A TEI RESOURCES NAVIGATION APP

User Guide

TEI-XML COMPONENTS

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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 ©).

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).

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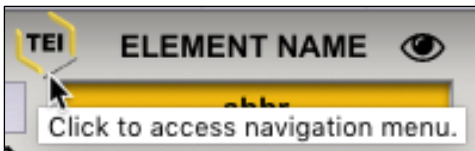
Click the TEI SVG icon for internal browser access **either** to the webpage providing data about the currently displayed element:

See "abbr" TEI webpage
Go to related "core" module section of the TEI Guidelines
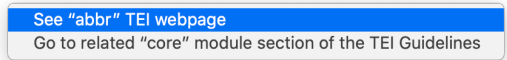
< Text Encoding Initiative >

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
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) (att.global.rendition (@rend, @style, @rendition)) (att.global.linking (@corresp, @synch, @sameAs, @copyOf, @next, @prev, @exclude, @select)) (att.global.analytic (@ana)) (att.global.facs (@facs)) (att.global.change (@change)) (att.global.responsibility (@cert, @resp)) (att.global.source (@source)) att.typed (@type, @subtype)

@type ¶ (type) allows the encoder to classify the abbreviation according to some convenient typology.

Derived from	att.typed
Status	Optional
Datatype	teidata.enumerated
Sample values include:	

suspension
(suspension) the abbreviation provides the first letter(s) of the word or phrase, omitting the remainder.
contraction
(contraction) the abbreviation omits some letter(s) in the middle.
brevigraph
the abbreviation comprises a special symbol or mark.
superscription

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

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

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.
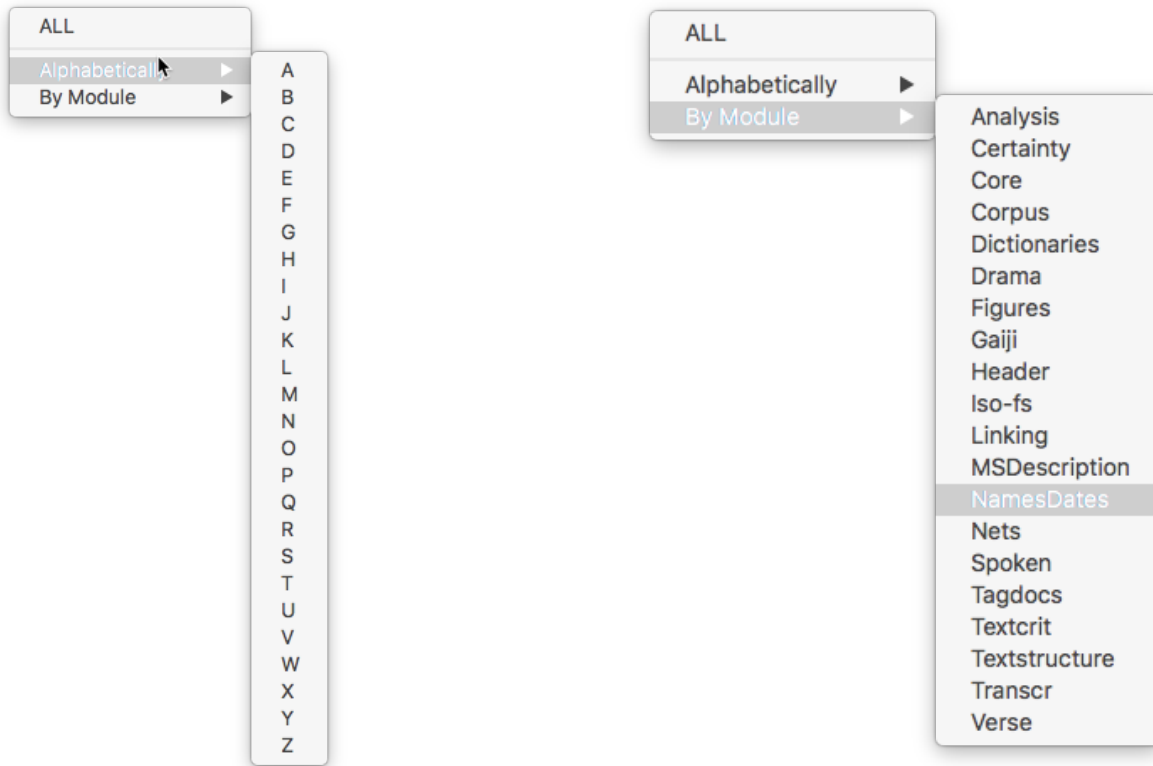
4. THE ATTRIBUTES PANE

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.

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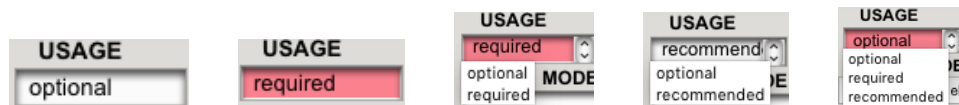
• The **S/M** (single/multiple) field indicates whether the attribute accepts one, two, multiple, or an unbounded (though really finite) number of values (usually separated each by a space, an entire value or value set being inserted within a single pair of double straight quotes: *<element attribute1="value1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

  — 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.

  — 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.

  — 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.

