘... a *discourse*, since these images were subjected by their author to a classification... and that, moreover, since they reproduce a referent, they bring into play a reproduction code and lend themselves to a secondary level of analysis.’ (Clergue 1980: 1, cited in Rowe 1995: 21)

^{xv} Creator Doctus was co-funded by Erasmus+ and the European Union to identify and support practice research at PhD level – or to the equivalent 3rd cycle award level qualifications – in countries where little or no such provision exists.

^{xvi} In the US, where practice research is still a rarity, the Transition Design programme at Carnegie Mellon University also followed a similar format of a dissertation of 40 – 60k words (compared with 60 – 80k for a ‘traditional’ dissertation), a ‘body of work’. Accessed: 24 October 2024

<https://design.cmu.edu/about-our-programs/phd-transition-design#chapter=1035-Program-Structure>

^{xvii} In New Zealand, individual universities are audited on a 7-to-8 years’ cycle by the Academic Quality Agency (AQA) across all aspects of the universities’ activities. Tertiary education in Canada is administered at a state, rather than a federal, level. Where research audit results are published these are by separate funding councils, rather than an overarching agency equivalent to UK Research and Innovation (UKRI) or the Australia Research Council (ARC).

^{xviii} These terms were not explicitly defined in the Research Excellence Framework submission guidance, but the following, generic definitions were provided in the ‘Panel Criteria and Working Methods’ document (2019: 34-35):

Originality – the extent to which the output makes an important and innovative contribution to understanding and knowledge in the field. Research outputs that demonstrate originality may do one or more of the following:

- Produce and interpret new empirical findings or new material
- Engage with new and/or complex problems
- Develop innovative research methods, methodologies and analytical techniques

-
- Show imaginative and creative scope
 - Provide new arguments and/or new forms of expression, formal innovations, interpretations and/or insights
 - Collect and engage with novel types of data
 - Advance theory or analysis of doctrine, policy or practice, and new forms of expression

Significance – the extent to which the work has influenced, or has the capacity to influence, knowledge and scholarly thought or the development and understanding of policy and/or practice.

Rigour – the extent to which the work demonstrates intellectual coherence and integrity, and adopts robust and appropriate concepts, analysis, sources, theories and/or methodologies.

^{xix} For example, see www.northumbriaarchitecture.com/research and <http://unnartdesignfolios.com/>

^{xx} The Association for Computing Machinery (ACM) Conference on Designing Interactive Systems (DIS) introduced peer-reviewed 12-page Pictorials, as a more visually rich alternative to a short paper, in 2014. Their website states, “Pictorials are meant to contribute to knowledge in themselves rather than document concepts, methods, and processes we already know...they should be accompanied by a narrative that helps the audience understand what the knowledge contribution is. It is this scaffolding that transforms a Pictorial into research... to support the contribution of the visual content.” Accessed: 12 October 2024 <https://dis.acm.org/2024/pictorials/>

^{xxi} In the ERA guidance the word ‘portfolio’ is given a specific definition - closer to the traditional meaning - of “a *collection* of research outputs submitted as a *single* Non-Traditional Research Output (NTRO). It is made up of research outputs from the same underlying research endeavour that on their own may not meet the definition of research, but when *collected together* have coherent research

content” (2022: 37. Emphasis added). Anecdotally, at the time of my sabbatical visiting universities in Australia, the NTRO ‘portfolio’ seemed to be considered a lesser type of output than a singular design project or artefact.

^{xxii} Submitted to REF 2021 Panel C Unit of Assessment 13 <https://results2021.ref.ac.uk/filters/unit-of-assessment>.

For further examples of art and design ‘research portfolios’ submitted to REF2021, see endnote xix (above) and

<https://bartlettdesignresearchfolios.com/>

<https://www.brighton.ac.uk/research/research-news/feature/practice-led-research.aspx>

<https://books.ed.ac.uk/edinburgh-diamond/catalog/series/eca-folios-2014-2021>

<https://www.londonmet.ac.uk/projects/listing/public-lectures-and-talks/2020-21/aad-practice-research-portfolios/>

