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## A Linguistic Atlas of Early Middle English (LAEME)

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*A Linguistic Atlas of Early Middle  
English*  
**(LAEME)**

**A Guide for Beginners**

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# 1. Background

## 1.1 What is LAEME?

LAEME<sup>1</sup> is an online linguistic atlas that documents what written English was like between ca.1150 and ca.1325. A ‘daughter’ atlas of *A Linguistic Atlas of Late Mediaeval English, 1350–1450* (LALME), LAEME deals with the immediately preceding period of written Middle English.<sup>2</sup> LAEME is based on the same principles of mediaeval dialectology developed for LALME. Unlike LALME, however, LAEME is founded on the methodology of corpus linguistics.

LAEME was compiled by Margaret Laing, with an introduction by the author and Roger Lass, and web-scripts by K. Williamson, V. Karaiskos and S. Branchaw. The first publication of phase 1, in the form of an interactive website, was a beta version in 2007. Version 2.1 ran from 2008–2013. The current version is 3.2.

For a brief account of the genesis of LAEME see the document entitled ‘Preface and acknowledgements: The Story of LAEME’, accessible from LAEME’s online documentation (see further §2 below). For a full explication of its background and theoretical underpinnings see LAEME Introduction, Chapter 1, also available from the online documentation.

LAEME enables you to:

1. search for information about texts used in its compilation
2. search for particular words or particular word forms
3. display the geographical distribution of variant forms
4. make concordances
5. read the corpus texts in transcription (a new feature since February 2016)

This Guide is designed to help you get started with these tasks.

## 1.2 Copyright and citation

The LAEME website and its materials are the copyright of The University of Edinburgh. LAEME is intended as a non-commercial research and teaching resource and you are asked to respect its materials in the same way that you would those in a printed book, with appropriate citation and regard for copyright. Information about citing LAEME is available from the LAEME front page (under ‘Citing LAEME’). For important information about copyright please read the LAEME copyright statement, also available from the LAEME front page (under ‘Copyright’).

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<sup>1</sup> [www.lel.ed.ac.uk/ihd/laeme2/laeme2.html](http://www.lel.ed.ac.uk/ihd/laeme2/laeme2.html)

<sup>2</sup> The other ‘daughter’ atlas of LALME is *A Linguistic Atlas of Older Scots* (LAOS: [www.lel.ed.ac.uk/ihd/laos1/laos1.html](http://www.lel.ed.ac.uk/ihd/laos1/laos1.html)). A major revision of LALME (eLALME: [www.lel.ed.ac.uk/ihd/elalme/elalme.html](http://www.lel.ed.ac.uk/ihd/elalme/elalme.html)) was published as an online resource in 2013. Linked to LAEME is *A Corpus of Narrative Etymologies* (CoNE: [www.lel.ed.ac.uk/ihd/CoNE/CoNE.html](http://www.lel.ed.ac.uk/ihd/CoNE/CoNE.html)). CoNE provides detailed etymologies for many of the variant forms attested in the LAEME corpus.

LAEME maps (see §3.7) use the Ordnance Survey (OS) grid. OS have separate terms for academic publications and do not charge royalties for using their maps and data in publications produced only for academic research, provided the following terms and conditions are adhered to:

- The results of the research are to be disseminated widely and without delay within the academic community and freely in the public domain.
- The publication is not for commercial gain or part of normal publishing business.
- The total area of the mapping in a publication does not exceed A3 (1250 sq cms).
- The following acknowledgement is shown on or near each map image: “Crown copyright Ordnance Survey. All rights reserved.”

### **1.3 Comments on this Guide**

This version (version 2) differs from the previous version (version 1) primarily as follows:

- §1.8 and §1.9 of version 1 have been moved closer to the start of Section 1.
- An additional section is included at §3.4.3

If you find any part of this Guide unclear, or if you would like additional topics to be covered, please email your suggestions to [AMC@ed.ac.uk](mailto:AMC@ed.ac.uk).

### **1.4 Corpus**

The LAEME corpus comprises a set of 167 tagged samples of early Middle English samples, representing a mixture of documentary and other official records, prose, poetry and lyrics. Each sample is between 18 and 30,500 words long and together they amount to some 650,000 words in total. Each tagged text is compiled from a diplomatic transcription of an original manuscript or facsimile written in English between ca.1150 and ca.1325. For a fuller description of the materials, see LAEME Introduction, Chapter 3, §§3.1– 3.3. For access to this and other online LAEME documentation, see §2 below.

Each of LAEME’s tagged texts is uniquely named and numbered, e.g. text number 201 is named ‘ormt’ and represents *The Ormulum*. LAEME’s online documentation (see further §2 below) includes three Text Keys. Key 1 lists tagged texts by unique number. Key 2 lists them alphabetically by name. Key 3 further organises the contents of Key 2 by county. A fourth key, which organises the contents of Key 1 by county, is available from [www.lel.ed.ac.uk/ihd/laeme2/Texts\\_by\\_county.pdf](http://www.lel.ed.ac.uk/ihd/laeme2/Texts_by_county.pdf).

