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DESIGNED FUTURES

Design educators interrogating the future of design knowledge, research and education.

'Research Practice' as Design Informant

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Abstract

Rapid and ongoing global changes are forcing educators to consider how students can be supported to navigate these events successfully. Reports from the World Economic Forum (WEF 2018) and the Organisation for Economic Co-operation and Development (OECD 2018) highlight the need for developing learner and worker agency and for embedding curricula with projects that develop problem-solving skills; enable deep thinking and reflection; and focus on transferable skills, knowledge, attitudes and values. There is an ever-increasing need for knowledge-based practice in the design industry, and the value of design research in addressing cross-disciplinary challenges has been noted by several government agencies.

Within this context, the curricula of first degrees in interior design and exhibition design at the University of Lincoln (UK) were redeveloped in 2017. The decision was made to eliminate the 'contextual studies' stream and to replace it with a stream of modules focused on 'research practice'. While contextual studies consider the temporal understanding of the artefact; research practice is positioned as central to the design process and with greater potential to develop agency. Emphasis is placed on design entrepreneurship and critical practice through the rigorous documentation of, and reflection on, standard design products. This approach culminates in the identification and formulation of an appropriate design research project that is showcased in an exegesis.

This paper will describe and interpret the major informants to the curriculation process to evaluate the underpinnings of this decision.

By shifting the focus away from specific content to transferable processes, the curriculum is more flexible with greater opportunities for agency and co-production between staff and students. A focus on the research process, instead of the historical development of western aesthetics, is particularly important in postcolonial contexts where this 'history' is so far removed from the student's habitus.

Keywords: Agency, contextual studies, 'student as producer', research practice

Introduction

> Those who create knowledge through research have a different and richer relationship to their subject field than those who simply teach the knowledge that others create (Friedman 2000, p. 19).

Rapid and ongoing global changes are forcing educators to consider how students can be supported to navigate these events successfully. Reports from the World Economic Forum (WEF 2018) and the Organisation for Economic Co-operation and Development (OECD 2018) highlight the need for developing learner and worker agency and for embedding curricula with projects that develop problem-solving skills; enabling deep thinking and reflection; and focusing on transferable skills, knowledge, attitudes, and values. There is an ever-increasing need for knowledge-based practice in the design industry, and the value of design research in addressing cross-disciplinary challenges has been noted by government agencies such as the UK Arts and Humanities Research Council (Crossik & Kaszynska 2016, p. 92–95) and the Design Council (2018).

Within this context, the curricula of first degrees in interior design and exhibition design at the University of Lincoln were redeveloped in 2017. These two distinct programmes are delivered in parallel at the University of Lincoln, a rapidly transforming 'post-92' institution[1] in the East-Midlands of the UK. The teaching team decided to eliminate the 'contextual studies' stream and replace it with a stream of modules focused on 'research practice'. This paper will describe and interpret the major informants to the curriculation process to evaluate the underpinnings of this decision.

Contextualised problem

In the United Kingdom, design curricula typically include content in a module stream that can be described as 'contextual studies', 'critical studies', 'humanities' or 'theory'. The terms describe the knowledge areas which should support and complement design production, by providing a reflexive, theory-based underpinning and design description, particularly to support studio production (Herne 2006, p. 1). In England, design curricula are contained in the broader subject labelled 'Art and Design' – "a cognate area with its own characteristic processes and procedures and physical studio space", (Herne 2006, p. 11). Although the subject is experiencing a paradigm shift, it is still largely controlled by a modernist conception of Art as a grand narrative of universal meaning, instead of a pluralist, multi-faceted enterprise (Herne 2006, p. 11). It is envisioned that contextual and critical studies should facilitate the student by providing a reflexive process in which the student makes sense of all the disparate experiences and generators that informs design production (Addison 2000, p. 241). However, sadly, this knowledge can easily deteriorate to "an information-led marathon through the greats of Western art history" separated from other learning activities (Addison 2000, p. 241). The content of this area of the design curriculum has a long-held contentious position alongside the practice-elements of design curricula (Rintoul & James 2017, p. 216). Depending on the institution and approach, this knowledge area can be indistinguishable from practice components, it may be framed as a discrete discourse, or it may even be in conflict with it (Rintoul 2014, p. 346).