• 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.
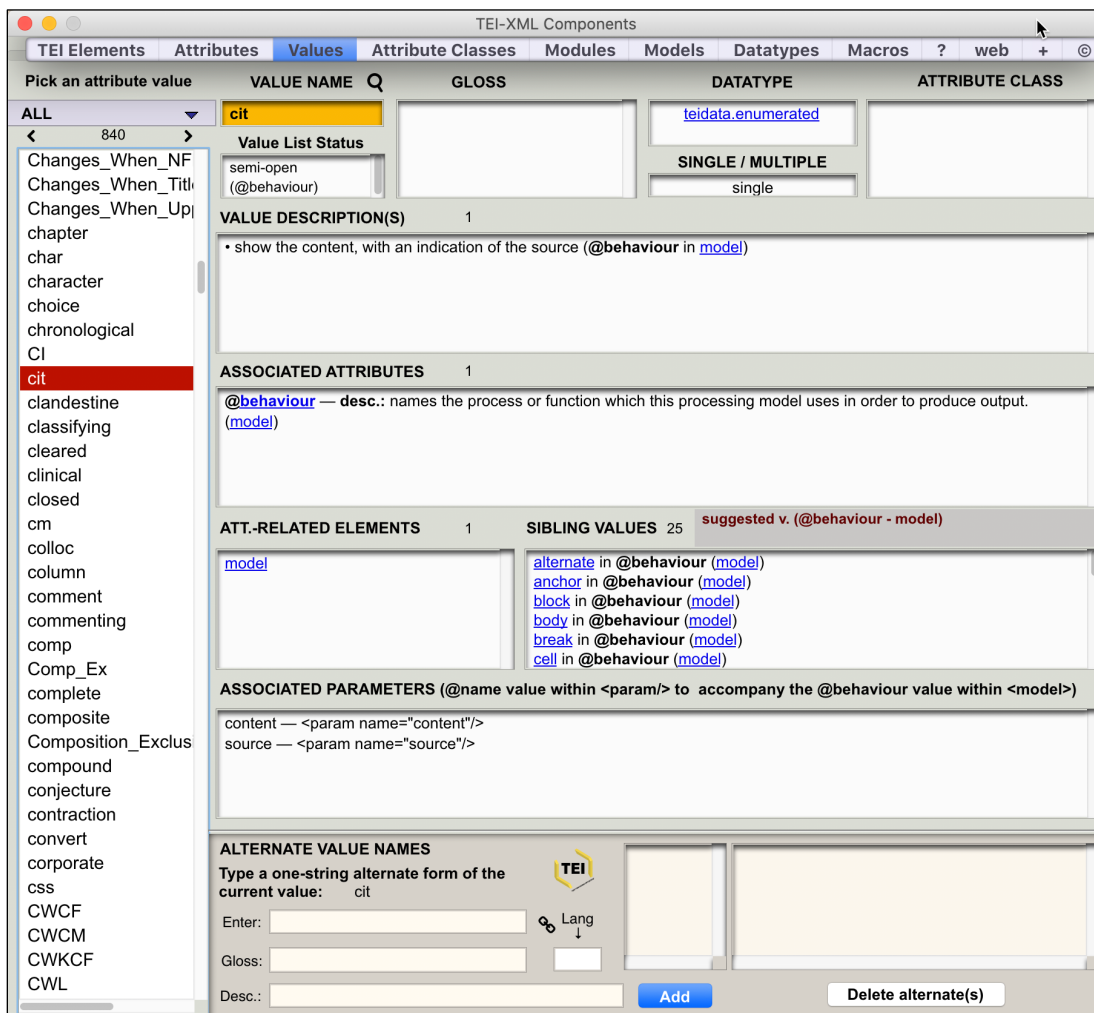
The amount of information available for any particular value varies from scant to substantial. That depends on whether a value is attached to one or more attributes, whether the Guidelines took pains to describe that value or took it to be self-evident, and whether such a value is governed by special 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 **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.
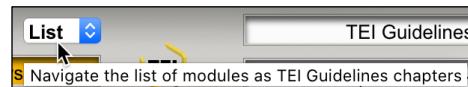
The content of the larger field at the center of the pane varies according to the module. In some cases (as in the first example below) it displays a condensed and crisper version of the TEI Guidelines chapter that discusses that module. In other cases, it displays text much closer to the TEI Guidelines 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.
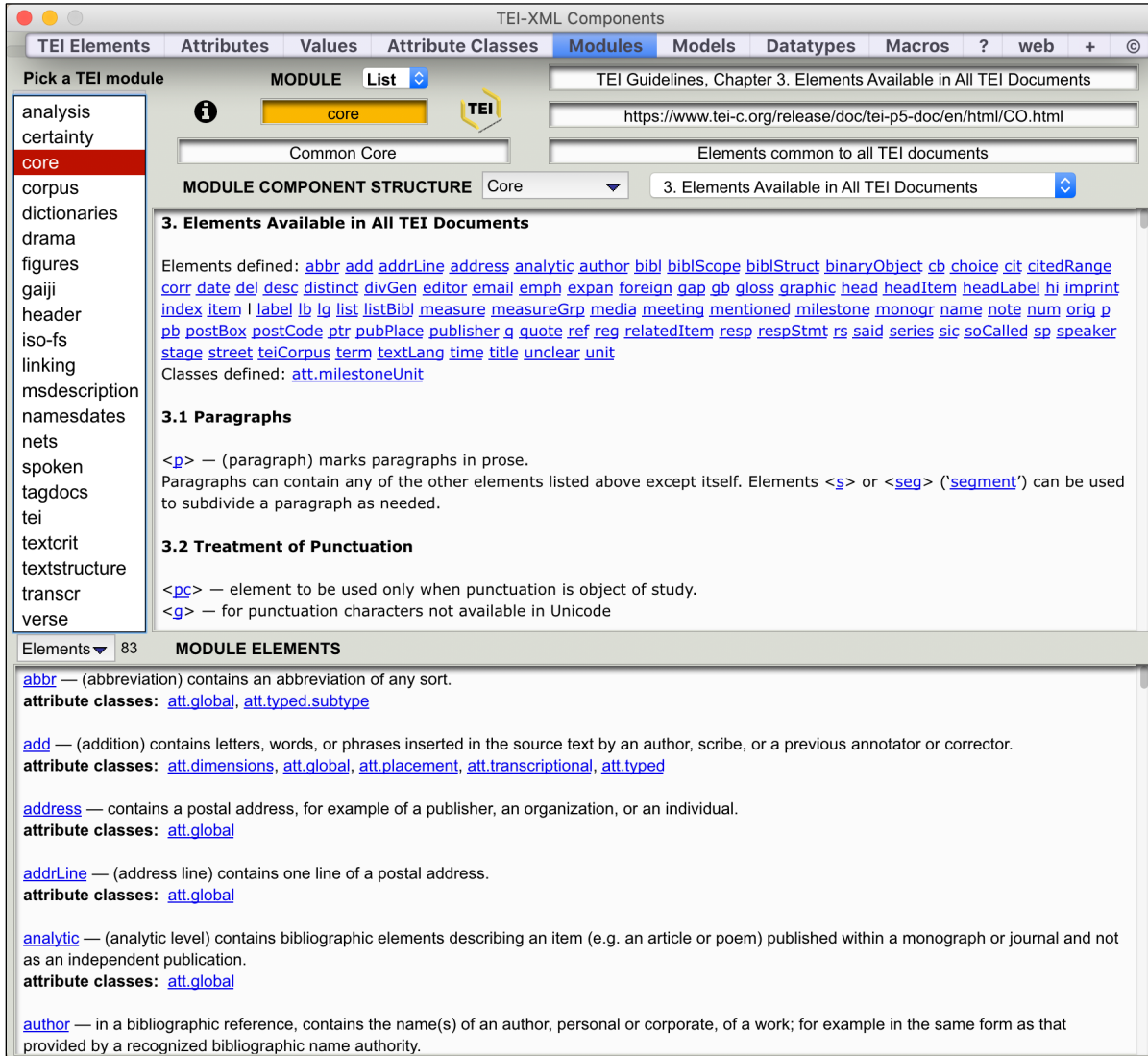
The menus display the table of contents of the full (very long) third chapter of the TEI Guidelines. The first drop-down menu, "Core," displays it with a two-level depth, while the second menu displays it in full length (to give an idea of its full structure at one glance). Selecting any section scrolls down the field directly to it.
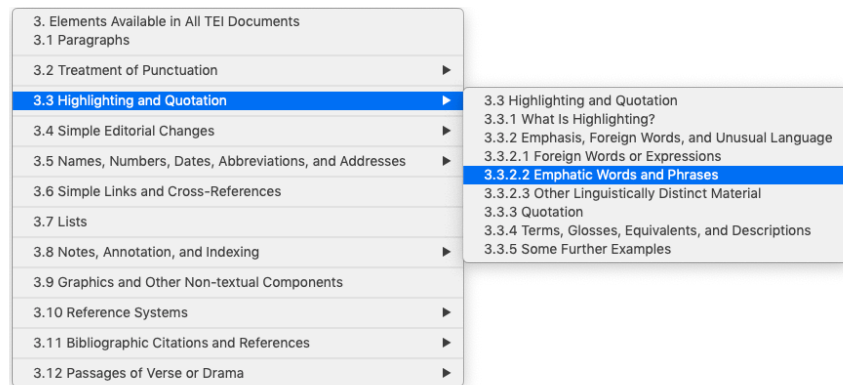
The second example below displays in the center field a grid that provides a guide to the hierarchy of the many elements that constitute a Manuscript Description (**msdescription** module). The menus above it help navigate the list of elements with their descriptions in the bottom field according to 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.
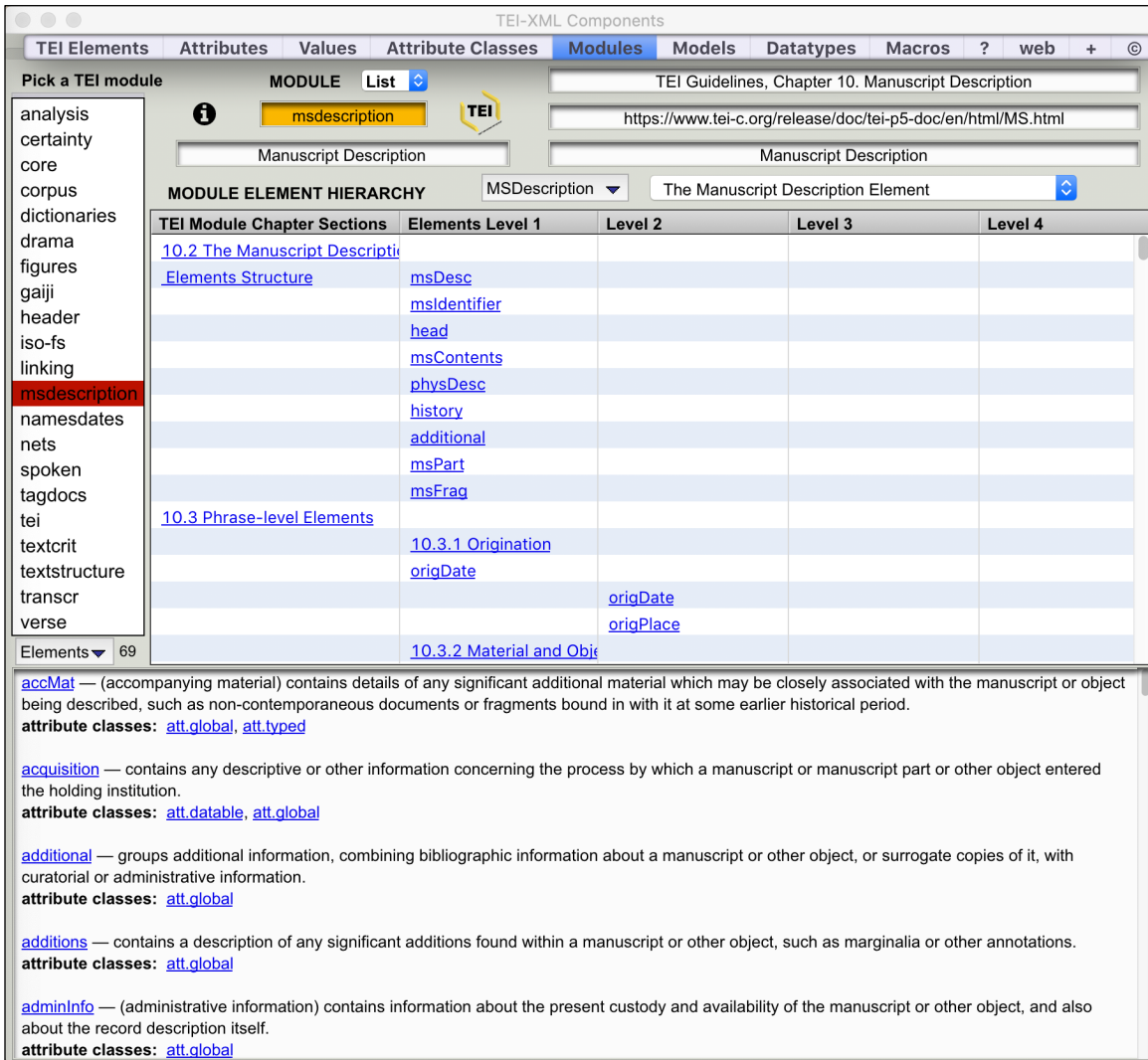
The third example below displays in the center field the complete XML structure of a TEI header. The idea is to provide a visual guide to the strict hierarchical order of a TEI header. The menus above it help navigate the structure while the menu above the bottom field helps navigate its elements in 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