### **1.5 Transcription**

The system of transcription adopted for LAEME is described in detail in LAEME Introduction, Chapter 3, §§3.4–3.6. (For access to this and other online LAEME documentation, see §2 below.) Note in particular that ‘plain text’ manuscript letters are transcribed in upper case, with capitalisation indicated by a leading asterisk: thus

manuscript <blod> and <Blod> ‘blood’ are transcribed BLOD and \*BLOD respectively. The main exceptions to this lower-case rule are ‘ae’, ‘d’, ‘g’, ‘w’, ‘y’, and ‘z’ which are used to represent <æ>, <ð>, <ǰ>, <ƿ>, <þ> and <Ʒ> respectively. Many transcriptions indicate morphological boundaries: ‘+’ indicates a boundary within a single written word, e.g. GOD+NES for <godnes> ‘goodness’; ‘-’ indicates that the two morphemes are written separately, e.g. GOD-NES for <god nes> ‘goodness’.

## 1.6 Text formats

LAEME texts are viewable in four formats: .html, .txt, .tag and .dic. The first three formats are here illustrated for the following line from *The Infancy of Christ*, Oxford, Bodleian Library, Laud Misc 108, entry 1 (LAEME text 1600, laud108at).

For it is caldore ner þe se (‘For it is colder near the sea’)

The laud108at.html version of this line is shown below. This version strips away most of the LAEME markup and so is the most readable format when opened on browsers like Firefox, Safari and Explorer. In this version, highlighting within { } indicates an editorial addition, and {} indicates a line break.

For it is caldore ner þe se {}

The laud108at.txt version, below, incorporates the formatting conventions described in §1.5 above.

\*FOR IT IS CALDORE NER yE SE {}

Next, the laud108at.tag version.

```
$for/cj_*FOR
$/P13NI_IT
$be/vps13_IS
$cold/aj-cpv_CALD+ORE $-er/xs-cpv-aj_+ORE
$near/pr_NER
$/T<pr_yE
$sea/n<pr{rh}_SE
{}

```

Notice from this short extract that words are arranged vertically, with each line consisting of a tag (beginning with ‘\$’), followed by an underscore, followed by the word in its transcribed format. §1.8 below provides further help for reading .tag files.

Lastly, laud108at.dic is a dictionary file. This lists in alphabetical order all tags used in the compilation of the .txt file and shows all forms (plus token counts) assigned to

each tag.<sup>3</sup> Below is an extract from laud108at.dic for the first eight entries under ‘\$co-’. (including \$cold/).

```
$cointe/ajpl<pr QUOYNTE 1
$cointe/ajpl{rh} QUOYNTE 1
$cointely/av QUOYNTE LICHE 2
$cointise/n<pr QUOINTISE 1
$cold/aj-cpv CALDORE 1
$colour/n<pr{rh} COLUR 1
$colt/nOd COLT 2
$come/v-imp *COM 1 *CUM 3 COM 2 CUM 3
```

This shows, for example, that the adverb COINTELY ‘quaintly’ (tag = \$ cointely/av; see further §1.7), has two tokens, all of the form <quoynteliche>, and that the imperative form of COME (tag = \$angel/v-imp; see further §1.7) has one token of <Com>, three of <Cum>, two of <com> and three of <cum>.

## 1.7 Tagging

Each transcribed item in the LAEME corpus is lexico-grammatically tagged in the form \$lexel/grammel, e.g. \$blood/nOi, where ‘\$’ identifies the string as a tag, and ‘/’ marks the boundary between lexel and grammel.

**Lexels** identify tagged items semantically and are more or less equivalent to lemmas. Most lexels take the form of a Modern English identifier. Where there is no ModE equivalent, the lexel is generally formed on an earlier etymon, e.g. \$botl (< OE *botl* ‘house, dwelling’): such lexels may employ Y for thorn, e.g. \$friY (< OE *frip* ‘peace’), or D for edth, e.g. \$hraDe (< OE *hraðe* ‘quickly’); they may also use ‘:’ to indicate vowel length, e.g. \$ga:r (< OE *gār* ‘spear’), \$grae:d (> OE *grāed* ‘greed’). A complete list of all lexels used in the compilation of LAEME is available from LAEME’s online documentation (see further §2 below). Some lexels are followed by annotations in braces. These annotations are specifiers indicating some semantic or functional distinction: e.g. \$about{p}, \$about{re}, \$about{t} identify the lexel \$about when referring respectively to ‘place’, ‘concerning’ and ‘time’. A key to all lexel specifiers is also available from the online documentation.