At the University of Lincoln, interior design was initially presented with a contextual studies stream shared with architecture. This was criticised by external examiners, who suggested a discipline-specific set of modules. The shared contextual studies module stream covered "the development of architecture, art and design from ancient times through to the present", as well as "theories about interior, architectural and urban space". Finally, in the exit year, students were expected to demonstrate the management of an independent research project

– this typically took the form of a long essay on any topic of the student's choosing. The stream was the main mode of delivery of research knowledge, and also the only real opportunity for students to illustrate academic competence since the studio modules were focused on skills development and project-based design portfolio. It was also claimed that this module stream "recognises that the role of the designer includes not only the considerations of the formal qualities of the designed object or environment in relation to its immediate audience but also encompasses a broader set of responsibilities to society as a whole".

The exhibition design course's theory stream aimed to offer both a historical overview and a thematic framework in which to study contemporary design, exhibition and architecture. In its second year, the programme offered no traditional lectured module, with all content delivered through studio projects. Following the UK tradition, finalists were expected to deliver a large-scale research project, which typically took the form of a long essay related to the topic of investigation in the design studio. In both interior and exhibition design, the essay is the main tool used to deliver academic skills. This is evident in the module description: "It focuses on improving visual literacy and stylistic awareness, as well as introducing the social and contextual factors that have determined design production through history. In addition, the module helps students acquire skills in studying, research, personal reflection and development, writing and the use of information technology".

Theoretical content at the University of Lincoln was predominantly delivered in a non-integrated manner. This implies separate contextual studies lessons delivered in the pedagogically authoritative lecture theatre and the essay used as the main assessment method (Rintoul & James 2017, pp. 223–224, Rintoul 2014, p. 350). Although this model provided a discrete and easily managed stream of modules, it promoted avoidance of areas of the curriculum, which could be described as 'academic'. Students with limited academic experience often tried to avoid the knowledge area, described them as 'useless theory modules', or viewed it as a necessary evil – a student perception confirmed by Rintoul (2014, p. 347). We share Rintoul's (2014, p. 346, 350) view that the non-integrated delivery model separates theory and practice artificially and creates a learning environment that is product-based and in opposition to the process-based views promoted in the design studio. It positions the two areas of 'knowing' as binary opposites with discrete languages and identities. This is exacerbated by the prevalent practice of assigning research-active staff to 'theory' modules and industry-active staff to 'design' modules. This creates a perceptual split between those that occupy the space of the lecture hall versus those that occupy the space of the studio.

An undergraduate academic year at the University of Lincoln comprises four 30-credit modules with one dedicated to critical studies and the remainder delivered in the design studio. The prevalent approach was to deliver pre-determined theoretical content to students in the single 30-credit contextual studies module. The content was organised chronologically or thematically, depending on the approach of the staff member managing the module. Contextual studies focused on a temporal understanding of the artefact, thereby placing the focus on design product rather than on process. In our opinion, this placed limitations on the range of learning experiences and knowledge areas available to students.

Addison's (2004, p. 241) description of an information marathon divorced from other pedagogic activities applies to this curricular context. Students were unable to use the module stream to inform studio production, nor were they able to generate sophisticated design description. Since the knowledge area was perceived as an academic burden, it did not improve academic skills and scholarship across the curriculum. This led to a situation "where student practice lacks criticality and where theory is diluted, difficult to assess and lost at a distance from the studio rather than embedded in it" (Rintoul 2014, p. 353). In our experience, this describes the status quo at many 'post-92' institutions. Furthermore, it indicates that the

paradigm shift described by Herne (2006, p. 11) is incomplete and that learning environments are not responsive to changes in working practices and disciplinary concerns.

Finally, programme delivery did not fully align with the institution's approach to research-engaged teaching. 'Student as producer' is the university's organising principle for teaching and learning and promotes research and research-like activities at the core of the undergraduate curriculum. 'Student as producer' provides a base from which to extend student engagement to areas outside of individual learning with its focus on critical engagement where barriers between teaching and research are removed (Lincoln 2012–2016, p. 3). This is an institutional priority across colleges and subjects. "By engaging at the institutional level, this strategy is reinventing the university as a place where students become part of the academic project of the university, and producers of knowledge of real academic value, rather than passive consumers of information" (Neary et al. 2014, p. 9). This discrepancy between programme delivery and institutional vision was a key driver in re-developing the undergraduate curricula.

