Modelling humanities data with TEI-XML

SCHOLARLY EDITING AND MANUSCRIPT CATALOGUING IN THE DIGITAL AGE

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27 November 2024

Midterm General Feedback

- **Read the instruction and follow the guidelines!**
  - *Prepare a short description of the materials and justification why you want to work with them and how you think using XML for data structurisation may benefit your project (250-300 words) .* – **How many criteria are in this point?**
  - *Using the TEI Guidelines, make a list of elements, attributes, and attribute values that you think you will need for your project.* – ***How many criteria are in this point?***
  - *A plain XML file template with structured list of elements, attributes, and attribute values defined with DTD.* – **How many files you need to submit?**

Midterm General Feedback

- **Read the instruction and follow the guidelines!**
  - *Prepare a short **description of the materials (1)** and **justification why (2)** you want to work with them and **how (3)** you think using XML for data structurisation may benefit your project (**250-300 words**) **(4)***
  - *Using the TEI Guidelines, make a list of **elements (1)**, **attributes (2)**, and **attribute values (3)** that you think you will need for your project.*
  - *A **plain XML file template (1)** with structured list of elements, attributes, and attribute values **defined with DTD (2)**.*

Midterm General Feedback

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-model href="http://www.tei-
c.org/release/xml/tei/custom/schema/relaxng/tei_ms.rng
" type="application/xml"
schematypens="http://relaxng.org/ns/structure/1.0"?>
<?xml-model href="http://www.tei-
c.org/release/xml/tei/custom/schema/relaxng/tei_ms.rng
" type="application/xml"
schematypens="http://purl.oclc.org/dsdl/schematron"?>
<!DOCTYPE TEI SYSTEM "myDTD.dtd">
<TEI xmlns="http://www.tei-c.org/ns/1.0">
```

Midterm General Feedback

- <?xml version="1.0" encoding="UTF-8"?>
  <!DOCTYPE XML SYSTEM "myDTD.dtd">
  <XML>

- <?xml version="1.0" encoding="UTF-8"?>
  <!DOCTYPE TEI SYSTEM "myDTD.dtd">
  <TEI xmlns="http://www.tei-c.org/ns/1.0">

Midterm General Feedback

- <TEI xmlns="http://www.tei-c.org/ns/1.0">

- What is xmlns, what is its value, and how is it used?

Namespace in XML

- Naming conflict in XML can be avoided by using a **name prefix**. When using prefixes in XML, a **namespace** for the prefix must be defined. The namespace declaration has the following syntax. **xmlns:*prefix*="*URI*"**
  - Example: <root **xmlns:w**=http://www.w3.org/TR/html4/ **xmlns:k**="https://www.kakapitan.com/myEncoding">
- Defining a default namespace for an element saves us from using prefixes in all the child elements. It has the following syntax: **xmlns="*namespaceURI*"**
  - Example: <TEI **xmlns**="http://www.tei-c.org/ns/1.0">
    Read more: https://www.w3schools.com/xml/xml_namespaces.asp

```
1  <?xml version="1.0" encoding="UTF-8"?>
2  <?oxygen RNGSchema="http://www.menota.org/menotaP5.rng" type="xml" ?>
3  <!DOCTYPE TEI [
4  <!ENTITY % Menota_entities SYSTEM "http://www.menota.org/menota-entities.txt">
5      %Menota_entities;
6  ]>
7  <TEI xmlns="http://www.tei-c.org/ns/1.0" xmlns:me="http://www.menota.org/ns/1.0">
8     <teiHeader xml:lang="eng">
9        <fileDesc>
10          <titleStmt>
```