**Grammels** identify parts-of-speech and often provide additional information, such as the function of nouns, e.g. /n = noun sg in subject function, nOd = noun sg in direct object function, /nOi = noun sg in indirect object function. For a full inventory of grammels used in the compilation of LAEME, see the online document, ‘Grammel Commentary’.

For further, more detailed descriptions of all lexel and grammel elements in LAEME Introduction, Chapter 4.

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<sup>3</sup> A Dictionary file is similar to a ‘Linguistic Profile’ in LALME. The main difference is that the former provides a full list of all the text’s tagged material, whereas an LP covers a particular set of items.

LAEME employs four basic tag types, each type identifiable from its form. These are listed below with some illustrative examples.

**TAG TYPE A:** Derivational suffixes ('Suffixes')  
**Identifying tag form:** \$-lexel/xs(...)  
**Key feature of tag form:** Hyphen between '\$' and lexel  
**Examples:** \$-dom/xs(...), \$-ly/xs(...), \$-ness/xs(...)

**TAG TYPE B:** Grammatical morphemes ('Grammatical Words' and 'Inflexions')  
**Identifying tag form:** \$/grammel  
**Key feature of tag form:** Absence of lexel  
**Examples:** \$/A(...) (represents indefinite determiners)  
\$/D(...) (represents demonstratives)  
\$/neg(...) (represents negative particles)  
\$/P(...) (represents personal pronouns)  
\$/R(...) (represents relativisers)  
\$/T(...) (represents definite determiners)  
\$/Gaj(...) (represents adjectival gen sg inflections)  
\$/Gn(...) (represents nominal gen sg inflections)  
\$/plaj(...) (represents adjectival plural inflections)  
\$/pln(...) (represents nominal plural inflections)  
\$/v(...) (represents verbal inflections)

**TAG TYPE C:** Numbers  
**Identifying tag form:** \$lexel/q(...)  
**Key feature of tag form:** Lexel has the form of a number **and** grammel begins 'q'  
**Examples:** \$4/qc(...) (represents cardinal forms of 4)  
\$4/qo(...) (represents ordinal forms of 4)

**TAG TYPE D:** Everything else ('Lexis')  
**Identifying tag form:** \$lexel(-)/grammel  
**Key feature of tag form:** Grammel begins 'aj', 'av', 'cj', 'im', 'n', 'pr', 'v' or 'xp'  
**Examples:** \$lexel/aj(...) (represents adjectives)  
\$lexel/av(...) (represents adverbs)  
\$lexel/cj(...) (represents conjunctions)  
\$lexel/im(...) (represents infinitive markers)  
\$lexel/n(...) (represents nouns)  
\$lexel/pr(...) (represents prepositions)  
\$lexel/v(...) (represents verbs)  
\$lexel-/xp(...) (represents prefixes)



## 1.8 Reading tagged texts

LAEME's tagged texts may look a little strange at first, not least because their contents are arranged vertically. Each text file begins with information about the text (taken from LAEME's Index of Sources: see further §3.3 below), each section of which is enclosed by { }. The first '\$' marks the start of the tagged text itself. We have already seen an example in §1.6. This is repeated below.

```
$for/cj_*FOR
$/P13NI_IT
$be/vps13_IS
$cold/aj-cpv_CALD+ORE $-er/xs-cpv-aj_+ORE
$near/pr_NER
$/T<pr_yE
$sea/n<pr{rh}_SE
```

Taking each line of this extract in turn:

**\$for/cj** identifies \*FOR (ms. <For>) as a token of the conjunction (grammel = cj) FOR.

**\$/P** identifies IT (ms. <it>) as a personal pronoun. The rest of the grammel, i.e. 13NI, identifies it more specifically as a sg (=1), third person (=3), subject (=N(ominative)) token with an inanimate (=I) referent.

**\$be/v** identifies IS (ms. <is>) as form of the verb (grammel = v) BE. The rest of the grammel, i.e. ps13, identifies it more specifically as a present indicative (=ps), sg (=1), third person (=3) token.

**\$cold/aj** identifies CALD+ORE (ms. <caldore>) as form of the adjective (grammel = aj) COLD. The rest of the grammel, i.e. -cpv, identifies it more specifically as a comparative token. Notice that the comparative inflection appears on the same line as its stem. **\$-er/xs** identifies +ORE as a token of the suffix (grammel = xs) -ER. The rest of the grammel, i.e. -cpv-aj, identifies it more specifically as a comparative (-cpv) adjectival (-aj) inflection. The leading '+' indicates a morpheme boundary (see further §1.5 above).

**\$near/pr** identifies NER (ms. <ner>) as a token of the preposition (grammel = pr) NEAR.

**\$/T** identifies yE (ms. <pe>) as a definite determiner (grammel = T). The rest of the grammel, i.e. <pr, identifies it more specifically as an element of the complement of the preceding (<) preposition (pr).

