

D8.1: Quantity of access offered

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Executive Summary

This deliverable describes the transnational access activities carried out during the third and fourth year of the ARIADNE project (2015-2016) within Work Package 8 (WP8) by the Digital Curation Unit, ATHENA RC (Greece). It describes the programme and objectives of these training activities, and the participants' profiles and feedback. The first activity was a week-long Summer School, organized in Athens between 29 June and 3 July 2015 on "Emerging digital practices in archaeological research", to enable researchers and professionals in archaeology to engage with cutting edge and emerging digital practices within archaeological research, ranging from new methods to capture, organise and curate archaeological resources and data to new approaches of archaeological interpretation and dissemination, mediated by digital infrastructures. The second activity, organised in collaboration with the Faculty of Information of the University of Toronto and the Department of Informatics of the Athens University of Economics and Business, was a week-long Summer School on the topic of "Digital curation of archaeological knowledge", conducted in Athens between 13 and 17 June 2016. Both summer schools attracted TNA scholars and other archaeological researchers of all levels of experience, from postgraduate students to professors, engaging them with aspects of the ARIADNE digital infrastructure based on their individual research projects and challenges of using digital methods, resources and tools. They both involved an international faculty complementing the local team of Digital Curation Unit experts, and consisted of two modules: a) a training school (three days), based on a combination of seminars and hands-on workshops, and b) an expert forum (two days), in which transnational access participants were invited to interact with experts on digital archaeological methods, datasets and curation on planning aspects of using digital archaeological infrastructures.

Thirteen researchers, attached to institutions from seven European countries, participated in the two summer schools as transnational access scholars, receiving bursaries of 1000 Euros to cover travel and subsistence costs. Participants reported that they benefited from new learning on digital archaeology methods and tools, resources and scholarly literature, collaboration and mentoring by experts, and application of new knowledge in planning and implementing their own research projects. They recommend broader dissemination and expansion of TNA actions, a broader methodological curriculum beyond instrumental tasks, more hands-on activities, and creation of an online community of interest among participants. Evaluation of the Athens summer schools demonstrates that they can be effective mechanisms not just for the instrumental use of existing tools and services, but also to reflect methodologically, and develop appropriate new approaches and tools able to support the effective capture, curation, use and re-use of digital archaeological datasets for archaeological inquiry, knowledge translation and professional management of archaeological resources, for the benefit of research, education and public use.

1 Introduction and Objectives

This document presents transnational access activities organised by the Digital Curation Unit, ATHENA R.C. (DCU) in 2015 and 2016, under WP8 of the project (ARIADNE Description of Work (Version date: 05-04-2014), p.31). These activities belong to a broader range of such activities, in the context of the ARIADNE project, offering services and opportunities to archaeologists to enable access to the research infrastructure, including online services, training workshops, access visits and summer schools. In this context, DCU organized two summer schools, in the summer of 2015 and 2016 respectively, as transnational access activities: a summer school on “Emerging digital practices in archaeological research” between 29 June-3 July 2015, and a summer school on “Digital curation of archaeological knowledge” between 13-17 June 2016. Participants were invited to stay a week in Athens to interact with the local research team and infrastructures at the DCU, introduce relevant archaeological research and information management and curation challenges, assess approaches to accessing integrated datasets provided by the project for the benefit of their work, and reflect on advanced topics of establishing, curating and re-using digital archaeological datasets for research.

The structure of both TNA activities was twofold: they consisted a) of a training school (three days), mainly driven by challenges introduced by the researchers and based on a combination of seminars and hands-on workshops, and b) an expert forum (two days), in which TNA participants were invited to interact with experts on digital archaeological methods, datasets and curation. During the training school, participants were asked to share and discuss their research projects and information work challenges to a resident team of DCU experts and an international faculty. The Expert Forum gathered an additional number of expert researchers, both within the ARIADNE project and outside, which included moderated sessions on specific thematic areas and challenges, as well as structured group activities for the elicitation of criteria, conceptualisations and approaches to the current and future use of digital research infrastructures to support research, preservation and reuse of archaeological datasets. Access of new researchers under the project visiting scheme enabled them to avail themselves of the resources of the much wider infrastructure created by the project – thus increasing the potential impact on their research activities in an exponential way.