Research-engaged teaching

When the first degrees in exhibition and interior design were redeveloped, the decision was made to address the problem of integration of theory and studio practice by replacing the set of modules that focused on external theory with a new stream focused on research as a practice. This replaces the temporal understanding of the artefact and positions research practice as central to the design process. Design entrepreneurship and critical practice are emphasised through the rigorous documentation of, and reflection on, standard design products. In the final year, this approach culminates in the identification and formulation of an appropriate design research project that showcases a portfolio, exhibits to the public, and is supported by an exegesis. Critically, the redeveloped curriculum must prepare graduates for both the professional practice of design and for postgraduate education. In this section, we will discuss design research as a process and contextualise it within the University of Lincoln's strategy of research-engaged teaching at the undergraduate level.

The problem of contextual studies can only be fully grasped if one considers that design, as a practice, is underpinned by a range of crafts, vocations, or trades that have never developed an abstract theoretical basis (Friedman 2000, p. 9). This is exacerbated in curricula that emphasise studio education, particularly if the power and agency of the studio are overestimated. Lynas et al. (2013, p. 133) claim that the studio has the following advantages compared to other delivery modes such as the lecture: it facilitates professional conduct; prepares students for working in the industry; and allows time for personal development within the discipline and practice. However, the ability of the studio to deliver these outcomes depends on the acquisition of a set of critical cognitive skills that allows the student to interpret and synthesise disparate informants and experiences (which occur outside the studio environment). We assert that when contextual studies are product-focused, it cannot be fully integrated into the process-focused studio curriculum, and can therefore not aid in developing these processing skills. Integrating the material delivered in the lecture theatre into the overall studio experience is a recurring challenge in design education (Gross & Do 1997). Design practice is in many ways constrained by unspoken assumptions rooted in the inarticulate origins of crafts (Friedman 2000, p. 9). Contextual studies in its current manifestation struggle to address these difficulties (Rintoul & James 2017).

Frayling (1993) defined three types of design research:

- research 'into' design (what design should be: this includes theory, aesthetics, and history);

- research 'for' design (that which enables design to occur: this may include the study precedents, materials, and construction methods); and
- research 'through' design (which includes typical studio practices such as developmental work and action research).

Murray's (2012, p. 95-6) similar triadic relationship refers to research 'into'/'about'; 'for'; and 'through' design. We argue that the traditional contextual studies module stream in design education, with specific reference to the application at the University of Lincoln, was biased towards research 'into'/'about' design. This is to the detriment of research 'for' design, which should support the design studio. Even worse, research 'through' design, with its potential to develop design as a rigorous scholarly practice in itself, is almost totally neglected.

The redeveloped curriculum addresses this deficiency by considering design as a form of inquiry, i.e. research. Design is described as "a process of identifying problems, providing viable solutions to these problems, and communicating the results of both actions. Drawing and model-making are considered as essential activities to perform this process" (Lincoln 2018, p. 5). Furthermore, the research endeavour is embedded in the entire undergraduate curriculum. The programmes are "committed to expanding professional practice and to identify and develop new knowledge areas. This puts professionalism, creative inquiry, and technical expertise at the heart of the academic endeavour" (Lincoln 2018, p. 9).

Although these objectives are laudable, the problems of integrating theory and design practice remain relevant. For instance, the education and practice of art and design failed to keep up with the knowledge revolution (Friedman 2000, p. 15) which resulted in a situation where neither the rich craft tradition nor the rigorous research tradition of universities is present in design education. "This gives rise to a culture of people who mistake silence for tacit knowledge and confuses unreflective assertion with reflective practice" (Friedman 2000, p. 15-16). In an attempt to acknowledge this, and to develop rigorous design practice that responds to the ongoing knowledge revolution, the programme description states: "knowledge-based practices and accountability are becoming increasingly important in the design industry. Further, the Academy and Practice are impacted by globalisation, technological advancement and changes in working practices. Problem-based learning is more likely to result in resilient graduates who can not only cope with change but since they thrive on it, will drive positive change" (Lincoln 2018, p. 9).

