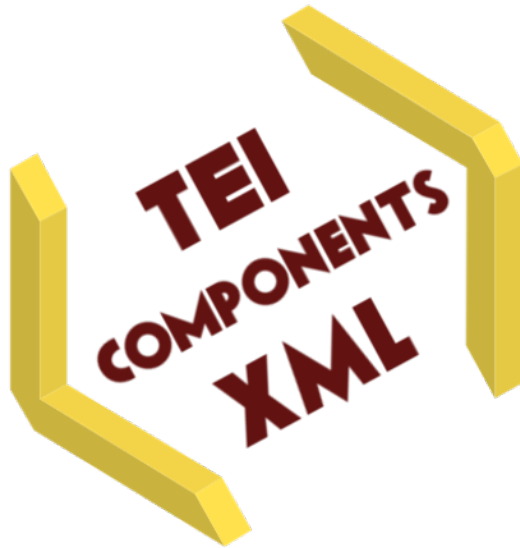


# A TEI RESOURCES NAVIGATION APP



## User Guide

# TEI-XML COMPONENTS

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# **TEI-XML COMPONENTS**

## A TEI RESOURCES NAVIGATION APP

### USER GUIDE

#### **1. MAIN PURPOSE**

This app, “TEI-XML Components,” has been developed to help users navigate among all the TEI components swiftly and easily in a way that enhances comprehension of their many mutual or hierarchical interdependencies. Conceived initially and primarily as a companion tool to STEP (Scholarly Text-Editing Platform), this app has been turned into a cross-platform standalone software for Mac, Windows, and Linux. Not intended nor designed for use on IOS or Android devices, it is better viewed on screens taller than 7”.

The initial purpose was to develop a tool capable of importing the myriad TEI data and metadata directly from the TEI-c.org repositories into STEP’s companion tools in order to make them not only TEI-compliant but more robustly TEI-conformant in all particulars. Along the way, the app grew into something even more useful thanks to the way in which it incorporated and consolidated the large variety of TEI components along with their metadata in a single place. The TEI-c.org website provides users full access to all of those components via its table of contents and especially the appendices in that table. The TEI website’s interface does a very nice job displaying the details regarding those components once users have clicked their way to them. The difficulty is that the way information about those components is distributed across hundreds of webpages makes it hard to develop a clear picture or understanding of the logic of interrelations or cross-dependencies among those components and their classes. Ordinary TEI encoders may know how to find information about a particular XML element (or tag) and have a look at what attributes they might accept, but without a clear sense of their use rules according to what context and within the context of what attribute class, what element model, complying with imperatives or recommendations formulated to accommodate what particular scholarly needs or standards in what particular discipline of the humanities as manifested in one of the TEI’s 21 modules. They would also not be likely to find out easily what kind of values certain attributes or classes thereof accept, or how to format them according to what sort of standard syntax that ensures that an XML processor attuned to TEI XML schemas would know how to interpret and process such values when laying out an encoded text or answering X-queries based on their encoding. The TEI website provides answers to such questions, but navigating it and actually finding one’s way across hundreds of scrollable documents takes hours of clicking, often in the wrong place for lack of intuitive logic.

STEP's "TEI-XML Components" app makes all of this much easier. All eight classes of components are brought within a single front-end interface headed by clearly labeled tabs. Clicking these tabs (the first eight in the top row) provides instant access to all TEI components that correspond to that label. Clicking any of these components brings into view everything that the TEI Guidelines allow users to know about it. Relevant information is distributed among multiple fields that are clearly labeled. All other components that are related in one way or another to the component under review (as parent, child, sibling, class, datatype, or module) are displayed in the form of links. Users need only click such links to be instantaneously transported to the exact place that discusses it within the app.

"TEI-XML Components" is conceived as a companion tool not only to STEP but also the TEI-c.org website. The latter is actually embedded within the app, both through certain links but also directly and conveniently through an internal web browser. A copyright statement (shown below) clarifies the extent of TEI's intellectual property within the application (under the last tab labeled ©).

The screenshot shows the TEI-XML Components application window. The title bar reads "TEI-XML Components". The menu bar includes "TEI Elements", "Attributes", "Values", "Attribute Classes", "Modules", "Models", "Datatypes", "Macros", "?", "web", and "©". The main content area features three logos: the TEI Text Encoding Initiative logo, the IUPUI logo, and the National Endowment for the Humanities logo. Below the logos is a yellow-bordered box containing the following text:

**TEI Consortium Copyright Statement**

2021-08-31T10:26:50Z  
Edition: Version 4.3.0, last updated on 31st August 2021, revision b4f72b1ff  
The material presented in this application is dual-licensed as follows.  
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[<http://www.opensource.org/licenses/BSD-2-Clause>] Copyright © 2021 TEI Consortium. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:  
Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.  
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**Application Developer Copyright Statement**


2021-10-10T18:17:16-23:00 — TEI-XML Components, Version 1.3.0  
The presentation of this licensed material in this application related to STEP (Scholarly Text-Editing Platform) is copyrighted as follows: Copyright © 2021 André De Tienne. Portion of the development of this application was made possible by a grant from the National Endowment for the Humanities, a grant made to the Peirce Edition Project, School of Liberal Arts, Indiana University at Indianapolis (IUPUI). "Presentation" includes both the programming code and the interface design of this application. The application was developed using LiveCode 9.6.1 to 9.6.4 (RunRev Ltd). Any views, findings, conclusions, or recommendations expressed in this program do not necessarily represent those of the National Endowment for the Humanities.

At the bottom right of the copyright statement box, there are two logos: the Creative Commons Attribution-NonCommercial-NoDerivatives (CC BY-NC-ND) license logo and the TEI Consortium XML logo.



## 2. INTERFACE ORGANIZATION

The app's interface is headed by 12 sequential tabs labeled respectively **TEI Elements**, **Attributes**, **Values**, **Attribute Classes**, **Modules**, **Models**, **Datatypes**, **Macros**, **?**, **web**, **+**, and **©**. Those tabs are clickable, but one can move through them by tabbing (left to right) or shift-tabbing (right to left).

The app relies on dozens of internal arrays of data drawn directly from hundreds of XML, HTML, and DTD files on the TEI-c.org website (TEI P5, currently in its version 4.1.0). The majority of those arrays are multi-dimensional. All those arrays are updatable (via the **Update** menu in the menu bar) whenever a new version of the P5 publication becomes available. A full update takes several minutes given the large number of files that need to be fetched and mined for a multitude of data that are then distributed within arrays. But once the app is updated, navigation is zippy throughout. The app can be used offline, but it is better to be online if the user wants to interact with the TEI-c.org website. Under most tabs the SVG icon  provides a direct link to the relevant component page of the TEI Guidelines or of its appendices, opening it in the app's *internal* browser under the **web** tab. Data connected to Unicode and Unihan values are fetched directly from the unicode.org website whenever such values are clicked on under the **Values** tab.

Clicking any blue-underlined string in the fields (underlining an element, an attribute, a value, an attribute class, a module or model or datatype or macro name) brings you instantly to that component under its associated tab. Underlined links referring to TEI Guidelines sections will open the related pages down to the desired section in the internal browser under the **web** tab.

The left side of each of the first eight component panes provides access to a list of its related components. Those that come with a long list of them are headed by a drop-down menu that provides either a complete alphabetical and clickable list of them, or an arrangement letter-by-letter, or a selection by modules, attributes, or attribute classes, as the case may be. Those lists are clickable, but all can be navigated also by simply using the up or down arrow key on the keyboard.

Most controls (buttons and fields) come with a "tip tool": hover with the mouse pointer over them, and a little usage clue will appear in a floating field. This feature can be turned on or off in the **Help** menu in the menu bar.

## 3. THE TEI ELEMENTS PANE

There are currently (as of September 2021) 590 elements (or tags) available in TEI P5. The image below displays data related to the <abbr> element. Element access is done

by using the menu button and the list on the left side. Users may also type the name of a particular element in the orange field and either tab or press the return key. Menus that head some of the fields help navigate their content (which can be very large, as shown by their adjacent count of entries).

The screenshot shows the 'TEI Elements' pane in the TEI-XML Components application. The interface is divided into several sections:

- TEI Elements:** A list of elements on the left, with 'abbr' selected and highlighted in red.
- ELEMENT NAME:** 'abbr' is displayed in an orange field.
- GLOSS:** 'abbreviation' is shown in a text field.
- MEMBER OF ATTRIBUTE CLASSES:** A list of attribute classes including 'att.global' and 'att.typed'.
- MEMBER OF MODELS:** A list of model classes including 'model.choicePart' and 'model.pPart.editorial'.
- MODULE:** 'core' is shown in a text field.
- DESCRIPTION / NB:** A large text area containing the description: 'Contains an abbreviation of any sort.' and a note: 'NB: If abbreviations are expanded silently, this practice should be documented in the [editorialDecl](#), either with a [normalization](#) element or a [p](#).'
- CLASS ATTRIBUTES:** A list of attributes including 'att.global', 'att.global.analytic', 'att.global.change', 'att.global.facs', and 'att.global.linking'.
- SPECIFIC ATTRIBUTES:** A dropdown menu showing 'type' with a count of 1. The description for 'type' is: 'type — type; **datatype:** teidata.enumerated; **usage:** optional **desc.:** allows the encoder to classify the abbreviation according to some convenient typology; **NB:** The @type attribute is provided for the sake of those who wish to classify abbreviations at their point of occurrence; this may be useful in some circumstances, though usually the same abbreviation will have the same type in all occurrences. As the sample values make clear,'
- MAY BE CONTAINED BY WHAT PARENT ELEMENTS:** A dropdown menu showing 'ab' with a count of 234. The description for 'ab' is: 'ab — anonymous block; **module:** linking **desc.:** contains any arbitrary component-level unit of text, acting as an anonymous container for phrase or inter level elements analogous to, but without the semantic baggage of, a paragraph.'
- MAY CONTAIN WHAT CHILD ELEMENTS:** A dropdown menu showing 'abbr' with a count of 167. The description for 'abbr' is: 'abbr — abbreviation; **module:** core **desc.:** contains an abbreviation of any sort.'

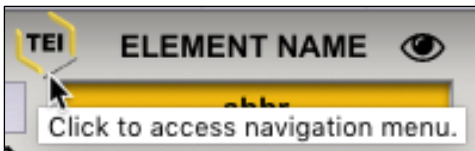
Besides the element's name, the **TEI Elements** pane displays a variety of information.

- The element's **gloss**, usually an expansion of its abbreviation when its name consists of an abbreviation, or sometimes a disambiguation of its meaning;
- The element's **description** (spelled out in the TEI Guidelines) within the field labeled **Description/NB**. Sometimes that field also contains complementary *nota benes* (NB).

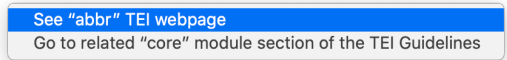
- The TEI **module** within which the element is defined and used (and also discussed in the module's corresponding chapter in the TEI Guidelines); click it to reach the related module under the **Modules** tab.
- The **models** that the element belongs to as a member. A model dictates which elements can adopt a certain type of behavior in relation to other member elements. For instance, <abbr> is a member of model **choicePart**. Visiting the latter under the tab **Models** teaches us that <abbr> is one of those elements that can be part of a <choice>'s alternation structure. We are also told that <abbr> belongs to the model **pPart.editorial**, visiting which teaches us that <abbr> is an element that, although it cannot be used while transcribing the text of an author, yet can be used editorially during the transcriptional act to introduce a simple editorial intervention.
- The **content sequence** or **macro** that governs the element's content's syntax. For instance, we are told that the content tagged by <abbr> falls within the rules collected under the macro **phraseSeq**. Visiting the latter under the **Macros** tab informs us that **macro.phraseSeq** is a macro that groups elements that have in common that they can consist of a sequence of character data and phrase-level elements found in regular text or also within elements that are governed by such models as **gLike**, **attributable**, **phrase**, and **global**.
- The formal **constraints**, typically expressed in a rule-based schema language (schematron), to which the syntactical XML construction of certain elements (e.g., **attDef**) must conform in order to be considered valid.
- The **attribute classes** of which the element is a **member**: attribute classes are collections of attributes that can be added to any element that is a member of that class. For instance the element <abbr> is a member of the **att.global** class, and thus also of all of **att.global**'s own subclasses. Therefore, such attributes as **@n**, **@xml:id**, **@ana**, **@next**, **@select**, **@rend**, **@resp**, **@cert**, or **@source** can be assigned to element <abbr>. That element is also a member of the **att.typed** class, a fact that allows it to be fitted with attributes **@type** and **@subtype** as well.
- A field labeled **Class Attributes** that lists all those class-inherited attributes that can be used by the element. Click any of those attributes (underlined in blue to show they are linked) to access related information under the **Attributes** tab.
- A field labeled **Specific Attributes** that lists all those attributes that are only associated with the element. Information provided includes the attribute's description, datatype, and usage type, followed occasionally by a usage-related complementary nota bene (NB). Click any of those attributes (underlined in blue to show they are

linked) to access related information under the **Attributes** tab. That field is headed by a drop-down menu, which can be handy to navigate its content.

- Two more fields, one which lists those **parent TEI elements** which may contain the element in question as one of their child elements (for instance <abbr> can be contained by 234 other parent elements—including itself!), and another field which lists those **child elements** that the element in question can contain as parent (<abbr> can contain any of 166 elements, again including itself). These two fields therefore reflect the element hierarchy around the element in question—a family tree with ancestors and children.



Click the TEI SVG icon for internal browser access **either** to the webpage providing data about the currently displayed element:



< Text Encoding Initiative >

---

Home Guidelines Activities Tools Membership Support About News

P5 Guidelines — English ↕ Search

## P5: Guidelines for Electronic Text Encoding and Interchange

Version 4.3.0. Last updated on 31st August 2021, revision b4f72b1ff

<abbr>

[Home](#)  
[C Elements](#)

<abbr> (abbreviation) contains an abbreviation of any sort. [[3.6.5 Abbreviations and Their Expansions](#)]

Module	core — Elements Available in All TEI Documents
<b>Attributes</b>	<div style="font-size: 0.8em; color: #0056b3;"> <a href="#">att.global</a> (@xml:id, @n, @xml:lang, @xml:base, @xml:space) (<a href="#">att.global.rendition</a> (@rend, @style, @rendition)) (<a href="#">att.global.linking</a> (@corresp, @synch, @sameAs, @copyOf, @next, @prev, @exclude, @select)) (<a href="#">att.global.analytic</a> (@ana)) (<a href="#">att.global.facs</a> (@facs)) (<a href="#">att.global.change</a> (@change)) (<a href="#">att.global.responsibility</a> (@cert, @resp)) (<a href="#">att.global.source</a> (@source)) <a href="#">att.typed</a> (@type, @subtype)                             </div> <div style="margin-top: 5px;"> <p style="font-size: 0.8em; color: #0056b3;"><b>@type</b> <span style="font-size: 0.7em;">¶</span></p> <p style="font-size: 0.8em;">(type) allows the encoder to classify the abbreviation according to some convenient typology.</p> <p style="font-size: 0.8em; margin-top: 5px;"><b>Derived from</b> <a href="#">att.typed</a></p> <p style="font-size: 0.8em; margin-top: 5px;"><b>Status</b> Optional</p> <p style="font-size: 0.8em; margin-top: 5px;"><b>Datatype</b> <a href="#">teidata.enumerated</a></p> <p style="font-size: 0.8em; margin-top: 5px;"><b>Sample values include:</b></p> <div style="font-size: 0.8em; margin-top: 5px;"> <p style="margin: 0;"><b>suspension</b> (suspension) the abbreviation provides the first letter(s) of the word or phrase, omitting the remainder.</p> <p style="margin: 0;"><b>contraction</b> (contraction) the abbreviation omits some letter(s) in the middle.</p> <p style="margin: 0;"><b>brevigraph</b> the abbreviation comprises a special symbol or mark.</p> <p style="margin: 0;"><b>superscription</b></p> </div> </div>

or to the TEI Guidelines section discussing the element in the related module chapter:

See "abbr" TEI webpage

Go to related "core" module section of the TEI Guidelines

TEI-XML Components

TEI Elements Attributes Values Attribute Classes Modules Models Datatypes Macros ? web +

URL: https://www.tei-c.org/release/doc/tei-p5-doc/en/html/CO.html#CONAAB

### 3.6.5 Abbreviations and Their Expansions

It is sometimes desirable to mark abbreviations in the copy text, whether to trigger special processing for them, to provide the full form of the word or phrase abbreviated, or to allow for different possible expansions of the abbreviation. Abbreviations may be transcribed as they stand, or expanded; they may be left unmarked, or marked using these tags:

`<abbr>` (abbreviation) contains an abbreviation of any sort.  
`<expan>` (expansion) contains the expansion of an abbreviation.

The `abbr` element is useful as a means of distinguishing semi-lexical items such as acronyms or jargon:

We can sum up the above discussion as follows:  
the identity of a `<abbr>CC</abbr>` is defined by that calibration of values which motivates the elements of its `<abbr>GSP</abbr>`; ...

Every manufacturer of `<abbr>3GL</abbr>` or `<abbr>4GL</abbr>` languages is currently nailing on `<abbr>OOP</abbr>` extensions.

The `@type` attribute may be used to distinguish types of abbreviation by their function:

```
<abbr type="title">Dr.</abbr>
<abbr type="initial">M.</abbr> Deegan is
the Director of the <abbr type="acronym">CTI</abbr> Centre for Textual Studies.
```

Abbreviations such as *Dr. M.* above may be treated as two abbreviations, as above, or as one:

```
<abbr>Dr. M.</abbr> Deegan is
the Director of the <abbr>CTI</abbr> Centre for Textual Studies.
```

The `expan` element may be used simply to record that an abbreviation has been silently expanded by the encoder, perhaps for reasons of house style or editorial policy. It should always include the whole of an abbreviated phrase or word. More usually however this will be combined with the `abbr` element inside a `choice` element to record both the abbreviation and its expansion:

```
the
<choice>
<expan>World Wide Web Consortium</expan>
<abbr>WWW</abbr>
</choice>
```

TEI ELEMENT NAME MEMBER OF ATTRIBUTE

abbr Click to access examples online

Click the eye icon for internal online access to **encoding examples** related to the currently displayed element.

TEI-XML Components

TEI Elements Attributes Values Attribute Classes Modules Models Datatypes Macros ? web +

URL: https://www.tei-c.org/release/doc/tei-p5-doc/en/html/examples-abbr.html

### Example: `<abbr>` (abbreviation)

These search results reproduce every example of the use of `<abbr>` in the Guidelines, including all localised and translated versions. In some cases, the examples have been drawn from discussion of other elements in the Guidelines and illustrating the use of `<abbr>` is not the main focus of the passage in question. In other cases, examples may be direct translations of each other, and hence identical from the perspective of their encoding.

- 3 Elements Available in All TEI Documents (defining module)
- 5 Characters, Glyphs, and Writing Modes
- 9 Dictionaries
- 11 Representation of Primary Sources
- 12 Critical Apparatus
- 13 Names, Dates, People, and Places
- 21 Certainty, Precision, and Responsibility

3 Elements Available in All TEI Documents

#### 3.5.5 Abbreviations and Their Expansions

We can sum up the above discussion as follows:  
the identity of a `<abbr>CC</abbr>` is defined by that calibration of values which motivates the elements of its `<abbr>GSP</abbr>`; ...

#### 3.5.5 Abbreviations and Their Expansions

Every manufacturer of `<abbr>3GL</abbr>` or `<abbr>4GL</abbr>` languages is currently nailing on `<abbr>OOP</abbr>` extensions.