The project’s User Selection Panel (organized in WP5) met periodically to select eligible proposals for access and if necessary ranking them. Proposals used a simplified form illustrating the activity proposed, the rationale of the visit and the objectives of the research. The Panel availed themselves of the support of independent experts asked to review proposals anonymously according to fair evaluation criteria published in the call for participation.

2 ARIADNE Summer Schools

2.1 Year 1 (June 29 - July 3, 2015): Emerging digital practices in archaeological research

The first summer school was organised by DCU between 29 June and 3 July 2015, as an ARIADNE Transnational Networking Action, on the topic of “Emerging digital practices in archaeological research”. This thematic area included discussions on unlocking the possibilities for the effective discovery, integration, enrichment and reuse of archaeological data and resources, afforded by digital tools and services such as the ARIADNE registry of archaeological datasets, controlled vocabularies and metadata schemas, and through methodological knowledge on digital curation and semantic modeling of archaeological data. It also drew from the international experience of participants on issues as diverse as the capture, representation and reuse of field data, the digital curation of archaeological information, the application of virtual archaeology, and the impact of open and community archaeology practices, as well as global, networked and cloud information infrastructures, on the formation of the digital archaeological record.

The main objective of this summer school was to enable researchers and professionals in archaeology to engage with cutting edge and emerging digital practices within archaeological research, ranging from new methods to capture, organise and curate archaeological resources and data to new approaches of archaeological interpretation and dissemination, mediated by digital infrastructures. Thus, the format focused on a detailed elaboration of a small number of scenarios or digitally-enabled archaeological research that make use of emerging digital infrastructures, tools and services, put in the context of select methodological sources on digital archaeology, bringing together the research experiences of participants, and leveraging the ARIADNE registry and other information systems, as well as semantic and ontological approaches. It combined formal talks by invited speakers with structured discussion and breakout group activities. More particularly, the school started with a foundations module introducing the core themes (‘Curating archaeological knowledge digitally: from practice to method’), moved on to half-day modules on selected topics (Semantic Modeling, LiDAR and Geophysical field data, Registries and Repository services, GIS, Virtual Archaeology, Digital Curation) and concluded with a 1 1/2 day Expert Forum on ‘The future of digital archaeological practice 2020-2025’. Among the invited speakers and participants were members of the ARIADNE Special Interest Group on archaeological digital research practices and methods, collectively possessing significant expertise on digital archaeology, as well as visiting researchers conducting archaeological fieldwork in Greece.

2.1.1 Participants

Six researchers were awarded a scholarship and were selected to participate in this TNA Networking Activity, from various institutions and different career status. Namely, these scholars were:

Name and Surname	Nationality	Affiliation	Position
Erika Cappelletto	Italian	Institute of Classical Archaeology, Heidelberg University	Postdoctoral Researcher
Martin Duffy	Irish	School of Archaeology, University College Dublin	PhD Student
Giovanni Fuso	Italian	Department of Archaeology, University of Salento	Graduate Student
Isto Huvila	Finnish	Department of Archival, Library and Museum Studies, Abo Akademi University	Assistant Professor
Laura Stelson	German	Institute of Archaeology and Cultural Anthropology, University of Bonn	PhD Student
Ingrida Vosyliute	Lithuanian	Faculty of Communication, Vilnius University	PhD Student

Reimbursements were allowed for a maximum of €1000 per participant.

Eliza Papaki (DCU) acted as local reference coordinator for organisational aspects, from the collection of student documentation for reimbursements to the logistical support on-site.

2.1.2 Programme

The program of the 2015 transnational access activity is presented below.

Summer School on “Emerging digital practices in archaeological research”

Athens, June 29 – July 3, 2015

Monday June 29

9:30 – 10:00

Welcome and introductions

10:00 – 13:00

Curating archaeological knowledge digitally: from practice to method

14:00 – 17:00

Semantic modelling of legacy archaeological data

Tuesday June 30

9:00 – 12:00

What to do with LIDAR and geophysical field data? A case study

13:00 – 16:00

Discovering archaeological datasets and resources through registries and repository services

Wednesday July 1

9:00 – 12:00

Humanizing GIS: new approaches to spatial data representation and interpretation in archaeology

13:00 – 16:00

Digital archaeological practice and Virtual Archaeology: putting things in context