Central to the curriculum redevelopment process is the attempt to generate greater synergy between theoretical subjects and the studio at the University of Lincoln. This is supported by the larger, institutional endeavour to dissolve the dialectic between teaching and research as core academic tasks by incorporating them as a single academic task. As the university tries to solve the dilemma of teaching and research, so the programmes try to solve the dilemma of theory and studio. Friedman (2000, p. 18) states that research, in its simplest form, is a way of asking questions. By considering research fundamentally as a design activity, we attempt to integrate inquiry and design into a single activity.

Design is, therefore approached as the following research activities in the studio:

- Identify and understand a problem;
- Provide a viable solution; and
- Communicate the results.

This aligns with Godin and Zahedi's (2014, p. 1) general definition of research through design, where design originates from a research question, but where the output is still the product of design. "The approach acknowledges and embraces professional practice's contributions to

knowledge making it especially attractive in disciplines where designers/researchers are still practising" (Godin & Zahedi 2014, p. 1). By addressing design as a form of research and embedding the practices of research in the curriculum, we achieve one objective of the redevelopment process: to remove the discrepancy between programme delivery and the institutional vision.

On an institutional level, the 'student as producer' strategy reinvents the university as a place where students are placed as a fundamental aspect of the academic project of the university, and as producers of valuable knowledge (Neary et al. 2014, p. 9). This counteracts the prevailing practice, specifically in contextual studies, of treating students as passive consumers of information. Whereas contextual studies were presented as 'information for consumption', at times far removed from the studio, research as a process allows students to participate in research, or research-like activities, from the first year of study.

In line with the institutional directive, the curriculum incorporates the following three approaches to learning (after Leary et al. 2014, p. 12):

- Problem-based learning: Students work collaboratively to solve problems;
- Enquiry-based learning: The learning environment is driven by the process of enquiry – knowledge is used in support of the solution; and
- Research-based learning: Students are encouraged to make intellectual and practical connections between content and skills – ideally at the frontiers of their underlying discipline.

According to Leary et al. (2014, p. 14), research-engaged reaching and learning are more likely to result in graduates who are better prepared to cope with a globalised labour market, characterised by ever-changing technology and working practices.

The final section of this paper will discuss the implementation of the new research-process module stream in more detail.

Developing and delivering 'research process'

In 2017, the decision was taken to integrate the exhibition design and interior design curricula to a greater degree than before. The two teaching teams worked collaboratively to develop a unique and competitive curriculum that would align with the Quality Assurance Agency for Higher Education's (QAA 2017) updated Subject Benchmark Statement for Art and Design. The University of Lincoln's revalidation panel approved the curriculum in July 2017. The exhibition design programme delivers a top-up degree in Hong Kong for graduates from the Hong Kong Design Institute (HKDI). This is done in collaboration with the School for Higher and Professional Education (SHAPE) – a member of the Vocational Training Council (VTC). The revalidated curriculum was therefore also scrutinised by an international panel in January 2018 as part of the re-accreditation process required by the Hong Kong Council for Accreditation of Academic & Vocational Qualifications (HKCAAVQ).

The revised curriculum retains the original 4x 30-credit modules per level structure, with a three-term delivery model (nine weeks per term). Design Process (DP) is covered in three studio modules, each presented for a single term. Design Process incorporates the conceptual, technical, and professional knowledge areas for both exhibition and interior design. Research Process (RP) is covered in one module presented in parallel to the studio over three terms. Research Process delivers design theory and contextual material and presents the necessary methods of inquiry (Lincoln 2018, p. 9).

The curriculum aims to:

- approach design as research and encourage design-led inquiry;
- promote visual research and visual sources of empirical evidence; and
- generate a culture of accountability for design decisions.

The revised curriculum places Research Process at the centre of learning, with increasing levels of integration in the studio:

- In year one, design is considered as a form of inquiry to introduce research methods. The aim is to instil an awareness of qualitative and quantitative methods and their application. Theoretical and pragmatic informants of design production are introduced. Furthermore, students are made aware of the utopian and ontological aspects of normative positions as generators for design;
- In year two, the relationship between theory and practise is considered in more detail. Selected visual research methods are covered in greater depth and students are introduced to meta-theoretical perspectives. They are expected to formulate normative positions in response to context and paradigm;
- In year three, total integration is achieved. Students are expected to complete a large-scale self-directed research study to support the design treatise.