```
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
    xmlns:tei="http://www.tei-c.org/ns/1.0"
    xmlns:me="http://www.menota.org/ns/1.0"
    xmlns:xhtml="http://www.w3.org/1999/xhtml" version="2.0" exclude-result-prefixes="#all"
    xpath-default-namespace="http://www.tei-c.org/ns/1.0">
```

Final Assignment: Teacher-Students Contract

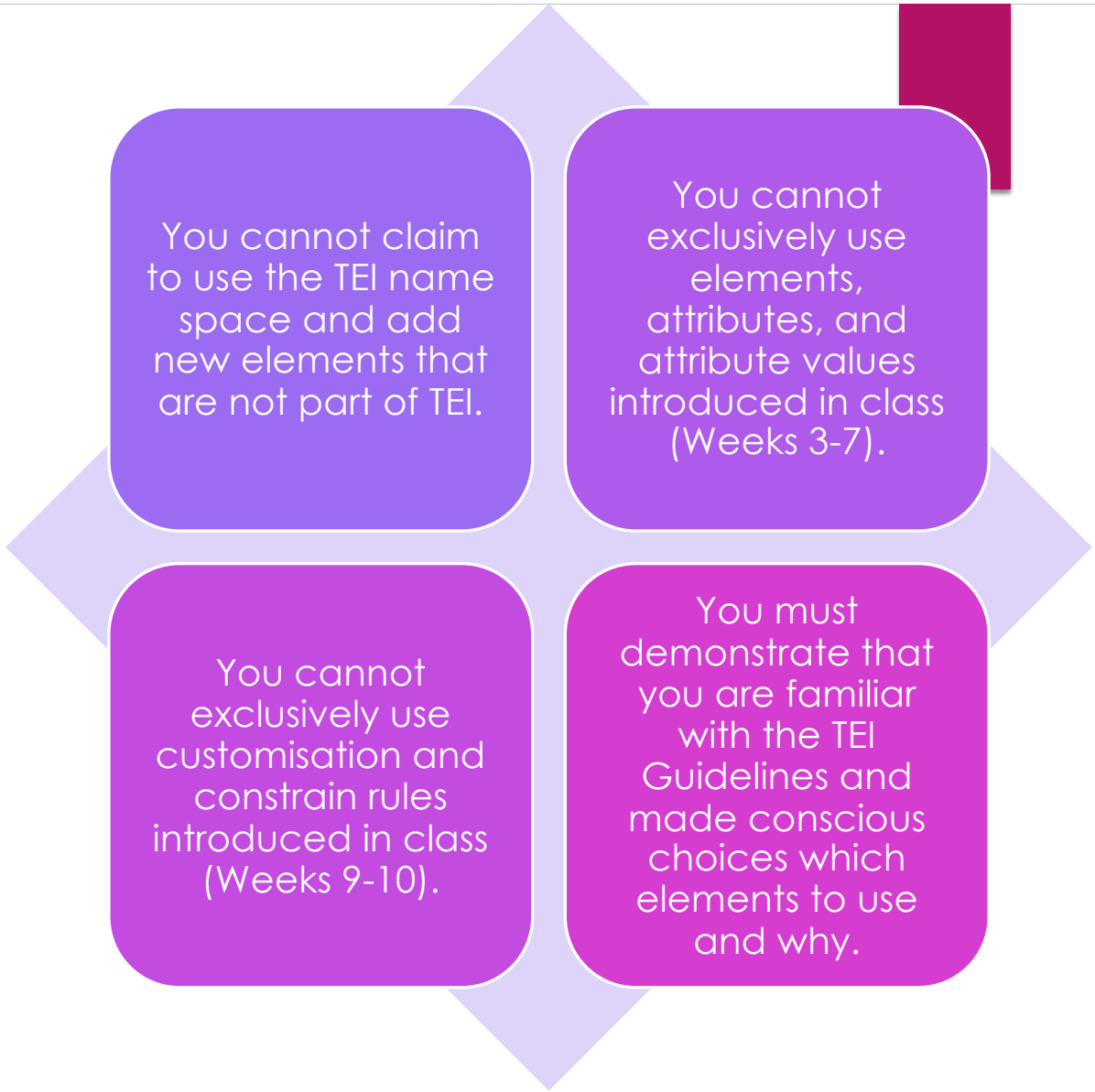
Your files must be well-formatted

(File with formatting errors = 0 points)

Your files must validate against the correct schema

(File validating against a wrong schema or not validating = 0 points)

Final Assignment: Teacher-Students Contract



XPath Recap - Questions

Open the following files in your Oxygen

- Munich_Bayerische_Staatsbibliothek_Clm_305_transcr_spoiler.xml **(Week6/Ex1)**
- Dares_edition_spoiler.xml **(Week7/Ex1)**
- Ex1_Paris_BnF_Latin_5691_Description_NKY.xml **(Week5/Ex1)**
- Ex2_FirstFolio_spoiler_Bod.xml **(Week3/Exercises)**

XPATH QUIZ WITH YOUR OWN QUESTIONS

https://tinyurl.com/XPath2024

More XPath

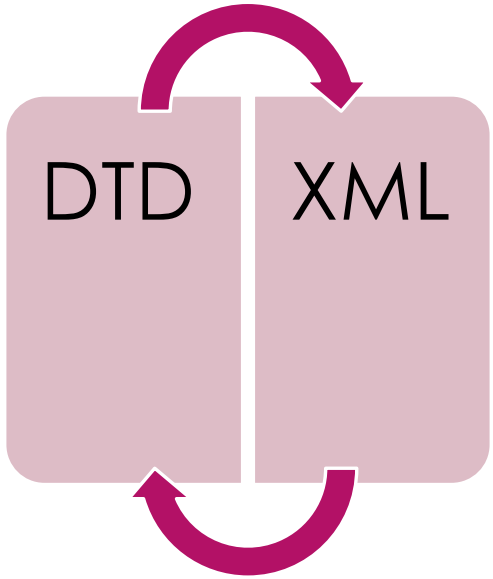
- **Recommended Reading to learn more about XPath:** Elisa Beshero-Bondar and David J. Birnbaum, 'The XPath functions we use most' & 'Autotagging with Regular Expressions (Regex)', in 'Code the X-files using the XML family of languages' Course pack, DHSI 2024: https://ebeshero.github.io/UpTransformation/coursepack/XPath_coursepak.pdf

Customisation and Documentation

Recap DTD

DTD

- Define a fixed set of elements, attributes and attribute values needed to encode information in **XML**