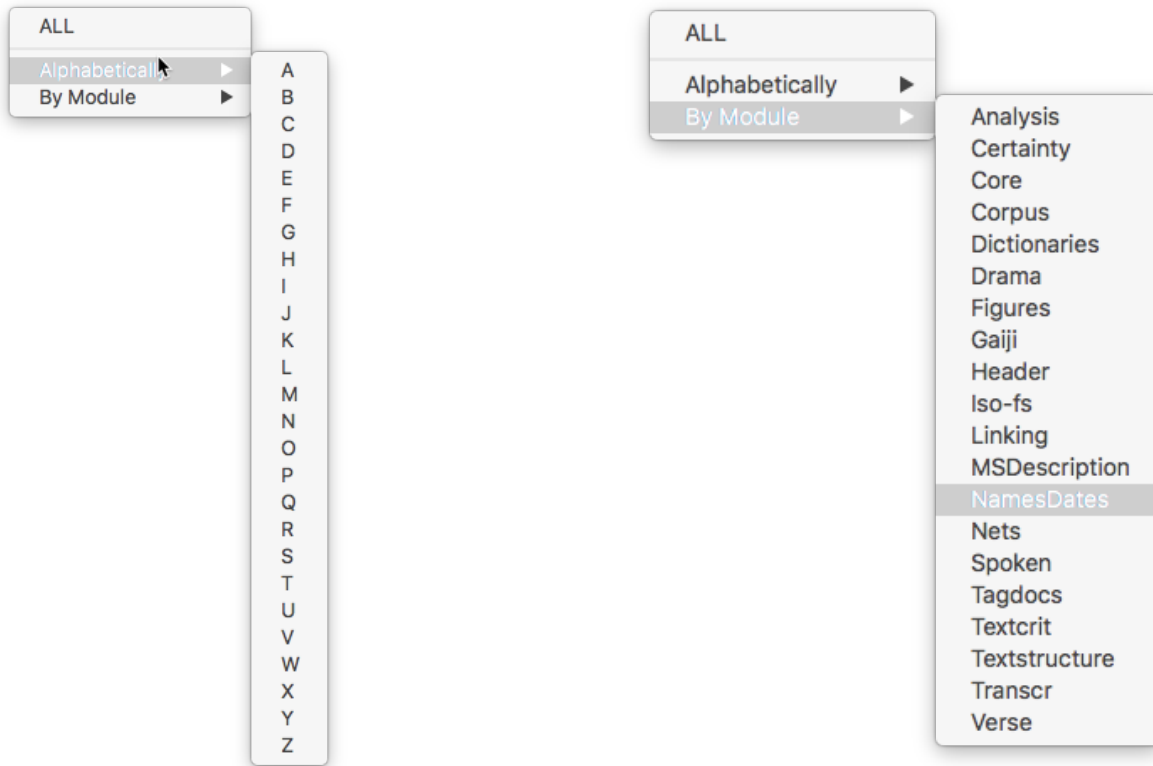
#### 3.5.5 Abbreviations and Their Expansions

```
<abbr type="title">Dr.</abbr>
<abbr type="initial">M.</abbr> Deegan is
the Director of the <abbr type="acronym">CTI</abbr> Centre for Textual Studies.
```

#### 3.5.5 Abbreviations and Their Expansions

```
<abbr>Dr. M.</abbr> Deegan is
the Director of the <abbr>CTI</abbr> Centre for Textual Studies.
```

To navigate the list of elements in the left column, use the menu above it. It allows you to display the complete list of 590 elements in alphabetical order (default), or to display them one letter of the alphabet at a time, or display them according to the TEI module they belong to.



#### 4. THE ATTRIBUTES PANE

This pane displays the significant data related to 268 regular TEI **attributes**. Use the menu button and the list on the left side to navigate through the attributes either alphabetically, by related attribute classes, or by related elements. You may also type the name of a particular attribute in the orange field and either tab or press the return key.

The TEI website does not provide discussion of attributes separately from elements. This app's **Attributes pane** is thus uniquely convenient in the ways it consolidates information regarding each attribute. This is particularly striking in the case of the **@type** attribute shown below, because **@type** is by far the most ubiquitous (and specifically "modified") of all attributes.



The screenshot shows the 'Attributes' pane in the TEI-XML Components application. The interface is divided into several sections:

- Pick a TEI attribute:** A list on the left shows various attributes, with 'type' highlighted in red.
- ATTRIBUTE NAME:** Displays 'type' in a yellow box.
- USAGE:** Shows 'optional' and 'single'.
- MODE:** Shows '@type mode per elements'.
- GLOSS:** Empty field.
- DATATYPE:** Shows 'teidata.enumerated'.
- ATTRIBUTE CLASS:** Shows 'att.entryLike', 'att.textCritical', and 'att.typed'.
- CLASS-DEPENDENT or ELEMENT-DEPENDENT DESCRIPTION:** Contains a paragraph explaining the @type attribute and its use in classifying abbreviations. It includes a note (NB) about the attribute's purpose.
- SPECIFIC VALUES:** Shows 'Value List Status of @type:' with a dropdown set to 'open (abbr)'. Below, it lists 'abbr' and 'abbrev' with a description: 'desc.: abbreviated indicator (@type in iType)'. A count of 229 is shown.
- MUST BE CONTAINED BY WHAT ELEMENTS:** Lists elements like 'abbr', 'affiliation', 'age', and 'app' with their respective descriptions. A count of 299 is shown.
- MEMBER OF WHICH ATTRIBUTE CLASS:** Shows 'att.entryLike' with a count of 3. It lists 'att.entryLike' and 'att.textCritical' with their descriptions.

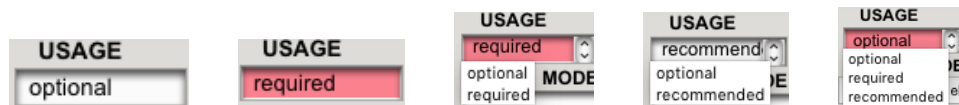
Besides the attribute's name, the **Attributes** pane displays a variety of information.

- The attribute's **gloss**, usually an expansion of its abbreviation when its name consists of an abbreviation, or sometimes a disambiguation of its meaning.
- The attribute's **descriptions** (spelled out in the TEI Guidelines) within the field labeled **Class-Dependent or Element-Dependent Description**. Sometimes that field also contains *nota bene* (NB) to complement the description. An attribute may have multiple descriptions depending on whether it is being used under the attribute class that defines or declares it generally or under an element that modifies its class-based definition or declaration to accommodate it to that element's more specific range of use or meaning.

- In that connection, whenever an attribute's use departs from the class-based description, that attribute's "mode" property will declare it (to the processor) through one of its possible values: "replace" (when its description is foreign to the class description) or, more frequently, "change" (when its description merely modifies that of the class description). Rarely will it have the "add" value or the "delete" value (see the **att.combinable** attribute class for more information). This explains the presence of the **MODE** field in the top left area of the pane which, in the case of the **@type** attribute, morphs into a pull-down menu due to its long list of usage variations.



- The **usage** field which indicates whether the attribute is **required**, **optional**, or **recommended** in the TEI Guidelines. The field turns red when the attribute is **required** in order to draw attention to the fact. Note that sometimes that field provides more than one value (e.g., optional AND required, or optional AND recommended, or even all three in the case of **@type**), which occurs when the attribute is used by distinct elements, some of which require it and others not. In such cases, visit the element to which the attribute is to be assigned to assess the usage status of that attribute in that element's "specific attributes" field.



- The **S/M** (single/multiple) field indicates whether the attribute accepts one, two, multiple, or an unbounded (though really finite) number of values (usually separated each by a space, an entire value or value set being inserted within a single pair of double straight quotes: `<element attribute1="value1 value2" attribute2="value">`).



- The **Datatype** field lists the data type(s) that govern the syntax or form of values accepted by the attribute for the sake of standardized processing and search protocols.



- The **attribute classes** of which the attribute is a **member**, with the addition of a general description or definition congruent with the class's own purpose.
- A field that lists **all the descriptions** the attribute has received whether in the general context of an attribute class or the more specific context of an element.
- A field that lists **all the specific values** the attribute **may, should, or ought to** be assigned according to the content of its use as either **sampled, suggested,** or made **legal** by the TEI Guidelines. Many attributes come with a predefined list of values in the Guidelines.
  - If that list comes with a status labeled **open**, then that list will be said to provide "**sample** values" to users (in many but not all cases). Users can add new values to lists declared "open".

Value List Status of  
@attachment:

open (surface)

- If that list comes with a status labeled **semi** (semi-open), then that list will be said to provide "**suggested** values" to users. Users can add new values to lists declared "semi-open" although they are encouraged to do so only if the recommended values don't fit their needs. The reason is that standardized vocabulary provides advantages for searches across documents.

Value List Status of  
@feature:

semi-open (shift)

- If that list comes with a status labeled **closed**, then that list will be said to provide "**legal** values" to users. Users are not allowed to use other values or add other values to that "legal" list.

Value List Status of  
@motivation:

closed (annotation)

- Sometimes an attribute belongs to more than one element, each with its peculiarities, and thus the attribute will come with distinct lists of values whose respective status may differ, as in the example below. In such cases the field is replaced by a pull-down menu, each line of which shows the status and, between parentheses, the element the attribute is assigned to.

Value List Status of  
@name:

closed (dataFacet)

semi-open (param)

closed (unicodeProp)

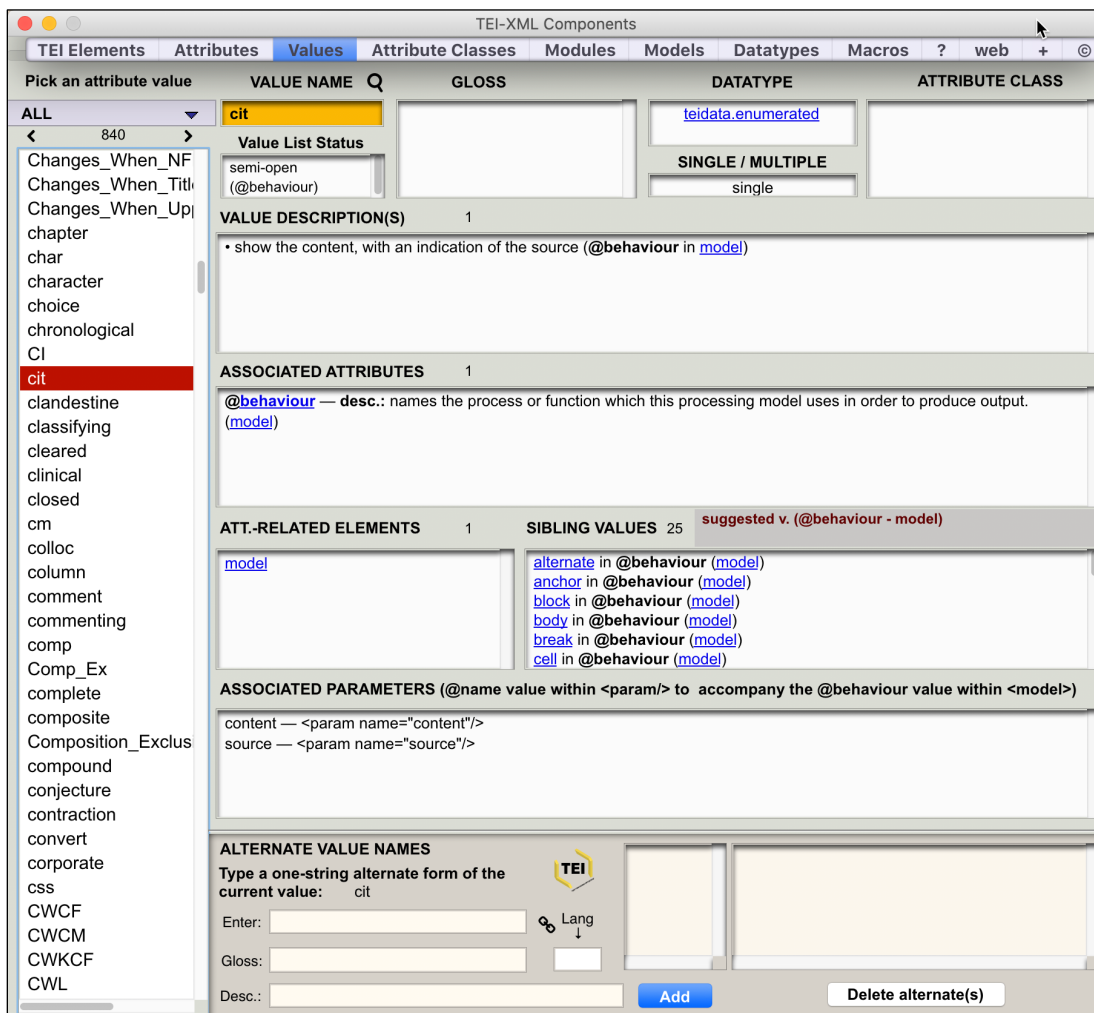
closed (unihanProp)

- Two more fields, one which lists those **elements** which may contain the attribute in question (for instance, the ubiquitous **@type** can be contained by 291 elements!), and another field which not only lists the **attribute classes** of which the attribute is a member, but provides also their respective descriptions (for instance, **@type** belongs to 3 distinct classes of attributes). Both fields are headed by a drop-down menu that helps navigate their contents in those few cases where they are abundant.

### 5. THE VALUES PANE

This pane displays the significant data related to (currently) 840 TEI values. Most are “sample” (open) or “suggested” (semi-open); only a few are required or “legal” (closed). Use the menu button and the list on the left side to navigate through the values either alphabetically or by related attributes. You may also type the name of a particular value in the orange field and either tab or press the return key.

The **Values** pane is especially helpful because nothing of the sort exists in the TEI-c.org website.



The amount of information available for any particular value varies from scant to substantial. That depends on whether a value is attached to one or more attributes, whether the Guidelines took pains to describe that value or took it to be self-evident, and whether such a value is governed by special rules or syntax.

- The value's **gloss**, usually an expansion of its abbreviation when its name consists of an abbreviation, or sometimes a disambiguation of its meaning.
- The value's **descriptions** (spelled out in the TEI Guidelines) within the field labeled **Value Description(s)**. A value may have several descriptions depending on the attributes it has been assigned. Most values are unique, however, or, if not, retain a singular meaning.
- The value's **datatype**, that is, the rules that govern its form or syntax. The **Values** pane does not provide that syntax: you need only click on the datatype indicated in the **Datatype** field to access that information clearly laid out in the **Datatypes** pane. The syntax is frequently laid out in the form of a standard-driven regular expression that can be used to submit the value to a test. "TEI-XML Components" provides a utility that can both check any type of TEI-supported value in the pane marked with a **+** sign, or help you craft such a value when its complexity would turn it into a hassle.
- The **single or multiple** status of the value: whether that value accepts just one value item or two or more. If an attribute value accepts more than one item, each must be separated from the next one with a single space.
- The field labeled **Associated Attributes** provides the list of attributes that accept the value, followed by the attribute's description.
- The field labeled **Attribute Class** lists the classes that associated attributes may belong to (not all attributes depend on attribute classes).
- The field labeled **Att.Related Elements** lists the elements to which the attributes associated with the value are assigned to (as a useful reminder).
- Very useful is the field labeled **Sibling Values**. If any particular value belongs to a list of "sample," "suggested," or "legal" values attached to a particular attribute, the other values in such a list are its "siblings". They are all listed here, followed by an indication of the attribute and element each value is associated with.
- The field labeled **Associated Parameters** is generally empty with only one exception: when the value displayed is associated with the attribute **@behaviour** assigned to the element **<model>**. The **<model>** element needs to be accompanied by a **<param>** element that spells out which parameter(s) the model is behaving in

the way it does. The **<param>** element comes with an **@name** attribute whose value (the parameter's name) is listed in the **Associated Parameters** field.

- The bottom part of the **Values** pane provides a little utility that allows users to provide synonyms or alternate names to listed values. Such synonyms might be translations of those values in other languages, or alternate lexical terms users prefer over those that are suggested by the TEI Guidelines. Alternates are not acceptable for values that are "required" and therefore "legal."

Enter the synonymous or alternate value in the first box; optionally add a gloss and a brief description; enter the language's code (using an internal utility when unsure); then click the **Add** button, and the value with its encoding will be added to an internal array that keeps track of such additions. The alternate value appears in the middle field, where it and its siblings will reappear each time you return to this value in the **Values** pane. You may remove any alternate by selecting them in the field and clicking the button **Delete alternate(s)**. You may copy the encoding by simply clicking its field.

## 6. THE ATTRIBUTE CLASSES PANE

This pane displays the significant data related to (currently) 81 TEI **attribute classes**. Use the menu button and the list on the left side to navigate through the attributes either alphabetically or by related module. You may also type the name of a particular attribute class in the orange field and either tab or press the return key.

The **Attribute Classes** pane consolidates much valuable information regarding each class. An **attribute class** groups together **elements** that share some set of common **attributes**. Names of attribute classes are composed of the prefix "att." followed by some adjective. For example, the members of the class **att.canonical** have in common a **@key** and a **@ref** attribute, both of which are inherited from their membership in the class rather than individually defined for each element. These attributes are said to be defined by (or inherited from) the **att.canonical** class. Some attribute classes are defined within the TEI infrastructure module and are thus globally available. Other attribute classes are specific to particular modules and thus defined separately.

The attributes provided by an attribute class are those specified by the class itself, either directly or by inheritance from another class. For example, the attribute class **att.pointing.group** provides attributes **@domains** and **@targFunc** to all of its members. This class is however a subclass of the **att.pointing** class, from which its members also inherit the attributes **@target**, **@targetLang** and **@evaluate**. Members of the class **att.pointing** will thus have these three attributes, while members of the class **att.pointing.group** will have all five.

The screenshot shows the TEI-XML Components web application interface. The top navigation bar includes tabs for TEI Elements, Attributes, Values, Attribute Classes (selected), Modules, Models, Datatypes, Macros, and a search icon. Below the navigation bar, there are fields for 'Pick an attribute class' (set to 'ALL'), 'ATTRIBUTE CLASS' (set to 'att.combinable'), 'MODULE' (set to 'tagdocs'), and 'MODULE GLOSS' (set to 'Documentation Elements'). The main content area is divided into several sections:

- DESCRIPTION:** provides attributes indicating how multiple references to the same object in a schema should be combined.
- MEMBER CLASSES, CLASS-RELATED ELEMENTS, AND MEMBER ELEMENTS:** 1 5
- MEMBER ATTRIBUTE CLASSES (AND SUB-CLASSES) WITH CLASS-RELATED ELEMENTS:**
  - [att.identified](#) — provides identifying attributes for elements which can be subsequently referenced by means of a @key attribute.
  - [attDef](#) (attribute definition) — desc: contains the definition of a single attribute.
  - [classSpec](#) (class specification) — desc: contains reference information for a TEI element class; that is a group of elements which appear together in content models, or which share some common attribute, or both.
  - [constraintSpec](#) (constraint on schema) — desc: contains a formal constraint, typically expressed in a rule-based schema language, to which a construct must conform in order to be considered valid
- ATTRIBUTES, CLASS-RELATED ATTRIBUTES, VALUES:** 1 1
- OTHER-CLASS-RELATED ATTRIBUTES:**
  - [att.deprecated](#) — desc.: provides attributes indicating how a deprecated feature will be treated in future releases.
  - [validUntil](#)
- CLASS ATTRIBUTES AND THEIR VALUES:**
  - [mode](#) — specifies the effect of this declaration on its parent object.
  - Datatype:** [teidata.enumerated](#) **Usage:** optional **Value list type:** closed
  - Legal Values:**
    - [add](#) — this declaration is added to the current definitions [Default]
    - [change](#) — this declaration changes the declaration of the same name in the current definition
    - [delete](#) — if present already, the whole of the declaration for this object is removed from the current setup
    - [replace](#) — this declaration replaces the declaration of the same name in the current definition
- NOTE:** An ODD processor should handle the values for mode as follows:
  - "add": the object should be created (processing any children in "add" mode); raise an error if an object with the same identifier already exists;
  - "replace": use this object in preference to any existing object with the same identifier, and ignore any children of that

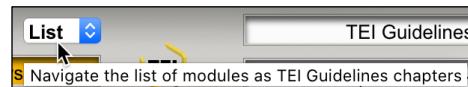
- The **Module** field identifies which TEI Module is the defining or declaring home for the selected attribute class ("tagdocs" in the illustration above). It also provides that module's **gloss** because a module's abbreviated name usually fails to be pellucid.
- The **Description** field provides the official TEI description of the purpose fulfilled by the selected attribute class.

- **The first major field** provides (1) those **subordinate attribute classes** that are governed and thus members of the selected attribute class, if any, since there exists a hierarchy of attribute classes related to their level of generality or specificity. Any such subordinate attribute class is followed by its description or definition, and the list of elements that are members of it (along with their own gloss and descriptions).
- That same first major field provides (2) **the list of elements** that are its own members along with their own glosses and descriptions.
- A **drop-down** menu indicated by three vertical red dots allows users to navigate the content of the field.
- **The second major field** provides (1) the name of other **attribute classes** related to the selected attribute class that are either parent to it or sibling to it within that parent class. For instance **att.identified** is a child of **att.combinable** and thus appears in the first major field; **att.deprecated** is a parent of **att.combinable** and therefore appears in the second major field.
- That same second major field provides (2) **the list of attributes** that are directly governed by the selected attribute class along with their descriptions, some of their properties (datatype, usage, value list status), and their list of suggested, recommended, or legal values with their respective descriptions.
- Again, a **drop-down** menu indicated by three vertical red dots allows users to navigate the content of the field.