The curriculum needed to address the perceptual schism between theory (thinking and writing) and practice (creating and doing) through revised delivery practices. Research Process incorporates traditional lectured content, group discussions in the form of seminars and student-led working groups, and tutorials to assist with individual projects. Although Research Process is deliberately delivered outside the studio environment and coordinated by a single staff member, studio lecturers take part in the delivery of Research Process seminars and tutorials. Design Process gradually becomes more involved over the course of the three years. In the third-year, theory and practice are completely integrated, and, therefore, the perceptual boundary between studio and lecture hall should be invisible.

The curriculum deliberately attempts to integrate research practice with design and to create a learning environment in which design production itself can be viewed as scholarship. To facilitate this, two general strategies for research-engaged teaching are employed:

- The systematic introduction of disciplinary research into the course content (Leary et al. 2014, p. 12). Students are systematically introduced to disciplinary research, including specific methods (such as artefactual analysis through precedent studies and visual analysis through image boards). To encourage more independence, supervision is gradually reduced over the three years; and
- Since research-engaged teaching is inherently practice-based, the design studio should demonstrate how research is incorporated into assessment criteria (Leary et al. 2014, p. 13). Research-engaged teaching dissolves the dialectic separation between theory and practice – all is practice, and all practice is theoretically informed. It is expected that the products of the design studio should be informed by, and able to illustrate, the practice of research.

The Research Process curriculum continues to cover disciplinary knowledge but does this in a non-traditional manner. This can be seen in Research Process 1, where students are required to produce a timeline to illustrate the development of architectural style in Britain from 500 BCE to 2017 CE in small groups. According to Cross (1982) making models is a design tool. The timeline functions as a two-dimensional conceptual model to visualise the temporal relationships between artefacts and events. Students collect a vast amount of data, evaluate and synthesise the information in a visual, academic format. The project is supported by a

lecture series that presents the evolution and development of specific themes in exhibition and interior design practice over the designated time frame. For example, the notion of 'narrative design' is introduced as a method for creating spatial experience throughout architectural history. Although disciplinary content is delivered, the module is instead focused on developing the student's ability to obtain and produce content. They produce a timeline to obtain a holistic view of historical developments instead of merely receiving information. Knowledge is therefore created and embodied in the student's themselves – an activity which Friedman (2000, p. 12) describes as an intensely human act. The OECD (2018, p. 5) describes the need for future-ready students to have disciplinary knowledge, epistemic knowledge, and procedural knowledge. Information evaluation and management of knowledge are key procedural skills necessary for effective problem-solving. In Research Process 1, students are required to search for information and document their findings on index cards for each source consulted. The analogue method of documentation was deliberately selected as it not only makes information tangible but also makes it possible to sort and organise information in thematic clusters during group work exercises. The outcome of this project is a visual interpretation of information presented in a format that is relatable to design students.

In Research Process 2, disciplinary content is delivered in two short lecture series, which are affiliated with the academic endeavour of research-active staff. Two research workshops intercede the lecture series. In these, the use of visual methods of investigation and documentation is further expanded. Students are required to work collaboratively and to deal with a larger sample of data. Less guidance is provided to foster greater student independence. Two main research approaches are introduced in the workshops. Firstly, to gather a broad, but rather superficial, set of visual data. This is manipulated through a series of reflective image boards to conduct content analysis, and secondly, to conduct an in-depth critical case study of a design precedent. The aim here is to move closer to outputs that are specifically associated with the design disciplines and to create further integration with design thinking.

Research Process 3 does not deliver disciplinary-specific content. Instead, four main research methods are covered in greater depth through seminars 1. Literature review; 2. Context analysis (locational, temporal, and thematic); 3. Case study analysis; and 4. Reflective practice. These methods form the backbone of the exegesis generated in support of the self-developed design investigation. Therefore, the focus is almost exclusively on the investigative process, with the student in control of the disciplinary investigation. Guidance comes from both Research Practice and Design Practice staff and conversations in the studio cover both theoretical and practical aspects of the design investigation. Research Practice 3 encourages student agency by creating a personalised learning environment where students can design their learning projects and make connections between different learning experiences. Agency is also enabled through the solid foundation set in Research Practice 1 and Research Practice 2 that develops information literacy (OECD 2018, p. 4).