- Define relationship between these elements



XML

- Encode information in a consistent and structured way
- Validate against **DTD**

Other Schema Languages

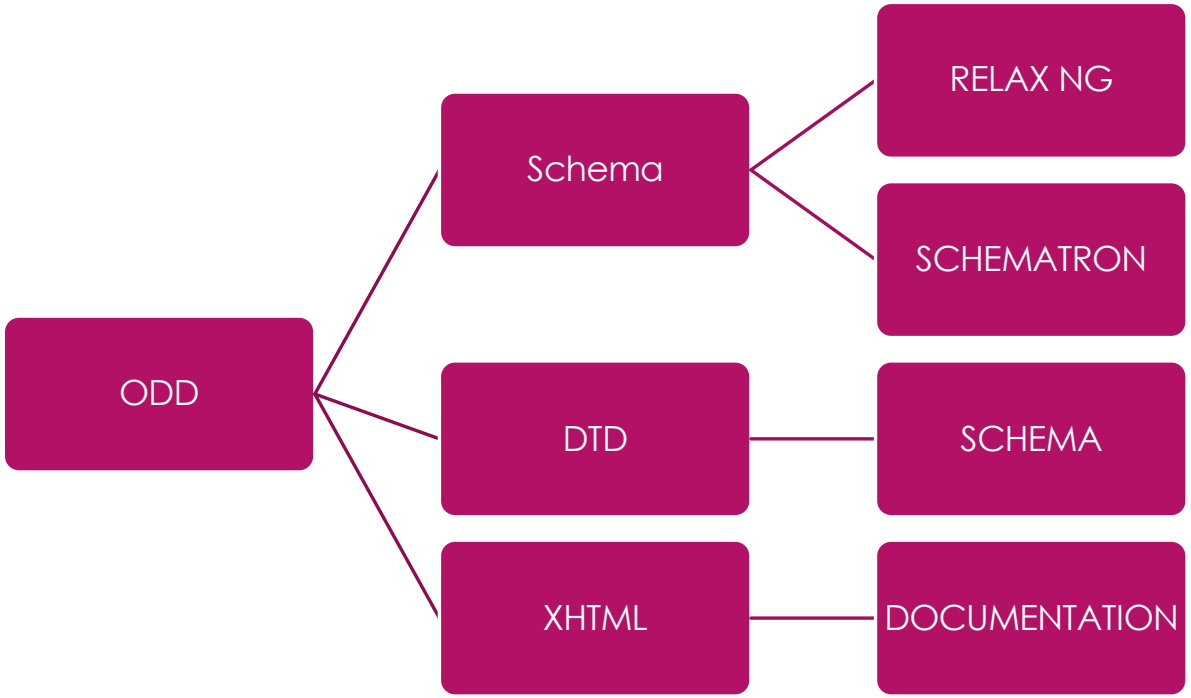
- Source: Syd Bauman, « A TEI customization for writing TEI customizations », Journal of the Text Encoding Initiative [Online], Issue 12 | July 2019 -, Online since 15 November 2019. URL: http://journals.openedition.org/jtei/2573

Table 1. Some of the schema languages for XML documents, arranged roughly by family of language.

SGML Document Type Declaration Family	W3C Schema Language Family	Regular Expression Family	Others
DTD	XML-Data	RELAX	DSD
XDTD	XDR	XDUCE	*Schematron*
DTD++	DCD	TREX	Examplatron
DTD++ 2.0	SOX	*RELAX NG*	X-definition
	DDML		*TEI ODD*
	XSD		

TEI ODD (One Document Does it All)

- Read:
  - Bauman, Syd. 'Freedom to Constrain: where does attribute constraint come from, mommy?', https://www.balisage.net/Proceedings/vol1/html/Bauman01/BalisageVol1-Bauman01.html
  - Syd Bauman, 'A TEI customization for writing TEI customizations', http://journals.openedition.org/jtei/2573



Writing ODD files by hand

Let's bear in mind: An ODD file is just a specialized TEI file, with elements that say things like:

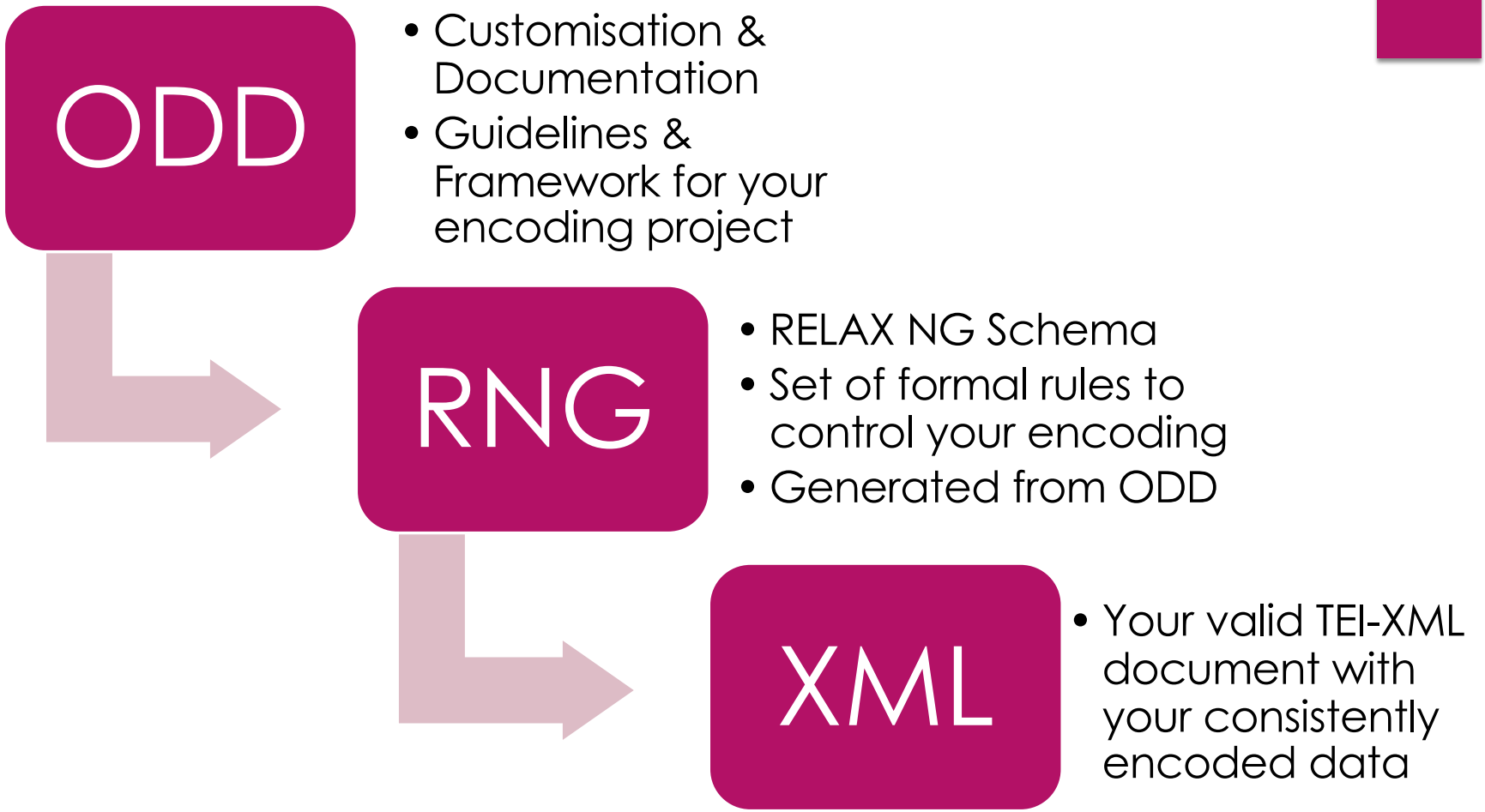
- "Include this element!"
- "Delete this element!"
- "Change this attribute!"
- "Replace the default definition with my custom definition!"
- … and of course "Here's what it means and why I did it!"