## 7. THE MODULES PANE

This pane displays the significant data related to the 21 TEI **modules**, each of which corresponds to a chapter in the TEI Guidelines. Use the list on the left side to navigate through the modules. You may also type the name of a particular module in the orange field and either tab or press the return key.

The **List** drop-down menu lists them all in chapter order.

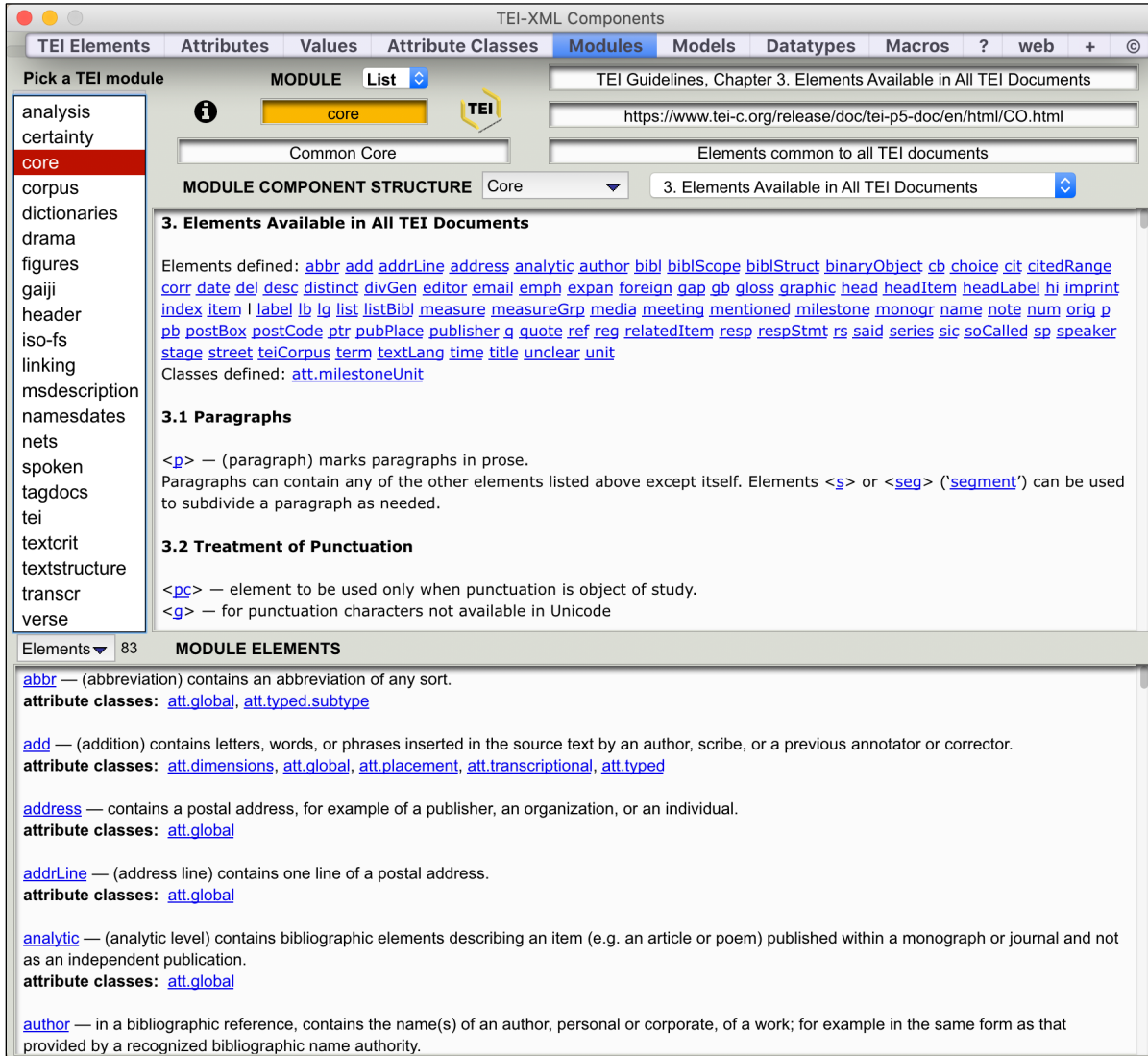


The content of the larger field at the center of the pane varies according to the module. In some cases (as in the first example below) it displays a condensed and crisper version of the TEI Guidelines chapter that discusses that module. In other cases, it displays text much closer to the TEI Guidelines chapter while enhancing various displays. Menus above that field facilitate its navigation.

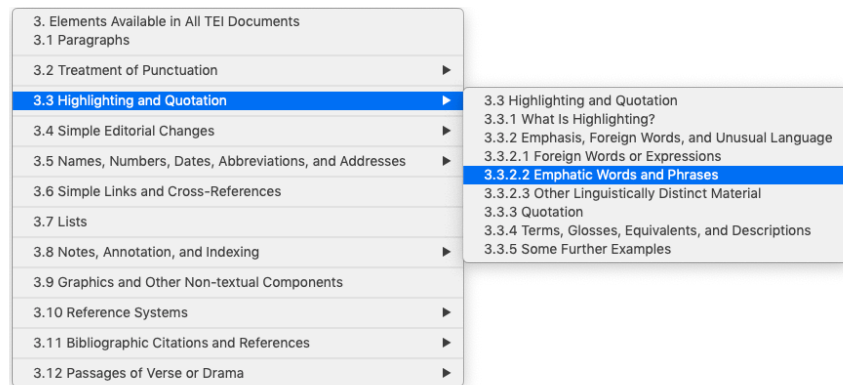
The example below shows the display for TEI's **Core** module. That module provides elements that may appear in any kind of text and the tags used to mark them in all TEI documents. Chapter 3 of the TEI Guidelines describes those elements, some of which



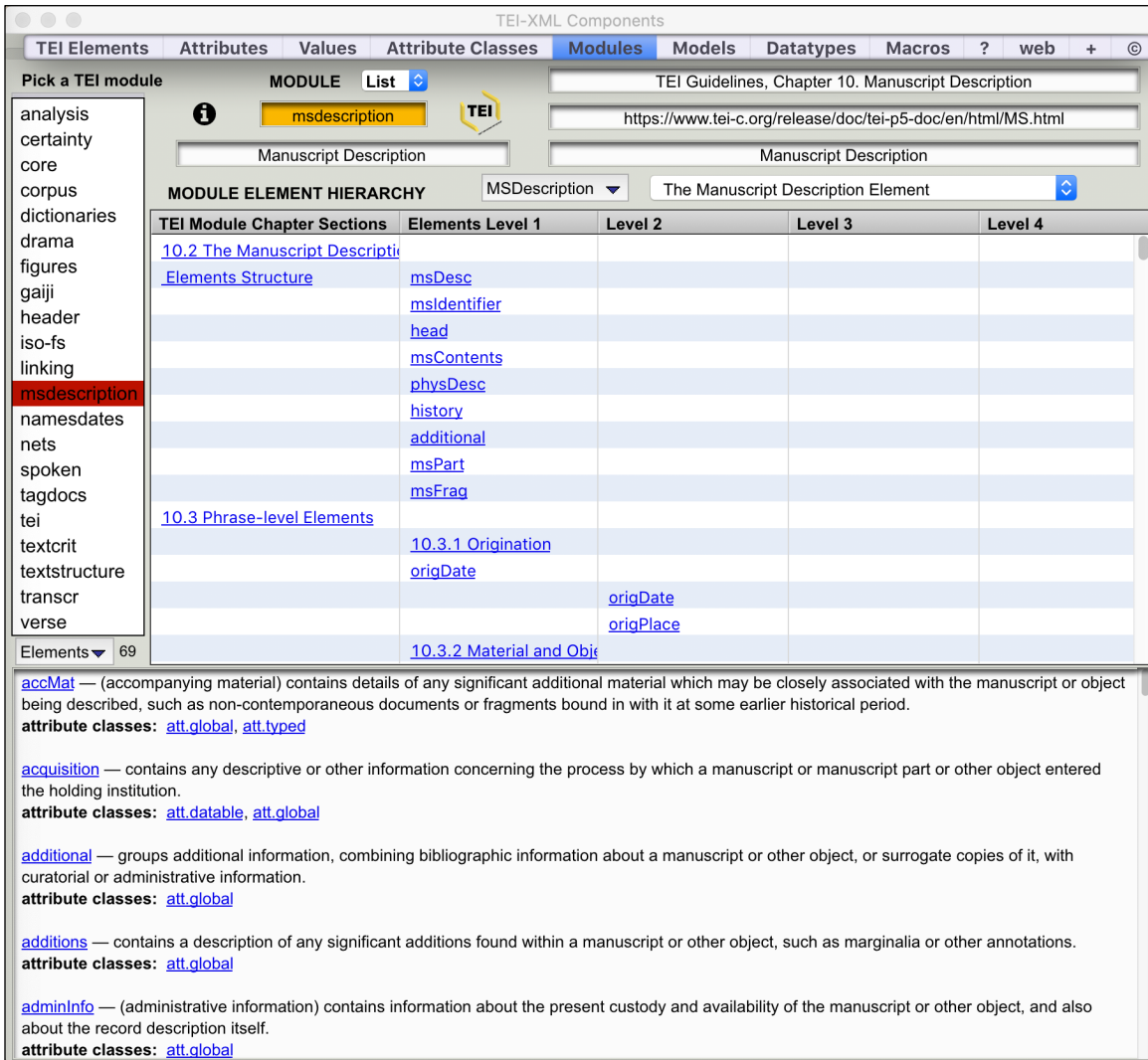
(for example, bibliographic citations and lists) have a comparatively well-defined internal structure, but most of which have no consistent inner structure of their own.



The menus display the table of contents of the full (very long) third chapter of the TEI Guidelines. The first drop-down menu, "Core," displays it with a two-level depth, while the second menu displays it in full length (to give an idea of its full structure at one glance). Selecting any section scrolls down the field directly to it.



The second example below displays in the center field a grid that provides a guide to the hierarchy of the many elements that constitute a Manuscript Description (**msdescription** module). The menus above it help navigate the list of elements with their descriptions in the bottom field according to the very structure of that module and its corresponding chapter in the TEI Guidelines. Clicking any section or subsection title in the grid instantly brings up the corresponding TEI Guidelines section in the internal web browser, which is an improvement over the TEI website’s own navigation system.



The third example below displays in the center field the complete XML structure of a TEI header. The idea is to provide a visual guide to the strict hierarchical order of a TEI header. The menus above it help navigate the structure while the menu above the bottom field helps navigate its elements in alphabetical order.



TEI-XML Components

TEI Elements | Attributes | Values | Attribute Classes | **Modules** | Models | Datatypes | Macros | ? | web

Pick a TEI module: **MODULE** List | TEI Guidelines, Chapter 2. The TEI Header

https://www.tei-c.org/release/doc/tei-p5-doc/en/html/HD.html

Common Metadata | The TEI header

**MODULE COMPONENT STRUCTURE** Header | <teiHeader>

```

<teiHeader>
  <fileDesc>
    <titleStm>
      <title>
        <!-- title of the resource -->
      </title>
    <author>
      <!-- text author's name -->
    </author>
    <editor xml:id="">
      <!-- editor's name -->
    </editor>
    <respStm xml:id="">
      <resp></resp>
      <name xml:id=""></name>
    </respStm>
  </fileDesc>
  <editionStm>
  <p>
  </p>
  </teiHeader>
  
```

Elements 72 | **MODULE ELEMENTS**

**abstract** — contains a summary or formal abstract prefixed to an existing source document by the encoder.  
**attribute classes:** [att.global](#)

**applInfo** — (application information) records information about an application which has edited the TEI file.  
**attribute classes:** [att.global](#)

**application** — provides information about an application which has acted upon the document.  
**attribute classes:** [att.dataable](#), [att.global](#), [att.typed](#)

**authority** — (release authority) supplies the name of a person or other agency responsible for making a work available, other than a publisher or distributor.  
**attribute classes:** [att.canonical](#), [att.global](#)

**availability** — supplies information about the availability of a text, for example any restrictions on its use or distribution, its copyright status, any licence applying to it, etc.  
**attribute classes:** [att.declarable](#), [att.global](#)

**biblFull** — (fully-structured bibliographic citation) contains a fully-structured bibliographic citation, in which all components of the TEI file description are



Example of how one of the menus helps navigate a TEI header.

Note that this app's developer has been developing another app entirely dedicated to the TEI header: **TEI Header Maker** is the name of that forthcoming app, which will help TEI users create (and actually understand) TEI headers far more easily than is currently possible. Below is a screenshot of one of its panes.

The screenshot shows the 'TEI Header Utility' application. The main window is titled 'TEI Header Utility' and has a menu bar with 'Create or Import TEI Header...', 'TEI Header Library...', 'Internal Save', 'My first TEI header', and 'External Save'. Below the menu bar, there are several tabs: 'File Description', 'Encoding Description', 'Text Profile', 'Xenodata', 'Revision History', 'Biblio Statements', 'MS Content', 'Support', 'Structure', 'Script', 'Additions', and 'History'. The 'Biblio Statements' tab is active, showing a 'Title' section with 'WHAT IS MEANT BY "SERIES" IN THE TEI GUIDELINES'. Below this, there is a 'Series statement' section with radio buttons for 'Structured', 'Prose description', and 'Text kind' (selected as 'series'). The 'Main title' is 'Writings of Charles S. Peirce', 'Subtitle' is 'A Chronological Edition', and 'Altern. title' is 'écrits de Charles S. Peirce: une édition chronologique'. The 'Lang' is 'fr'. The 'Bibliographic scope' section includes 'Vol. #: 10', 'Issue #: 2', and 'pp: 78-789'. The 'Standard Identifier' section shows 'ISBN 978-0-253-37208-8'. The 'Intellectual responsibilities' section lists 'André De Tienne' as 'General Editor' and 'April Witt' as 'Textual Editor'. The right pane displays the XML code for the series statement, including title, idno, respStmt, and name elements.

## 8. THE MODELS PANE

This pane displays the significant data related to the 124 TEI **model classes**. Use the list on the left side to navigate through the models alphabetically. You may also type the name of particular model in the orange field and either tab or press the return key. The content of the larger field at the center of the pane varies according to the module. Note how the **Child Models** field displays their inner hierarchy.

A TEI model class contains member elements that can (usually) all appear in the same location within a document. The content model of a TEI element is generally expressed not directly in terms of specific elements, but indirectly in terms of particular model classes. Like attribute classes, model classes may have subclasses or superclasses. Just as elements inherit from a class the ability to appear in certain locations of a document

(wherever the class can appear), so all members of a subclass inherit the ability to appear wherever any superclass can appear.

If a model class has a name containing “part,” such as **model.divPart** or **model.biblPart**, then it is primarily defined in terms of its structural location. For example, those elements (or classes of elements) which appear as content of a “div” constitute the **model.divPart** class; those which appear as content of a “bibl” constitute the **model.biblPart** class. If, however, a model class has a name containing “like,” such as **model.biblLike** or **model.nameLike**, the implication is that its members all have some additional semantic property in common, e.g., containing a bibliographic description or containing some form of name.

The screenshot shows the 'TEI-XML Components' web application interface. The 'Models' tab is active, and the 'phrase' model class is selected. The interface is divided into several sections:

- MODEL NAME:** phrase
- MODULE:** tei
- MODULE GLOSS:** The TEI Infrastructure
- DESCRIPTION:** groups elements which can occur at the level of individual words or phrases. [1.3 The TEI Class System]
- CHILD MODELS:** A list of child models including model.phrase.children, model.segLike, model.highlighted, model.hiLike, model.emphLike, model.graphicLike, model.pPart.msdesc, model.pPart.edit, model.pPart.editorial, model.pPart.transcriptional, model.ptrLike, model.lPart, model.phrase.xml, model.specDescLike, model.pPart.data, model.dateLike, model.measureLike, model.addressLike, model.nameLike, and model.nameLike.agent.
- MODEL & SUBMODEL ELEMENTS:** A list of elements including ruby, seg, s, cl, phr, w, m, c, pc, model.hiLike elements (hi, g), and model.emphLike elements (foreign, emph).
- MACROS:** macro\_paraContent, macro\_phraseSeg, and macro\_specialPara.
- SEQUENCE:** model.segLike | model.highlighted | model.graphicLike | model.pPart.msdesc |
- SEQ. OPTIONAL:** 0 or 1 time, Regular expression: ?
- OPTIONAL REPEATABLE:** 0 or more times, Regular expression: \*
- REPEATABLE:** one or more times, Regular expression: +
- PARENT MODELS:** 0
- AND PARENT ELEMENTS:** 23
- PARENT ELEMENTS:**
  - byline** — desc.: (byline) contains the primary statement of responsibility given for a work on its title page or at the head or end of the work.
  - castItem** — desc.: (cast list item) contains a single entry within a cast list, describing either a single role or a list of non-speaking roles.
  - closer** — desc.: (closer) groups together salutations, datelines, and similar phrases appearing as a final group at the end of a division, especially of a letter.
  - date** — desc.: (date) contains a date in any format.

The hierarchical visualization of model classes displayed in the example above (under **Child Models**) is a clear improvement over the linear display of bracketed items on the TEI website. As everywhere else in the app, clicking any link brings users instantly to the related pane and fields with related data and explanations.

## 9. THE DATATYPES PANE

This pane displays the significant data related to the (currently) 34 TEI **datatypes** (prefixed with "teidata."). Use the list on the left side to navigate through the datatypes. You may also type the name of a particular datatype in the orange field and either tab or press the return key.

The screenshot shows the 'Datatypes' pane in the TEI-XML Components application. The interface includes a top navigation bar with tabs for 'TEI Elements', 'Attributes', 'Values', 'Attribute Classes', 'Modules', 'Models', 'Datatypes', 'Macros', '?', 'web', '+', and '©'. Below the navigation bar, there are fields for 'Pick a TEIdata set' (showing 'ALPHABET TEIDATA') and 'TEIDATA NAME' (showing 'teidata.temporal.w3c'). A 'MODULE' field contains 'tei'. The main content area is divided into several sections: 'TEIDATA DESCRIPTION' (describing temporal expressions), 'PARENT ELEMENTS' (empty), 'ASSOCIATED ATTRIBUTE CLASSES' (1 class: 'att\_datable.w3c'), and 'ASSOCIATED ELEMENTS' (2 elements: 'docDate' and 'when'). Below these are sections for 'DECLARATION: COMPACT SYNTAX' (listing supported XSD datatypes), 'DECLARATION: XML SYNTAX' (XML schema code for the datatype), and 'CONTENT MODEL' (XML schema code for the content). A left sidebar lists 34 datatypes, with 'temporal.w3c' highlighted in red.

As a type of macros, datatypes are shortcut names for frequently occurring parts of other TEI declarations. The VALUES which attributes may take in a TEI schema are defined, for the most part, by reference to a TEI datatype specification. Each such specification is defined in terms of other primitive datatypes, derived mostly from W3C Schema Datatypes, literal values, or other datatypes. This indirect process makes it possible for a TEI application to set constraints either globally or in individual cases, by redefining the datatype definition or the reference to it respectively.

- Each datatype is defined in the **TEIDATA Description** field, usually along with an extra explanatory note (NB).
- The **Parent Elements** field is populated with elements only in the case of the **teidata.name** datatype; it is otherwise empty.
- Attribute classes that are governed by the selected datatype are listed in the **Associated Attribute Classes** field (which comes with a drop-down menu to help navigate it). Each entry provides the attribute class's brief description along with the particular attribute(s) within it that is affected by the datatype.
- Elements that have attributes governed by the selected datatype are listed in the **Associated Elements** field (which also comes with a drop-down menu to help navigate it). Each entry provides the element's brief description along with the particular attribute assigned to it that is affected by the datatype.
- The **Compact Syntax** field declares how to format the value of attributes falling within the selected datatype constraint. It consists either of the name of XML Schema Definitions (**xsd**) standardized by the W3C consortium, or of regular expressions. In the case of xsd definitions, users have only to hover above the xsd name to display a special tooltip that summarizes the related xsd format constraints, as shown below.

