Space, Scale, and Scope in the Linked Dataverse:
LINCS and the Map of Early Modern London—REED London Online Alignment Project

Janelle Jenstad, University of Victoria
Diane Jakacki, Bucknell University

A key goal of LINCS is to create pathways between datasets while preserving both the nuances intrinsic to humanities data and the research questions that have produced diverse datasets. Our work of aligning the gazetteers of the *Map of Early Modern London* and REED London Online (the "MoEML-RLO Gazetteer Alignment project") invites us to confront the major conceptual challenges that come with merging and connecting data across projects. MoEML is a descriptive gazetteer and map platform with drawing tools, finding aids, and toponymically rich texts. RLO makes discoverable a broad collection of London-centric archival materials referring to performance, music, and theatre. Our projects, with their overlapping but distinct spatial and temporal scope, offer a fruitful opportunity to test the real interoperability of two datasets.

The two datasets came into being in answer to project-specific research questions. Both projects consider literature, chronicle history, drama and performance, and records as intrinsic to our understanding of place in medieval and early modern London. Both have produced authority names, toponymic gazetteers, platial categories, and stable identifiers for London places. There are broad overlaps between MoEML and RLO that make interoperability feasible. The data we have independently collected is complementary in many ways, but the projects have different remits. Those remits shape our respective datasets in ways that present challenges to interoperability and make us consider carefully what argument we collectively make by bringing together two disparate datasets.

The scale of both projects is large, but the scope of each is different, with a zone of overlap. MoEML is interested in all of the ways that Londoners conducted business, entertained themselves, and moved around the city, within the limited time period from the dissolution of the religious houses under Henry VIII and Cromwell to the Great Fire of London. MoEML therefore captures all places within the built and natural environment c.1534–1666. MoEML has tended not to do a building-by-building map, choosing only to list certain sites of interest, initially under the capacious category of "Sites" and only as they arose in the texts MoEML is editing. However, the addition of the Bookshops project (which Zimmer will discuss in the final paper of this panel), is moving MoEML into more granular and comprehensive terrain than heretofore. RLO is likewise interested in city spaces and how they served as incidental performance locations spanning c.1200–1650. RLO inherits its first phase of research and exploration from three collections published by the larger Records of Early English Drama project, whose mission is to discover documentary evidence of performance, theatre, and music in England, Scotland and Wales. These three London-centric collections–Inns of Court, Ecclesiastical, and Civic London to 1558–have provided a first tranche of place data for performance cites as well as locations where the business of performance was undertaken. Not only is the timespan much longer, but some of RLO's locations are *inside* MoEML locations, and some of RLO's locations (religious houses in particular) are consciously excluded from the MoEML gazetteer by MoEML's choice to limit its scope to the post-reformation period.

Together and individually our two projects have done preliminary work that allows us to effectively set up those connections (through structuring our place entity information, defining terms that allow for shared understanding, etc.) The first step in our alignment has been to compare ontologies. Comparing our place categories has made us acutely aware of the dependence of "place" on one's understanding of what matters. MoEML ontology is primarily an outdoor ontology; so, while MoEML is highly granular in that it maps things like stairs down to the Thames and monuments, it generally stops at the front door of buildings (with the exception of chapels within churches). RLO's ontology focuses on places where theatrical activity, including preparations for performances, took place. RLO crosses the threshold and enters the great houses, halls, and inns of London. The alignment led to further refining of both projects' conception of placetypes, work that is happening in other geohumanities projects as well.[1] MoEML adopted the category "Residences" from RLO, for example, and recategorized some locations to serve RLO's needs, moving some places that had been in the capacious MoEML "Sites" category into the new "Residences" category. RLO adopted some of MoEML's place type names ("Victualling Houses" and "Places of Punishment"). Table 1 lists the projects' respective ontologies as they stand in May 2021. Green indicates where we understand our categories to have a silent "@sameAs" relationship ("silent" only because we have not published our shared understanding until now). We will do further work to define these and other categories when we combine our datasets.

Table 1. MoEML and RLO ontologies compared.