16:00 – 17:00

Archaeology, information and digital curation

Thursday July 2

9:00 – 10:30

Introduction

11:00 – 12:45

Virtual archaeology and 3D/immersive technologies

13:45 – 15:30

The digital future of archaeological field recording

16:00 – 17:30

Digital research infrastructures and archaeology: present value, future promise

Friday July 3

9:00 – 10:45

Curating legacy archaeological data, collections and knowledge

11:15 – 13:00

Open, community and participatory digital archaeology

14:00 – 16:45

Open discussion: digital archaeology 2020-2025

16:45 – 17:00

Final remarks

2.2 Year 2 (June 13 – 17, 2016): Digital curation of archaeological knowledge

Following the successful launch and evaluation of the 2015 ARIADNE summer school on “Emerging digital approaches in archaeological research”, the DCU hosted another summer school in 2016, focusing this time on the “Digital curation of archaeological knowledge”, as an ARIADNE Transnational Access (TNA) activity. This summer school, which took place between 13 and 17 June, was also co-organised by the Faculty of Information (iSchool), University of Toronto and the Department of Informatics, Athens University of Economics and Business. It drew primarily on the research experience and interests of participants on issues as diverse as data modeling and reuse of pre-existing archaeological and historical evidence; its integration with scholarly and local knowledge, its applicability for the construction of reliable digital models and scientific data, the impact of open and community archaeology practices, as well as of global, networked and cloud information infrastructures, on the formation of the digital archaeological record.

The main objective of the summer school was to enable researchers and professionals in the knowledge domains of archaeology, information and archival science, museums and cultural heritage management to engage with current approaches to the digital curation of archaeological knowledge, ranging from methods to represent, contextualise and curate archaeological resources and data, to new approaches to archaeological interpretation and dissemination, mediated by digital infrastructures. The format of the summer school included both formal lectures with the elaboration of individual case studies based on participant projects, as well as structured discussion and breakout group activities. Similar to the 2015 Summer School, it consisted of two modules: a workshop on “Digital approaches to archaeological knowledge curation” and an Expert Forum on ‘The future of archaeological knowledge curation 2021-2026’. The first module was composed by two tracks: half-day modules on selected topics, in tandem with the elaboration and mentoring of individual projects of each participant in afternoon practical sessions. The second module involved participation of the ARIADNE Special Interest Group on Archaeological Digital Research Practices and Methods, as well as additional experts on the digital curation of pre-existing archaeological resources and knowledge.

2.2.1 Participants

Seven researchers were awarded a scholarship and selected to participate in this TNA Networking Activity, from various institutions and different career status. Namely, these scholars were:

Name and Surname	Nationality	Affiliation	Position
Ilenia Galluccio	Italian	VASTLAB, PIN s.c.r.l. Educational and Scientific Services for the University of Florence	Junior Researcher
Prof. Rimvydas Laužikas	Lithuanian	Faculty of Communication, Vilnius University	Assistant Professor
Dr Federico Nurra	Italian	INRAP – The French National Institute for Preventive Archaeological Research	Researcher
Dr Lorna-Jane Richardson	British	Department of Sociology, Umeå University	Postdoctoral Researcher
Prof. Vladimir Stissi	Italian	Department of Archaeology, University of Amsterdam	Associate Professor
Dr Amara Thornton	American	Institute of Archaeology, University College London	Postdoctoral Researcher
Priscilla Ulguim	Brazilian	Teesside University	PhD Student

Reimbursements were allowed for a maximum of €1000 per participant.

Nephelie Chatzidiakou (DCU) acted as local coordinator for organisational aspects, from the collection of student documentation for reimbursements to the logistical support on-site.

2.2.2 Programme

The program of the 2016 transnational access activity is presented below.