```
<TEI xml:lang="en">
  <teiHeader> Metadata </teiHeader>
  <text>
    <body>
        <p> Description of the schema </p>

    <schemaSpec ident="test" targetLang="en">
            Actual specification of your customization
     </schemaSpec>

    </body>
  </text>
</TEI>
```

Description and Documentation

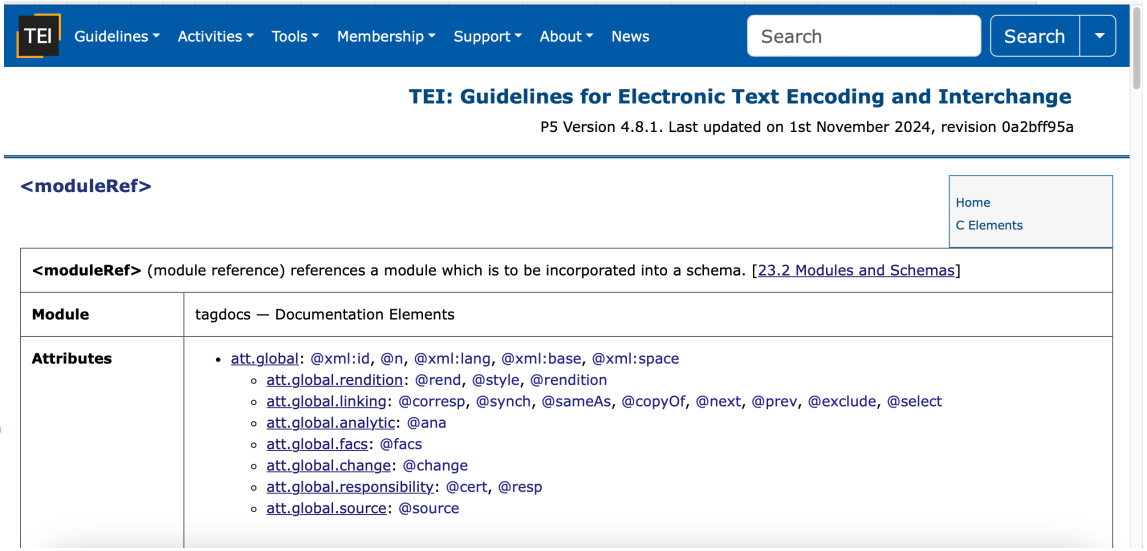
- **<desc> -** (description) contains a short description of the purpose, function, or use of its parent element
- **<gloss>** - (gloss) identifies a phrase or word used to provide a gloss or definition for some other word or phrase.
- **<gi>** - (generic identifier) contains the name of an element within running text
- **<att>** - (attribute) contains the name of an attribute within running text
- **<val>** - (value) contains a single attribute value.

```
<attDef ident="columns">
 <gloss xml:lang="en"
  versionDate="2007-06-12">columns</gloss>
 <desc versionDate="2005-01-14"
  xml:lang="en">specifies the number of columns per page</desc>
 <datatype minOccurs="1" maxOccurs="2">
  <dataRef key="teidata.count"/>
 </datatype>
 <remarks xml:lang="en"
  versionDate="2017-07-09">
  <p>If a single number is given, all pages referenced
     have this number of columns. If two numbers are given,
     the number of columns per page varies between the
     values supplied. Where <att>columns</att> is omitted
     the number is assumed to be <val>1</val>.</p>
 </remarks>
</attDef>
```


ODD
• Customisation & Documentation
• Guidelines & Framework for your encoding project
RNG
• RELAX NG Schema
• Set of formal rules to control your encoding
• Generated from ODD
XML
• Your valid TEI-XML document with your consistently encoded data

moduleRef