<p><b>desc.:</b> provides attributes and aspects of the hand in which written.</p> <p><b>attribute:</b> <a href="#">script</a></p> <ul style="list-style-type: none"> <li>• <a href="#">att.identified</a></li> </ul> <p><b>desc.:</b> provides the identifiers of elements which can be subsequently referenced by means of a @</p> <p><b>attribute:</b> <a href="#">ident</a></p> <p><b>DECLARATION: COMPACT</b></p> <p>teidata.name = xsd&gt;Name</p>	<p>The type <b>xsd&gt;Name</b> represents an XML name, which can be used as an element-type name or attribute name, among other things. Specifically, this means that values must start with a letter, underscore(_), or colon (:), and may contain only letters, digits, underscores (_), colons (:), hyphens (-), and periods (.). Colons should only be used to separate namespace prefixes from local names.</p>
--	--

- Both the **XML Syntax** field and the **Content Model** field provide similar information in less compact form, one according to the Relax NG XML schema standard, and the



other according to the TEI XML schema format. Here is another example related to the **teidata.temporal.w3c** format.

DECLARATION: COMPACT SYNTAX	
teidata.temporal.w3c = xsd:date   xsd:gYear   xsd:gMonth   xsd:gDay   xsd:gYearMonth   xsd:gMonthDay   xsd:time   xsd:dateTime	
DECLARATION: XML SYNTAX	CONTENT MODEL
<pre>&lt;rng:define name="teidata.temporal.w3c"&gt;   &lt;rng:choice&gt;     &lt;rng:data type="date" /&gt;     &lt;rng:data type="gYear" /&gt;     &lt;rng:data type="gMonth" /&gt;     &lt;rng:data type="gDay" /&gt;     &lt;rng:data type="gYearMonth" /&gt;     &lt;rng:data type="gMonthDay" /&gt;     &lt;rng:data type="time" /&gt;     &lt;rng:data type="dateTime" /&gt;   &lt;/rng:choice&gt; &lt;/rng:define&gt;</pre>	<pre>&lt;content&gt;   &lt;alternate&gt;     &lt;dataRef name="date"/&gt;     &lt;dataRef name="gYear"/&gt;     &lt;dataRef name="gMonth"/&gt;     &lt;dataRef name="gDay"/&gt;     &lt;dataRef name="gYearMonth"/&gt;     &lt;dataRef name="gMonthDay"/&gt;     &lt;dataRef name="time"/&gt;     &lt;dataRef name="dateTime"/&gt;   &lt;/alternate&gt; &lt;/content&gt;</pre>

And here is another example showing a simple regular expression related to the **teidata-duration.iso** format.

DECLARATION: COMPACT SYNTAX	
teidata.duration.iso = token { pattern = "[0-9.,DHMPRSTWYZ/:\-]+" }	
DECLARATION: XML SYNTAX	CONTENT MODEL
<pre>&lt;rng:define name="teidata.duration.iso"&gt;   &lt;rng:data type="token"&gt;     &lt;rng:param name="pattern"&gt;[0-9.,DHMPRSTWYZ/:\-]+   &lt;/rng:data&gt; &lt;/rng:define&gt;</pre>	<pre>&lt;content&gt;   &lt;dataRef name="token" restriction="[0-9.,DHMPRSTWYZ/:\-]+" /&gt; &lt;/content&gt;</pre>

## 10. THE MACROS PANE

This pane displays the significant data related to the 6 TEI **macros** (prefixed with “macro.”). Use the short list on the left side to navigate through the macros. You may also type the name of a particular macro in the orange field and either tab or press the return key.

The screenshot shows the TEI-XML Components application window. The 'Macros' tab is selected in the top navigation bar. The main pane is divided into several sections:

- Pick a TEI Macro:** A list on the left includes 'limitedContent', 'paraContent', 'phraseSeq.limited', 'phraseSeq' (highlighted in red), 'specialPara', and 'xtext'.
- MACRO NAME:** 'macro.phraseSeq' is entered in an orange field.
- MODULE:** 'tei' is entered in a white field.
- MACRO DESCRIPTION:** A text area containing: "(phrase sequence) defines a sequence of character data and phrase-level elements. [1.4.1 Standard Content Models]".
- PARENT ELEMENTS:** A list of 86 elements, including 'abbr', 'actor', 'addName', 'addrLine', 'affiliation', and 'author', each with a brief description.
- DECLARATION: COMPACT SYNTAX:** A text area showing: 'macro.phraseSeq = ( text | model.gLike | model.attributable | model.phrase | model.global ) \*'
- DECLARATION: XML SYNTAX:** A text area showing the XML schema definition for the macro.
- CONTENT MODEL:** A text area showing the content model for the macro.

Macros are shortcut names for frequently occurring parts of other TEI declarations. Macros are used in two ways in the TEI schema:

(a) to stand for frequently encountered **content models** or **parts of content models** as shown in this **Macros** pane; and

(b) to stand for attribute datatypes, all displayed under the previous tab **Datatypes** pane.

As far as possible, the TEI schemas use the six macros displayable in this pane, each a set of frequently encountered content models, to help achieve consistency among different elements.

The layout of this pane is similar to the **Datatypes** pane since they fulfill the same kind of mission.

- All elements that are governed by the selected macro are displayed along with their descriptions in the **Parent Elements** field, which comes with a drop-down menu to help navigate its content.
- The three **Declaration** fields show in compact form, in Relax NG form, and in TEI XML form what are the content models the selected macro brings together under its umbrella. Visiting those content models requires a simple click on each one.

## 11. THE QUESTION MARK (?) PANE

This pane helps provide answers to two distinct questions:

- (1) what are the TEI XML components that are related to a particular concept, term, phrase, idea, or activity?
- (2) Is it possible for a particular tag element you want to use to contain an iteration of itself within itself?

The screenshot shows a window titled "TEI-XML Components" with a menu bar containing "TEI Elements", "Attributes", "Values", "Attribute Classes", "Modules", "Models", "Datatypes", "Macros", "?", "web", "+", and "©". The search bar contains the text "transc". Below the search bar, there are radio buttons for "Case Sensitive", "Exact Match", "Separate Words", and "Continuous String". A "Search Database" button is visible, along with the number "55" and a "Search Results" dropdown menu. The search results are displayed in a list format:

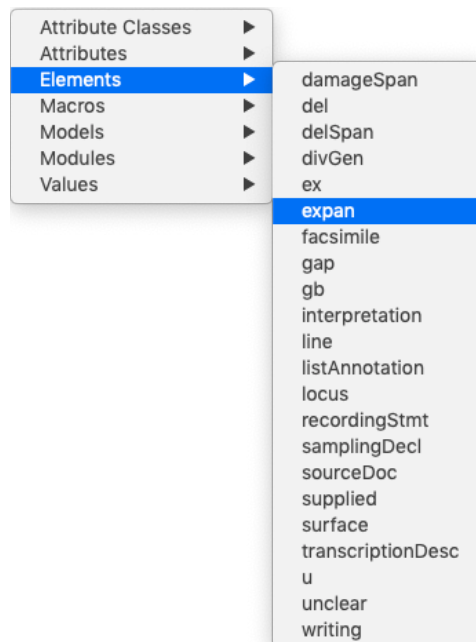
- **attClass** [att.transcriptional](#): provides attributes specific to elements encoding authorial or scribal intervention in a text when **transcribing** manuscript or similar sources.
- **attClass** [att.written](#): provides attributes to indicate the hand in which the content of an element was written in the source being **transcribed**.
- **attribute** [resp](#): To reduce the ambiguity of a **@resp** pointing directly to a person or organization, we recommend that **@resp** be used to point not to an agent ([person](#) or [org](#)) but to a [respStrmt](#), [author](#), [editor](#) or similar element which clarifies the exact role played by the agent. Pointing to multiple [respStrmts](#) allows the encoder to specify clearly each of the roles played in part of a TEI file (creating, **transcribing**, encoding, editing, proofing etc.).
- **attribute** [resp](#): indicates the agency responsible for the intervention or interpretation, for example an editor or **transcriber**.
- **attribute** [start](#): indicates the element within a **transcription** of the text containing at least the start of the writing represented by this zone or surface.
- **attribute** [who](#): For **transcribed** speech, this will typically identify a participant or participant group; in other contexts, it will point to any identified [person](#) element.
- **attribute** [wit](#): If the apparatus contains readings only for a single witness, this attribute may be consistently omitted. This attribute may occur both within an apparatus gathering variant readings in the **transcription** of an individual witness and within an apparatus gathering readings from different witnesses. Additional descriptions or alternative versions of the sigla referenced may be supplied as the content of a child [wit](#) element.
- **element** [damageSpan](#): Both the beginning and ending of the damaged sequence must be marked: the beginning by the [damageSpan](#) element, the ending by the target of the **@spanTo** attribute: if no other element available, the [anchor](#) element may be used for this purpose. The damaged text must be at least partially legible, in order for the encoder to be able to **transcribe** it. If it is not legible at all, the [damageSpan](#) element should not be used. Rather, the [gap](#) or [unclear](#) element should be employed, with the value of the **@reason** attribute giving the cause. See further sections "#PHDA" and "#PHCOMB".
- **element** [del](#): This element should be used for deletion of shorter sequences of text, typically single words or phrases. The [delSpan](#) element should be used for longer sequences of text, for those containing structural subdivisions, and for those containing overlapping additions and deletions. The text deleted must be at least partially legible in order for the encoder to be able to **transcribe** it (unless it is restored in a [supplied](#) tag). Illegible or lost text within a deletion may be marked using the [gap](#) tag to signal that text is present but has not been **transcribed**, or is no longer visible. Attributes on the



## 11.1 Search

The above illustration shows the top two thirds of the pane, dedicated to the searches related to Question 1. Using it is very easy.

- Type a string or a word or a phrase within the orange box.
- To narrow down your search, you may constrain it with the radio buttons: **Case Sensitive** and/or **Exact Match**, and if the latter is highlighted and your search includes more than one word or string, indicate whether those words should be searched as a single phrase ("Continuous String") or as separate, non-sequential words ("Separate Words"). Generally, though, it is best not to constrain the search in any way for greater search success.
- Click the **Search Database** button (or just tab out of the orange box).
- The search will be very fast, but the display of its results, which requires sophisticated data cleanup and formatting, may take a second or two if the number of hits is high.
- Results are displayed in the main greenish field in **alphabetical order of components**. Component types are red, followed by the component's name (underlined in blue: they are all clickable links), and followed by those components' descriptions. The fact is that the search over components is entirely based on the names of components and on the content of their descriptions. The app searches across the entire set of those descriptions whenever the **Search Database** button is clicked.
- Search results are also displayed in the **Search Results** drop-down menu, within which they are arranged by component category, as shown below.



## 11.2 Element Hierarchy

The illustration below shows the bottom part of the **Question Mark (?)** pane, dedicated to answering Question 2. Using it is equally simple.

Check whether the following ELEMENT can contain itself directly (as a child element of itself) or not: List of Elements ▾ note Check element

Yes, <note> may be a child of itself.

Click [here](#) to see which elements <note> may contain, and which ones may contain it.

- Choose the element you want to inquire about in the **List of Elements** drop-down menu (or type it in the orange box and tab away).
- The app will instantly answer your question, as shown above and below.

Check whether the following ELEMENT can contain itself directly (as a child element of itself) or not: List of Elements ▾ listRef Check element

No, <listRef> may not be a child of itself; however, it can be a grandchild of itself when contained within one of the following elements, each of which can both contain <listRef> and be contained by <listRef>: <desc>, <ref>

Click [here](#) to see which elements <listRef> may contain, and which ones may contain it.

Check whether the following ELEMENT can contain itself directly (as a child element of itself) or not: List of Elements ▾ handNote Check element

No, <handNote> may not be a child of itself, nor can it be a grandchild of itself.

Click [here](#) to see which elements <handNote> may contain, and which ones may contain it.

- In all cases, clicking the [here](#) linked word brings users to the element within the **TEI Elements** pane.

## 12. THE WEB PANE

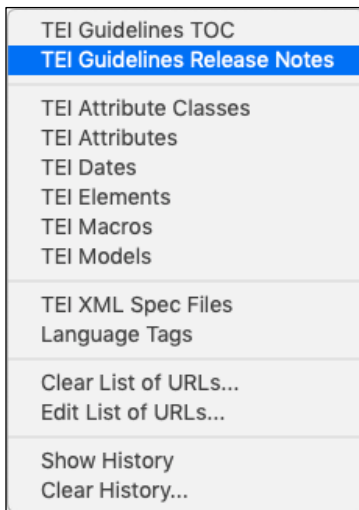
As explained earlier, the TEI-XML Components app comes with its own internal browser (Mac OS and Windows only, **not Linux**). Clicking the **web** tab is all it takes to reach that browser. It works like any other browser, but it has been specially configured to privilege access to the tei-c.org website (already shown pp. 6–7 in this user guide).



The buttons displayed here allow you (1) to backtrack to an earlier webpage; (2) to advance to a subsequent webpage; (3) to add (+) the current webpage path to the

drop-down menu; (4) to select a particular webpage in the drop-down menu (▼); and (5) to look at the HTML source of the webpage in a separate field overlaid above the browser. Right-click that field either to search it or to prettify its encoding.

Here is an image of the default browser menu, which shows links to vital parts of the TEI-c.org website (**on Linux**, selecting any item launches the computer's own web browser instead):



The content of this menu is editable through the menu command "**Edit List of URLs...**" Separator lines are created simply by typing a hyphen on its own line within the field that is displayed in the dialog called up by the command. The **Clear List of URLs...** command includes the option of resetting the menu to its default.

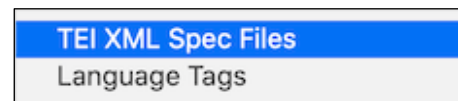
Custom-added URLs may also be deleted by option-clicking them in the drop-down menu.

Use the **Show History** command to view and edit the list of visited URLs. Click **Clear History...** to delete them all.

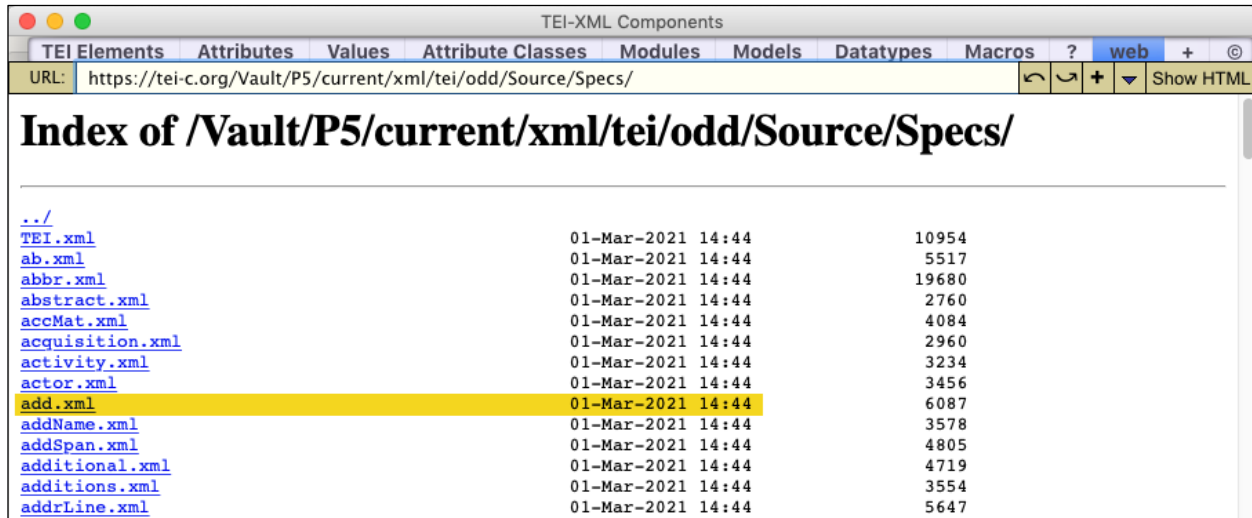
Users who click the TEI SVG icon displayed in most panes throughout the app will be brought to the **web** pane instantly, looking at the relevant TEI webpage or section thereof. A number of other links within textual descriptions connect to online resources that will also be displayed instantly in the browser. This internal browser is therefore a powerful link between app users, app content, and the TEI-c.org website, which is full of resources not discussed in this app. This app, for instance, is focused on the TEI XML components, and is not concerned by XML schemas, ODD files, and XSLT transformations, information about all of which (and much else) is found on the TEI website.

## 12.1 Using the Browser to Examine TEI-XML Specification Documentation

If you need to access TEI's XML documents that specify all the properties attached to distinct TEI components, select the **TEI XML Spec Files** command in the drop-down menu.

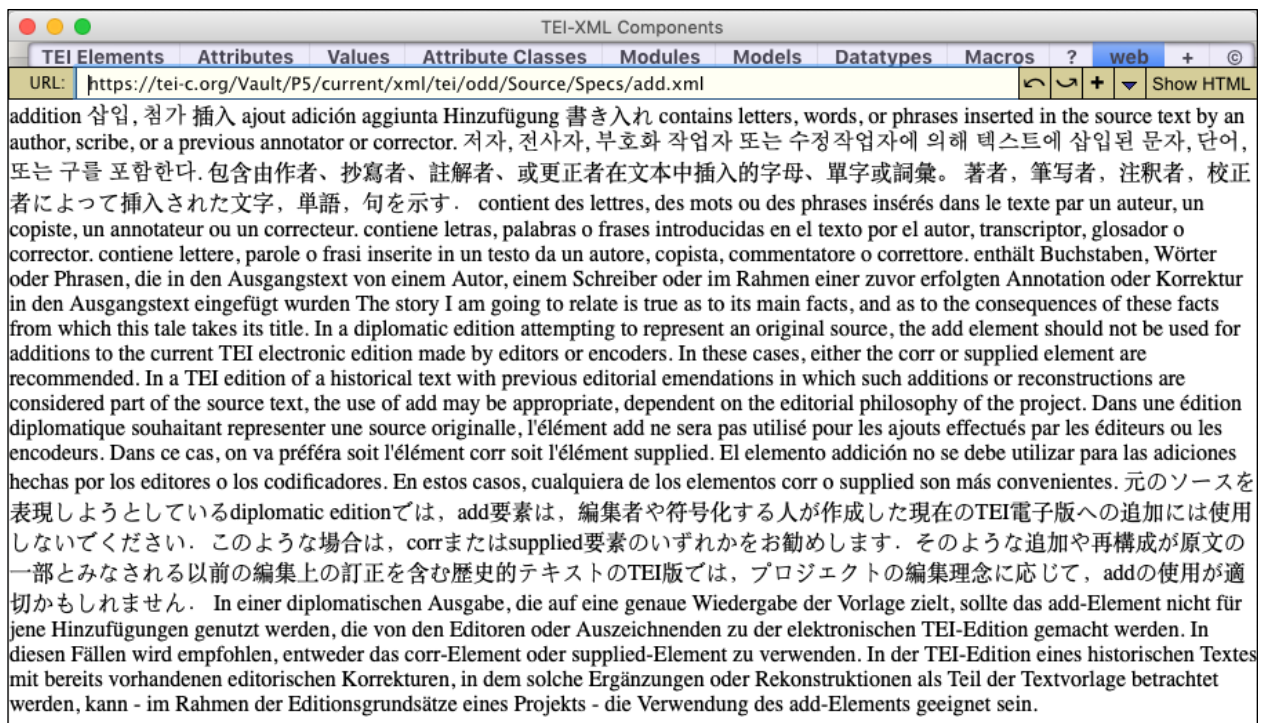


A list of all such available XML files will be displayed, as shown below. Say you want to examine the **add.xml** file, which provides the properties attached to the **<add>** element. You click the corresponding ninth link in the list.