<https://www.msa.ac.uk/research/portfolios/>

<https://www.ncl.ac.uk/apl/research/case-studies/creativepractice/>

^{xxiii} In the acknowledgements to his paper, “A (Cybernetic) Musing: Certain Propositions Concerning Propositions” Ranulph Glanville (2005: 95) implies that Frayling’s position paper had a quasi-mythical existence pre-internet, and it was therefore much cited but little read. Like all ‘religious’ articles of faith, it has been subjected to extensive anagogical reinterpretations (ibid: 88) which may distract from the original. As Galdon and Hall (2019) note, Frayling’s was a position paper, intuiting a set of contemporaneous ideas and questions not intended to be definitive definitions, subsequently informing the UK Council for Graduate Education’s 1997 discussion paper on Practice-based Doctorates. Durrant et. al. (2015: 9 - 10 footnote 3) note that Christopher Frayling himself, “[now] feels differently about the delineating design research approaches in this way” but neither Durrant et al. nor Frayling himself seems to have elaborated further.

^{xxiv} Carole Gray & Heather Delday (2011) describes what a ‘practice-led’ PhD is *not*: it is not an opportunity for self-promotion or for self-therapy. It is not to pursue a mere enthusiasm. It is not an open-ended process or a life’s work. The role of the practice (which I take to mean both its rationale and how it is conducted) must be clearly and explicitly articulated.

^{xxv} Christopher Frayling’s paper defines ‘Research where the end product is an artefact... where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or iconic or imagistic communication’ as Research *for* Art & Design rather than Research *through* Art & Design. However, he goes on to describe what he calls the cognitive tradition, ‘stand[ing] outside of the artefact at the same time as standing within it.’ (1993: 5) (exemplified by George Stubbs’ anatomical drawings of animals or John Constable’s cloud formation studies), as an approach through which future research could grow. Sophie Hope (2016) renames this approach as Research *as* Art & Design, and proposes Frayling’s cognitive idiom is a hybrid (*through and as*). Ranulph Glanville distinguishes between ‘knowledge of’ and ‘knowledge for’, in which the former - the more ‘traditional’ objectivist type of research – is concerned with the status quo, and the latter facilitates change and action (2005: 91).

^{xxvi} The 2018 guidelines for Excellence in Research for Australia (ERA) defined research as, “the creation of new knowledge and/or the use of existing knowledge in a new and creative way to generate new concepts, methodologies, inventions and understandings” which does not make any reference to dissemination.

^{xxvii} Bruce Brown suggests the first arts practitioner to be awarded a doctorate was Christopher Dresser (1834-1904). He received this in 1859 from the University of Jena, Germany, with the submission of three documents, ‘The Rudiments of Botany Structured and Physiological’ and ‘Unity

in Variety, as Deduced from the Vegetable Kingdom' (both published 1859), together with a short paper on morphology entitled 'Contributions to Organographic Botany'. This might now be recognised as the 'Scandinavian model' or multi-paper PhD, which in the UK is also known as a PhD by Publication (2021: 10).

^{xxviii} Pedgley also notes (2007, 479) that the prospect of making an interesting record of that day could incentivise richer design activity and motivate more challenging research!

^{xxix} Pedgley's design diary comprised of three types of stationary,

1. An A4 proforma on which the date and main activity of each day were briefly noted.
2. A 'standard' blank A4 to contain general diary entries, notes and sketches (Pedgley used this for 47% of project days).
3. A3 tracing paper, used to overlay and circle developmental drawings and then annotate these. The original drawings were given a reference, so that the drawing and overlay could be reunited at the analysis stage. These were also scanned to create a digital archive.

^{xxx} 'Events' folders recorded summary information of a distinct activity or occurrence in the design process:

- Event title
- Date and time
- General information about the event (e.g. location, type and number of participants, etc.)
- Narrative description of what happened during the event
- Conclusions: for example, what decision was made, what insight was gained, what

will be the next step in the process?

Media files associated with an ‘Event’, e.g. still images, video files, or other documents can also be uploaded to the folder. ‘Sub-events’ folders linked to the main Event enable individual aspects to be documented with a title, description and specific media files.

‘Notes’ folders allow unstructured and informal aspects of the design process also to be documented. These are recorded with a timestamp, text field, and any associated media files. ‘Reflections’ – annotating Events, Sub-events and Notes – can then be appended retrospectively, either as an ongoing activity throughout the design process or as a separate activity at the end.