```
<moduleRef key="core"/>
<moduleRef key="tei"/>
<moduleRef key="header"/>
<moduleRef key="textstructure/>
```



TEI Guidelines Activities Tools Membership Support About News Search Search

TEI: Guidelines for Electronic Text Encoding and Interchange

P5 Version 4.8.1. Last updated on 1st November 2024, revision 0a2bff95a

<moduleRef>

Home
C Elements

<moduleRef> (module reference) references a module which is to be incorporated into a schema. [23.2 Modules and Schemas]	
Module	tagdocs — Documentation Elements
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

Source: https://www.tei-c.org/release/doc/tei-p5-doc/en/html/ref-moduleRef.html

TEI Modules

- Source: https://www.tei-c.org/release/doc/tei-p5-doc/fr/html/ST.html

Module name	Formal public identifier	Where defined
analysis	Analysis and Interpretation	18 Simple Analytic Mechanisms
certainty	Certainty and Uncertainty	22 Certainty, Precision, and Responsibility
core	Common Core	3 Elements Available in All TEI Documents
corpus	Metadata for Language Corpora	16 Language Corpora
dictionaries	Print Dictionaries	10 Dictionaries
drama	Performance Texts	7 Performance Texts
figures	Tables, Formulae, Figures	15 Tables, Formulæ, Graphics, and Notated Music
gaiji	Character and Glyph Documentation	5 Characters, Glyphs, and Writing Modes
header	Common Metadata	2 The TEI Header
iso-fs	Feature Structures	19 Feature Structures
linking	Linking, Segmentation, and Alignment	17 Linking, Segmentation, and Alignment
msdescription	Manuscript Description	11 Manuscript Description
namesdates	Names, Dates, People, and Places	14 Names, Dates, People, and Places
nets	Graphs, Networks, and Trees	20 Graphs, Networks, and Trees

TEI: Guidelines for Electronic Text Encoding and Interchange

P5 Version 4.8.1. Last updated on 1st November 2024, revision 0a2bff95a

** **

Module: textstructure

Home
C Elements

** ** (text division) contains a subdivision of the front, body, or back of a text [ivisions of the Body]

Module	textstructure — Default Text Structure
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.divLike: @org, @sample ◦ att.metrical: @met, @real, @rhyme ◦ att.fragmentable: @part • att.typed: @type, @subtype • att.declaring: @decls • att.written: @hand
Member of	model.divLike

Source: https://tei-c.org/release/doc/tei-p5-doc/en/html/ref-div.html

Module name	Formal public identifier	Where defined
analysis	Analysis and Interpretation	18 Simple Analytic Mechanisms
certainty	Certainty and Uncertainty	22 Certainty, Precision, and Responsibility
core	Common Core	3 Elements Available in All TEI Documents
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gaiji	Character and Glyph Documentation	5 Characters, Glyphs, and Writing Modes
header	Common Metadata	2 The TEI Header
iso-fs	Feature Structures	19 Feature Structures
linking	Linking, Segmentation, and Alignment	17 Linking, Segmentation, and Alignment
msdescription	Manuscript Description	11 Manuscript Description
namesdates	Names, Dates, People, and Places	14 Names, Dates, People, and Places
nets	Graphs, Networks, and Trees	20 Graphs, Networks, and Trees
spoken	Transcribed Speech	8 Transcriptions of Speech
tagdocs	Documentation Elements	23 Documentation Elements
tei	TEI Infrastructure	1 The TEI Infrastructure
textcrit	Text Criticism	13 Critical Apparatus
textstructure	Default Text Structure	4 Default Text Structure
transcr	Transcription of Primary Sources	12 Representation of Primary Sources
verse	Verse	6 Verse

Chapter 1: The TEI Infrastructure (https://tei-c.org/release/doc/tei-p5-doc/en/html/ST.html)

What else is in the textstructure module?

TEI: Guidelines for Electronic Text Encoding and Interchange

P5 Version 4.8.1. Last updated on 1st November 2024, revision 0a2bff95a

Table of contents

4.1 Divisions of the Body
4.2 Elements Common to All Divisions
4.3 Grouped and Floating Texts
4.4 Virtual Divisions
4.5 Front Matter
4.6 Title Pages
4.7 Back Matter
4.8 Module for Default Text Structure

« 3 Elements Available in All TEI Documents
» 5 Characters, Glyphs, and Writing Modes
Home

4 Default Text Structure

This chapter describes the default high-level structure for TEI documents. A full TEI document combines metadata describing it, represented by a teiHeader element, with the document itself, represented by one or more text elements or other elements taken from the model.resource class. That is, the TEI element is used to group together metadata about an encoded resource (in teiHeader, specified by the **header** module, which is fully described in chapter 2 The TEI Header) with an encoded resource. Possible encoded resources are

- a logical transcription of a source document in a text element; the text element is specified along with its high-level constituents in the **textstructure** module and described in the remainder of the current chapter
- a diplomatic transcription of a source document in a sourceDoc element, which is specified in the **transcr** module and described in chapter 12 Representation of Primary Sources
- an encoded representation of a text-bearing object as images in a facsimile element, which is also specified in the **transcr** module and described in chapter 12 Representation of Primary Sources
- a collection of contextual information or annotations that provides more detail about another encoded resource (whether in the same or a different TEI document) in a standOff element, which is specified in the **linking** module and described in section 17.10 The standOff Container
- a feature system declaration which can be used to declare the use of fs elements in the rest of the document, which is specified in the **iso-fs** module and described in section 19.11 Feature System Declaration

Chapter 4: Default Text Structure (https://tei-c.org/release/doc/tei-p5-doc/en/html/DS.html)

Because the TEI can be a child of itself, a set or collection of documents may be represented by an outermost TEI element that contains a teiHeader with metadata that is applicable to the entire set or collection of transcriptions, and then a complete TEI element for each document in the collection or set; each of these TEI elements contains a teiHeader with metadata that is applicable to the individual document, and one or more text or other elements taken from the model.resource class.

Kapitan, Modelling humanities data with TEI-XML

Customisation: Elements

Trimming your modules

To delete specific elements from the modules you selected:

```
<moduleRef key="namesdates" except="addName affiliation bloc climate"/>
```

To include specific elements from the modules you selected:

```
<moduleRef key="textstructure" include="TEI text div back body"/>
```

Two important tips:

- you can't use both at once for the same <moduleRef>!
- be careful that the elements listed are actually in the module specified!

Customizing your elements: elementSpec

- <elementSpec
  ident="*Element_name*"
  mode="*mode_of_change*"
  module="*module_containing_this_element*">
  My specification
  </elementSpec>

Mode = "delete" – delete this element
Mode = "add" – and this new element
Mode = "change" – change only these parts I am specifying
Mode = "replace" – replace everything with my specification

Customizing your elements: Description

<elementSpec ident="publicationStmt" mode="replace" module="header">

<desc>

contains info about publication of this file.
In our project <gi>publicationStmt</gi> must contain a sequence of two elements: <gi>authority</gi> and <gi>availability</gi> as children.
No other elements are allowed.

</desc> […]

</elementSpec>

Customizing your elements: Content

```
<elementSpec ident="availability" mode="change" module="header">

    <content>
        <textNode/>
    </content>

</elementSpec>
```

Customizing your elements: Content

```
<content>
    <sequence>
        <elementRef key="authority" minOccurs="1" maxOccurs="1"/>
        <elementRef key="availability" minOccurs="1" maxOccurs="1"/>
    </sequence>
</content>
```

Exercise 1

- Using the ODD file called **minimal_odd_starter_elements.odd** and pre-defined TEI transformation scenarios in Oxygen
  - generate XHTML guidelines (TEI ODD TO XHTML)
  - generate RELAX NG schema (TEI ODD TO RNG)
- Associate the RELAX NG schema with your XML file **minimal_encoding_elements.xml** and validate the XML file
  - Follow the steps described in: **Step_by_step_validation_in_Oxygen_XML_Editor.pdf**)
- Fix the XML file (**minimal_encoding_elements.xml**) so it validates correctly with the RNG schema created from our ODD (**minimal_odd_starter_elements.odd)**

Customisation: Attributes

Changing attributes: Overview