Summer School on “Digital curation of archaeological knowledge”

Athens, June 13 – 17, 2016

Monday June 13

9:00 – 9:30	Welcome and introductions
9:30 – 11:00	Curating archaeological knowledge digitally: from practice to method
11:30 – 13:00	Managing legacy archaeological data and resources through registries and repository services
14:30 – 17:30	Case studies: challenges and goals for archaeological research resource management and curation

Tuesday June 14

9:30 – 13:00	Case study sprint 1: working towards solutions for archaeological research resource management and curation
14:30 – 15:30	Metadata schemas and controlled vocabularies for archaeological information
16:00 – 18:00	Representing archaeological knowledge semantically

Wednesday June 15

9:30 – 13:00	Case study II: working towards solutions for archaeological research resource management and curation
14:30 – 16:00	Archaeology, information and digital curation
16:30 – 18:00	Archaeological legacies past and future

Thursday June 16

9:00 – 12:00	Case study presentations: solution spaces and plans for archaeological digital curation
13:15 – 13:30	Envisioning the future of archaeological digital curation
13:30 – 14:30	Challenges and advances in knowledge representation and understanding
14:30 – 15:30	Challenges and advances in communication and visualization
16:00 – 17:00	Challenges and strategies for sustainability and openness
17:00 – 18:00	Scenarios for digital archaeological infrastructure and research planning: introduction and team formation

Friday June 17

9:00 – 11:00	Scenario building sprint I: using archaeological digital curation infrastructures in 2021-2026
11:30 – 13:00	Scenario building sprint II: using archaeological digital curation infrastructures in 2021-2026
14:30 – 16:30	Archaeological digital curation infrastructures in 2021-2026: vision, affordances and scenarios of use
16:30 – 17:00	Final remarks

3 Evaluation and results

The participants of the two Summer Schools were asked to fill in the online “Research Infrastructures: User group questionnaire” (<https://ec.europa.eu/eusurvey/runner/RIsurveyUSERS>) as well as the ARIADNE “TNA Summary - User Feedback Report” (<http://www.ariadne-infrastructure.eu/Transnational-Access/User-feedback-report>). Both questionnaires provided us with information about their professional status and academic background, their projects as well as with evaluation reports and comments about the services provided.

Overall, 13 participants attended the two Summer Schools, six in 2015 and seven in 2016. As expected most participants are European nationals, while in the second Summer School non-European nationals also participated, namely from the USA and Brazil. Most of the European nationals were from Italy and the rest from various European countries (see Fig.1).