The module exposes students to common, traditional assessment methods, namely 1. The report (essay); 2. The academic poster; and 3. The verbal defence. In Research Practice 1, students select a research problem from a list of pre-developed topics and can prepare their final submission as a research report or poster. In Research Practice 2, students develop a research problem and describe its significance. In Research Practice 3, the self-developed exegesis is submitted as a report, supported by posters prepared for a public exhibition. The posters form the basis of the final verbal presentation and defence where the entire treatise is interrogated by a panel comprised of Design Process and Research Process teaching staff. This approach aims to generate a culture of accountability for decision making and to offer students the opportunity to develop a portfolio of visual material and research outputs outside of the traditional studio setting. The oral defence and examination is a traditional assessment method in academia and has parallels in the 'design pitch' used by professional designers.

Competencies in written and visual presentation are key skills in the contemporary professional environment.

Finally, the methods and skills nurtured in the Research Process are fully transferable. The OECD (2018, p. 5) identifies 'taking responsibility' as the core 'transformative competency' needed in education to support young people to be innovative, responsible and aware members of society. Central to this competency is the concepts of self-regulation, accountability, and coping with the diversity, ambiguity and tensions related to collaboration. Research Process develops these competencies by focusing on professional skills such as record-keeping practices, time management strategies, and collaborative practice. For example, students have to keep research files and timesheets in Research Process 1. Templates, examples, and briefs are provided for these components by the teaching team to set the standard for future management practices. Guidelines for organising group meetings and dealing with conflict are provided in Research Process 1. By the time they reach Research Process 3, students should be in a position to plan and manage their schedules and group activities independently.

Conclusion

The paper described and interpreted the major informants that underpinned the decision to replace contextual studies with research practice at the University of Lincoln's exhibition and interior design first-degree programmes. We illustrated some of the problems experienced by the traditional set of contextual studies modules through reflection on the concurrent circumstances at the University of Lincoln and a review of critical literature of the knowledge area across the sector.

In contrast, the University of Lincoln's organising principle, 'student as producer', was described. Particular focus was placed on design research, and how contextual studies can primarily be described as research 'into' design. This has severe shortcomings in addressing the lack of integration with the design studio. If design is procedural, then research 'for' and research 'through' design is more appropriate. The new module stream allows for greater integration and application since it addresses skills in all three areas of design research. Students are required to apply various applications of these methods to produce knowledge – a direct application of the institutional directive of 'student as producer'. The aim is, therefore, to provide students with the opportunity to develop a deeper relationship with their subject.

Finally, the paper described the development and implementation of the Research Process module stream in greater detail with some references to pertinent examples of projects completed by students. To facilitate better integration between research practices and the design studio, two specific principles of research-engaged teaching were highlighted: 1. The systematic introduction of disciplinary research; and 2. The requirement of the design studio to demonstrate how research is incorporated in its assessment criteria.

This novel approach should address the inherent problem of design curricula that have not yet fully responded to the information revolution, which places greater emphasis on knowledge practice and accountability. Significantly, the new module stream offers students the opportunity to create knowledge through research in their disciplines. This provides students with a 'different and richer relationship to their subject' than those who simply consume received information. Research practice should be addressed and integrated with the design studio and no longer be viewed in isolation. Research-engaged teaching is, therefore, a fundamental principle that addresses all spheres and all learning environments. However, since Research Practice as a module stream is in its infancy at the University of Lincoln, it is recommended that further research on its implementation, development, and importantly, its pedagogic effects be conducted in future.

A focus on research as a practice, in contrast to the older tradition of presenting a chronological development of styles, has shifted the focus away from specific content to transferable skills. It is envisioned that this will develop student's agency and greater accountability for design decisions.

Notes

1. The term 'post-92' institution refers to the 35 polytechnics in the United Kingdom that were granted full university status as a result of the *Further and Higher Education Act 1992* which set about to establish a unitary system of higher education in the United Kingdom. Boliver (2015) posits that a divide continues to exist between the 'old' (pre-1992) universities (characterised by higher levels of research activity, greater resources and more academically successful and socio-economically advantaged students) and the 'new' (post-1992) universities (characterised by a 'teaching-led' mission). It is important to note that similar levels of teaching quality and student satisfaction exist in both groups of universities.

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