MoEML Place Types	RLO Placetypes[2]
	Arena
Bars	
Brothels	
Bookshops	
Bridges	Bridge
Chapel	
Churches	Church
	Church House
	County

[1] For example, the *Historical Ontology of Urban Spaces* (HOUSe) project in Poland is working to create a thesaurus that will "organize and integrate contemporary / historical concepts / objects, both in semantic terms (understood here as concept mapping, e.g. a gas station from the beginning of the 20th century and a modern one), and logical terms (understood here as the assignment of individual objects to relevant classes and categories)" (https://urbanonto.ihpan.edu.pl/about-project/).
[2] See https://cwrc.ca/how-reed-defines-london-places.

Gates	Gate
Generic Places	
Halls [including guildhalls]	Guildhall
Hospitals	Hospital
Inns of Court	Inn of Court
Liberties	Liberty
	Manor
Markets	
Monuments, shrines, and tombs	
Neighbourhoods	
	Open area
Parishes	Parish
Places of Punishment	Place of Punishment
Playhouses	Playhouse
Prisons	
	Property
	Religious House
Residences	Residence
Riverside Feature	
Schools[3]	School
	Settlement
Sites	
Streets	Street
Victualling Houses	Victualling House
Topographical Features	
Wards	Ward
Water feature	Water feature

[3] New category forthcoming in MoEML v.6.6 at the end of June, 2021.

Some aspects of alignment have been simple and mutually beneficial: MoEML gained twenty-six new locations from RLO's legal, ecclesiastical, civil, political, and personal archival sources; RLO gained a second home for its URIs, which are now included in MoEML's metadata if the relationship between places is truly "sameAs,"[4] as Lucas Simpson will discuss in his paper. MoEML gained geo-coordinates for 300 places collected by the RLO team; RLO will have access to the 10,000+ variants compiled by MoEML, as well as access to all the new toponyms that MoEML ingests from projects like the "Browsing the Book Stalls of St. Pauls" project that Erica Zimmer will describe in the final paper of this panel.

Where alignment has not been possible, the attempt has invited productive discussions about what constitutes place in early modern London; non-alignment is not a failure, but rather an opportunity to reflect on the nuances of human use of space and the practices that make space into place. For example, MoEML includes a category for "Topographical Features"; these are mainly long-gone physical features (water courses like the Walbrook) that nonetheless determined the urban footprint or features visible on the "Agas" map (*Civitas Londinum*, 1561; rev. 1633) and therefore made into place by the fact of mapping. MoEML has a "Prisons" category, places that show up in early modern plays but are not themselves sites of theatrical performance.

Crucially, our approach to our textual sources is considerably different. In order to build its gazetteer and facilitate an answer to its key research question -- how did Londoners perceive and practice their lived environment? -- MoEML hosts editions of texts rich in London toponyms. Normally, these texts are printed texts chosen specifically because of their density of place names. RLO, on the other hand, publishes extracts from largely manuscript documents that shed light on theatrical activities in London. Toponyms serve as markers of *where* theatrical activity took place, but documents are not chosen on the basis of their toponymic richness and may contain no toponyms at all.

MoEML's most important texts are the four editions of John Stow's *Survey of London* (1598, 1603, 1618, and 1633, the latter extensively revised and expanded by Anthony Munday and Humphrey Dyson). MoEML's intense focus on Stow has skewed the project away from the very question that animates RLO. The 1598 text contains only one mention of Theatre and the Curtain, in the chapter on "Sports and Pastimes": "Of late time in place of those stage plays, hath been used comedies, tragedies, interludes, and histories, both true and feigned: For the acting whereof certain public places, as the Theater, the Curtain, &c. have been erected" (Sig. F3r; spelling modernized). As is well known, the reference to the Theatre and the Curtain is removed from the 1603 text.[5] On the other hand, Stow transcribes the texts on monuments and grave markers, a question in which RLO is not interested at all. That difference explains, for

---

[4] Harry Halpin, Patrick J. Hayes, James P. McCusker, Deborah L. McGuinness, and Henry S. Thompson, "When owl:sameAs Isn't the Same: An Analysis of Identity in Linked Data." *International Semantic Web Conference* 2010: 305-320, https://doi.org/10.1007/978-3-642-17746-0_20.