analysis
certainty
core
corpus
dictionaries
drama
figures
gaiji
header
iso-fs
linking
msdescription
namesdates
nets
spoken
tagdocs
tei
textcrit
textstructure
transcr
verse

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>
        <titleStmt>
            <title>
                <!-- title of the resource -->
            </title>
            <author>
                <!-- text author's name -->
            </author>
            <editor xml:id="">
                <!-- editor's name -->
            </editor>
            <respStmt xml:id="">
                <resp></resp>
                <name xml:id=""></name>
            </respStmt>
        </titleStmt>
        <editionStmt>
            <p>
```

Elements   72   **MODULE ELEMENTS**

abstract — contains a summary or formal abstract prefixed to an existing source document by the encoder.
attribute classes: att.global

appInfo — (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.datable, 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

<teiHeader> ▶
   ibid
   <fileDesc> ▶
   <encodingDesc> ▶
   <profileDesc> ▶
   <xenoData>
   <revisionDesc> ▶

     ibid
     <projectDesc>
     <samplingDecl>
     <editorialDecl> ▶
     <tagsDecl> ▶
     <styleDefDecl>
     <refsDecl>
     <classDecl> ▶
     <geoDecl>
     <schemaSpec> ▶
     <schemaRef>
     <appInfo> ▶

       ibid
       <application> ▶

         ibid
         <label>
         <ptr>

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.

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 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.

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.

• 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.

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

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.

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?

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.
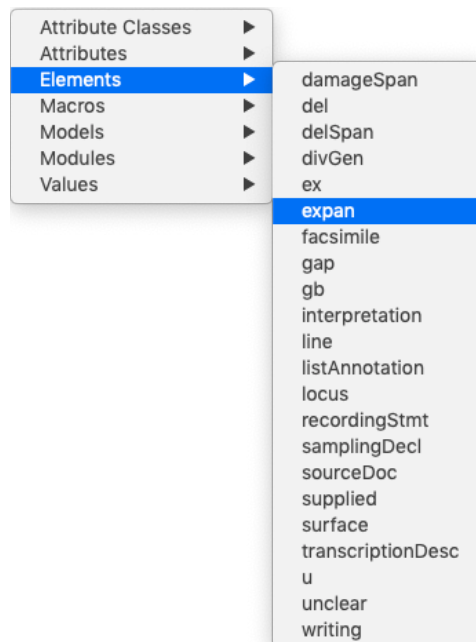
11.2 Element Hierarchy

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.
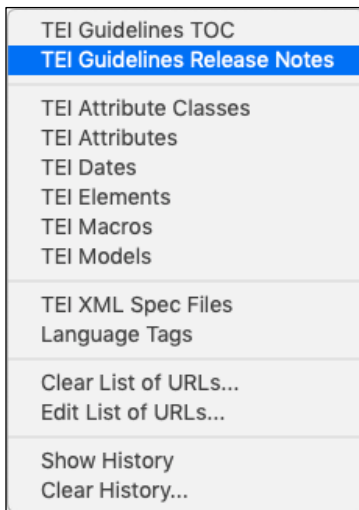
12.   THE WEB PANE

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).

> ↰ ↱ + ▼ Show HTML

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):

| TEI Guidelines TOC |
| **TEI Guidelines Release Notes** |
| |
| TEI Attribute Classes |
| TEI Attributes |
| TEI Dates |
| TEI Elements |
| TEI Macros |
| TEI Models |
| |
| TEI XML Spec Files |
| Language Tags |
| |
| Clear List of URLs... |
| Edit List of URLs... |
| |
| Show History |
| Clear History... |

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.
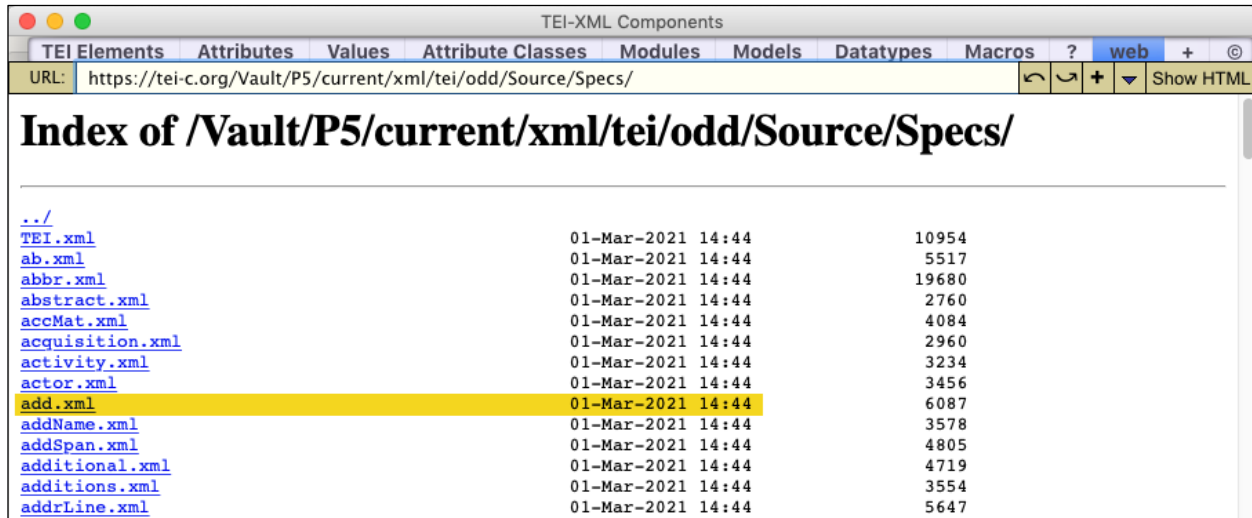
Users who click the TEI SVG icon displayed in most panes throughout the app will be brought to the **web** pane instantly, looking at the relevant TEI webpage or section thereof. A number of other links within textual descriptions connect to online resources that will also be displayed instantly in the 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.

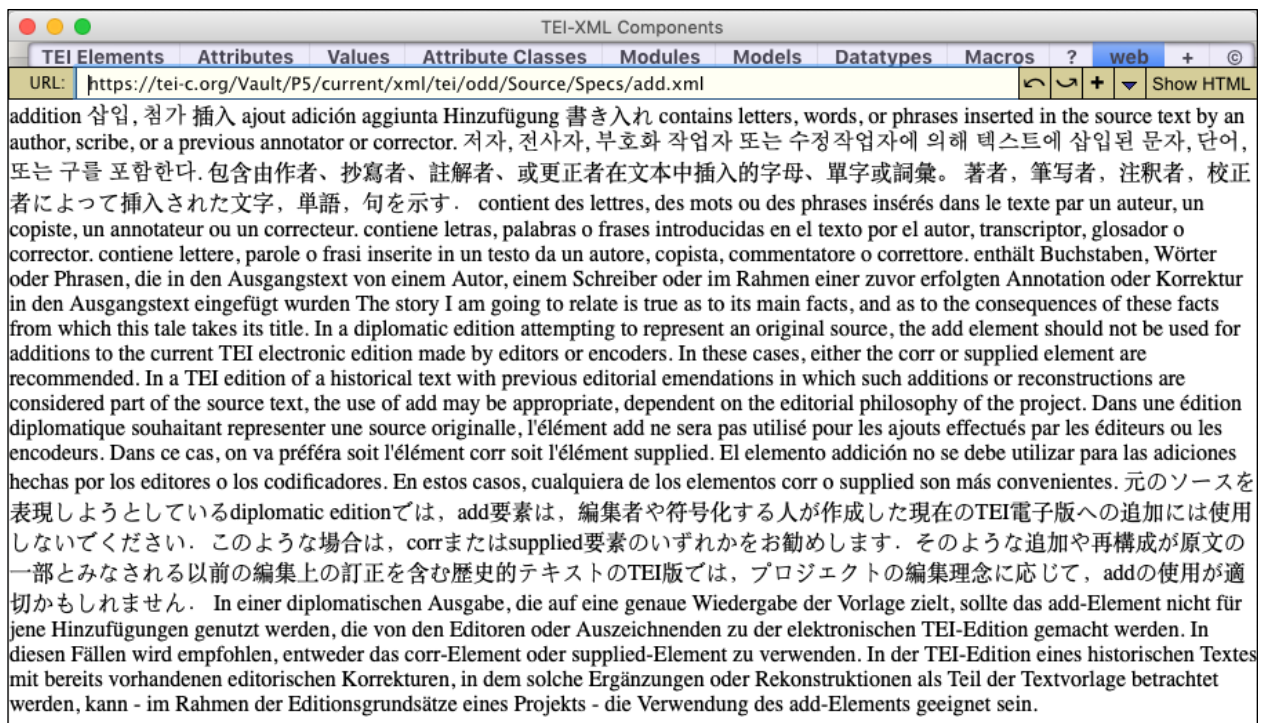| **TEI XML Spec Files** |
| Language Tags |
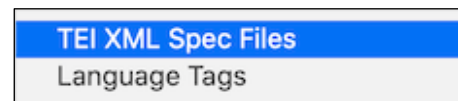
A list of all such available XML files will be displayed, as shown below. Say you want to examine the **add.xml** file, which provides the properties attached to the **<add>** element. You click the corresponding ninth link in the list.

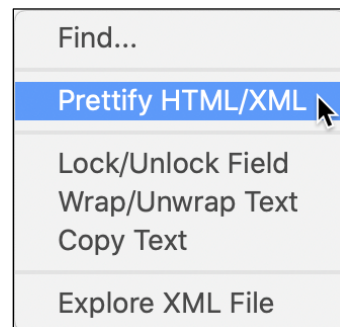Clicking the add.xml link then displays the gibberish below.

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.

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

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.

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.