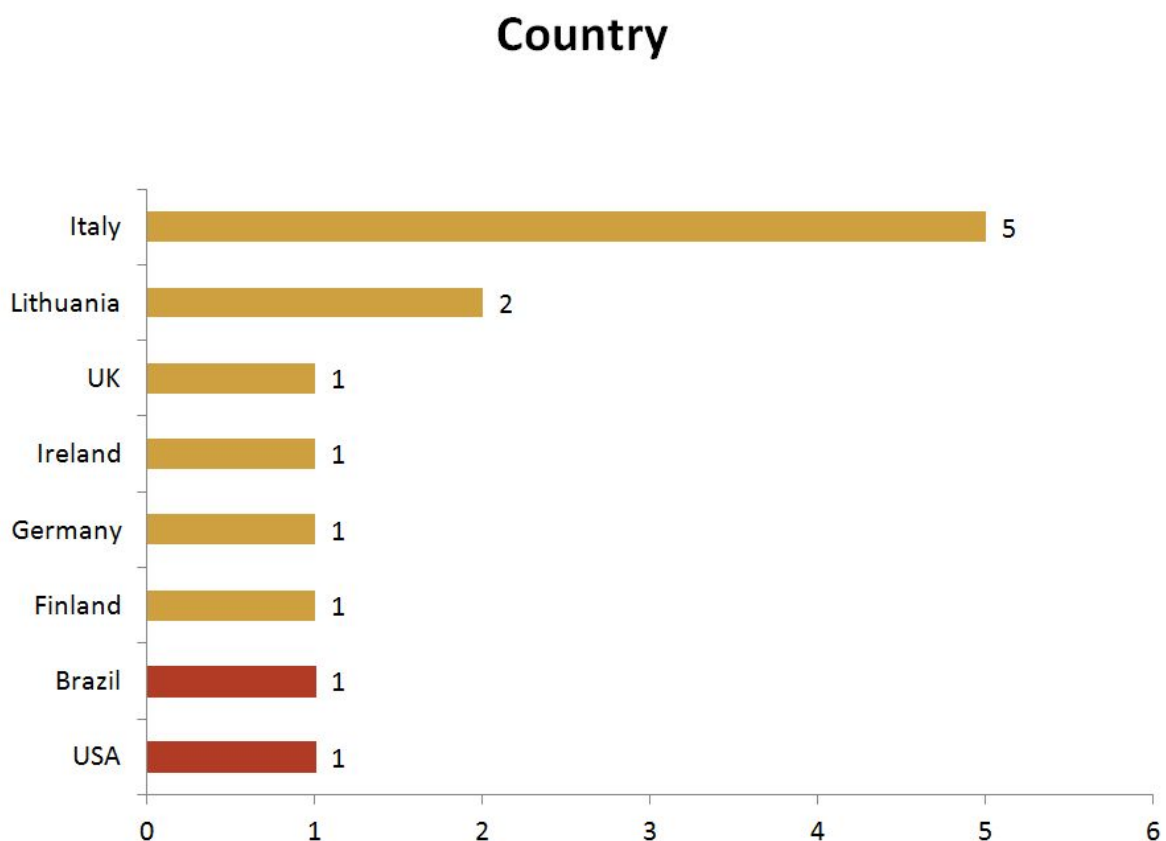


Figure 1: Summer school participants by country.

Most participants come from academia (including universities and research centres), while only two were attached to industry. Regarding employment status, eight participants are in professional employment (as professors, researchers or project managers) while five were students (see Fig. 2).

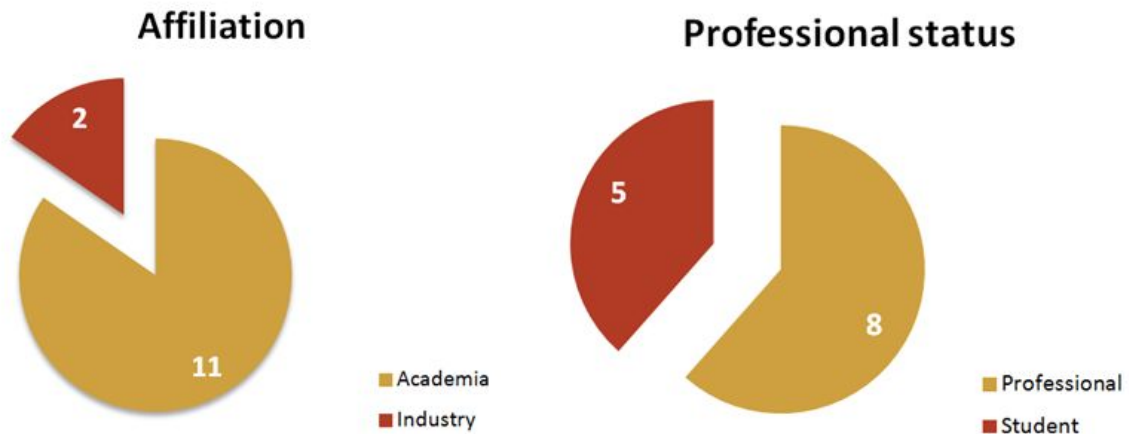


Figure 2: Summer school participant affiliation and professional status.

Some of the projects and challenges presented by the participants in both Summer Schools concerned the application of specific digital methods and techniques such as spatial analysis, 3D models, GIS and digital maps. On the other hand, most of the participants' research projects raised significant challenges related to the digital lifecycle of archaeological data. These included issues of digitisation, database design, social collaboration and participatory use of archaeological resources, archaeological domain modeling and knowledge representation, metadata for archaeological museum collections, digital preservation and data access, integration between archaeological and other (anthropological, historical) sources, etc.

Overall, the participants stated that through participating in the ARIADNE transnational access they had the opportunity to learn, network, collaborate and get help on their current projects. More specifically, the comments gathered from the ARIADNE TNA Summary - User Feedback Reports point out to achievements in the following areas:

- New learning and understanding about digital archaeology in general, or on more specific aspects such as databases, GIS, metadata etc.;
- Familiarisation with new resources and literature;
- Networking and collaboration with experienced researchers;
- Implementation of the insights gained into ongoing projects, and;
- Specific achievements related to the participants' projects, as well as further elaboration of their projects through mentoring and discussions with experts.