File Name	Date	Size
../		
<a href="#">TEI.xml</a>	01-Mar-2021 14:44	10954
<a href="#">ab.xml</a>	01-Mar-2021 14:44	5517
<a href="#">abbr.xml</a>	01-Mar-2021 14:44	19680
<a href="#">abstract.xml</a>	01-Mar-2021 14:44	2760
<a href="#">accMat.xml</a>	01-Mar-2021 14:44	4084
<a href="#">acquisition.xml</a>	01-Mar-2021 14:44	2960
<a href="#">activity.xml</a>	01-Mar-2021 14:44	3234
<a href="#">actor.xml</a>	01-Mar-2021 14:44	3456
<a href="#">add.xml</a>	01-Mar-2021 14:44	6087
<a href="#">addName.xml</a>	01-Mar-2021 14:44	3578
<a href="#">addSpan.xml</a>	01-Mar-2021 14:44	4805
<a href="#">additional.xml</a>	01-Mar-2021 14:44	4719
<a href="#">additions.xml</a>	01-Mar-2021 14:44	3554
<a href="#">addrLine.xml</a>	01-Mar-2021 14:44	5647

Clicking the [add.xml](#) link then displays the gibberish below.



addition 삽입, 첨가 插入 ajout adición aggiunta Hinzufügung 書き入れ contains letters, words, or phrases inserted in the source text by an author, scribe, or a previous annotator or corrector. 저자, 전사자, 부호화 작업자 또는 수정작업자에 의해 텍스트에 삽입된 문자, 단어, 또는 구를 포함한다. 包含由作者、抄寫者、註解者、或更正者在文本中插入的字母、單字或詞彙。著者、筆写者、注釈者、校正者によって挿入された文字、単語、句を示す. contient des lettres, des mots ou des phrases insérés dans le texte par un auteur, un copiste, un annotateur ou un correcteur. contiene letras, palabras o frases introducidas en el texto por el autor, transcriptor, glosador o corrector. contiene lettere, parole o frasi inserite in un testo da un autore, copista, commentatore o correttore. enthält Buchstaben, Wörter oder Phrasen, die in den Ausgangstext von einem Autor, einem Schreiber oder im Rahmen einer zuvor erfolgten Annotation oder Korrektur in den Ausgangstext eingefügt wurden The story I am going to relate is true as to its main facts, and as to the consequences of these facts from which this tale takes its title. In a diplomatic edition attempting to represent an original source, the add element should not be used for additions to the current TEI electronic edition made by editors or encoders. In these cases, either the corr or supplied element are recommended. In a TEI edition of a historical text with previous editorial emendations in which such additions or reconstructions are considered part of the source text, the use of add may be appropriate, dependent on the editorial philosophy of the project. Dans une édition diplomatique souhaitant représenter une source originale, l'élément add ne sera pas utilisé pour les ajouts effectués par les éditeurs ou les encodeurs. Dans ce cas, on va préférer soit l'élément corr soit l'élément supplied. El elemento adición no se debe utilizar para las adiciones hechas por los editores o los codificadores. En estos casos, cualquiera de los elementos corr o supplied son más convenientes. 元のソースを表現しようとしている diplomatic edition では、add 要素は、編集者や符号化する人が作成した現在の TEI 電子版への追加には使用しないでください。このような場合は、corr または supplied 要素のいずれかをお勧めします。そのような追加や再構成が原文の一部とみなされる以前の編集上の訂正を含む歴史的テキストの TEI 版では、プロジェクトの編集理念に応じて、add の使用が適切かもしれません。 In einer diplomatischen Ausgabe, die auf eine genaue Wiedergabe der Vorlage zielt, sollte das add-Element nicht für jene Hinzufügungen genutzt werden, die von den Editoren oder Auszeichnenden zu der elektronischen TEI-Edition gemacht werden. In diesen Fällen wird empfohlen, entweder das corr-Element oder supplied-Element zu verwenden. In der TEI-Edition eines historischen Textes mit bereits vorhandenen editorischen Korrekturen, in dem solche Ergänzungen oder Rekonstruktionen als Teil der Textvorlage betrachtet werden, kann - im Rahmen der Editionsgrundsätze eines Projekts - die Verwendung des add-Elements geeignet sein.

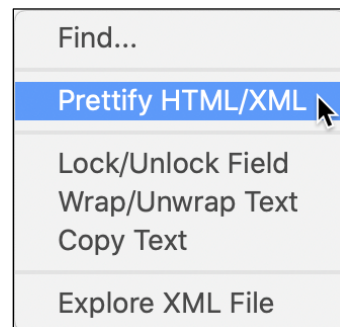
What you want to do is look at the XML directly. For this click the **Show HTML** button. This has the effect of displaying the XML file itself.

Show HTML

```

<elementSpec xmlns="http://www.tei-c.org/ns/1.0" xmlns:rng="http://relaxng.org/ns/structure/1.0" module="core" id="add">
  <gloss versionDate="2005-01-14" xml:lang="en">addition</gloss>
  <gloss versionDate="2007-12-20" xml:lang="ko">삽입, 첨가</gloss>
  <gloss versionDate="2007-05-02" xml:lang="zh-TW">插入</gloss>
  <gloss versionDate="2009-01-06" xml:lang="fr">ajout</gloss>
  <gloss versionDate="2007-05-04" xml:lang="es">adición</gloss>
  <gloss versionDate="2007-01-21" xml:lang="it">aggiunta</gloss>
  <gloss versionDate="2016-11-24" xml:lang="de">Hinzufügung</gloss>
  <gloss versionDate="2018-12-20" xml:lang="ja">書き入れ</gloss>
  <desc versionDate="2013-04-13" xml:lang="en">contains letters, words, or phrases inserted in the source
  text by an author, scribe, or a previous annotator or corrector.</desc>
  <desc versionDate="2007-12-20" xml:lang="ko">저자, 전사자, 부호화 작업자 또는 수정작업자에 의해 텍스트에 삽입된 문자, 단어, 또는 구를 포함한다.</desc>
  <desc versionDate="2007-05-02" xml:lang="zh-TW">包含由作者、抄寫者、註解者、或更正者在文本中插入的字母、單字或詞彙.</desc>
  <desc versionDate="2018-12-20" xml:lang="ja">著者、筆写者、注釈者、校正者によって挿入された文字、単語、句を示す.</desc>
  <desc versionDate="2009-01-06" xml:lang="fr">contient des lettres,
  des mots ou des phrases insérés dans le texte par un auteur, un
  copiste, un annotateur ou un correcteur.</desc>
  <desc versionDate="2007-05-04" xml:lang="es">contiene letras,
  palabras o frases introducidas en el texto por el autor,
  transcriptor, glosador o corrector.</desc>
  <desc versionDate="2007-01-21" xml:lang="it">contiene lettere,
  parole o frasi inserite in un testo da un autore, copista,
  commentatore o correttore.</desc>
  <desc versionDate="2016-11-24" xml:lang="de">
  enthält Buchstaben, Wörter oder Phrasen, die in den Ausgangstext von einem Autor, einem Schreiber oder im
  Rahmen einer zuvor erfolgten Annotation oder Korrektur in den Ausgangstext eingefügt wurden
  </desc>
  <classes>
  <memberOf key="att.global"/>
  <memberOf key="model.pPart.transcriptional"/>
  <memberOf key="model.linePart"/>
  <memberOf key="att.transcriptional"/>
  <memberOf key="att.placement"/>
  <memberOf key="att.typed"/>
  <memberOf key="att.dimensions"/>
  </classes>
  <content>
  <macroRef key="macro.paraContent"/>
  </content>
  <exemplum xml:lang="en">
  <egXML xmlns="http://www.tei-c.org/ns/Examples" source="#COEDADD-eg-84">The story I am
  going to relate is true as to its main facts, and as to the
  consequences <add place="above">of these facts</add> from which
  this tale takes its title.</egXML>
  </exemplum>
  <remarks versionDate="2013-06-20" xml:lang="en">
  <p>In a diplomatic edition attempting to represent an original
  source, the <gi>add</gi> element should not be used for additions
  to the current TEI electronic edition made by editors or encoders.
  In these cases, either the <gi>corr</gi> or <gi>supplied</gi>
  
```

To improve that file's legibility, RIGHT-CLICK the field. A pop-up menu appears. Select the command **Prettify HTML/XML**.



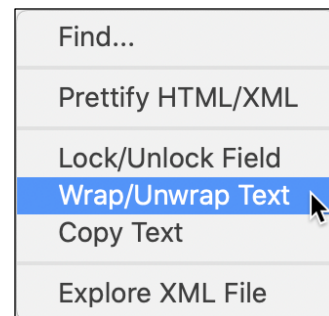


```

<desc versionDate="2007-01-21" xml:lang="it">contiene lettere, parole o frasi inserite in un testo da un autore, copista, commentatore o correttore.</d>
<desc versionDate="2016-11-24" xml:lang="de">enthält Buchstaben, Wörter oder Phrasen, die in den Ausgangstext von einem Autor, einem Schreibe
<classes>
  <memberOf key="att.global"/>
  <memberOf key="model.pPart.transcriptional"/>
  <memberOf key="model.linePart"/>
  <memberOf key="att.transcriptional"/>
  <memberOf key="att.placement"/>
  <memberOf key="att.typed"/>
  <memberOf key="att.dimensions"/>
</classes>
<content>
  <macroRef key="macro.paraContent"/>
</content>
<exemplum xml:lang="en">
  <egXML xmlns="http://www.tei-c.org/ns/Examples" source="#COEDADD-eg-84">The story I am going to relate is true as to its main facts, and as
  <add place="above">of these facts</add> from which this tale takes its title.
  </egXML>
</exemplum>
<remarks versionDate="2013-06-20" xml:lang="en">
  <p>In a diplomatic edition attempting to represent an original source, the
  <gi>add</gi> element should not be used for additions to the current TEI electronic edition made by editors or encoders. In these cases, eithe
  <gi>corr</gi> or
  <gi>supplied</gi> element are recommended.
  </p>
  <p>In a TEI edition of a historical text with previous editorial emendations in which such additions or reconstructions are considered part of the sou
  <gi>add</gi> may be appropriate, dependent on the editorial philosophy of the project.
  </p>
</remarks>
<remarks xml:lang="fr" versionDate="2007-06-12">
  <p>Dans une édition diplomatique souhaitant représenter une source originale, l'élément
  <gi>add</gi> ne sera pas utilisé pour les ajouts effectués par les éditeurs ou les encodeurs. Dans ce cas, on va préférer soit l'élément
  <gi>corr</gi> soit l'élément
  <gi>supplied</gi>.
  </p>
</remarks>
<remarks xml:lang="es" versionDate="2008-04-06">
  <p>El elemento
  <gi>adición</gi> no se debe utilizar para las adiciones hechas por los editores o los codificadores. En estos casos, cualquiera de los elemer
  <gi>corr</gi> o
  <gi>supplied</gi> son más convenientes.
  </p>
</remarks>
<remarks xml:lang="ja" versionDate="2018-12-20">
  <p>元のソースを表現しようとしているdiplomatic editionでは、
  <gi>add</gi>要素は、編集者や符号化する人が作成した現在のTEI電子版への追加には使用しないでください。このような場合は、
  <gi>corr</gi>または
  <gi>supplied</gi>要素のいずれかをお勧めします。そのような追加や再構成が原文の一部とみなされる以前の編集上の訂正を含む歴史的テキ
  <gi>add</gi>の使用が適切かもしれません。
  </p>

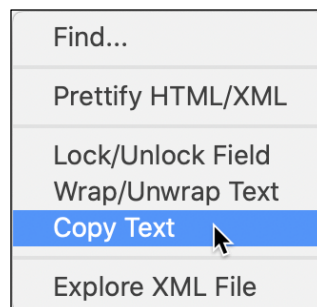
```

If you wish to see the entire text without scrolling left to right, right-click the field and choose the **Wrap/Unwrap Text** command in the pop-up menu. This will wrap the text within the field's confines.

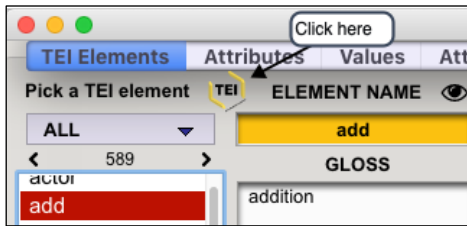


The screenshot shows a web browser window titled "TEI-XML Components" with the URL `https://tei-c.org/Vault/P5/current/xml/tei/odd/Source/Specs/add.xml`. The browser's address bar and tabs are visible. The main content area displays XML code with various tags and attributes, such as `<desc versionDate="2007-01-21" xml:lang="it">` and `<remarks versionDate="2013-06-20" xml:lang="en">`. A right-click context menu is open over the code, showing options: "Find...", "Prettify HTML/XML", "Lock/Unlock Field", "Wrap/Unwrap Text", "Copy Text" (highlighted with a mouse cursor), and "Explore XML File".

Should you want to copy that field's content, right-click it to display the pop-up menu and choose the command **Copy Text**. You may then paste the copied content wherever you need.



Similarly, you may desire to look at the HTML behind the **ref-add.html** webpage in the **tei-c.org** website. You navigate to that webpage by clicking the TEI SVG icon at the top of the **TEI Elements** pane after you selected the add element in that **Elements** pane.



See "add" TEI webpage  
Go to related "core" module section of the TEI Guidelines

Choosing the command **See "add" TEI webpage** brings you back to the **web** pane, where the relevant web page is displayed, as below.

< Text Encoding Initiative >

---

Home
Guidelines
Activities
Tools
Membership
Support
About
News

Search

## P5: Guidelines for Electronic Text Encoding and Interchange

Version 4.3.0. Last updated on 31st August 2021, revision b4f72b1ff

<add>

Home  
C Elements

<b>&lt;add&gt;</b>	(addition) contains letters, words, or phrases inserted in the source text by an author, scribe, or a previous annotator or corrector. [ <a href="#">3.5.3 Additions, Deletions, and Omissions</a> ]
<b>Module</b>	core — Elements Available in All TEI Documents
<b>Attributes</b>	<a href="#">att.global</a> (@xml:id, @n, @xml:lang, @xml:base, @xml:space)                     ( <a href="#">att.global.rendition</a> (@rend, @style, @rendition))                     ( <a href="#">att.global.linking</a> (@corresp, @synch, @sameAs, @copyOf, @next, @prev, @exclude, @select))                     ( <a href="#">att.global.analytic</a> (@ana))                     ( <a href="#">att.global.facs</a> (@facs))                     ( <a href="#">att.global.change</a> (@change))                     ( <a href="#">att.global.responsibility</a> (@cert, @resp))                     ( <a href="#">att.global.source</a> (@source))                     ( <a href="#">att.transcriptional</a> (@status, @cause, @seq))                     ( <a href="#">att.editLike</a> (@evidence, @instant))                     ( <a href="#">att.written</a> (@hand))                     ( <a href="#">att.placement</a> (@place))                     ( <a href="#">att.typed</a> (@type, @subtype))                     ( <a href="#">att.dimensions</a> (@unit, @quantity, @extent, @precision, @scope))                     ( <a href="#">att.ranging</a> (@atLeast, @atMost, @min, @max, @confidence))
<b>Member of</b>	<a href="#">model.linePart</a> <a href="#">model.pPart.transcriptional</a>
<b>Contained by</b>	<b>analysis:</b> <a href="#">cl</a> <a href="#">pc</a> <a href="#">phr</a> <a href="#">s</a> <a href="#">w</a> <b>core:</b> <a href="#">abbr</a> <a href="#">add</a> <a href="#">addrLine</a> <a href="#">author</a> <a href="#">bibl</a> <a href="#">biblScope</a> <a href="#">citedRange</a> <a href="#">corr</a> <a href="#">date</a> <a href="#">del</a> <a href="#">distinct</a> <a href="#">editor</a> <a href="#">email</a> <a href="#">emph</a> <a href="#">expan</a> <a href="#">foreign</a> <a href="#">gloss</a> <a href="#">head</a> <a href="#">headItem</a> <a href="#">headLabel</a> <a href="#">hi</a> <a href="#">item</a> <a href="#">l</a> <a href="#">label</a> <a href="#">measure</a> <a href="#">mentioned</a> <a href="#">name</a> <a href="#">note</a> <a href="#">num</a> <a href="#">orig</a> <a href="#">p</a> <a href="#">pubPlace</a> <a href="#">publisher</a> <a href="#">q</a> <a href="#">quote</a> <a href="#">rb</a> <a href="#">ref</a> <a href="#">reg</a> <a href="#">rs</a> <a href="#">rt</a> <a href="#">said</a> <a href="#">sic</a> <a href="#">soCalled</a> <a href="#">speaker</a> <a href="#">stage</a> <a href="#">street</a> <a href="#">term</a> <a href="#">textLang</a> <a href="#">time</a> <a href="#">title</a> <a href="#">unclear</a> <a href="#">unit</a> <b>dictionaries:</b> <a href="#">case</a> <a href="#">colloc</a> <a href="#">def</a> <a href="#">dictScrap</a> <a href="#">entryFree</a> <a href="#">etym</a> <a href="#">form</a> <a href="#">gen</a> <a href="#">gram</a> <a href="#">gramGrp</a> <a href="#">hyph</a> <a href="#">iType</a> <a href="#">lang</a> <a href="#">lbl</a> <a href="#">mood</a> <a href="#">number</a> <a href="#">orth</a> <a href="#">per</a> <a href="#">pos</a> <a href="#">pron</a> <a href="#">re</a> <a href="#">sense</a> <a href="#">stress</a> <a href="#">subc</a> <a href="#">syll</a> <a href="#">tns</a> <a href="#">usg</a> <a href="#">xr</a> <b>drama:</b> <a href="#">actor</a> <a href="#">camera</a> <a href="#">caption</a> <a href="#">castItem</a> <a href="#">role</a> <a href="#">roleDesc</a> <a href="#">sound</a> <a href="#">tech</a> <a href="#">view</a> <b>figures:</b> <a href="#">cell</a> <b>header:</b> <a href="#">change</a> <a href="#">distributor</a> <a href="#">edition</a> <a href="#">extent</a> <a href="#">geoDecl</a> <a href="#">handNote</a> <a href="#">licence</a> <a href="#">scriptNote</a> <b>linking:</b> <a href="#">ab</a> <a href="#">seq</a>



Clicking the **Show HTML** button will reveal the HTML behind that webpage. Most of it is barely legible, and much of it drives only the top navigational part of the display, which is uninteresting.

```

<html xmlns="http://www.w3.org/1999/xhtml" lang="en"><head><meta http-equiv="Content-Type" content="text/html; charset=utf-8"><!-- THIS FILE IS GENERATED BY THE FOLLOWING SCRIPT -->
<script type="text/javascript">
  $(function() {
    $('ul.attrefs-class').columnizeList({cols:3,width:30,unit:'%'});
    $('ul.attrefs-element').columnizeList({cols:3,width:30,unit:'%'});
    $(".displayRelaxButton").click(function() {
      $(this).parent().find('.RNG_XML').toggle();
      $(this).parent().find('.RNG_Compact').toggle();
    });
    $(".tocTree .showhide").click(function() {
      $(this).find(".tocShow, .tocHide").toggle();
      $(this).parent().find("ul.continuedtoc").toggle();
    });
  });
</script><script type="text/javascript" src="udm-all.js"></script><style type="text/css" media="screen,projection">.udm,.udm li,.udm ul{margin:0;padding:0}
var displayXML=0;
states=new Array()
states[0]="element-a"
states[1]="element-b"
states[2]="element-c"
states[3]="element-d"
states[4]="element-e"
states[5]="element-f"
states[6]="element-g"
states[7]="element-h"
states[8]="element-i"
states[9]="element-j"
states[10]="element-k"
states[11]="element-l"
states[12]="element-m"
states[13]="element-n"
states[14]="element-o"
states[15]="element-p"
states[16]="element-q"
states[17]="element-r"
states[18]="element-s"
states[19]="element-t"
states[20]="element-u"
states[21]="element-v"
states[22]="element-w"
states[23]="element-x"
states[24]="element-y"
states[25]="element-z"

function startUp() {
}

function hideallExcept(elm) {
  for (var i = 0; i < states.length; i++) {
    var layer;
  }
}
  
```

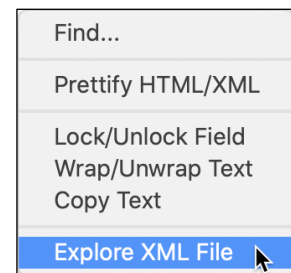
To improve this sad viewing situation, simply RIGHT-CLICK the field. The pop-up menu shown earlier appears. Select the command **Prettify HTML/XML**. Everything that is uninteresting disappears at once and what gets displayed is the colored and indented HTMLized XML portion of the file that is of real interest (especially to the kind of data mining that made this app possible, for instance).

```

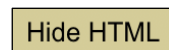
<div class="mainhead">
  <h1>P5: Guidelines for Electronic Text Encoding and Interchange</h1>
  <p>Version 4.2.1. Last updated on 1st March 2021, revision 654a5c551</p>
</div>
<div class="main-content">
  <div class="miniTOC miniTOC_right">
    <ul class="subtoc">
      <li class="subtoc"></li>
      <li class="subtoc"></li>
      <li class="subtoc">
        <a class="navigation" href="index.html">Home</a>
      </li>
      <li class="subtoc">
        <a class="navigation" href="REF-ELEMENTS.html">C Elements</a>
      </li>
    </ul>
  </div>
  <div>
    <h3 class="oddSpec" id="add">&lt;add&gt;</h3>
    <table class="wovenodd">
      <tbody>
        <tr>
          <td colspan="2" class="wovenodd-col2">
            <span class="label">&lt;add&gt;</span>(addition) contains letters, words, or phrases inserted in the source text by an author, scr
            <a class="link_ptr" href="CO.html#COEDADD" title="Additions Deletions and Omissions">
              <span class="headingNumber">3.5.3 </span>Additions, Deletions, and Omissions
            </a>]
          </td>
          <td></td>
        </tr>
        <tr>
          <td class="wovenodd-col1">
            <span class="label" lang="en">Module</span>
          </td>
          <td class="wovenodd-col2">core — Elements Available in All TEI Documents</td>
        </tr>
        <tr>
          <td class="wovenodd-col1">
            <span class="label" lang="en">Attributes</span>
          </td>
          <td class="wovenodd-col2">
            <a class="link_odd" title="provides attributes common to all elements in the TEI encoding scheme." href="ref-att.global.html">att.c
            <span class="attribute">@xml:id</span>,
            <span class="attribute">@n</span>,
            <span class="attribute">@xml:lang</span>,
            <span class="attribute">@xml:base</span>,
            <span class="attribute">@xml:space</span> (
            <a class="link_odd" title="provides rendering attributes common to all elements in the TEI encoding scheme." href="ref-att.global.
            <span class="attribute">@rend</span>,
            <span class="attribute">@style</span>,
            <span class="attribute">@rendition</span>)) (

```

If you want to explore the XML components within that file, right-click the field and choose the command **Explore XML File**. This will display the file within the utility **Explore TEI-XML File** described in section 17 below (pp. 53–59).