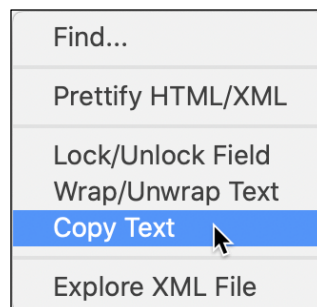
Similarly, you may desire to look at the HTML behind the **ref-add.html** webpage in the **tei-c.org** website. You navigate to that webpage by clicking the TEI SVG icon at the top of the **TEI Elements** pane after you selected the add element in that **Elements** pane.
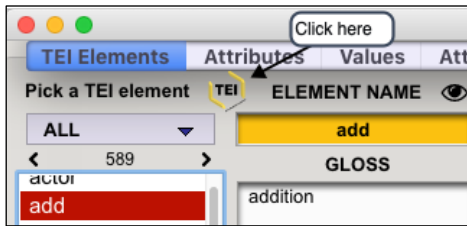
Choosing the command **See "add" TEI webpage** brings you back to the **web** pane, where the relevant web page is displayed, as below.

P5: Guidelines for Electronic Text Encoding and Interchange

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

<add>

Home
C Elements

<add> (addition) contains letters, words, or phrases inserted in the source text by an author, scribe, or a previous annotator or corrector. [3.5.3 Additions, Deletions, and Omissions]

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

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.

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).

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).
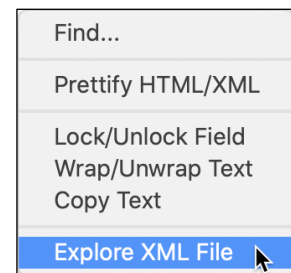
To return to the webpage, click the **Hide HTML** button.
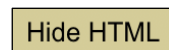
13.   THE VALUE-ADDING + PANE

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.

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.

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 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.

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.

One may do the same with start time and end time

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

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.
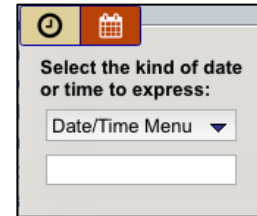
A look at the range of possible constraints explains why:

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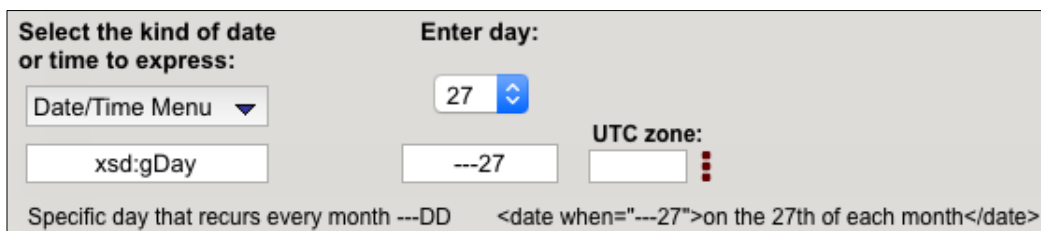
(b) To express the same day in every year:

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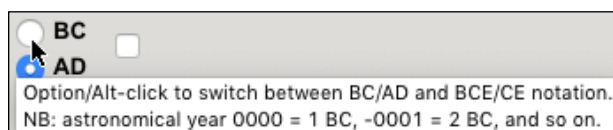
Note that a BC or BCE year will be a number preceded by a negative minus sign in the value of the **@when** attribute, as the standard wants it to be.

(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. Add or not a UTC zone. Tabbing out of the yellow box does the work. Click the <date when= ...> line to copy it.

(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.datable.custom attributes.**

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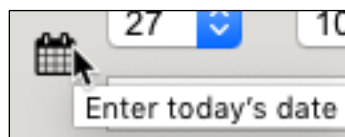
Otherwise enter the day using the **Day** drop-down menu, the month using the **Month** drop-down menu, and type the **year** in the yellow box. Add or not BC/AD or BCE/CE notation. Add a UTC zone or not.

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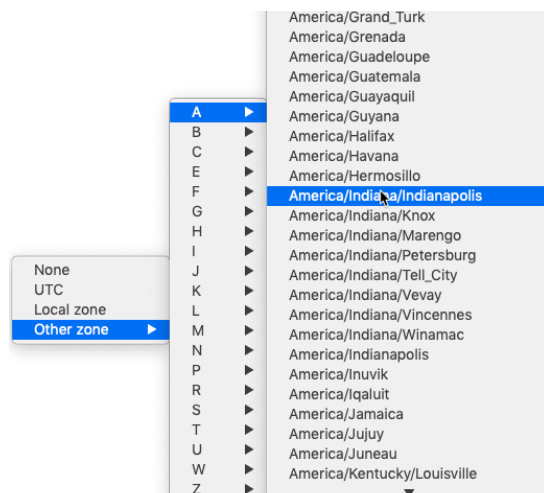
NB: Not all those geographic time zones will work; if one doesn't, try an equivalent one.

13.2.4   Time

Select **Specific date or time** / **Time**. The display looks like below but fields will be empty.
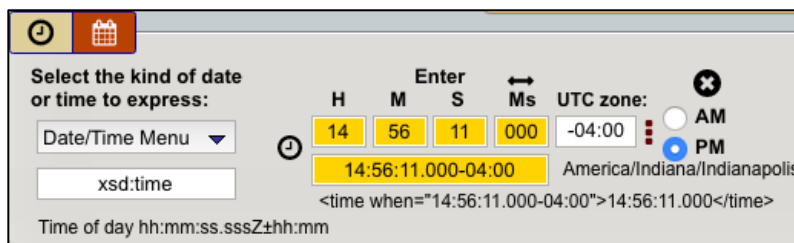
To enter the **current time**, simply click the little clock icon:
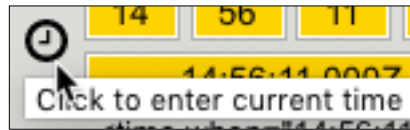
Otherwise enter the numbers corresponding to the Hour, Minute, Second, and Millisecond in their respective yellow boxes. Milliseconds add decimals to the seconds.

You may specify the maximum number of decimals to be used by clicking **Ms**.
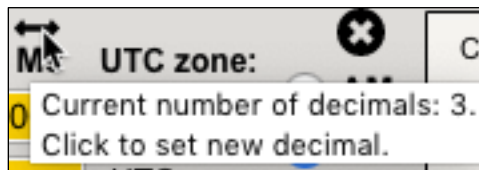
That will display this little side dialog:
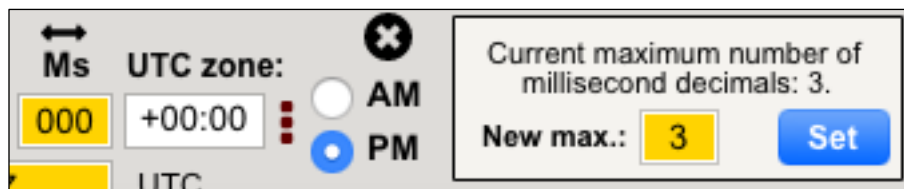
Just enter the decimal number and click the **Set** button, which will set the number and close the dialog.