**\$sea/n** identifies SE (ms. <se>) as a token of the noun (grammel = n) SEA. The rest of the grammel, i.e. <pr{rh}, identifies it more specifically as an element of the complement of the preceding (<) preposition (pr) and as occurring in rhyme position ({rh}).

## 1.9 Tags, forms and features

A **tag** is a test unit for linguistic comparison. It is a hyperonym for a group of **forms**, which are functionally equivalent. Forms can be grouped as being ‘the same word’, e.g. *heo*, *scho*, *xe* = SHE, or ‘the same morpheme’, e.g. *+ep*, *+ith*, *+es*, = ‘3sg indicative inflection’. In these cases, ‘form’ is more or less equivalent to ‘the spelling adopted for the word or morpheme’. A linguistic **feature** is a contrastive element comprising all or part of a form (or set of forms): e.g. initial *x-* in forms of SHE; *-ep* in 3sg inflections.

LAEME has numerous search and display features—described in §3 and §4 below—which can operate variably at the level of tag, form, or feature according to the particular research question.

## 2. Arrangement of LAEME

The contents of LAEME are accessible by clicking on ‘A Linguistic Atlas of Early Middle English 1150 to 1325’ on the website’s front page. On the left-hand side of the main contents page is a list of tasks, functions and links. These are briefly described below. Note that all but the first four items are tasks with their own Task Key, accessible once the task is selected. Task Keys explain elements of the Task’s search form, and the kind and format of data that will be retrieved. Place your cursor over [Task Key] to make these explanatory notes appear.

<b>Front Page</b>	Provides access to the front page of the web resource.
<b>Overview</b>	Provides access to a more detailed introduction to LAEME.
<b>Fonts &amp; Browsers</b>	Provides access to a description of the requirements and recommendations for optimal online access and display.
<b>Documents</b>	Provides access to the following documentation: <ul style="list-style-type: none"><li>• Preface and acknowledgements: The Story of LAEME</li><li>• LAEME Introduction, Chapters 1–4</li><li>• Guide to the Index of Sources (see further §3.3 below)</li><li>• Text Keys (see further §1.4 above)</li><li>• Lexel List (see §1.7 above)</li><li>• Lexel Specifiers (see §1.7 above)</li><li>• Grammel Commentary (see §1.7 above)</li><li>• Key to LAEME maps</li><li>• LAEME Bibliography</li></ul>
<b>Index of Sources</b>	Provides access to information about LAEME’s tagged texts

<b>Corpus Files</b>	Searches within all tagged texts to find: <ul style="list-style-type: none"> <li>• all tokens of a given string, e.g. \$sea/n (tag search), SEE (form search)</li> <li>• all LAEME texts associated with a particular county</li> </ul>
<b>Tag Dictionary</b>	Searches LAEME's tagset to find all tags in which a given string appears. Results ordered by tag.
<b>Form Dictionary</b>	Searches all tagged forms in LAEME to find those in which a given string appears. Results ordered by form.
<b>Maps</b>	Provides access to: <ul style="list-style-type: none"> <li>• a map of LAEME's survey points</li> <li>• a set of tools for displaying the areal distribution of specified features</li> </ul>
<b>County Lists</b>	Lists all data for a particular tag or form (or part thereof) organised by county
<b>Item Lists</b>	<ul style="list-style-type: none"> <li>• Like Tag Dictionary, searches LAEME's tagset to find all tags in which a given string appears, but results ordered by text rather than by tag.</li> <li>• Like Form Dictionary, searches all tagged forms in LAEME to find those in which a given string appears, but results ordered by text rather than by form.</li> </ul>
<b>Concordances</b>	Lists all tokens of a specified tag in their immediate context. Results can be limited to a specific county or set of counties.
<b>Related Web Sites</b>	Provides access to LALME's 'sister' atlas (see fn.2) and to other resources useful for the study of early English linguistics

### **3. Using LAEME**

**NB!!** Certain aspects of LAEME's functionality were revised between January and March 2016. If you have not cleared your cache since March 2016, please do so otherwise you may not gain access the most up-to-date version of the website.

#### **3.1 Saving and printing LAEME material**

LAEME does not provide download, save or print options. To download, save or print any LAEME material, you should use tools available from your browser or pc (e.g. screen capture).

#### **3.2 Search tools**

LAEME provides six list-generating search tools:

- Search the Index of Sources
- Search for Corpus Files
- Make a Tag Dictionary
- Make a Form Dictionary
- Make a County List
- Make an Item List
- Make a Concordance

Their primary functions are summarised in §2. The first of these tools is discussed in §3.3. The others are discussed in §3.4–3.6.