To return to the webpage, click the **Hide HTML** button.



### 13. THE VALUE-ADDING + PANE

This pane allows users to do several things, and foremost to ADD new values to existing TEI attributes. The + sign is used as a tab label for space economy.

The title of this internal utility is self-explanatory: **Adding datatype- and element-conforming custom values to attributes, including validation check.**

### 13.1 Adding TEI-XML compliant values

This utility was born thanks to the myriad algorithms and arrays that were created to make this app possible. The code behind this app can be used not only to display a large variety of complex data consistently, but also to help execute operations linked to those data. One particular concern of users is to ensure that the values they enter within attributes be TEI-XML compliant. Since TEI seeks to adhere to a multitude of ISO and W3C standards for the sake of cross-document consistency and especially for the sake of internationalization and long-term considerations, concern for validity and conformance is essential. Here is a tool that can help address such concerns considerably.

The screenshot shows a web application interface for adding TEI-XML compliant values to attributes. The interface is titled "Adding datatype- and element-conforming custom values to attributes, including validation check". It features several sections:

- 1. Select an element in this menu:** A dropdown menu shows "List of Elements" and a yellow "add" button. The "Attribute class" is set to "att.placement".
- 2. Select an allowable attribute:** A dropdown menu shows "Element's Attributes" and a yellow "place" button. The "USAGE" is "rec" and the "MODE" is "multiple".
- Value list latitude:** A text input field contains "suggested values".
- Value list status:** A text input field contains "semi-open".
- Existing TEI values for this element / attribute combination:** A list box shows "above", "below", "bottom", and "end".
- Existing custom values:** A list box shows "top-left", "top-margin", and "right-margin".
- Remarks:** A text area contains the text: "teidata.enumerated: defines the range of attribute values expressed as a single XML name taken from a list of documented possibilities. Attributes using this datatype must contain a single 'word' which contains only letters, digits, punctuation characters, or symbols: thus it cannot include whitespace. Typically, the list of documented possibilities will be".
- Regular expression:** A text input field contains "[^\p{C}\p{Z}]\*" (teidata.word).
- Datatype:** A text input field contains "teidata.enumerated".
- XSD Constraints:** A text input field is empty.
- 3. Type a new value:** A text input field contains "@place" and "top-left". A yellow "Check" button is next to it.
- Verdict:** A text area contains "Yes, this is a valid value." and a green checkmark icon.
- Result:** A text input field contains "top-left".
- 4. Description:** A text input field contains "Inscription added in the top left corner of the document".
- 5. Gloss:** A text input field is empty.
- Bottom:** A yellow button labeled "Add new value to the attribute's custom list".

Using this utility is far easier than it looks. Say you want to add a new value, "top-left," to the attribute @place used by the element <add>. The **@place** attribute comes with a list of suggested values, and it is therefore "semi-open": you are allowed to add other values to it.

1. Click the **List of Elements** drop-down menu and select the **add** element.
2. Click the **Element's Attributes** drop-down menu, which lists all the attributes that can be used with the **add** element. Select the **@place** attribute. Relevant information and properties attached to that attribute immediately fill the yellow, blue, and pink fields. Suggested values are displayed in the apposite left blue field. Previously created custom values, if any, are displayed in the right blue

- field. The pink fields display information, regular expressions, datatypes, and/or **xsd** types that direct how to format authorized values.
3. Enter the new value, "top-left" in the orange box, then either tab out of the field or click the **Check** button.
  4. Observe that the datatype **teidata.enumerated** (which mostly indicates that **@place** values are to be part of a declared list) subscribes to **teidata.word**, which essentially prescribes that the value be in the form of a word. The displayed regular expression allows the submitted string to be tested rigorously in that regard. That is what the **Check** button does: it is loaded with a variety of algorithms that can handle any of the TEI-supported datatypes.
  5. Observe the positive result: the string survived the test (in the **Result** field) and the **verdict** declares "Yes, this is a valid value."
  6. At this stage you may want to enter a description that clarifies what the value means: that is always helpful to users. Do so in the **Description** field.
  7. You are now ready to **add the new value to the attribute's custom list**, and do so by clicking the apposite orange button. If the value already existed, you shall be told so, and if there is any difference between the new and the old, you will be asked to confirm you want to modify it.
  8. Should you make an error, such as the one displayed below, the app will notify you.

1. Select an element in this menu: <input type="text" value="time"/>		Attribute class: <input type="text" value="att.dimensions"/>	
2. Select an allowable attribute: <input type="text" value="precision"/>		USAGE: optional	S / M: single
Value list latitude: <input type="text" value="legal values"/>	Value list status: <input type="text" value="closed"/>		
Existing TEI values for this element / attribute combination		Existing custom values	
<input type="text" value="high"/> <input type="text" value="low"/> <input type="text" value="medium"/>		<input type="text"/>	
Remarks: <input type="text" value="teidata.certainty: defines the range of attribute values expressing a degree of certainty. Certainty may be expressed by one of the predefined symbolic values high, medium, or low. The value unknown should be used in cases where the encoder does not wish to assert an opinion about the matter."/>			
Regular expression:	<input \"low\"="" \"medium\"="" \"unknown\""="" high\"="" type="text" value="\"  =""/>	Datatype:	<input type="text" value="teidata.certainty"/>
XSD Constraints:	<input type="text"/>		
3. Type a new value:	<input type="text" value="average"/>	Is it conform?	<input type="button" value="Check"/>
Verdict:	<input add="" anything="" cannot="" closed.\"="" it."="" to="" type="text" value="You provided an invalid value. Do realize, however, that the value list is \" you=""/>		
Result:	<input type="text"/>		
4. Description:	<input type="text"/>	5. Gloss:	<input type="text"/>
<input type="button" value="Add new value to the attribute's custom list"/>			

In the above illustration the user attempted to add a value to an attribute whose list consisted of legal values and was therefore closed. This app will not let users flout such rules.

Should you otherwise enter ill-formatted values that fail the regular expression test, the app will let you know, often pinpointing the exact source of the error.

### 13.2 Other Benefit somewhat hidden in this pane: Date, Time, Duration are taken care of!

Among the most frequent types of values that need to be encoded are those that deal with the clock and the calendar: dates, times, and durations. There are several attributes that are made to welcome such complex numeric values: **@when**, **@when-iso**, **@dur**, **@dur-iso**, **@from**, **@from-iso**, **@to**, **@to-iso**, **@notAfter**, **@notAfter-iso**, **@notBefore**, **@notBefore-iso**. They accompany many elements, such as **<time>** of course. Those attributes want values that are well formatted (as opposed to the actual sloppier dates or times that form the actual textual content encoded by elements). The formatting of such values needs to conform to ISO standards or W3C standards (which are becoming nearly identical). Doing so is not easy: it's a real hassle. But this app provides, within the apparently empty bottom of this + pane, a full array of utilities that does it all. **NB:** Date attributes only accept **Gregorian** calendar values.

Whenever selecting a date or time-dependent attribute, the app will automatically display an array of buttons and fields at the bottom of the + pane.

#### 13.2.1 Durations

Select the element **time** in the first drop-down menu and then either **@dur** or **@dur-iso** in the second drop-down menu. Observe what happens at the bottom of the pane: something beautiful.

The screenshot shows a software interface with two main utility panes. The left pane is titled "Convert duration to W3C or ISO standard for the @dur attribute" and contains input fields for years (Y), months (M), days (D), hours (H), minutes (M), and seconds (S), followed by a "Duration:" label and a long yellow input field, and a "@dur value:" label with a white input field. The right pane is titled "Provide inclusive duration between two dates or times" and contains fields for "Earlier date:" and "Later date:" (both yellow), "Start time:" and "End time:" (both yellow), and a "Count" button (orange).

The clock/calendar button shows up, with the clock highlighted in red, to indicate that this is the duration utility, not the date/time utility.

(a) When you know precisely the duration of an event in number of years, months, days, hours, minutes and even seconds, or any inferior range thereof, then all you need to do is to enter their respective numbers in the yellow boxes on the left side.

**Convert duration to W3C or ISO standard for the @dur attribute**

Y  M  D  H  M  S

**Duration:**

**@dur value:**

<time dur="P42Y9M27DT6H6M3S">42 years 9 months 27 days 6 hours 6 minutes 3 seconds</time>

As you enter the numbers, the **Duration** field will automatically write it out for you while the **@dur value** field will format it according to the W3C or ISO standard. The utility also shows you how the encoded duration looks like:

<time dur="P42Y9M27DT6H6M3S">42 years 9 months 27 days 6 hours 6 minutes 3 seconds</time>

You only need to **click** that encoding once for it to be **copied**, so you can **paste** it wherever you need it.

(b) When you don't know precisely the duration of an event but know its start date and/or time and its ending date and/or time, then you use the right side of the bottom section of the + pane.

How many days did philosopher Charles S. Peirce live? I don't know, but I do know when he was born and when he died. I enter those dates and click the Count button. Wow, beautiful round number! The standardized rendition: not so much.

**Provide inclusive duration between two dates or times**

Earlier date:  Later date:

27,250 days P74Y7M9D

Start time:  End time:

One may do the same with start time and end time

**Provide inclusive duration between two dates or times**

Earlier date:  Later date:

Start time:  End time:

15:28:11 PT15H28M11S

And one may mix starting day and time with ending day and time:

**Provide inclusive duration between two dates or times**

Earlier date:  Later date:

27,250 days P74Y7M9D

Start time:  End time:

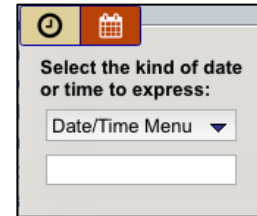
08:27:00 PT8H27M0S

P74Y7M9DT8H27M0S



### 13.2.2 Dates

Select the element **time** in the first drop-down menu and then (for instance) either **@when** or **@when-iso** in the second drop-down menu. Observe what happens at the bottom of the pane: at first very little.



A look at the range of possible constraints explains why:

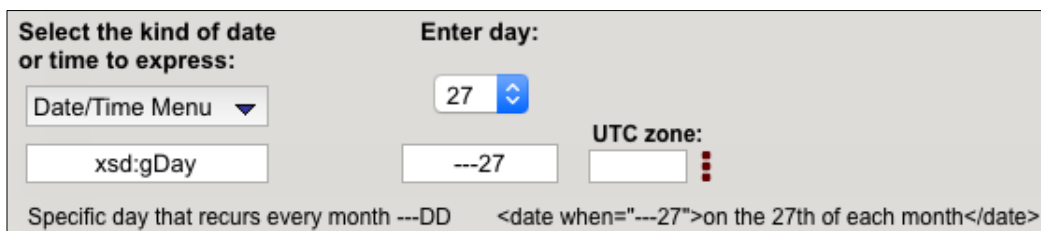
**XSD Constraints:** `xsd:date | xsd:gYear | xsd:gMonth | xsd:gDay | xsd:gYearMonth | xsd:gMonthDay | xsd:time | xsd:dateTime`

There are eight possibilities, and thus eight types of formats. Those types are displayed in the drop-down **Date/Time Menu** button. A specific **xsd** applies to each one.



*(a) To express the same day of every month:*

Select **Recurrent date / Same day every month**. The display reads as below. Select the day's number in the **Enter day** drop-down menu. That is all there is to it. Rarely would you need to add a UTC zone (explained further down). Click the `<date when= ...>` line to copy it.



*(b) To express the same day in every year:*

Select **Recurrent date / Same day every year**. The display reads as below. Select the month's number in the **Month** drop-down menu, and the day's number in the **Day** drop-down menu. The result is immediate. Rarely would you need to add a UTC zone (explained further down). Click the `<date when= ...>` line to copy it.

(c) To express the same month in every year:

Select **Recurrent date / Same month every year**. The display reads as below. Select the month's number in the **Month** drop-down menu. Rarely would you need to add a UTC zone (explained further down). Click the <date when= ...> line to copy it.

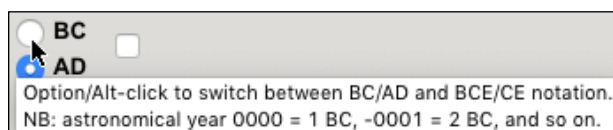
(d) To express a particular year:

Select **Specific date or time / Year**. The display reads as below. Type the year's number in the **Enter year** yellow box. You may add a UTC zone if you will. Click the <date when= ...> line to copy it.

You may have the app add BC, AD, or BCE, CE, or none, to the year. If so, check the checkmark button on the right of the BC/AD radio buttons, otherwise uncheck it:



Option or Alt-click the radio buttons to switch between BC/AD and BCE/CE notation.



Note that a BC or BCE year will be a number preceded by a negative minus sign in the value of the **@when** attribute, as the standard wants it to be.

*(e) To express a particular month within a particular year:*

Select **Specific date or time / Month + Year**. The display reads as below. Select the month's number in the **Month** drop-down menu and type the year in the **year's** yellow box. Add or not a BC/AD or BCE/CE notion. Adding or not a UTC zone. Tabbing out of the yellow box does the work. Click the `<date when= ...>` line to copy it.

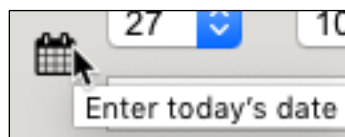
The screenshot shows a date selection interface. On the left, there are icons for a clock and a calendar. Below them, the text reads "Select the kind of date or time to express:" followed by a "Date/Time Menu" dropdown set to "Date/Time Menu" and a text box containing "xsd:gYearMonth". To the right, there are fields for "Month" (a dropdown menu showing "6") and "Year" (a yellow text box containing "1259"). There are radio buttons for "BC" (unselected) and "AD" (selected). Below these is a "UTC zone" field set to "-04:00" and a "local zone" indicator. At the bottom, the text "Specific month of specific year CCYY-MM" is followed by the generated XML code: `<date when="1259-06-04:00">in June 1259</date>`.

*(f) To express a particular date:*

Select **Specific date or time / Date**. The display looks like below but with empty fields. **For non-Gregorian dates, use att.dataable.custom attributes.**

The screenshot shows a date selection interface. On the left, there are icons for a clock and a calendar. Below them, the text reads "Select the kind of date or time to express:" followed by a "Date/Time Menu" dropdown set to "Date/Time Menu" and a text box containing "xsd:date". To the right, there are fields for "Day" (a dropdown menu showing "27"), "Enter Month" (a dropdown menu showing "10"), and "Year" (a yellow text box containing "2020"). There are radio buttons for "BCE" (unselected) and "CE" (selected). Below these is a "UTC zone" field set to "-04:00" and a "local zone" indicator. On the far right, there is a text box containing "Tuesday, October 27, 2020" and the text "OR type a date in English or French and tab:". Below this is the generated XML code: `<date when="2020-10-27-04:00">Tuesday, October 27, 2020</date>`. At the bottom, the text "Gregorian calendar date CCYY-MM-DD" is followed by the "UTC zone" and "local zone" fields.

To enter the **current day**, simply click the little calendar icon:



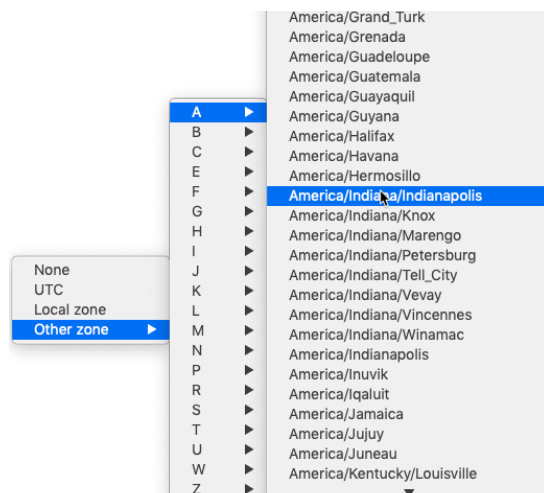
Otherwise enter the day using the **Day** drop-down menu, the month using the **Month** drop-down menu, and type the **year** in the yellow box. Add or not BC/AD or BCE/CE notation. Add a UTC zone or not.

You may also, INSTEAD, type a date directly in the yellow box on the right side of the bottom section of the pane. *No matter how you type it, the app will recognize the values and format the standard date accordingly.*

Tabbing out of the yellow box prompts the app to do the requisite formatting. Click the result either in the formatted box on the left or the <date when...> line to copy it.

### 13.2.3 REGARDING UTC ZONES

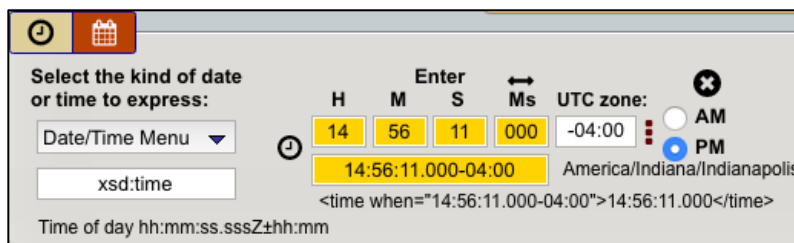
The utility allows you to add a UTC zone to any date or time. You never need to type it. Use the three-red-dotted drop-down menu to choose the UTC zone itself, or the local zone, or any other zone.



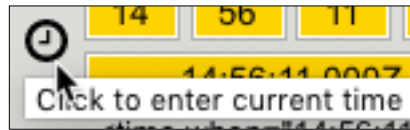
NB: Not all those geographic time zones will work; if one doesn't, try an equivalent one.

### 13.2.4 Time

Select **Specific date or time / Time**. The display looks like below but fields will be empty.

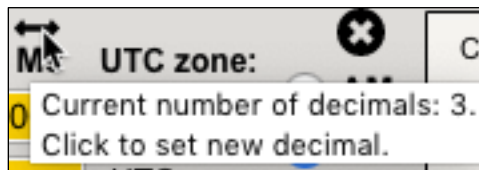


To enter the **current time**, simply click the little clock icon:

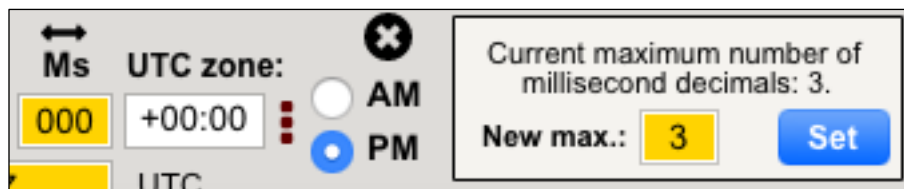


Otherwise enter the numbers corresponding to the Hour, Minute, Second, and Millisecond in their respective yellow boxes. Milliseconds add decimals to the seconds.