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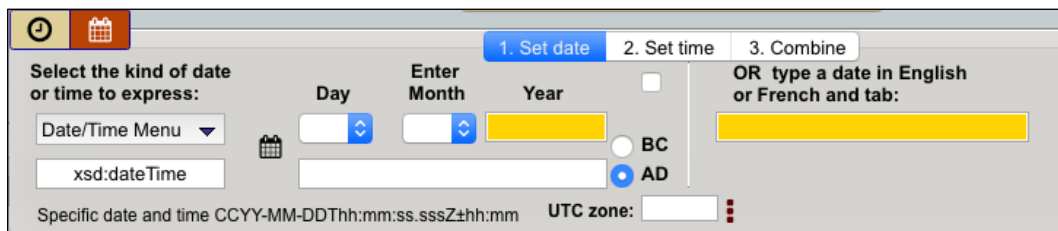
Most logically, this particular utility combines the **Date** format just exemplified with the **Time** format exemplified earlier. It does so thanks to three adjacent tabs: 1. Set date, 2. Set time, and 3. Combine.

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

1. Set date
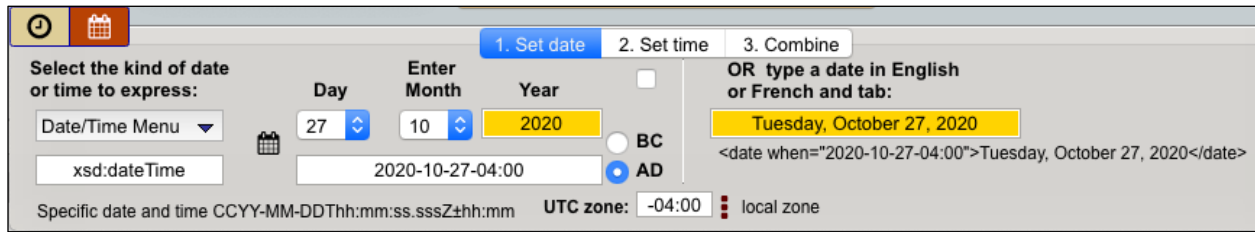
2. Set time
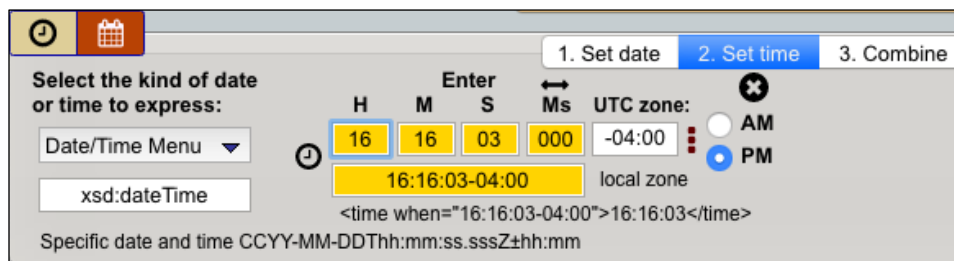
3. Combine

Just clicking the third tab, "3. Combine," does the trick:
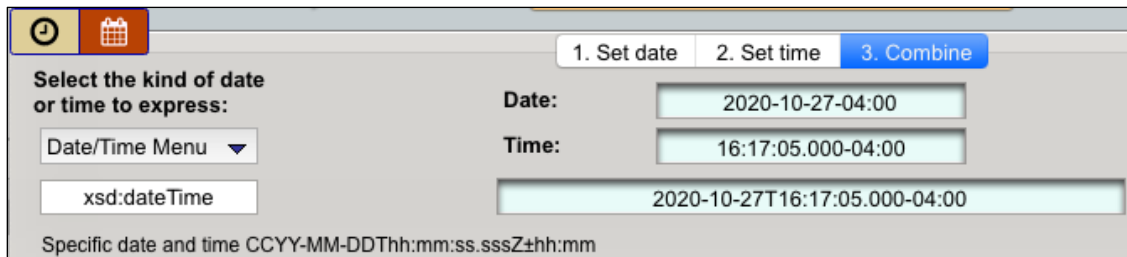
Note how the app instantly checks and validates the result:
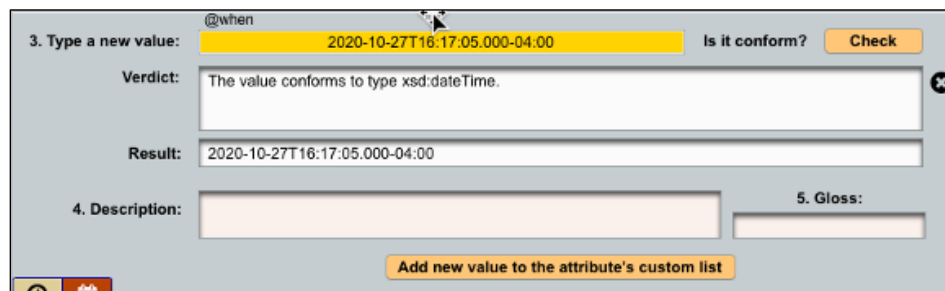
This automatic validation actually takes place with all eight date and time settings.

14.   THE INFORMATION BUTTON
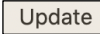
Each pane comes with an "**i**" button that, when clicked, brings up a dialog that explains (in summarized TEI Guidelines language) what the related pane is all about. The image below shows the explanation provided for the **Macros** pane.
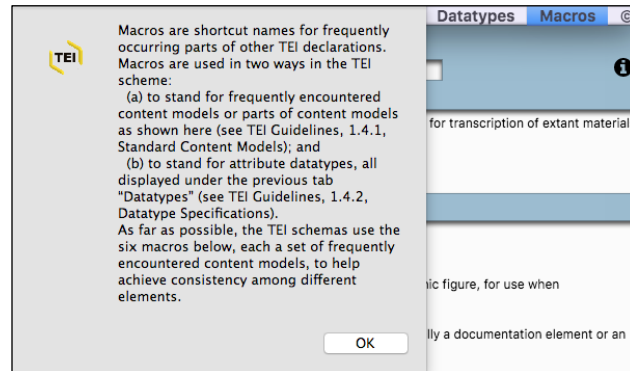
15.   UPDATING THE APP

15.1   Updating the array databases
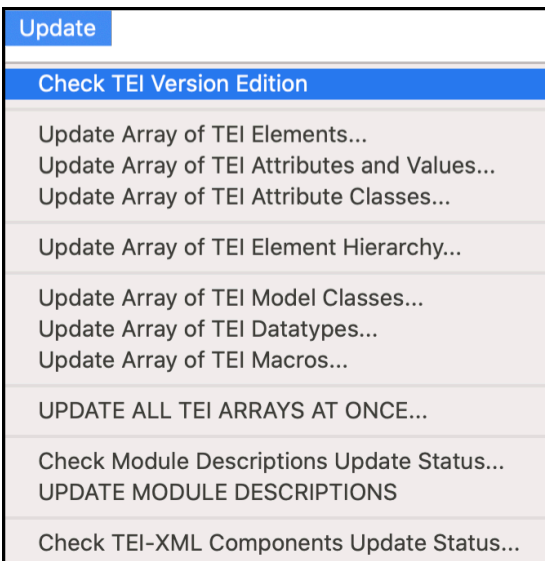
The **Update** menu in the app's menu bar [Update] allows users to update the many arrays of data whenever a new version of TEI P5 becomes available. The first command, "**Check TEI Version Edition…**" allows you to check whether that is the case. The command, "**Update All TEI Arrays at once…**," is best, for some array updates rely on the update of prior arrays.
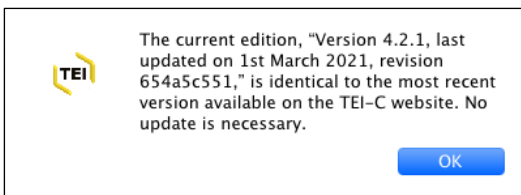
The entire operation takes about 10 minutes, on account of the enormous amount of data that need to be mined from several hundred files. Speed varies according to internet connection conditions and computer processing power.

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 restructuration 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.
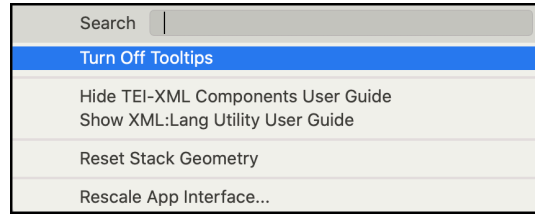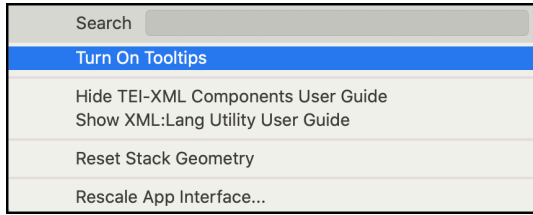
Example of regular tooltip (white background):
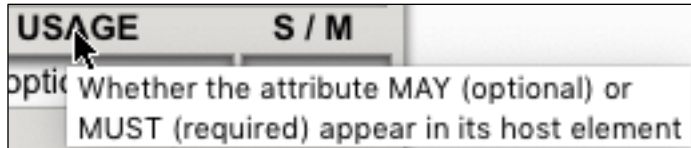
Example of custom tooltip (beige background)

The type **xsd:gMonthDay** represents a specific day that recurs every year. The letter g signifies "Gregorian."
xsd:gMonthDay can be used to say, for example, that your birthday is on the 14th of April every year. The format of **xsd:gMonthDay** is --MM-DD. An optional time zone expression may be added at the end of the value. The letter Z is used to indicate Coordinated Universal Time (UTC). All other time zones are represented by their difference from Coordinated Universal Time in the format +hh:mm, or -hh:mm. These values may range from -14:00 to 14:00. For example, US Eastern Standard Time, which is five hours behind UTC, is represented as -05:00. If no time zone value is present, it is considered unknown; it is not assumed to be UTC.

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.
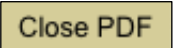
Choose the command **Show TEI-XML Components User Guide** in the **Help** menu. Notice the other one as well, **Show XML:Lang Utility User Guide**, most useful to learn a wonderful app!
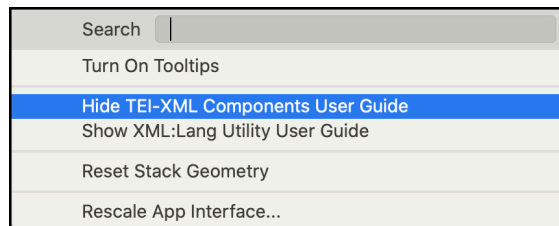
You will be moved to the **web** pane and looking at the first page of this User Guide within, not the web browser, but a PDF viewer.

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 Close PDF

(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

Search
Turn Off Tooltips
Hide User Guide
Reset Stack Geometry

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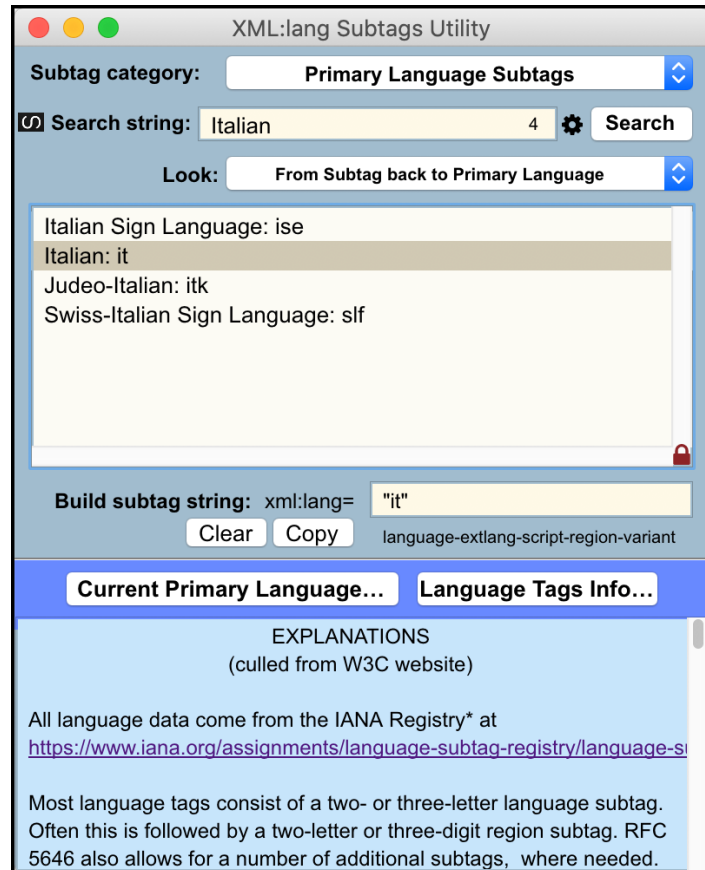