#### **3.3 Searching the Index of Sources**

LAEME's Index of Sources (IoS) includes brief notices of all the specimens of Middle English which proved relevant to the compilation of LAEME. The word 'specimens' is used here because a single manuscript may contain several linguistically diverse sections, whether the work of several different hands or just one. Since the focus of inquiry is the language not the codex, a single manuscript may have several independent notices.

There are 18 categories of information recorded in the Index, represented as 'fields' in LAEME, e.g. 'Manuscript', 'Index number', 'File name', 'Date', etc. Each is explained in the online 'Guide to the Index of Sources'. The contents of the index are arranged in a searchable database table. The Search function allows you to find all LAEME specimens with a particular value for a particular category, or 'field'. For example, to find all versions of *Poema Morale*, select 'Text(s)' under 'Search' and enter 'Poema Morale' in the 'For String' box. You may then specify, under 'Print', which of the 18 fields are to be displayed in the results. In general it is best to select 'All fields' as information relevant to one category may be found in commentary on another category. Finally select 'Search Index Of Sources' to execute the search. This

will produce a list of qualifying specimens, which should be checked for relevance. The results for the *Poema Morale* search, for example, lists text no. 63 (Cambridge, Trinity College B.14.52 (335), entry 4) for which the following comments are recorded under ‘Text’: “Fols. 91. The opening gathering, which contains the *Poema Morale*, is foliated; the rest of the manuscript is paginated 1 to 157. This entry refers to the work of Hand C only, viz: (3) pp. 156–57 sermon on Isaiah.”

NB Some fields are unsuitable for exhaustive searching, e.g.:

- A search for C13b1 (first quarter of second half of C13) under ‘Date’ will not recognise C13b (second half of C13), or C13a2-b1 (from the second quarter of the first half of C13 to the first quarter of the second half).
- ‘Numbers of words/names’ can find exact values but not ranges.

To find all texts for a given county, use the Corpus Files search facility described at §3.4 below.

### 3.4 Search tools and parameters

#### 3.4.1 ‘Type of tag’

The following search tools require you to select a type of tag as part of the search terms:

- Corpus Files > Search by Tag and/or Form
- Tag Dictionary
- County Lists
- Item Lists
- Concordances

The options are linked to the tag types described in §1.7 above, as summarised below:

Suffixes	Equivalent to tag type A of §1.7
Grammatical words	Equivalent to a subset of tag type B of §1.7 (i.e. \$/A, \$/D, \$/P, \$/R, \$/T, \$/neg(...))
Inflections	Equivalent to a subset of tag type B of §1.7 (all others)
Numbers	Equivalent to tag type C of §1.7
Lexis	Equivalent to tag type D of §1.7

#### 3.4.2 ‘Set up input’

The following search tools allow some flexibility in the form of the lexel and/or grammel and/or form of interest.

- Corpus Files > Search by Tag and/or Form
- County Lists
- Item Lists

After selecting ‘Set up Input’ you will encounter a search form similar to the one below:

The image shows a search form with a yellow background. It contains two sections. The first section is titled 'Enter Lexel' in bold red text. Below the title is a text input field. To the left of the input field is a small drop-down menu containing a hyphen character (-). To the right of the input field is another small drop-down menu containing a hyphen character (-). The second section is titled 'Enter Grammel' in bold red text. Below the title is a text input field. To the left of the input field is a small drop-down menu containing a hyphen character (-). To the right of the input field is another small drop-down menu containing a hyphen character (-).

Notice the presence of drop-down menus for specifying leading and trailing wildcards beside the lexel and grammel search strings. The default wildcard is ‘-’, which signifies no adjacent material, i.e. only the exact string entered will be searched for. ‘%’ signifies a sequence of one or more characters, and ‘!’ signifies a *single* adjacent character. So, for example, if using the Corpus Files > Search by Tag tool to search by Tag (Lexis):

- Lexel = -man- will find data for \$man/
- Lexel = -man% will find data for \$man/, \$manifold/, \$mankind/, \$many, \$manyman/, \$mancus/, etc.
- Lexel = -man! will find data for \$many/ (\$many is the only 4-character lexel in LAEME that begins ‘man’).
- Lexel = %man% will find the same data as for -man% plus data for \$cwe:man/, \$niman/, \$freeman/, \$woman/, etc., and for \$adamantine/

### 3.4.3 ‘Restrictions to scope of search’

The following search tools allow some flexibility in the form of the lexel in question by asking you to specify restrictions to the scope of the search.

- Tag Dictionary
- Form Dictionary
- Concordances

The scope of all three searches can be customised as outlined below for Tag Dictionary searches.