Several ways for elements to possess attributes:

- By being a member of an attribute class
- By having attributes privately

Hence, several ways to remove attributes from elements:

- By deleting the attribute class from the schema altogether
- By deleting the attribute from the attribute class
- By unsubscribing the element from that attribute class
- By removing a privately held attribute from the element that owns it

** ** (text division) contains a subdivision of the front, body, or back of a text. [4.1 Divisions of the Body]	
Module	textstructure — Default Text Structure

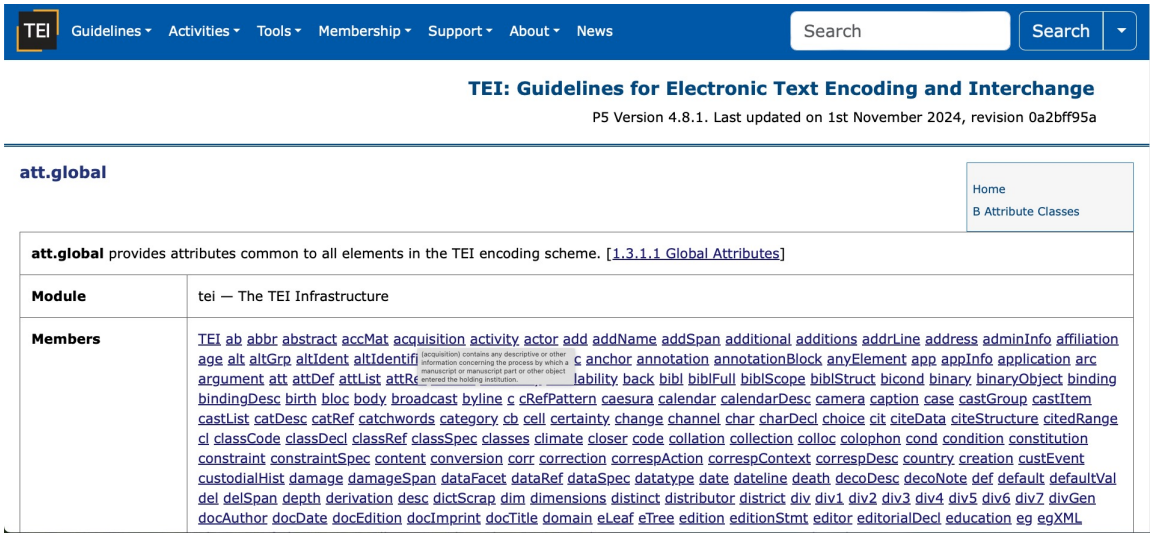
Attributes	• att.global: @xml:id, @n, @xml:lang, @xml:base, @xml:space
	  ◦ att.global.rendition: @rend, @style, @rendition
	  ◦ att.global.linking: @corresp, @synch, @sameAs, @copyOf, @next, @prev, @exclude, @select
	  ◦ att.global.analytic: @ana
	  ◦ att.global.facs: @facs
	  ◦ att.global.change: @change
	  ◦ att.global.responsibility: @cert, @resp
	  ◦ att.global.source: @source
	• att.divLike: @org, @sample
	  ◦ att.metrical: @met, @real, @rhyme
	  ◦ att.fragmentable: @part
	• att.typed: @type, @subtype
	• att.declaring: @decls
	• att.written: @hand

Member of	model.divLike

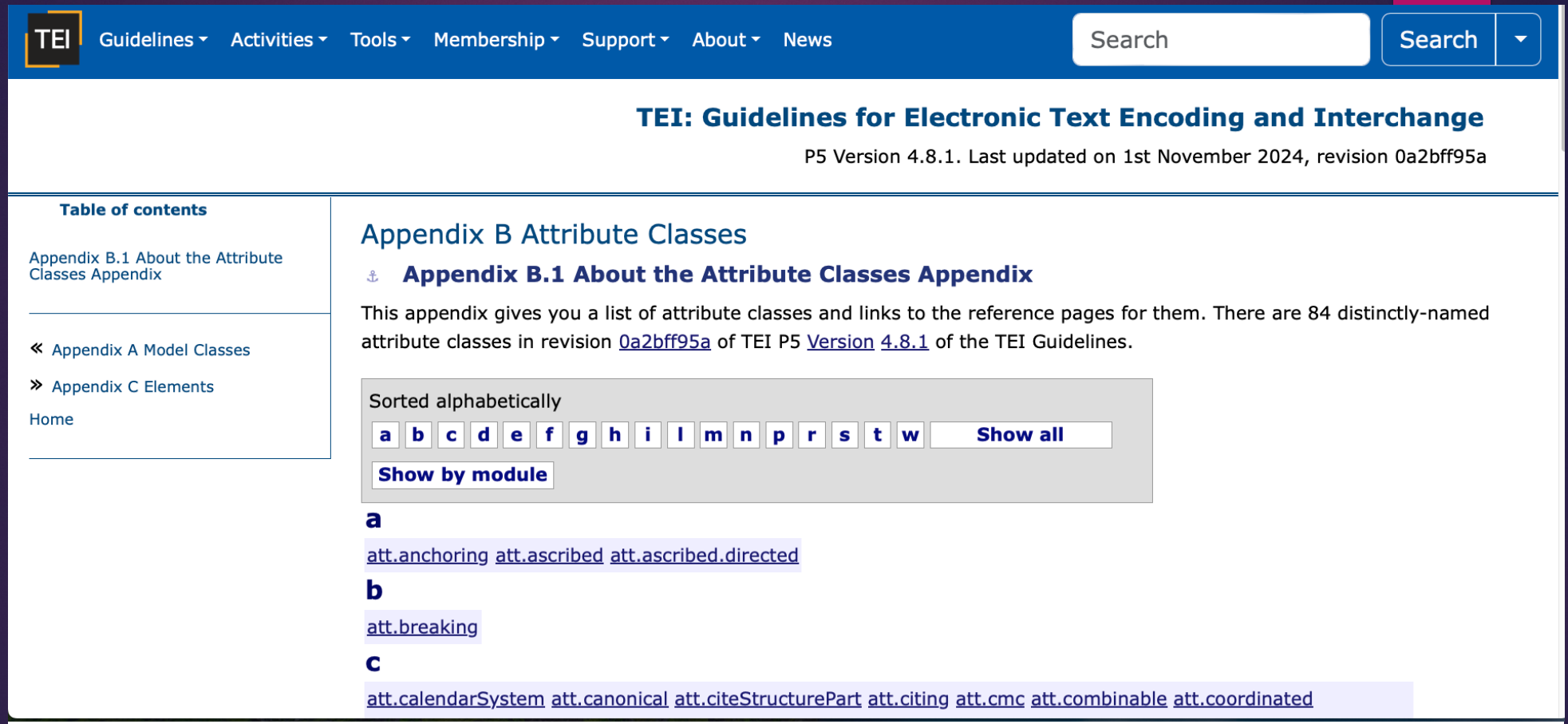
Attributes
grouped by attribute classes

Attribute classes

- A group of attributes that can occur in the same place in a TEI document.
- The names of attribute classes all start with **att.**, followed by a name that gives an indication of the group of attributes it contains.
- **@xml:id** and **@n** are defined in the attribute class **att.global**, as the name indicates, **att.global** defines global attributes
- Source: https://teibyexample.org/exist/tutorials/TBED08v00.htm



Source: https://tei-c.org/release/doc/tei-p5-doc/en/html/ref-att.global.html



Source: https://tei-c.org/release/doc/tei-p5-doc/en/html/REF-CLASSES-ATTS.html

Changing attributes: Examples

To delete an entire attribute class from the schema (scorched earth approach):