You may specify the maximum number of decimals to be used by clicking



That will display this little side dialog:

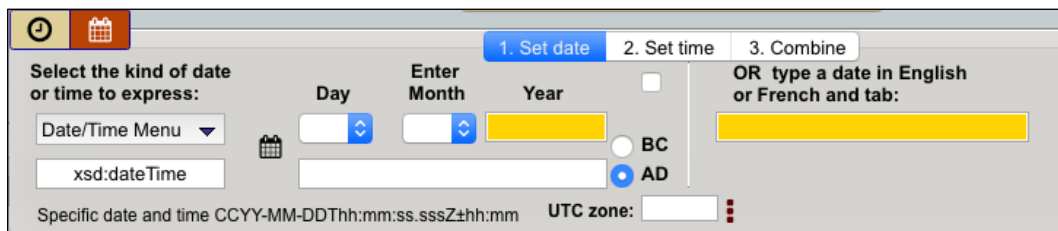


Just enter the decimal number and click the **Set** button, which will set the number and close the dialog.

Once you tab out of the milliseconds box, the app will provide the formatted value in the fifth yellow box. You may copy it or click on the <time when=...> line to copy it.

### 13.2.5 Combining date AND time

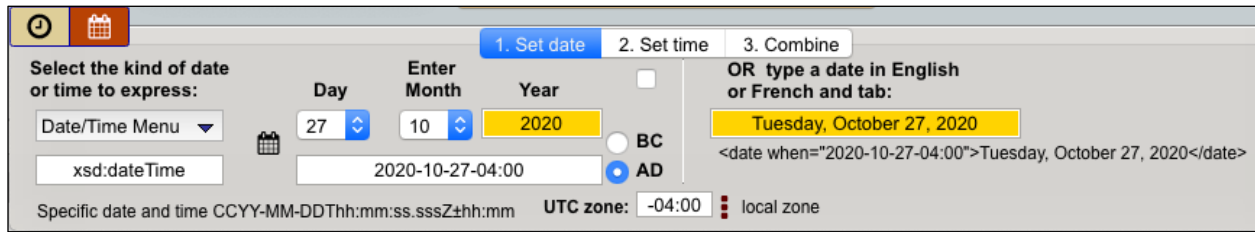
Select **Specific date or time / Date + Time**. The display looks as follows:



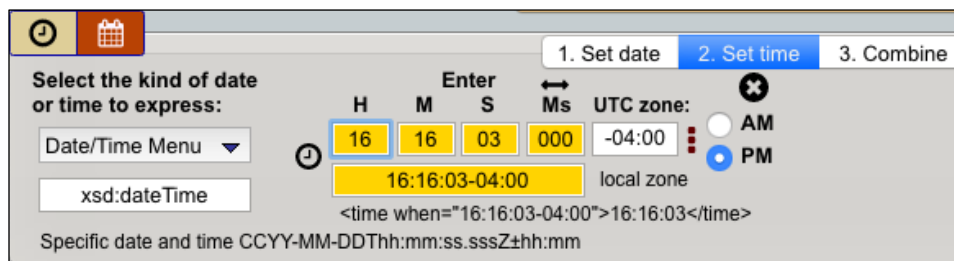
Most logically, this particular utility combines the **Date** format just exemplified with the **Time** format exemplified earlier. It does so thanks to three adjacent tabs: 1. Set date, 2. Set time, and 3. Combine.

Users need only move from one tab to the next, following earlier instructions regarding Date and then Time.

1. Set date

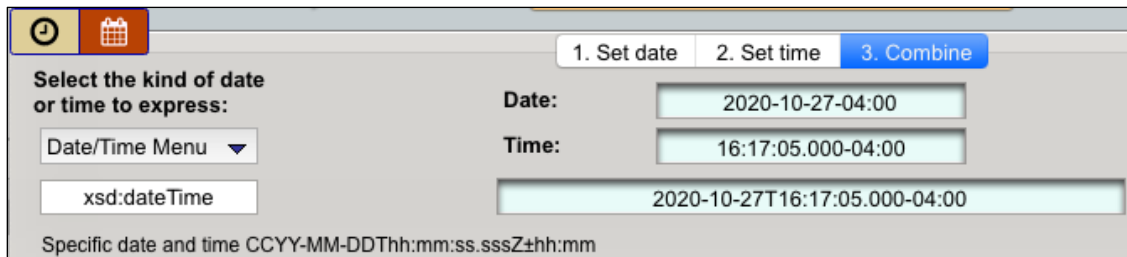


2. Set time

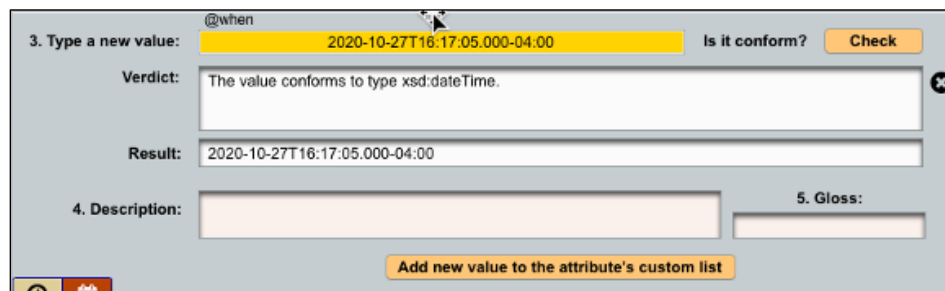


3. Combine

Just clicking the third tab, "3. Combine," does the trick:



Note how the app instantly checks and validates the result:

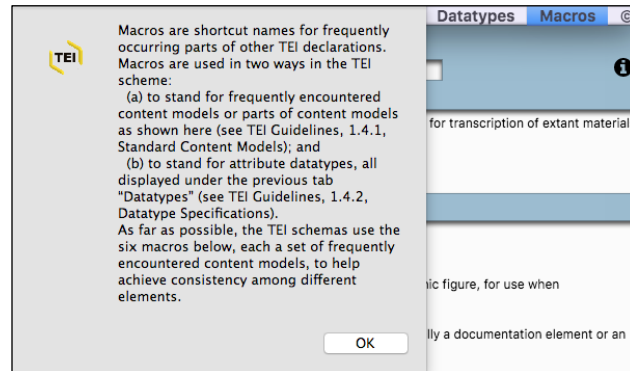


**This automatic validation actually takes place with all eight date and time settings.**



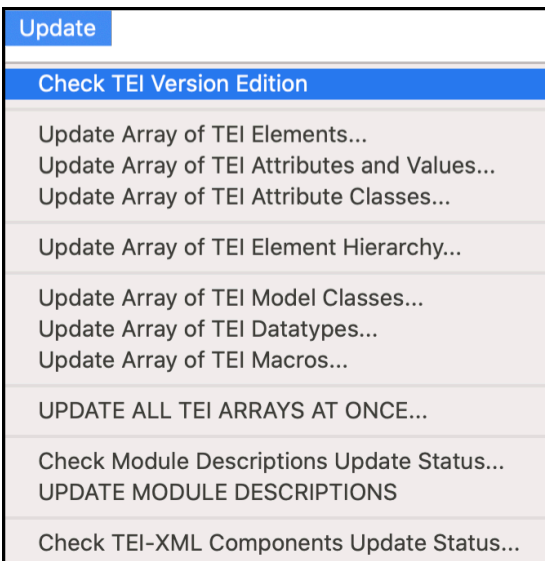
## 14. THE INFORMATION BUTTON

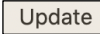
Each pane comes with an “i” button that, when clicked, brings up a dialog that explains (in summarized TEI Guidelines language) what the related pane is all about. The image below shows the explanation provided for the **Macros** pane.

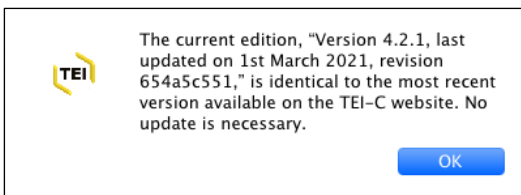


## 15. UPDATING THE APP

### 15.1 Updating the array databases



The **Update** menu in the app’s menu bar  allows users to update the many arrays of data whenever a new version of TEI P5 becomes available. The first command, “**Check TEI Version Edition...**” allows you to check whether that is the case. The command, “**Update All TEI Arrays at once...**,” is best, for some array updates rely on the update of prior arrays.



The entire operation takes about 10 minutes, on account of the enormous amount of data that need to be mined from several hundred files. Speed varies according to internet connection conditions and computer processing power.

**Note the last menu command, so you can check whether there is a new version of this app.**

## 15.2 Updating the Modules pane

Updating the contents pertaining to the **Modules** pane relies on a separate protocol. The reason is that explanations and descriptions provided there of each related TEI Guidelines chapter rely on the developer's own labor: summarizing chapter contents, laying them out consistently, revising language, adjusting links, and adjusting tables of contents and their display in drop-down menus. Such work needs to be done each time the TEI Guidelines are updated, which occurs every six months. Those updates may include revisions of some chapters or chapter sections and restructuring of chapters. The developer needs time to examine the release notes that come with each new update, determine what changes are called for, and then execute them. That may take days or weeks, depending on time available. Once revisions are done, they are uploaded to two distinct files on a Peirce Project server—one file for chapter contents, and another file for navigation menu contents. At that point app users may then update the **Modules** pane accordingly.



The command "**Check Module Descriptions Update Status...**" lets users know whether an update is available and how it compares with their current version (more recent or identical).



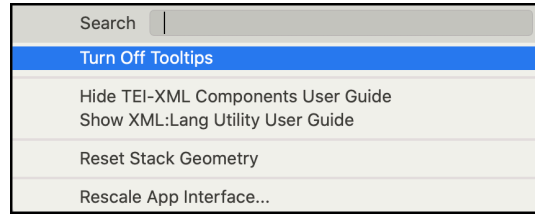
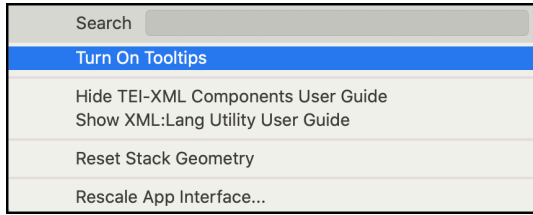
If a new update is available, simply click the command "**Update Module Descriptions.**" The update should take no more than a few seconds, and a message will confirm success.

## 16. THE HELP MENU

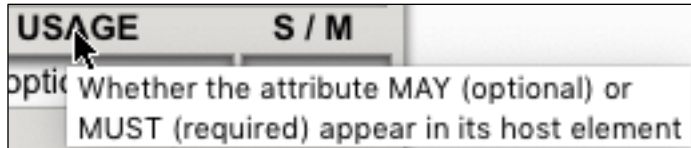
### 16.1 Tooltips

This app provides tooltips for most of its controls, whether buttons, fields, tabs, or the datagrid. Hover with the mouse over a control and a floating field will come up and display a brief explanation of how to use said control.

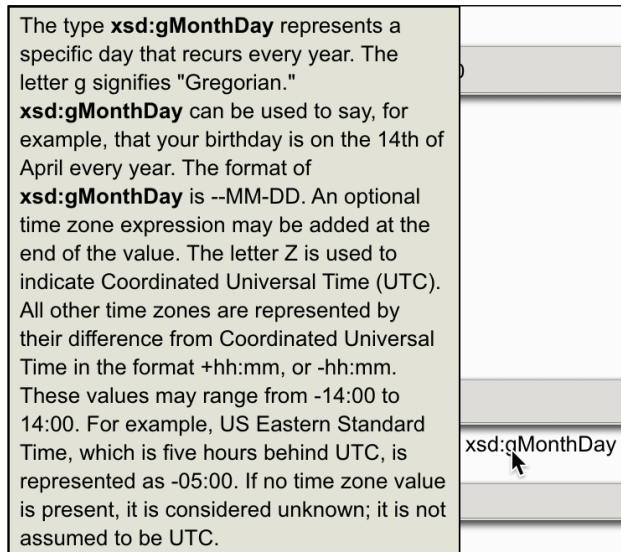
That feature can be turned on or off in the **Help** menu.



Example of regular tooltip (white background):



Example of custom tooltip (beige background)

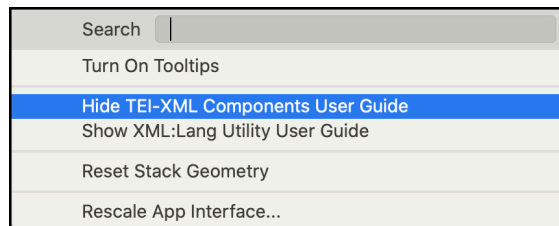


Both kinds of tooltips are turned on or off by the **Help** menu command.

### 16.2 User Guide

You may access the user guide (this very PDF document) from within the app.

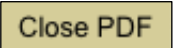
Choose the command **Show TEI-XML Components User Guide** in the **Help** menu. Notice the other one as well, **Show XML:Lang Utility User Guide**, most useful to learn a wonderful app!



You will be moved to the **web** pane and looking at the first page of this User Guide within, not the web browser, but a PDF viewer.



Pull down this drop-down menu and select the section or subsection of the PDF you want to read.

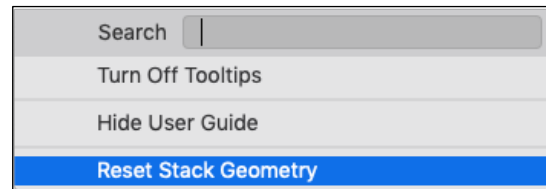
To close the PDF viewer and return to the web browser, either choose the command **Hide TEI-XML Components User Guide** in the Help menu or click the button 

(The **XML:Lang Utility User Guide** works in the same way, with its own distinct contents and menu.)

### 16.3 Reset Stack Geometry

Although this should normally not happen, it is not impossible that some controls inside the app might become misplaced or overextended in one or other direction. Were that to happen, choose the **Reset Stack Geometry** in the **Help** menu to reset

- 1. Main Purpose
- 2. Interface Organization
- 3. The TEI Elements Pane
- 4. The Attributes Pane
- 5. The Values Pane
- 6. the Attribute Classes Pane
- 7. The Modules Pane
- 8. The Models Pane
- 9. The Datatypes Pane
- 10. The Macros Panes
- 11. The Question Mark (?) Pane
  - 11.1 Search
  - 11.2 Element Hierarchy
- 12. The Web Pane
  - 12.1 Using the Browser to Examine TEI-XML Docs
- 13. The Value-Adding + Pane
  - 13.1 Adding TEI-XML compliant values
  - 13.2 Date, Time, Duration
    - 13.2.1 Durations
    - 13.2.2 Dates
    - 13.2.3 About UTC Zones
    - 13.2.4 Time
    - 13.2.3 Combining Date AND Time
- 14. The Information Button
- 15. Updating the App
  - 15.1 Updating the Array Databases
  - 15.2 Updating the Modules Pane
- 16. The Help Menu
  - 16.1 Tooltips
  - 16.2 User Guide
  - 16.3 Reset Geometry
  - 16.4 The xml:lang Language Utility
  - 16.5 Change Display Font
  - 16.6 Rescale the App Interface
- 17. A Special Utility to Explore TEI-XML Files
  - 17.1 Three Methods of Importing XML Files
  - 17.2 Extracting Data from XML Files via Menus
    - 17.2.1 Separately
    - 17.2.2 In Combination
    - 17.2.3 The Lang List Menu
    - 17.2.4 Sorting, Finding, Copying



everything right. The app is scalable but not resizable to avoid cross-platform hiccups.

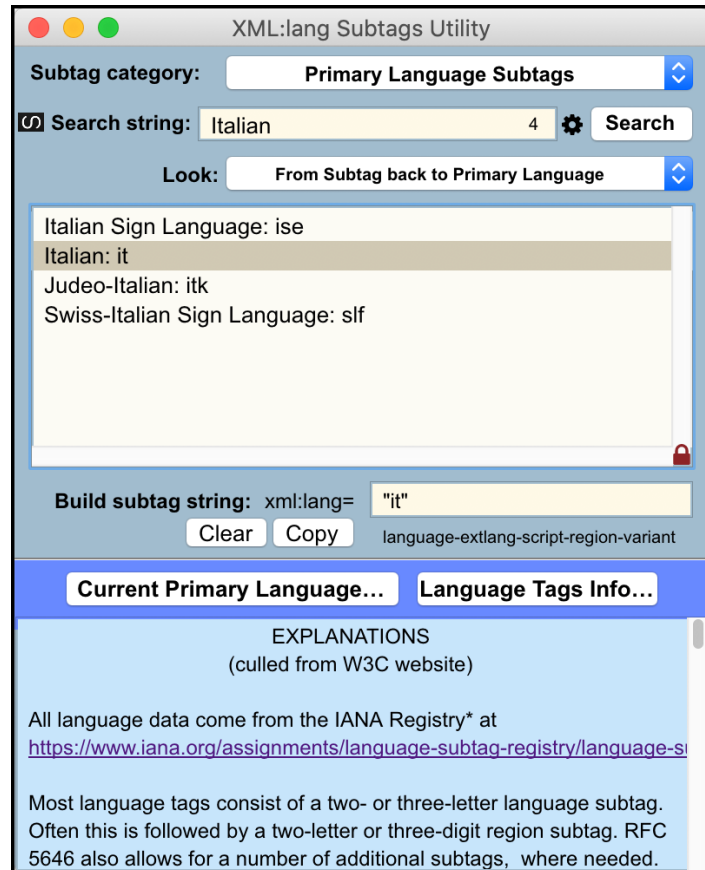
## 16.4 The xml:lang Language Utility

The utility shown at right can be summoned when dealing with elements that are language-related, such as `<lang>`.



It is also accessible in the **Values** pane to indicate the language of particular value alternates. Clicking the chain-link icon brings up the dialog shown at right.

That utility is a full-blown app that helps users identify the correct language “subtag”—meaning the international code and subcodes that ought to form the value for the attribute `@xml:lang`. Most users will be concerned with the



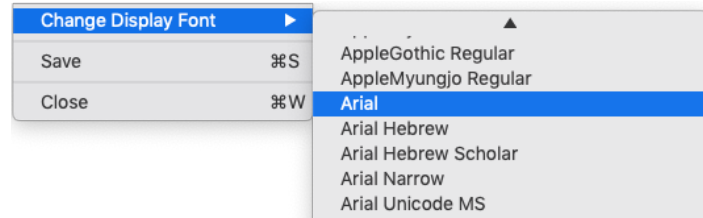
primary language tag, not with other subtags (extlang, script, region, and variant).

Type the name of the language in the Search box. Click the language that matches your search in the main top field. The correct language tag will show up in the middle of the dialog. Clicking the “Copy” button puts into memory the string (for instance regarding Italian) `xml:lang="it"`, which you can paste wherever you need to.

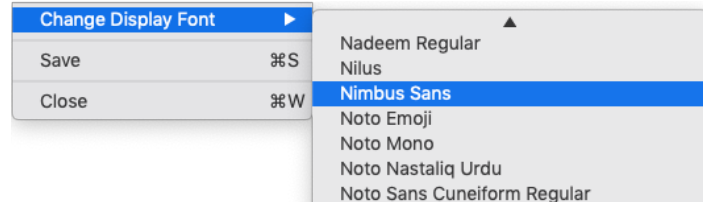
To explore the app’s enormous potential, select the command **Explore XML:Lang Utility...** in the **Explore** menu and read the related User Guide PDF in the **Help** menu!

## 16.5 Change Display Font

If using this app on a Mac, the recommended default display font is **Arial**, which is **sans serif**. A sans serif font is preferable for readability.



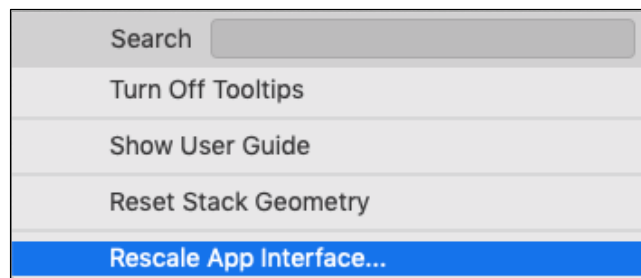
Arial is not available on every platform: Linux doesn't have it. Windows likely has it. But not every monitor displays fonts equally well. This app contains many label fields whose content may stretch beyond a field's limit on platforms other than Mac. As this situation is hard to predict, the work-around is simply to let users modify the display font as they see fit.



To do so, pull down the menu **File** (in the top menu bar) and select the first command, **Change Display Font**. A list of fonts available to you appears. Choose a sans serif font that looks good and fits the available space neatly and without fail. On Linux it might be Nimbus Sans, Ubuntu, FreeSans, or Garuda, for instance.

## 16.6 Rescale the app interface

This app may not scale up nicely on smaller-screen laptops because it was conceived on a larger monitor (as befits regular professional editorial work). Should it be too large for smaller screens (less than 7 inch in height), it normally scales itself down to accommodate the smaller surface.