- a Tag Dictionary search for ‘blood’ with **scope = INITIAL** will find all forms, regardless of grammel, of lexels with ‘blood’ as their first element. The results will therefore list forms of lexels such as \$blood/, \$bloodgyte/ and \$bloody/, but not \$bebloody/. Notice that this search will also list forms tagged \$blood/(...)-k. The ‘-k’ extension denotes non-initial elements of compounds, so the search will find all forms of the second element of \$ae:dreblood/, \$goreblood/, etc.
- a Tag Dictionary search for ‘blood’ with **scope = NONE** will find all forms, regardless of grammel, of lexels which have ‘blood’ in *any* position. The results will therefore list forms of \$ae:dreblood/, \$bebloody/, \$blood/, \$blood/(...)-k, \$bloodgyte/, \$bloodless/, \$bloody/ and \$goreblood/. NB Forms tagged \$blood/(...)-k, will be listed twice, e.g. the second element of \$goreblood/ will be listed once under \$goreblood/ and once under \$blood/(...)-k.
- a Tag Dictionary search for ‘blood’ with search **scope = FULL** will find all forms, regardless of grammel, of lexels with ‘blood’ as their only element. The results will therefore list forms of \$blood/aj(...), \$blood/n(...) and \$blood/(...)-k, but not of \$ae:dreblood/, \$bebloody/, \$bloodgyte/, \$bloodless/, \$bloody/ or \$goreblood/.
- a Tag Dictionary search for ‘blood’ with **scope = FINAL** will find all forms, regardless of grammel, of complex lexels with ‘blood’ as their final element. The results will therefore list forms of \$ae:dreblood/ and \$goreblood/ but not of \$bebloody/, \$blood/, \$blood/(...)-k, \$bloodgyte/, \$bloody/ or \$bloodless/.
- a Tag Dictionary search for ‘blood’ with **scope = MEDIAL** will find all forms, regardless of grammel, of lexels which include the element ‘blood’ as a non-initial and non-final element. The results will therefore list forms of \$bebloody/, but not of \$ae:dreblood/, \$blood/, \$blood/(...)-k, \$bloodgyte/, \$bloodless/, \$bloody/ or \$goreblood/.
- to limit results, e.g. to nominal forms, enter ‘blood/n’ as the search string. The scope restrictions will work exactly as outlined above except only nominal forms will be found.

#### 3.4.4 Searching by tag or form

The following search tools allow you to search either by tag or by form:

- Corpus Files
- County Lists
- Item Lists

Searching by Form finds all tokens of a particular form, regardless of how they are tagged, e.g. a search for GOD will find tokens tagged \$god/aj(...), \$god/n(...), and \$go/v(...). Searching by Tag will find all tokens of a particular tag, regardless of form(s), e.g. a search for the lexel ‘good’ with grammel ‘aj%’ will find tokens in numerous forms including GOD, GODE, GODNE, GOOD. Searching by Form **and** Tag will find all tokens of a particular form with a particular lexel and/or grammel

### **3.5 Form frequency counts**

LAEME's form frequency counts generally appear in the format 'N<sub>1</sub> N<sub>2</sub>', where N<sub>1</sub> is the number of tokens of the form in question and N<sub>2</sub> is the number of tagged texts in which those tokens appear. For example '\$blood/nOd BLOD 69 29' indicates there are 69 tokens of BLOD tagged \$blood/nOd and they are spread over 29 tagged texts.

### **3.6 Concordancing**

This option lets you create a 'Key Word In Context'-type concordance. The search targets tag rather than form, which allows precise specification of your search object by lelex and/or grammel.

The output is a set of concordance records comprising the key tag and its associated form(s) along with a user-specified number of words which constitute the immediately preceding and following context. You can elect to have the outputs listed in order of tag, form, date or file name. An additional option narrows the search results to one or more tagged texts specified according to text number or county.

## **3.7 Maps**

### **3.7.1 Survey Points**

This option generates a coloured map on which the location of each localised tagged text is represented as a dot. The map contains an outline of England in green on a blue background with pre-1974 county boundaries shown in yellow.

### **3.7.2 Key Map**

'View Key Map' generates a black and white version of the 'Survey Points' map on which the location of each localised tagged text is represented by its index number. 'Download Key Map' generates an A4 version of the key map.

### **3.7.3 Browse/Search Feature Maps**

This provides access to approx. 1,900 ready-made Feature Maps, each representing the distribution of a particular feature or feature set for one of approximately 300 items. The 'Key to LAEME Maps' document (part of LAEME's online documentation) provides a helpful index.

'Show locations of other features' lets you see how the distribution of the chosen form/feature (displayed as red dots) contrasts with the distribution of functionally equivalent forms/features (displayed as smaller blue dots). Note that maps do not display the presence of two or more contrastive features at a given location. Three sizes of red dot correspond to relative frequency of occurrence, as described in §5.1 of the 'Overview' document. Small white dots indicate the locations of texts that do not attest the chosen form(s)/feature(s).