primary language tag, not with other subtags (extlang, script, region, and variant).

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.
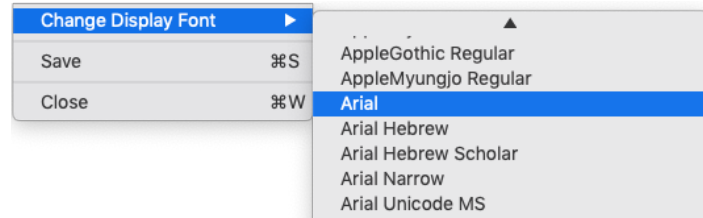
Arial is not available on every
platform: Linux doesn't have it.
Windows likely has it. But not
every monitor displays fonts
equally well. This app contains
many label fields whose content may stretch beyond a field's limit on platforms other
than Mac. As this situation is hard to predict, the work-around is simply to let users
modify the display font as they see fit.
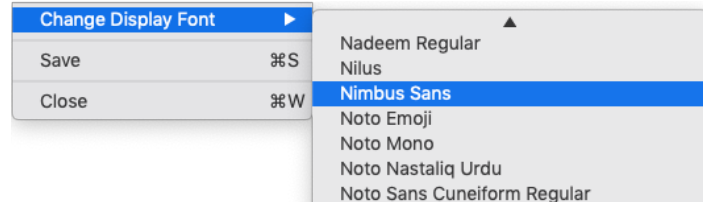
To do so, pull down the menu **File** (in the top menu bar) and select the first command,
Change Display Font. A list of fonts available to you appears. Choose a sans serif
font that looks good and fits the available space neatly and without fail. On Linux it
might be Nimbus Sans, Ubuntu, FreeSans, or 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.
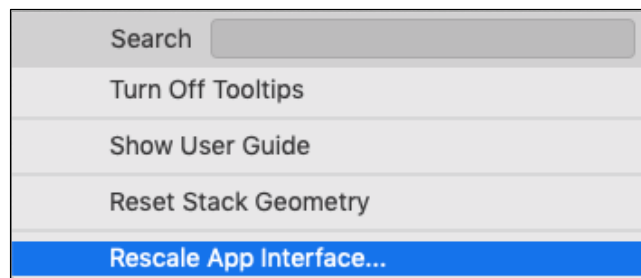
You may, however, adjust the app's "scale factor" yourself. To do so, choose the last
command, **Rescale App Interface…**, in the **Help** menu. You will be told what the
current scale factor value is (normally 1). If you want to decrease or increase the value,
follow the instructions on screen. Beware than "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!

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.
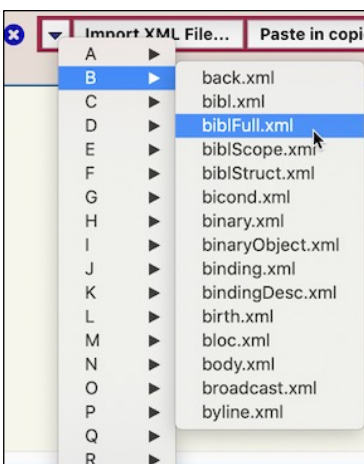
Those XML files provide structured information about TEI elements, attribute classes, models, macros, and teidata, all of which are made use of in the TEI-XML Components app. This menu button allows users to explore those XML files on their own. Selecting any of them downloads it directly into the top 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.
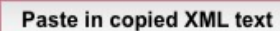
2. The **Import XML File...** button allows users to import XML files accessible to them on or via their workstation's directory. Clicking it opens a standard file dialog for the user to select an XML file.
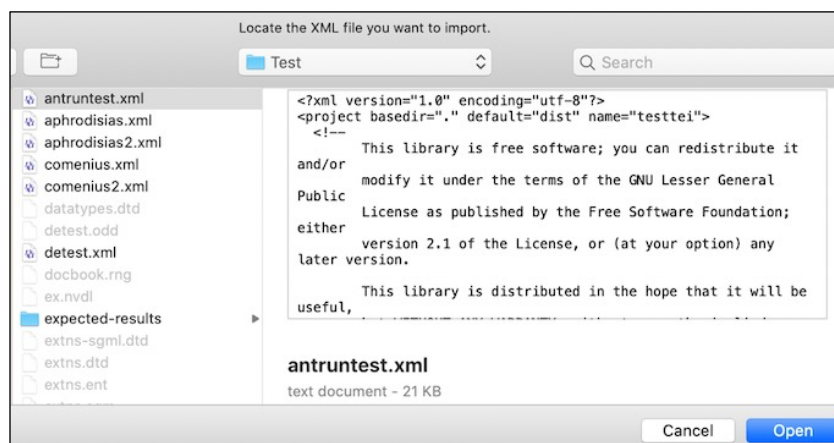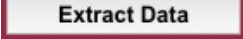
The selected file will be imported directly into the top field. The name and size of that file is displayed at the screen's center in blue characters. Note that while the utility allows you to import very large XML files, even a few megabytes long, and to display their corresponding elements, attributes, 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.
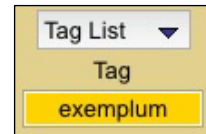
```
<exemplum xml:lang="en">
  <egXML xmlns="http://www.tei-c.org/ns/Examples">
   <bibl>Blain, Clements and Grundy: Feminist Companion to Literature in English (Yale,
   1990)</bibl>
  </egXML>
 </exemplum>
<exemplum versionDate="2008-04-06" xml:lang="fr">
  <egXML xmlns="http://www.tei-c.org/ns/Examples">
   <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.
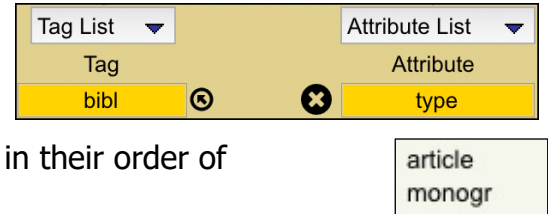
2. Selecting any element in the **Tag List** menu and then also a related value in the
   Value List menu WITHOUT specifying an attribute will display a list of the
   <u>contents</u> encoded by that tag/value compound, in their order of appearances, in
   the bottom field. "Content" means the text between the opening and closing
   tags: <element attribute="value">content</element>.
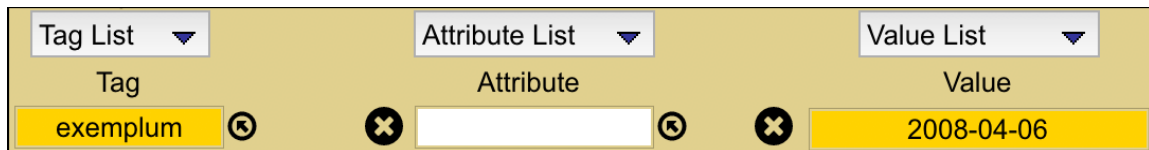
   • <egXML xmlns="http://www.tei-c.org/ns/Examples"> <bibl>Mazelier, Roger : Gérard de Nerval et l'Humour divin, Le Mesnil Saint-Denis, 1995.</bi
   • <egXML xmlns="http://www.tei-c.org/ns/Examples"> <bibl><title level="a">L'Enracinement</title><author>Simone Weil</author>, <title>Prélude à