[5] The Theatre had been moved to the south bank and renamed the Globe, though the Curtain was still in use.

example, why MoEML has a category for "Monuments, shrines, and tombs" but RLO does not. RLO has categories for religious houses because they were an important type of building and place of performance in their longer time span.

Where the projects are most usefully complementary is in the area of processions, royal entries, and civic pageantry. MoEML interest in how these events moved through the streets, and its current project of editing all the mayoral shows and royal entries, means that the printed texts are all available on MoEML with all the placenames tagged therein.[6] Because the events are theatrical, they fall naturally into RLO's remit; RLO is collecting, transcribing, encoding, and tagging entities in the manuscripts that document the preparations for the events and capture eye-witness accounts. The pageant books -- idealized and partial -- are imperfect witnesses to the theatrical event which was an entire day of festivities coordinated by the London Common Council, the Court of Aldermen, the livery company to which the mayor-elect belonged, and other livery companies. But in the same vein, RLO's records are imperfect witnesses because they capture the logistics and planning for how the companies would participate (in terms of which members of each company would be assigned to a particular location in the City), but do not provide eyewitness accounts by those guildsmen. RLO is currently transcribing the records of those companies, providing rich detail about activities, expenses, and personnel. Records through 1559 are drawn from the Lancashire print collection; Tracey Hill is currently transcribing the records from 1559 onwards, which will extend the records not only by year, but will also allow for querying by company–in essence remixing a larger corpus of archival materials through encoding, richly tagging, and publishing them in digital mode.
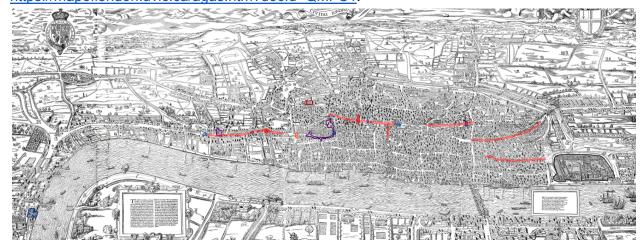
To show what will become possible once the work of RLO covers the period of the mayoral shows, we choose today to focus on the coronation entry of Queen Elizabeth in 1558, the records for which were published in *Civic London to 1558* (ed. Anne Lancashire and David J. Parkinson).[7] (Rachel Milio's paper will offer another case study.) On January 14, 1558/9, the "Lady Elizabeth" walked from the Tower of London and through the city of London to her coronation at Westminster. Elizabeth, her advisors, and representatives of the city worked together to create a highly political series of pageants performed in the streets of London, with Elizabeth herself nominally as the chief spectator but clearly also a willing actor therein. MoEML offers a transcribed text of the 1558 entry written by Richard Mulcaster, known as *The Queen's Majesty's Passage*.[8] MoEML's mapping tool allows one to see on the Agas map interface all the locations named in the text (see Figure 1). Lancashire and Parkinson transcribe entries from various manuscript sources showing the ways in which the event was put together.

---

[6] MoEML's second major editorial project is its anthology of all the Elizabethan and Stuart mayoral shows. The link between the theatrically indifferent *Survey* and the highly theatrical shows is in personnel: the reviser of Stow's work in 1618 and 1633 was Anthony Munday, playwright and pageant poet.
[7] Anne Lancashire (ed) with David J. Parkinson (asst ed), *Civic London to 1558*. 3 vols. Boydell & Brewer, 2015.
[8] See https://mapoflondon.uvic.ca/QMPS1.htm (updated version forthcoming in MoEML's June release of v.6.6).

Figure 1. Map of locations mentioned in *The Queen's Majesty's Passage*.
https://mapoflondon.uvic.ca/agas.htm?docId=QMPS1.

The Court of Aldermen record of November 19, 1558 (encoded from Lancashire and Parkinson by Jakacki for RLO) shows the City immediately mobilizing for the new Queen's coronation, two days after the death of Mary I on November 17 (see the record in the REED London site). In the record for December 7, 1558, we can see the various stopping points on the intended route being assigned to subcommittees of "Commoners" in the Court of Aldermen (all prominent citizens): the "Condyt in Cornehill" and the "Stokes," the "Standard in Cheape," the "greate Condyt in Cheape," "the Crosse in Cheape," "the lyttle Condyt in Cheape," "ffanchurche," "Ludgate," and "Temple Barre" (ms spelling retained). This list corresponds exactly with the order of the stopping points in Mulcaster's text and mapped on MoEML. One of MoEML's aims in its gazetteer is to capture the variant spellings of places. The facts that RLO has tagged these placenames with their unique ids and that we have built a data crosswalk between RLO and MoEML ids means that MoEML can collect and aggregate the rich toponymic diversity in manuscript records.