### 3.7.4 Combine Feature Maps

This option lets you display data from up to four ready-made feature maps on a single map. Each ready-made map has an identifying number, e.g. the map ‘THEY: ‘th-’ type, forms with initial y-’ is numbered 0002304. To combine maps, enter their identifying numbers and specify a symbol and colour for each feature or feature set. Map numbers are retrievable from the Browse/Search Feature Maps section and from the ‘Key to LAEME Maps’ document (part of LAEME’s online documentation). NB Some features may co-occur at the same location and this should be kept in mind when choosing symbol shapes and colours to ensure both are visible if one is overlaid on the other. Some experimentation is advisable.

For example, to compare the distribution of *s*-initial and *h*-initial forms of SHE (LAEME map nos. 00062517 and 00062518 respectively), enter the relevant map numbers and choose appropriately contrasting symbols (e.g. TriangleFilled + Red vs. CircleOpen + Black) then press **Combine Maps**. Notice that the red triangles on the combined map correspond to the red dots on LAEME map no. 00062517, and the open black circles on the combined map correspond to the red dots on LAEME map no. 00062518.

NB Combined maps sometimes take some time to display.

### 3.7.5 Create a Feature Map

Use this option to make your own maps from LAEME data. First, specify the lexe and/or grammel of the item whose forms you wish to dispaly. To map the distribution of a particular feature or feature set, enter the relevant form(s) (or part thereof) as well. Select a shape and colour to symbolise your chosen form/feature then press ‘Continue’. You can now choose whether to create a map for these data alone or whether you wish to add data for another form/feature, be it for the same item or for another item entirely.

### 3.7.6 Comparing linguistic maps for early and late Middle English

Margaret Laing has prepared a helpful illustration of useful ways to compare and contrast LAEME maps (for early Middle English data) with eLALME maps (showing late Middle English data). This is available from the AMC website<sup>4</sup> (> Projects Hub > AMC/IHD Corpora and Atlases > eLALME, penultimate paragraph).

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<sup>4</sup> [www.amc.lel.ed.ac.uk](http://www.amc.lel.ed.ac.uk)

#### 4. How do I ...

This section provides -by-step guides for a few commonly-used LAEME tasks.

##### 4.1 ... find information about a particular text in the LAEME corpus?

First find the text name and index number by consulting the Text Keys document (see further §1.4 above). Say you are interested in *Poema Morale*, Cambridge, Trinity College B.14.52. Text Key 1 gives its text name (trinpmt) and index number (4). To find out more about this text:

1. Select correct search function:
  - Select 'Index of Sources'. The Index of Sources search form has three fields: (i) 'Search'; (ii) 'For string'; (iii) 'Print'.
  - Notice the Task Key at the top of the search form
2. Set search parameters:
  - In the 'Search' field, select 'File name'
  - In the 'For string' field, enter 'trinpmt' (without inverted commas)  
Alternatively
  - In the 'Search' field, select 'Index number'
  - In the 'For string' field, enter '4' (without inverted commas)
3. Set output parameters:
  - In the 'Print' field indicate which subfields you wish displayed in the results. For this example, select 'All fields'.
4. Execute search:
  - Click on 'Search Index of Sources'.
5. Check results:
  - Notice that if you searched by index number rather than file name, the results will list all texts with an index number that includes the number 4, e.g. 264, 140, 304, etc. (The 'exact phrase' option does not avoid this problem.)

##### 4.2 ... find all forms of a particular item?

First you need to identify the relevant lexel. Most take the form of their ModE equivalent: for exceptions, see LAEME Introduction, Chapter 4, §4.3. A full list of LAEME lexels is available from the online documentation (see §2). Let's assume the lexel of interest is \$church.

1. Select correct search function:
  - Select 'Tag Dictionary'
  - Notice the Task Key at the top of the search form
2. Set search parameters:
  - Select the correct tag type (see §3.4.1 above), here 'Lexis'
  - Enter 'church' as the search string
3. Set output parameters:
  - Select your preference under 'Supply frequency counts' (see §3.5 above)
  - Set 'scope of search' (see §3.4.3 above). For this example, choose FULL.

4. Execute search:
  - Click on ‘Make Tag Dictionary’.
5. Check results:
  - Notice that the results are arranged by tag.

#### **4.3 ... find out which texts attest a particular form or set of forms?**

For example, to find out which texts have <k>-initial forms of CHURCH:

1. Select correct search function:
  - Select ‘Item Lists’
  - Notice the Task Key at the top of the search form
2. Set search parameters:
  - Select the correct tag type (see §3.4.1 above), here ‘Lexis’
  - Select ‘Search by FORM’
3. Set up input:
  - Under ‘Lexel’ enter ‘church’ (without inverted commas). See §3.4.2 above on leading / trailing drop-down menus. Here, use trailing ‘%’ to capture compound as well as simplex tokens.
  - Leave ‘Grammel’ blank (unless you want to focus on a particular word class)
  - Under ‘Form’ enter ‘k’ (without inverted commas) and use trailing ‘%’. NB This will find all examples of \$church with a lower case initial <k>. To find capitalised examples as well, use leading ‘%’ under ‘Form’. To find capitalised examples *only*, enter ‘\*k’ (without inverted commas) and use trailing (but not leading) ‘%’.
  - Select your preference under ‘measures of occurrence’
4. Execute search:
  - Click on ‘Create an Item List’.
5. Check results:
  - Notice that the results are arranged by text number
  - Each text number is a link to the relevant entry in the Index of Sources, from where you can access each version of the text (see further §1.6 above).