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 <u>content</u> in their order of appearances.
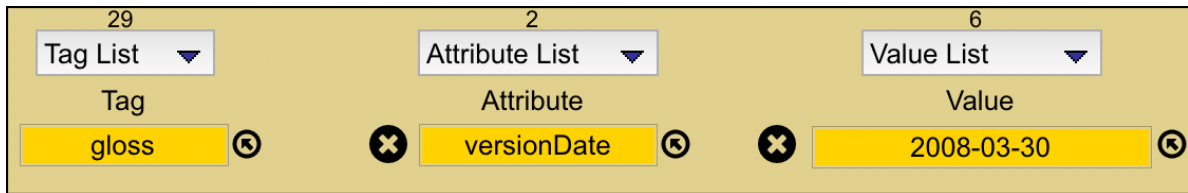
• référence bibliographique totalement structurée

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.

The attribute/value combination @key="att.declarable" either does not apply to <memberOf> or the tag is an empty element.
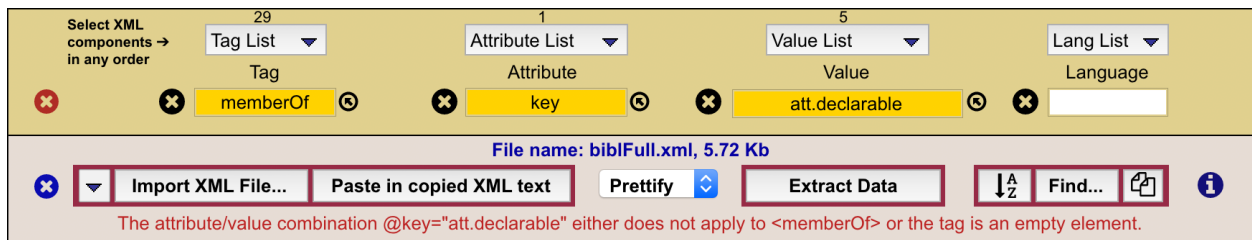
17.2.3   The Lang List menu