The records tagged in RLO tell us that the subcommittees were to ensure that these prominent locations are "very well and seemly trimmed and decked [...] with pageants[,] fine painting and rich cloths of arras, silver and gold" (spelling modernized). In these records transcribed into RLO, we learn *who* transformed the route described in Mulcaster's text on MoEML into a suitable stage for a royal entry. From Mulcaster's text on MoEML, we learn more about *what* these aldermen arranged to have done. For example, at the Great Conduit in Cornhill the pageant stretched across the entire street, wide enough to contain three gates; above the middle gate was a "seat royal" occupied by a child representing the Queen, and wreath bearing the title "The Seat of Worthy Governance" (sig. B3r-B3v). Furthermore, the sheer number of records referring to the coronation entry -- Court of Common Council, Journal 17; **Court of Aldermen, Repertory 14**; Bridgemasters' Annual Accounts and Rentals; Bakers' Audit Book; Brewers' Wardens' Accounts; Carpenters' Wardens' Accounts; Coopers' Wardens' Accounts; Drapers' Renter's Account; Grocers' Wardens' Accounts; and **Mercers' Acts of Cour**t" -- indicates the investment made by the city in this event (the bolded records will be encoded for RLO before the conference).

The shared locations in the published text and the manuscript records allows us to triangulate two contemporary written works describing events and participants, trace the locations at which those events occurred, and capture more information collectively than either project can do alone. We undertake this triangulation by establishing a shared vocabulary and agreeing that MoEML's "Great Conduit" is the same as RLO's Great Conduit via linked data. Once we have discovered the links, we can then provide contextual materials in both projects that explain the connections and invite further connections: for example, to *The Holinshed Project*,[9] to the *Machyn's Diary Project*, and to new projects like Zimmer's. The last is one step further than usual assumptions about LOD, which encourage the connections, but not necessarily the reasons for making those connections or how even amongst performance historians places hold different - albeit complementary - meaning. We can go still further and think about new ways to visualize, annotate, and narrativize the events through story maps, the spatial annotation tool in LEAF (the new name for CWRC).

The real benefit of LOD is not just that research project data is discoverable—and therefore connectable—but that researchers can take advantage of those discoveries to collaborate more richly with one another. It's more than just generating a list of how many projects refer to a place, of creating a single springboard of place name references. It's actually the hard work of finding ways for humanists to collaborate and trouble our understanding of places once we know that others are doing work that is same/different. Additional conceptual work lies ahead as we confront key differences in our respective canonical place names and criteria for establishing them and our respective understanding of the human uses that make space into place. A key thing to recognize is that aligning and combining two datasets does not make for a complete gazetteer of London. MoEML and RLO overlap on streets and buildings. Both projects have additional unshared locations, but neither project offers a complete picture of London. Neither project includes bookshops, for example, for which we must rely on Erica Zimmer's new project. Thus, even projects that are as apparently aligned as ours present challenges for LINCS. Our work now, as Simpson, Milio, and Zimmer will show, is to model new practices allowing more nuanced conceptions of places and place names, without compromising the scope and scale of each project.

Quick Links:
Link to MoEML Placeography home page:
https://mapoflondon.uvic.ca/mdtEncyclopediaLocation_subcategories.htm
Link to RLO London place types definitions page:
https://cwrc.ca/how-reed-defines-london-places
Link to MoEML gazetteer: https://mapoflondon.uvic.ca/gazetteer_a.htm
Link to *REED: Civic London 1558-1642* project webpage: https://civiclondon.wordpress.com/.
The Holinshed Project: http://english.nsms.ox.ac.uk/holinshed/texts.php

---

[9] See http://english.nsms.ox.ac.uk/holinshed/texts.php?text1=1587_8758#p15765