Dalsgaard & Halskov propose their PRT scaffolds longitudinal projects, helping to ensure data, details, and rationale for decisions are not lost over time. They also suggest it could be used to facilitate cross-project studies. In a semester long design project undertaken by groups of design students, the PRT enabled an analysis of convergence and divergence in the design process, which Dalsgaard & Halskov used in combination with participatory research methods to investigate when the students had ‘moments of insight’ or ‘developmental breakthroughs’ (2012: 436).

It is usually not possible to record everything, and deciding on the research focus is an important, initial consideration. Nevertheless, the research may change over time. Dalsgaard & Halskov note one instance in which detailed video recordings of ideation events enabled aspects of the design process to be studied that had not been the original focus of their research.

^{xxxi} The top listed links in a Google search for “documenting design process” includes Miro (sponsored) <https://miro.com/miroverse/design-process/> and Figma <https://www.figma.com/design-systems/>. See also <https://designstrategy.guide> and <https://medium.com/figma-africa/how-to-document-your-design-process-7a25b96d075a>. Accessed: 11 October 2024.

^{xxxii} For example, *DataCite* (2024) defines six ‘mandatory properties’:

ID	Property
1	Identifier
2	Creator
3	Title
4	Publisher
5	Publication Year
10	Resource Type (there is a controlled list of 29 categories + ‘other’ in Appendix 1: Definitions pp. 70 - 85)

plus a further six ‘recommended’ and eight ‘optional’ properties, with ‘controlled lists’ of possible answers for each. Accessed: 27 March 2024

https://datacite-metadata-schema.readthedocs.io/_/downloads/en/4.5/pdf/

^{xxxiii} Architectural archives began to be more widely collected by institutions (university libraries and museums) in the second half of the Twentieth Century (although individual collections such as Sir John Soane’s existed long before this). This required archivists and conservators, previously used to the museum-model of singular meritorious artefacts, to develop new techniques for housing and cataloguing large bodies of interrelated materials (Parks, 2022).

^{xxxiv} In reality, those ‘traditional’ forms also are not neutral or transparent vessels. For example, peer-reviewed journal papers are more highly prized than a paper in conference proceedings; the latter presumably being more likely to report on work in progress, when the knowledge claim is in development. By contrast, in ERA 2023, monographs are weighted more highly than either journal papers or NTROs.

^{xxxv} The *Defiant Objects Project Report* by Tahani Nadim and Rebecca Randall (2013) cites an example of misclassification occurring even within the existing limited choice of metadata object types available; a photograph illustrating a drawing made directly on a wall was labelled as an ‘image’ rather than as an ‘artwork’. Therefore, the repository recorded the object type which could be uploaded – the photograph or ‘image’ – as the research output. In this instance, neither the creative practice outcome (the insitu drawing) nor the research output (any knowledge derived) are accurately described by the metadata record.

^{xxxvi} The report identifies the following issues:

- **Existing infrastructures:** existing research archives and digital infrastructure primarily are designed for textual research outputs. There is, in Bulley & Şahin’s words, an “overuse of the ‘Other’ category” to try to capture practice and practice research.
- **Interfaces:** the interfaces to research infrastructure use vocabulary familiar in and appropriate to the methods of natural and social sciences. Even those funds specifically addressed to Arts will ask applicants to state a ‘Research Question’ (a hypothesis) in advance. The terminology can thus be an additional hurdle to research instigated in or from different types of research imperative. Another, seemingly-minor, example from my home university of the limitations imposed by predetermined metadata in repository’s interface, I am given the choice of identifying as a ‘designer’ or a ‘producer’, but not as an ‘artist’ or an ‘architect’.
- **Digital documentation:** as existing research infrastructures are designed for handling text and textual file types; the evidence of practice is typically held in other places (such as a third-party host or an artist’s own website). Over time, these links can break, leaving an incomplete record of the work. There are further issues, such as the compatibility and interoperability of digital file types. When commercial software is updated or newer file types developed, who is responsible for (i.e. who pays for) maintaining or upgrading the record?

This is also elaborated in the notes of the ‘Capturing Practice Research: Improving Visibility and Searchability’ 2019, *JICS Community Event*, 15 March. Accessed 23 March 2023

<https://scholarlycommunications.jiscinvolve.org/wp/2019/03/29/practice-research-is-for-life-not-just-ref/>.