As regards suggestions on potential improvements, participants identified the following recommendations:

- Introduction of a greater variety of topics in the Summer School programme

- Strengthening of the applied skills aspect of the School in the form of hands-on workshops
- More publicity to ensure broader dissemination of the opportunity to participate, including earlier advertising of the Summer School and its programme
- Creation of a follow-up mailing list for participants to be able to communicate after the end of the Summer School
- Introduction of more Schools during the year, not only in the summer

4 Conclusion

In conclusion, the two TNA events carried out by the Digital Curation Unit, ATHENA R.C. in 2015 and 2016 fulfilled their objectives, by engaging the attendees in important learning outcomes with regard to emerging approaches in digital archaeology and the digital curation of archaeological knowledge, leveraging the value of digital research infrastructures integrating and providing access to legacy archaeological datasets. Attendees were offered opportunities to engage with digital methods and tools for archaeological data curation, GIS, registries and repository services, virtual and participatory archaeology, digital research infrastructures, but were also given the opportunity to develop student-centred active learning based on their own research projects and challenges, in the form of case studies. Attendance has been strong, and feedback was overall between positive and very positive.

Interestingly, discussions and collaboration in both Summer Schools focused on current challenges that archaeology faces today as it stands in the borderline of digital and legacy (non-digital) assets and practices. The following list of challenges were documented and analysed in the context of these two TNA events. They summarise the discussions held, in the form of identifying challenges and specific questions, related to emergent archaeological knowledge curation.

<p>Challenge 1:</p> <p>Addressing the demands of local knowledge and public involvement in archaeological interpretation and use</p>	<p>Questions:</p> <ul style="list-style-type: none"> • How can digital archaeological resources be better curated to serve participatory and open archaeology? • What will be the role of social media? • How can digital archaeological infrastructures better serve the needs of open and participatory archaeology? • What is the role of novel platforms of learning? • What tools, methods and services would be appropriate to support open and participatory archaeology?
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<p>Challenge 2:</p> <p>Providing effective mechanisms for archaeological education and training in the digital environment</p>	<p>Questions:</p> <ul style="list-style-type: none"> • What are the best ways to achieve digital literacy? Courses, manuals, workshops? • What might be the role of archaeological digital research infrastructures and learning platforms in promoting digital literacy?
<p>Challenge 3:</p> <p>Addressing emerging requirements for archaeological publication, peer review and scholarly communication</p>	<p>Questions:</p> <ul style="list-style-type: none"> • How to better use or design social media to enhance critical engagement? • How to facilitate the shift in social media from data and information to knowledge and experience? • Will different and specialized kinds of social media emerge in the future? • How can we better support these novel conditions of collaboration?
<p>Challenge 4:</p> <p>How can digital technologies contribute to the complexities of archaeological data and knowledge representation in the light of new questions?</p>	<p>Questions:</p> <ul style="list-style-type: none"> • How to bring these technologies into archaeological practice while keeping the focus in our discipline? • How can metadata become an integral part of the documentation process? • How can we better use these models? • How to face issues of sustainability?
<p>Challenge 5:</p> <p>How can we ensure the digital preservation and future scholarly access to the archaeological record?</p>	<p>Questions:</p> <ul style="list-style-type: none"> • What about exploring the role of infrastructures as part of learning environments?
<p>Challenge 6:</p> <p>Understanding emerging archaeological practice in the digital environment</p>	

<p>Challenge 7:</p> <p>Ensuring the quality and reliability of digital archaeological data</p>	<p>Questions:</p> <ul style="list-style-type: none"> • What about paradata? Orienting more towards covering all contextual attributed that accompany data. • Ensuring quality, preservation and usability of this data in the future – curation of cultural heritage information
<p>Challenge 8:</p> <p>Providing appropriate methods and tools to process large scale, comparative archaeological data</p>	<p>Questions:</p> <ul style="list-style-type: none"> • What questions can be asked on top of this data and what interpretive and representation structures will enable this community to take advantage of big data?

The formulation of these broader dimensions of using and reusing digital archaeological infrastructures by participants in the transnational access activities organized by DCU points to an important need: to develop, in the future, effective mechanisms not just for the instrumental use of existing tools and services, but also to reflect methodologically, and develop appropriate new mechanisms and tools able to support the effective capture, curation, use and re-use of digital archaeological datasets for academic archaeological inquiry, knowledge translation and professional management of archaeological resources, for the benefit of research, education and public use. As a lesson learned, future transnational access activities connected with archaeological research infrastructures will be well-advised to expand their purview to address these broader issues.