#### **4.4 ... find all forms of a particular item in a particular county?**

One option is to use the method described in §4.3 above. Those results are organised by text file and show the relevant county abbreviations. Alternatively:

1. Select correct search function:
  - Select ‘County Lists’.
  - Notice the Task Key at the top of the search form
2. Set search parameters:
  - Select the correct tag type (see §3.3.1 above), here ‘Lexis’
  - Select ‘Search by TAG’
3. Set up input:

- Under ‘Lexel’ enter ‘church’ (without inverted commas). See §3.3.2 above on leading / trailing drop-down menus. Here, use leading and trailing ‘-’
  - Leave ‘Grammel’ blank (unless you want to focus on a particular word class)
  - Select your preference under ‘measures of occurrence’
4. Execute search:
    - Click on ‘Create a County List’.
  5. Check results:
    - The same tokens are listed as found in the search described in §4.2 above. Here, however, they are arranged by form, and for each form is shown the counties and text numbers which attest the form.
    - Each text number is a link to the relevant entry in the Index of Sources, from where you can access each version of the text (see further §1.6 above).

#### 4.5 ... find all forms of a particular pronoun or inflection?

First you need to identify the relevant tag. Remember: pronouns, inflections and other grammatical words have no lexel (see §1.6 above). For a guide to pronoun and inflectional grammels, see ‘Grammel Commentary’ in the online documentation. Let’s assume we are interested in the 2sg subject pronoun, THOU. §3.1.2.1 of the Grammel Commentary explains that the basic tag for THOU is \$/P12N, and that this basic grammel may be extended to indicate things such as rhyme position (/P12N{rh}), post-dental placement (/P12N-ad), or indeed both (/P12N-ad{rh}).

1. Select correct search function:
  - Select ‘Tag Dictionary’
  - Notice the Task Key at the top of the search form
2. Set search parameters:
  - Select the correct tag type (see §3.4.1 above), here ‘Grammatical Words’
  - Enter ‘P12N’ as the search string (without ‘ ’)
3. Set output parameters:
  - Select your preference under ‘Supply frequency counts’ (see §3.5 above)
  - Set ‘scope of search’ (see §3.4.3 above). For this example, choose NONE.
4. Execute search:
  - Click on ‘Make Tag Dictionary’.
5. Check results:
  - The results are arranged by tag.

Notice that the results do not reveal the texts in which the tokens are found. To get this information:

1. Select correct search function:
  - Select ‘Item Lists’
2. Set search parameters:
  - Select the type of tag of interest (see §3.4.1 above), here ‘Grammatical Words’
  - Select ‘Search by TAG’

3. Set up input:
  - Under ‘Grammel’ enter ‘P12N’ (without inverted commas). See §3.4.2 above on leading / trailing drop-down menus. Here, use leading ‘-’ and trailing ‘%’.
  - Select your preference under ‘measures of occurrence’
4. Execute search:
  - Click on ‘Create an Item List’.
5. Check results:
  - The same tokens are presented as in the previous search but this time they are arranged by text index numbers.
  - The index numbers provide direct access to entries in the Index of Sources, from where you can access all versions of the texts (see further §1.6 above).

#### **4.6 ... see if a particular item is spelled consistently in a particular text?**

First find the text name and index number by consulting the Text Keys document. Say you are interested in *Poema Morale*, Cambridge, Trinity College B.14.52. This is listed in Text Key 1 with its text name (trinpmt) and index number (4).

- Follow steps 1–4 of the first search described in §4.2 above.
- From the ‘Files’ field, select the .dic file version. This generates a text dictionary for your chosen text. The text dictionary lists all tags appearing in the tagged text and, for each tag, each variant form is identified along with token numbers.

#### **4.7 ... see the spatial distribution of a particular variant?**

Check first whether a feature map already exists for the form in question. Check ‘Key to LAEME maps’ available from LAEME’s online documentation. To access a ready-made map, make a note of the map title and number (or range of numbers if you wish to view more than one map), then:

- Select ‘Maps’
- Select ‘Browse/Search Feature Maps’ and enter (part of) the map title or the map number in the relevant search box and press ‘submit’.

If there is no ready-made map for the feature of interest, follow the instructions under ‘Create a Feature Map’ given at §3.7.5 above.