You may, however, adjust the app's "scale factor" yourself. To do so, choose the last command, **Rescale App Interface...**, in the **Help** menu. You will be told what the current scale factor value is (normally 1). If you want to decrease or increase the value, follow the instructions on screen. Beware that "1.5" = 150%, and "0.85" = 85%. Do not underscale or overscale. Note that the app is otherwise not resizable (by extending sides) to avoid cross-platform deviations.



## 17. A SPECIAL UTILITY TO EXPLORE TEI-XML FILES

The command **Explore TEI-XML files...** In the **Explore** menu Explore at the top of the application or in the menu bar provides access to a most useful eponymous utility!

The screenshot shows the 'Explore TEI-XML Files' utility window. The top pane displays the XML source code, including a copyright notice and a list of glosses for various languages. The middle section features a control panel with four pull-down menus: 'Tag List' (29 items), 'Attribute List' (19 items), 'Value List' (57 items), and 'Lang List' (8 items). Below these are input fields for 'Tag', 'Attribute', 'Value', and 'Language', with 'exemplum' selected in the Tag field. A toolbar contains buttons for 'Import XML File...', 'Paste in copied XML text', 'Prettify', 'Extract Data', 'Find...', and a help icon. Below the toolbar, it shows 'File name: bibl.xml, 6.88 Kb' and 'List of encodings within <exemplum>' with '54 lines'. The bottom pane displays the XML content for the selected 'exemplum' tag, showing three bibliographic entries in different languages (English, French, and French with a title in English).

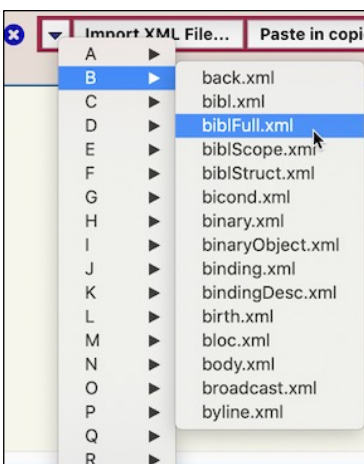
This utility was created to facilitate the navigation of XML files and the extraction of encoded data from them. “Facilitation” means that users do not need to master programming languages such as XQuery to query the XML. Once an XML file has been downloaded, imported, or pasted in, users need only use pull-down menus to examine complete alphabetized lists of tag elements, attributes, and values found in the XML file. Users then select any of those XML components in any order to display their related contents or encodings (as the case may be) in the bottom field. **Clicking any line in that bottom field selects and displays the related encoding in the XML file in the top field.**

While the utility accommodates any XML file, some of its algorithms have been optimized to handle TEI-XML files especially well, for the main impulse behind this utility comes from a desire to facilitate TEI-XML transactions, so to speak.

### 17.1 Three methods of importing XML files

There are three options for importing an XML file, and they are provided by the first three red-bordered buttons in the middle of the interface.

1. The **down-arrow button** is a pull-down menu that lists alphabetically all the **TEI XML files** accessible at the <https://tei-c.org/Vault/P5/current/xml/tei/odd/Source/Specs/> URL.

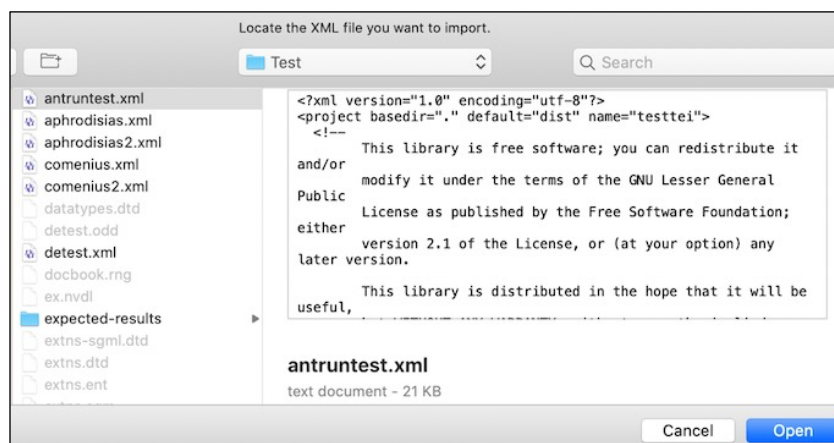


Those XML files provide structured information about TEI elements, attribute classes, models, macros, and teidata, all of which are made use of in the TEI-XML Components app. This menu button allows users to explore those XML files on their own. Selecting any of them downloads it directly into the top field. The name and size of that file is displayed at the screen's center in blue characters. Be aware that the moment your mouse pointer enters this down-arrow button, the app immediately downloads the most recent list of XML files on the tei-c.org website. You

therefore need to have a working internet connection for this menu to be useful.

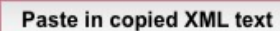
2. The **Import XML File...** button allows users to import XML files accessible to them on or via their workstation's directory. Clicking it opens a standard file dialog for the user to select an XML file.

Import XML File...

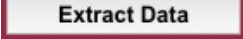


The selected file will be imported directly into the top field. The name and size of that file is displayed at the screen's center in blue characters. Note that while the utility allows you to import very large XML files, even a few megabytes long, and to display their corresponding elements, attributes, and values in the button menu very rapidly, yet their navigation within the top field, or the display of data in the bottom field, may be slow owing to the sheer quantity of encodings that need to be processed. XML documents shorter than 1 Mb work best.

3. The **Paste in copied XML text** button assumes users have copied the content of an open XML document within some application—for instance under the **web** tab in TEI-XML Components—and are ready to paste it in the top field. Users need only click this button to paste it in the right place.



## 17.2 Extracting data from XML files via pull-down menus

The **Extract Data** button  is one users will rarely need to click, for selecting any tag, attribute, or value in the pull-down menus will click it automatically. Clicking that button brings its inner algorithms to analyze what XML components have been selected and then to extract data from the XML file accordingly. There are therefore several data-extraction configurations available. Note that to clear any particular data one only need to clear the round black x button nearest each category, or the leftmost red X button to clear them all at once.

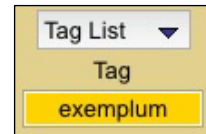


There are four menu buttons: **Tag List**, **Attribute List**, **Value List**, and the specialized **Lang List**. Each one automatically fills itself with its respective list of XML components that correspond to the imported XML file encoding as soon as the mouse pointer enters them. Also indicated above each is its respective number of entries. Examining the content of those menus on their own provides therefore a complete overview of the document's XML components. This alone is a very useful feature. Imagine importing the large XML documentation related to TEI Lite for instance. The Tag List reveals instantly the 209 elements TEI Lite makes available, which makes it instantly apparent that TEI Lite includes transcription tags such as `<add>` or `<del>` for instance, but not `<subst>`, `<mod>`, or `<transpose>`, so that one can infer in a moment that TEI Lite is useful but limited for transcribing manuscripts.

Here is an overview of the **data-extraction configurations**.

### 17.2.1 Separately

1. Selecting any tag (and only a tag) in the **Tag List** menu will display a list of all its occurrences, in their order of appearances, in the bottom field.



```
<exemplum xml:lang="en">
  <egXML xmlns="http://www.tei-c.org/ns/Examples">
    <bibl>Blain, Clements and Grundy: Feminist Companion to Literature in English (Yale,
    1990)</bibl>
  </egXML>
</exemplum>
<exemplum versionDate="2008-04-06" xml:lang="fr">
  <egXML xmlns="http://www.tei-c.org/ns/Examples">
    <bibl>Mazelier, Roger : Gérard de Nerval et l'Humour divin, Le Mesnil Saint-Denis,
    1995.</bibl>
  </egXML>
</exemplum>
<exemplum versionDate="2008-04-06" xml:lang="fr">
  <egXML xmlns="http://www.tei-c.org/ns/Examples">
    <bibl><title level="a">L'Enracinement</title><author>Simone Weil</author>, <title>Prélude à une déclaration des devoirs envers l'être
    humain </title>. <publisher>Gallimard</publisher><date>1968</date>.</bibl>
  </egXML>
```

2. Selecting any attribute (and only an attribute) in the **Attribute List** menu will display a list of all its occurrences, in their order of appearances, and preceded by their corresponding tag element, in the bottom field.



```
<gloss versionDate="2005-01-14">
<gloss versionDate="2007-12-20">
<gloss versionDate="2007-05-02">
<gloss versionDate="2009-01-06">
<gloss versionDate="2007-05-04">
<gloss versionDate="2007-01-21">
<gloss versionDate="2017-06-13">
<desc versionDate="2005-01-14">
<desc versionDate="2007-12-20">
<desc versionDate="2007-05-02">
<desc versionDate="2008-04-05">
<desc versionDate="2009-01-06">
<desc versionDate="2007-05-04">
<desc versionDate="2007-01-21">
<desc versionDate="2017-06-13">
<exemplum versionDate="2008-04-06">
<exemplum versionDate="2008-04-06">
```

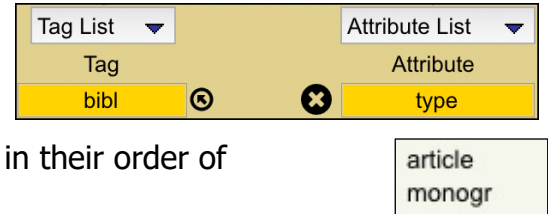
3. Selecting any value (and only a value) in the **Value List** menu will display a list of all its occurrences, in their order of appearances, and preceded by their corresponding tag element and attribute, in the bottom field.



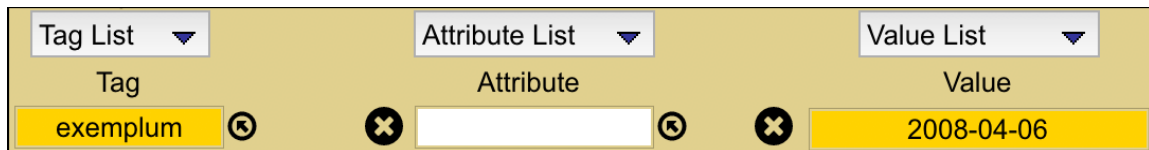
```
<title level="a">L'Enracinement</title> ...
<title level="a">我的從影經過</title> ...
<title level="a">The Interesting story of the Children in the Wood</title> ...
<title level="a">The Staging of Impotence : France's last congrès</title> ...
```

### 17.2.2 In combination

1. Selecting any element in the **Tag List** menu and then also a related attribute in the **Attribute List** menu will display a list of the values taken up by that tag/attribute compound, in their order of appearances, in the bottom field.



2. Selecting any element in the **Tag List** menu and then also a related value in the **Value List** menu WITHOUT specifying an attribute will display a list of the contents encoded by that tag/value compound, in their order of appearances, in the bottom field. "Content" means the text between the opening and closing tags: `<element attribute="value">content</element>`.



```
• <egXML xmlns="http://www.tei-c.org/ns/Examples"> <bibl>Mazelier, Roger : Gérard de Nerval et l'Humour divin, Le Mesnil Saint-Denis, 1995.</bibl>
• <egXML xmlns="http://www.tei-c.org/ns/Examples"> <bibl><title level="a">L'Enracinement</title><author>Simone Weil</author>, <title>Prélude à
```

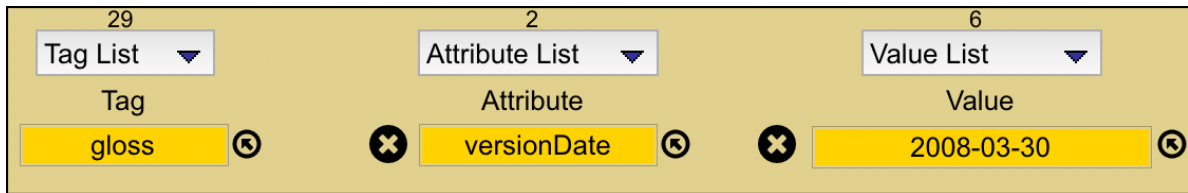
3. Selecting any attribute in the **Attribute List** menu and also a related value in the **Value List** menu WITHOUT specifying a tag element will display a list of all of the contextual encodings within which that attribute/value compound occurs in their order of appearances.



```
• <ident type="class">model.biblPart ...
• <ident type="class">model.biblPart ...
• <ident type="class">model.biblPart ...
• <ident type="class">model.biblPart ...
```

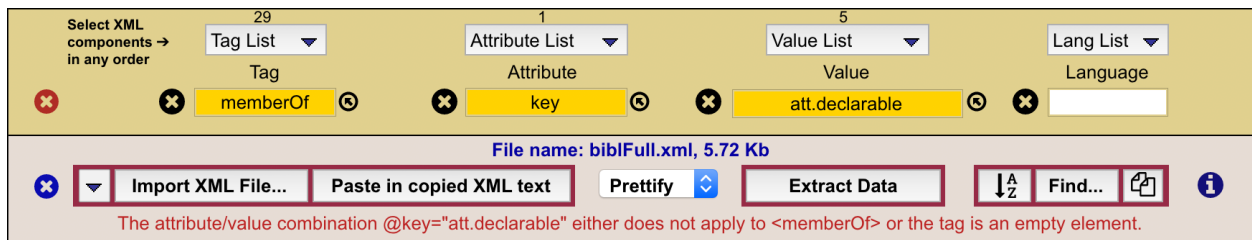


4. Selecting any element in the **Tag List** menu along with any related attribute in the **Attribute List** menu and also a related value in the **Value List** menu will display a list of their corresponding tag content in their order of appearances.



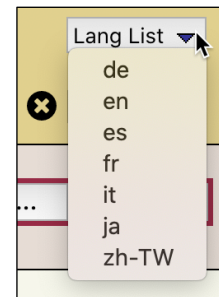
• référence bibliographique totalement structurée

If the tag is an empty element (that is, a self-closing <tag/>), then no content is displayed and an explanation of the reason why is displayed in red below the row of buttons.



### 17.2.3 The Lang List menu

The fourth menu button, **Lang List**, is a specialization of the Value List. It provides the list of standard IANA abbreviations of all languages declared through the **@lang** attribute throughout the XML document. This is especially useful in TEI XML documentation files, which contain multilingual glosses and descriptions, and other XML documents with multiple languages. Like the other menus, the content of this menu is automatically updated to reflect the content of the XML file above it when the mouse pointer enters it.



1. Selecting a **@lang** value alone, without any other XML component selected, displays every encoding whose tag element contains a **@lang** declaration with a value corresponding to the selected lang value.



• <gloss>: référence bibliographique.  
 • <desc>: contient une référence bibliographique faiblement structurée dans laquelle les sous-composants peuvent ou non être explicitement balisés  
 • <exemplum>: <egXML xmlns="http://www.tei-c.org/ns/Examples"> <bibl>Mazelier, Roger : Gérard de Nerval et l'Humour divin, Le Mesnil Saint-De  
 • <exemplum>: <egXML xmlns="http://www.tei-c.org/ns/Examples"> <bibl><title level="a">L'Enracinement</title><author>Simone Weil</author>, <t  
 • <remarks>: <p rend="dataDesc">Cet élément contient des éléments de type expression, ainsi qu'un jeu d'éléments de la classe <ident type="clas



The screenshot shows a web-based XML editor. At the top, there is a text area containing XML code. A blue highlight is visible over a portion of the code: `<term xml:lang="de">Malerisch</term>`. Below the text area is a control panel with four dropdown menus: 'Tag List' (25 items), 'Attribute List' (18 items), 'Value List' (57 items), and 'Lang List' (7 items). The 'Lang List' dropdown is currently set to 'de'. Below these are four input fields for 'Tag', 'Attribute', 'Value', and 'Language'. The 'Language' field contains 'de'. Below the control panel is a toolbar with buttons for 'Import XML File...', 'Paste in copied XML text', 'Prettify', 'Extract Data', 'Sort (A-Z)', 'Find...', and 'Copy'. Below the toolbar is a list of contents with the title 'List of contents with German language declaration' and '6 lines'. The list contains the following items:

- <gloss>: Anmerkung
- <desc>: enthält eine Anmerkung oder Annotation.
- <term>: Malerisch
- <exemplum>: <p>Im folgenden Beispiel hat der Übersetzer eine Fußnote mit einer Erklärung des als "painterly" übersetzten Begriffs "Malerisch" b
- <term>: Malerisch
- <exemplum>: <p>Das globale <att>n</att>-Attribut kann verwendet werden, um das Symbol oder die Nummer anzugeben, die verwendet wird, ur

2. Selecting a **@lang** value along with some other selected XML component restricts the corresponding displayed list to those compounds marked up with the selected language. When selecting an element and a **@lang** value yields only an empty field, that indicates that no occurrence of the selected element was accompanied with the corresponding language declaration.

#### 17.2.4 Sorting, Finding, Copying




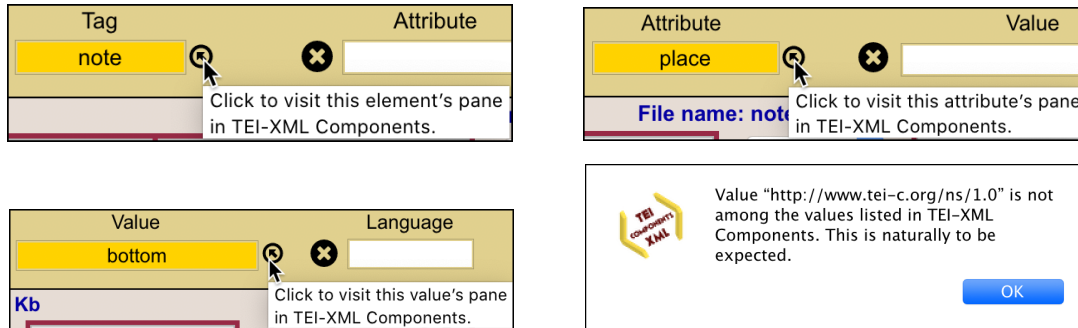
The **Sort** button sorts the data in the bottom field in alphabetical order while also removing any redundancies. This may be useful for some purposes, but this button should not be clicked if the list is used for navigating the XML document.

The **Find...** button allows you to find any string of characters within the XML document and to display the clickable list of matches within the bottom field. Each match is preceded by the line number it corresponds to.

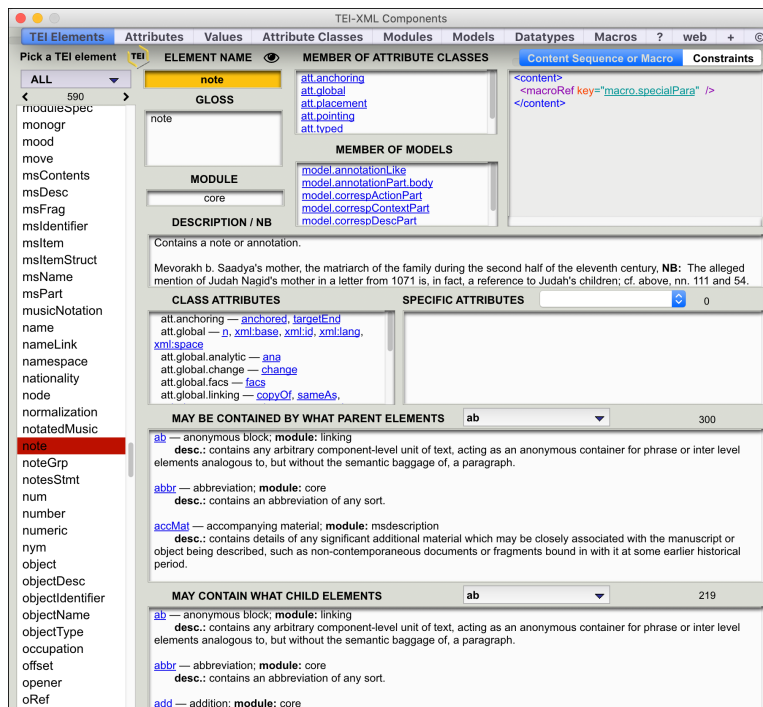
The **Copy** button allows users to copy whatever content there may be inside the bottom field so that it can be pasted elsewhere.

### 17.2.5 Exploring a Specific Element, Attribute, or Value

The tiny button  on the right side of the Tag, Attribute, and Value boxes can be quite handy. It may be that while exploring a TEI XML file, you encounter one of those components that you are not familiar with, and you would like to learn more about it. You already know that you only need access the related pane in TEI-XML Components to find out more. Clicking that little button is a convenient shortcut.



All it takes is one click. For instance, click  next to the tag element "note". One instant later you are looking at the following display:



In case there is no match for the component you clicked about, a message will let you know. Not every XML element in a TEI file is specific to TEI, and possible values are in many cases innumerable.