^{xxxvii} This may no longer seem so practical or desirable following the ransomware cyber-attack on the British Library in October 2023, which destroyed its online infrastructure and access to its PhD catalogue, EThOS. See <https://www.bl.uk/home/british-library-cyber-incident-review-8-march-2024.pdf> Accessed: 14 April 2024.

^{xxxviii} Goldsmiths’ online research portfolios submitted to REF2021, might illustrate one example of how the ‘front end’ user interface could develop (fig. 5).

^{xxxix} It is also, therefore, worth taking note of the hierarchical structure proposed by the International Council on Archive (ICA)’s *ISAD(G): General International Standard Archival Description* (2000) model rules and guidelines. These guidelines provide succinct definitions (for archivists) intended to promote accessibility and international comparability irrespective of the media or form of the artefact(s).

The *General International Standard Archival Description* (2000) guidelines defines 26 potential ‘elements’ which could be used for internationally-consistent archival records, of which only the following six are described as essential for identification:

- a. Reference : comprising of three components: country code + repository code or unique location identifier + specific local reference or unique item identifier
- b. Title
- c. Creator

-
- d. Date(s)
- e. Unit of Description : a list of the set of all of the documents (in any physical form) which are being treated as a single archival deposit
- f. Level of Description : describes the position of the ‘unit of description’ in the multilevel hierarchy, and is intended to avoid redundancy and repetition in the description, e.g.
- Fonds : meaning the whole record, regardless of form or media, accumulated in the course of the creator’s activities and function
 - Series : maintained as a unit because they result from the same activity, have a particular form, or because of some other relationship arising from their creation, use or receipt by the archive.
 - File : an organised unit of documents grouped together because of their current use by the creator, or because they relate to the same subject, activity, or archival process.
 - Item : the smallest archival unit, e.g. a letter, report, or artefact.

Significantly for this paper, they propose ‘multilevel’ descriptions of practice outcomes and research outputs, thus delineating the extents of the specific research inquiry, while also relating different parts (‘item types’) to each other and to the whole research output (‘series’), and making connections between a specific inquiry and other related projects (‘collections’). Following these guidelines is intended to avoid confusion, redundancy, and unnecessary repetition in archival records.

^{x1} PR Voices proposed the Cayuse repository should collect data on when and where practice outcomes are performed or exhibited. The proposed terminology for this – as an ‘exhibition type’ – may cause confusion: an exhibition or installation could be the artefactual outcome of a practice, i.e. an ‘item type’ in its own right, or the site of display of other artefacts/‘item types’ which, in archival terms, might then be the equivalent to a ‘series’ or a ‘collection’. While a travelling exhibition at

multiple venues could be either or both numerous separate instances of one ‘item type’, and/or a single ‘exhibition type’ recording multiple occurrences!

^{xli} A script or a score is ‘brought to life’ through its performance. Peggy Phelan asserts “Performance occurs [in] a time which will not be repeated” (1993, 146), therefore “the disappearance of the subject is fundamental to the [nature of] performance” (ibid, 147). An asynchronous (re)experiencing of a recording or documentation, she argues, is ‘something other’ than the performance. Nor is a straightforward recording itself an explication (i.e. making explicit what is currently implicit) of the knowledge.

^{xlii} This is similar to, but not quite the same as, the definition of ‘portfolio’ as a specific type of Non-Traditional Research Output (NTRO) in ERA 2023 (see endnote xxi).

^{xliii} This is Nelson’s pun, the original definition of ‘clew’ is a ball of thread as well as the archaic variant of ‘clue’.

^{xliiv} For example, see Hoby, M. 2014 “Designing for Homo Explorens” PhD diss., Malmö University. Accessed: 22 August 2024 <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1404339&dswid=-3289>; and Gaver, W. & Boucher, A. 2024 , Designing with Data: An Annotated Portfolio’ *ACM Trans. Comput.-Hum. Interact.* (in print). Accessed: 22 August 2024 <https://doi.org/10.1145/3685272>

^{xlv} The Australian Research Council standardised the requirement for the ‘artefact + *written* exegesis’ for all modes of creative practice as research in 2012 (see Krauth 2018).