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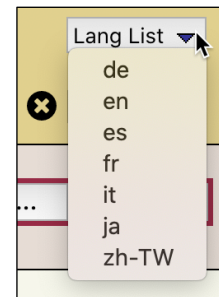
1. Selecting a **@lang** value alone, without any other XML component selected, displays every encoding whose tag element contains a **@lang** declaration with a value corresponding to the selected lang value.

• <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

```
<exemplum xml:lang="de" versionDate="2017-06-26">
  <p>Im folgenden Beispiel hat der Übersetzer eine Fußnote mit einer Erklärung des als "painterly"
  übersetzten Begriffs "Malerisch" bereitgestellt:</p>
  <egXML xmlns="http://www.tei-c.org/ns/Examples" source="#NOTE-eg">And yet it is not only
  in the great line of Italian renaissance art, but even in the
  painterly <note place="bottom" type="gloss" resp="#MDMH-1"><term xml:lang="de">Malerisch</term>. This word has, in the German, two
    distinct meanings, one objective, a quality residing in the object,
    the other subjective, a mode of apprehension and creation.  To avoid
    confusion, they have been distinguished in English as
    <mentioned>picturesque</mentioned> and
    <mentioned>painterly</mentioned> respectively.</note> style of the
  Dutch genre painters of the seventeenth century that drapery has this
  psychological significance.
```

Select XML components → in any order	25 Tag List ▾	18 Attribute List ▾	57 Value List ▾	7 Lang List ▾
	Tag	Attribute	Value	Language
✖	✖ [____] ⊙	✖ [____] ⊙	✖ [____] ⊙	✖ de

File name: note.xml, 8.62 Kb

✖ ▾ | Import XML File... | Paste in copied XML text | Prettify ⇅ | Extract Data | ↓A Z | Find... | ⎘ | ⓘ

List of contents with German language declaration   6 lines

- <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.
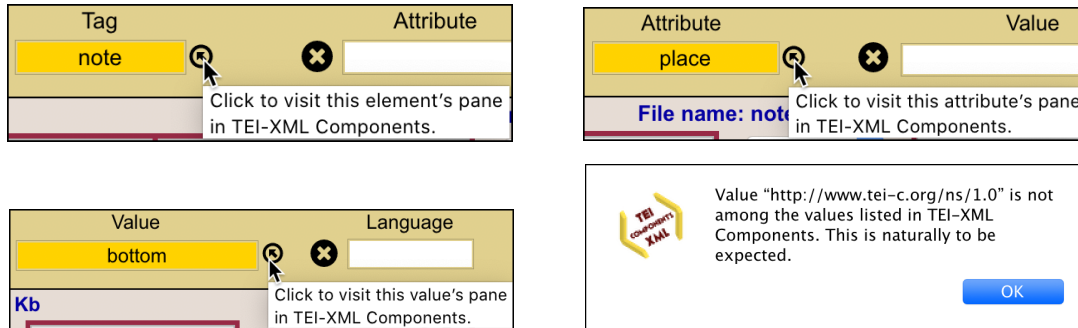
All it takes is one click. For instance, click next to the tag element "note". One instant later you are looking at the following display:
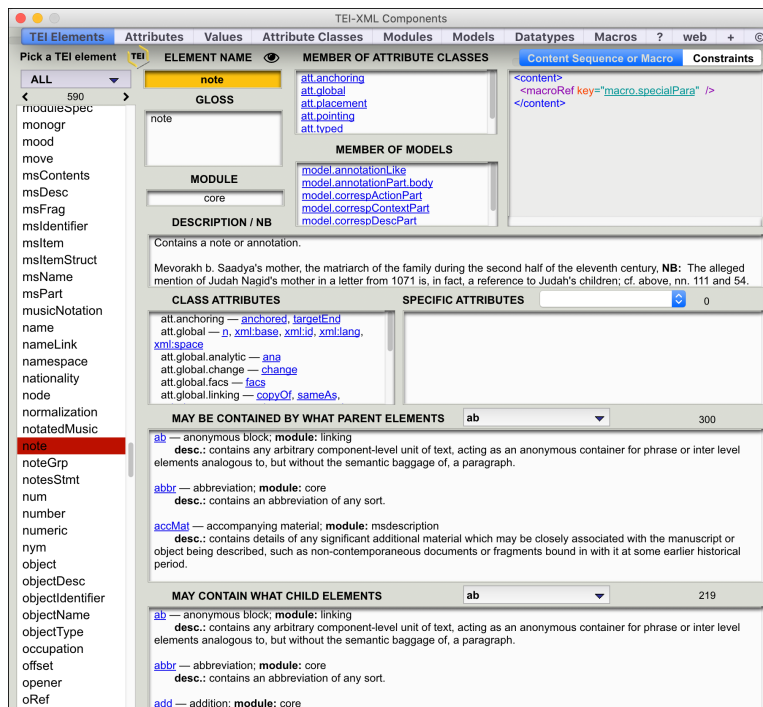
In case there is no match for the component you clicked about, a message will let you know. Not every XML element in a TEI file is specific to TEI, and possible values are in many cases innumerable.