```
<classSpec type="atts" ident="att.personal" mode="delete"/>
```

To delete a single attribute from an attribute class (selective thinning):

```
<classRef key="att.global" except="xml:base xml:space"/>
```

To unsubscribe an element from an attribute class (genteel bureaucratic approach):

```
<elementSpec module="core" ident="pb" mode="change">
  <classes mode="change">
    <memberOf key="att.typed" mode="delete"/>
  </classes>
</elementSpec>
```

To remove a specific attribute from an element that holds it privately (repossession):

```
<elementSpec module="core" ident="note" mode="change">
  <attList>
    <attDef ident="anchored" mode="delete"/>
  </attList>
</elementSpec>
```

Changing attribute values <attDef>

```
<elementSpec ident="title" mode="change" module="core">
    <desc>This specification changes the element "title", which is part [….] </desc>
    <attList>
        <attDef ident="type" mode="replace">
            <desc>In this part we replace the specification of type attribute […] <desc>
            <datatype>
                <dataRef key="teidata.enumerated"/>
            </datatype>
            <valList type="closed">
                <valItem ident="uniform"/>
                <valItem ident="supplied"/>
            </valList>
    </attDef></attList></elementSpec>
```

Datatype

- **<datatype>** (datatype) specifies the declared value for an attribute, by referring to any datatype defined by the chosen schema language
- In the TEI scheme, most datatypes are expressed using pre-defined TEI macros, which map a name in the form **teidata.xxxx**
- For example, **teidata.enumerated,** which defines the range of attribute values expressed as a single XML name taken from a list of documented possibilities.

Table of contents

Appendix E.1 About the Datatypes and Macros Appendix

« Appendix D Attributes

» Appendix F Bibliography

Home

Appendix E Datatypes and Other Macros

Appendix E.1 About the Datatypes and Macros Appendix

This appendix gives you a list of datypes and links to the reference pages for them. There are 35 distinctly-named data specifications in revision 0a2bff95a of TEI P5 Version 4.8.1 of the TEI Guidelines.

Alphabetical list

[cmc] Computer-mediated communication

macro.specialPara.cmc

[tei] Declarations for classes, datatypes, and macros available to all TEI modules

macro.abContent macro.limitedContent macro.paraContent macro.phraseSeq macro.phraseSeq.limited macro.specialPara macro.xtext teidata.authority teidata.certainty teidata.count teidata.duration.iso teidata.duration.w3c teidata.enumerated teidata.gender teidata.interval teidata.language teidata.name teidata.namespace teidata.namespaceOrName teidata.nullOrName teidata.numeric teidata.outputMeasurement teidata.pattern teidata.point teidata.pointer teidata.prefix teidata.probability teidata.probCert teidata.replacement teidata.sex teidata.temporal.iso teidata.temporal.w3c teidata.temporal.working teidata.text teidata.truthValue teidata.unboundedCount teidata.version teidata.versionNumber teidata.word teidata.xmlName teidata.xpath teidata.xTruthValue

Source: https://tei-c.org/release/doc/tei-p5-doc/en/html/REF-MACROS.html

Exercise 2: Attributes

- Using **minimal_encoding_attributes.xml** and **minimal_odd_starter_attributes.odd**
  - Create RELAX NG schema from ODD
  - Create XHTML guidelines from ODD.
- Associate the RNG schema with your XML file and make sure your file validates.
- Revise the ODD file so that divisions **(div)** must have the **type** attribute, and the only allowed attribute values are **book** and **chapter**.
- Save your ODD with a new name and generate a RNG and XHTML from it.
- Associate the new RNG schema with your file.
- Revise your XML file so it validates correctly with your new schema.

Exercise 3: Autogenerated ODD from XML

- Create an ODD file from **minimal_encoding_elements.xml** by using the **oddbyexample.xsl** transformation.
  - Tutorial: Burnard_2013_How_to_Make_an_ODD_Automagically.pdf
- Edit the ODD file adding prose descriptions of the customisation, examples, and comments explaining what's happening in each section of the ODD file.
- Generate RELAX NG schema and XHTML guidelines from your ODD.
- Associate the RNG schema with with your XML file (**minimal_encoding_elements.xml**), does it validate correctly?

More about elements (optional)

Model classes

TEI: Guidelines for Electronic Text Encoding and Interchange

P5 Version 4.8.1. Last updated on 1st November 2024, revision 0a2bff95a

** **

Module: textstructure

Home
C Elements

** ** (text division) contains a subdivision of the front, body, or back of a text. [ivisions of the Body]	
Module	textstructure — Default Text Structure

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.divLike: @org, @sample
	  ◦ att.metrical: @met, @real, @rhyme
	  ◦ att.fragmentable: @part
	• att.typed: @type, @subtype
	• att.declaring: @decls
	• att.written: @hand

Member of	model.divLike

Model class: Model.divLike

Source: https://tei-c.org/release/doc/tei-p5-doc/en/html/ref-div.html

Div

The only member of **model.divLike**

model.divLike

model.divLike groups elements used to represent un-numbered generic structural divisions.	
Module	tei — The TEI Infrastructure
Used by	back body div front lem rdg
Members	div

[English] [Deutsch] |

Source: https://tei-c.org/release/doc/tei-p5-doc/en/html/ref-model.divLike.html

Model classes

- A group of elements that can occur in the same place in a TEI document.
- The names of model classes all start with **`model.`**, followed by a name that gives an indication of the group of elements it contains.
- For example, **`<p>`** and **`<ab>`** are being grouped in the model class **`model.pLike`**, which holds all paragraph-like elements.
- Source: https://teibyexample.org/exist/tutorials/TBED08v00.htm

model.pLike

model.pLike regroupe des éléments de type paragraphe.	
Module	tei — The TEI Infrastructure
Utilisé par	abstract additional application availability back binding b correspDesc custodialHist decoDesc editionStmt editoria hyphenation interpretation langKnowledge langUsage la msContents msDesc msFrag msItem msItemStruct msP persona physDesc place population post prefixDef proje refsDecl remarks samplingDecl scriptDesc scriptStmt se stdVals styleDefDecl supportDesc terrain trait transcripti
Membres	ab p

Source: https://www.tei-c.org/release/doc/tei-p5-doc/fr/html/ref-model.pLike.html

New elements in your own name space

- Analyse the files in the folder **Ex4_optional_new_elements**

```
<!-- BEGINING OF YOUR ELEMENT SPEC -->
<elementSpec ident="cat" ns="http://www.kakapitan.com//ns/1.0">
  <desc>This element allows me to tag all cats mentioned in my document.
    It can only contain text and has no other children elements.</desc>
  <classes>
    <memberOf key="model.nameLike.agent"/><!-- By subscribing your new element to "model.nameLike.agent" it will behave just
    <memberOf key="att.global"/><!--  By subscribing your new element to "att.global" you allow it to have all the global att
  </classes>
  <content>
    <!-- Here below you specify the content of your element, in our case, a text node. -->
      <textNode/>
  </content>
  <attList>
    <!-- Here below you specify your custom attributes -->
    <attDef ident="breed" ns="http://www.kakapitan.com//ns/1.0" usage="req">
      <desc>The attribute <att>breed</att> used on <gi>cat</gi> elements allows me to group cats by breed.
        This attribute is required (usage = "req") on all <gi>cat</gi> elements.
        The value of the <att>breed</att> must fit the datatype "teidata.word", but the values aren't pre-defined. </desc>
      <datatype minOccurs="1" maxOccurs="1">
        <dataRef key="teidata.word"/>
      </datatype>
    </attDef>
  </attList>
  <exemplum>
```