

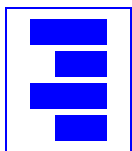
# **Editing Structured Documents**

## **A Class for Experienced FrameMaker Users**

**Version 1.01**

Adobe<sup>®</sup> FrameMaker<sup>®</sup> 7.2 Training

Windows<sup>®</sup>



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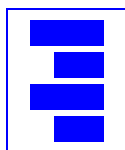
<http://www.txstruct.com>

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# Editing Structured Documents

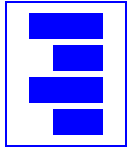
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# Conventions

The following conventions are used in this workbook:

- The directions for all exercises in this class assume that all documents needed for the exercises have been installed in the directory `c:\structure`. As you work through the exercises, you will add more files to this directory.
- There is a glossary at the end of the workbook, beginning on page 195. Terms that appear in the glossary are highlighted in ***bold italics*** when they are introduced in the main body of the workbook.
- Exercises are broken into steps. Each step includes an action for you to take, which may be supplemented by a description of what you will see on your computer screen or an explanation of observed behavior. To distinguish the action from other material, one or more keywords in every action appear in bold, for example:

**Click** the Wrap button.

- When you are directed to type a particular text string, the text string is shown in quotation marks. Do not type the quotation marks. For example:

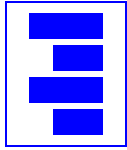
In the new element, **type** the text, “Canis familiaris is man’s best friend.”

means to type the quoted sentence without the quotation marks.

- Successive menus and submenus are separated by the greater-than symbol; File > New > Document means to select New from the File menu and then Document from the resulting pop-up menu.
- A hyphen in a key sequence joins keys to be pressed simultaneously: Ctrl-2 means press the Ctrl key and the 2 key at the same time. The absence of a hyphen means that one key should be pressed and released before the next one is pressed: Esc h S means press and release the Esc key, then press and release the H key, then press and release the shift and S keys.
- Case in key sequences is significant. Ctrl-n means press the Ctrl key and the unshifted N key together. Esc E V means to press and release the Esc key, then the Shift and E keys together, and then the Shift and V keys together.
- Few keyboard shortcuts are mentioned in the body of the course material. A partial list of shortcuts relevant to structured documents is listed at the end of this workbook, beginning on page 187.
- A fixed-width font is used for file names (such as `mod3 . fm`), names of elements and attributes (such as “the Title element”), and other computer objects.
- This workbook refers to the Enter key; the same key is sometimes called the Return key.







# 1. Structured documents

In this module, you will learn:

- What a structured document is
- The goals of this course
- The relationship between XML and structured documents
- How to enable structured editing in FrameMaker 7.2

## Structured documents

FrameMaker 7.2's editing, formatting, and publishing capability supports two different document models. *Unstructured documents* use the traditional word-processing model. In essence, an unstructured FrameMaker document is a sequence of paragraphs, each with an associated paragraph format. Text ranges with associated character formats, tables, graphics, and other features are additions to the basic organization of a document's main flow as a sequence of paragraphs. Note that the term "unstructured document" is not a negative one and in no way implies that the content is poorly organized.

In contrast, a *structured document* is a hierarchy of structural elements. Each element consists of some combination of text, special formatting objects (such as graphics, markers, and cross-references), and other elements. While the document is still divided into paragraphs, each with a paragraph format, the author edits the document by manipulating elements. FrameMaker applies paragraph and character formats automatically to the document's elements and the author need not even be aware of such details of FrameMaker formatting. Consider, for example, the following document fragment:

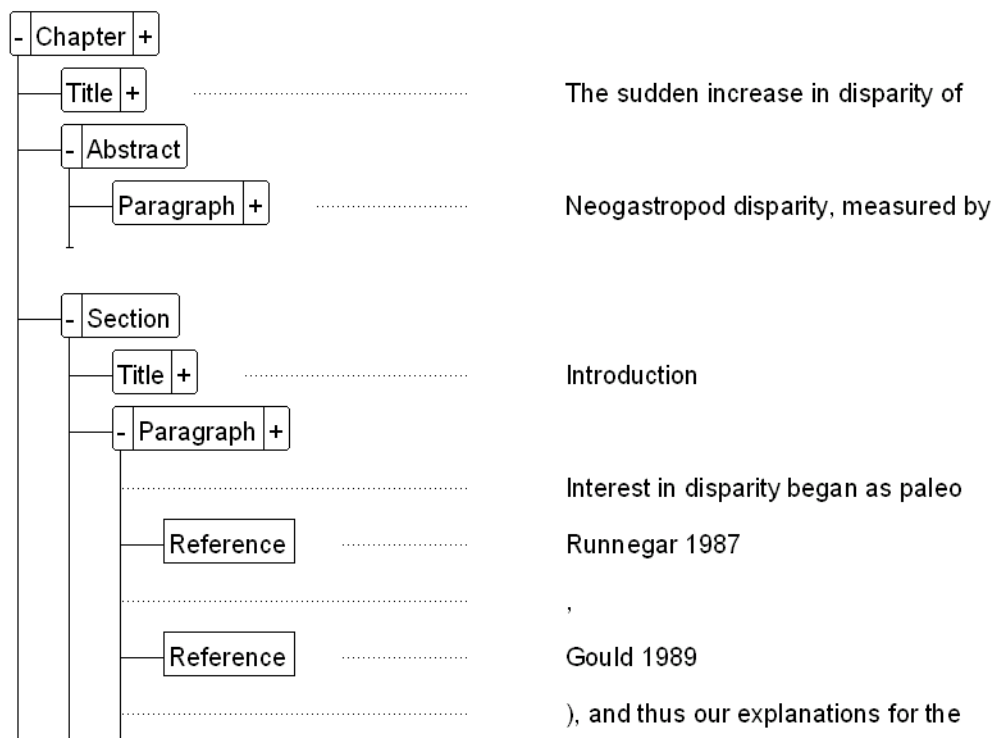
### CHAPTER 3

## The sudden increase in disparity of internal shell features in a post-Paleozoic clade of fusiform gastropods

### Abstract

Neogastropod disparity, measured by quantifying internal shell features called columellar folds, increases quickly and early in the clade's history. This pattern is surprising, given that columellar fold disparity increases during the height of the Mesozoic Marine Revolution, a time when taxonomic richness increased dramatically but when disparity might have increased more slowly because ecospace and morphospace became more crowded.

This text can be entered into either a structured or unstructured FrameMaker document. In the structured version, the material consists of a **Chapter** element. The **Chapter** begins with a **Title** that is followed by an **Abstract** and then a **Section**. The **Title** contains text, the **Abstract** contains a **Paragraph** that, in turn, contains text. The **Section** begins with a **Title** and then has a **Paragraph**. The **Paragraph** consists of text interspersed with **Reference** elements that cite other research. This structure is illustrated in the following display from FrameMaker's optional *Structure View*:



## Course goals

This course builds on your existing knowledge of FrameMaker to teach you to edit structured documents. Since the course is intended for authors who are experienced in editing unstructured documents, it does not include material on features (such as the spelling checker or drawing tools) that are common to both models.

Furthermore, it does not cover creating structured templates. The structured model differentiates between two user roles. The *template developer* sets up a structured environment that authors use to create structured documents. A document's template defines the elements available within it and the automatic formatting associated with each. A template developer can certainly edit structured documents; in fact, to create a structured template, he must edit a particular structured document known as an *Element Definition Document* or *EDD*. However, most authors do not need to learn the skills involved in defining a structured environment. In many organizations, therefore, a small group of template developers maintain the templates used by a larger number of

authors. Text Structure Consulting, Inc. offers a separate course on *Creating a structured environment*.

As described below, the FrameMaker structured model derives from that of the XML markup language and its predecessor, SGML. For this reason, it is straightforward to move documentation between FrameMaker and XML representations. Configuring FrameMaker for importing and exporting is the topic of a separate course on *Structured documents and XML* and is also not included in the current course.

## Background and history

People apply two types of processes to documentation. Content-oriented processes include reading and writing; in these processes the user focuses on the document's information content. In contrast, printing and publishing are appearance-oriented tasks that concentrate on the way a document is formatted. Obviously, these processes are related. Publishers employ document designers to increase readability and hence make information easily available to readers. Historically, modern desktop publishing and word processing arose from the observation that typesetting codes used by publishers could also be used by authors. This sharing eliminated the need for a publisher to retype an author's submission.

Structured documents take the opposite approach. They return the author's focus to a document's innate structure and allow the necessary formatting to be derived from the structure. The difference in viewpoint is easily illustrated. Elementary school teachers do not give homework assignments such as, "Read from the second-level heading on page 12 through the last bulleted item on page 15." Rather, an assignment might simply be, "Read the section that begins on page 12." In an unstructured environment, the author of a technical manual deals with units such as second-level headings; in the structured world, the author works with second-level sections that begin with headings.

**SGML**, the Standard Generalized Markup Language, defined in international standard ISO 8879, is a plain-text format that identifies the natural structure of a document using hierarchies of structural elements. **XML**, the eXtensible Markup Language, evolved as a set of conventions for using SGML on the Internet. XML is increasingly popular for marking up both text and data for applications that are Web-based as well as those that are not. It allows different users to interchange data and one user to move data among different tools. When moving existing documents or data to XML, organizations often take the opportunity to analyze the existing material and perhaps restructure it, but doing so is not necessary.

XML marks the beginning of an element with a start-tag that encloses the element name in angle brackets; it marks the end of an element with an end-tag that is similar but follows the opening bracket with a slash. Thus, an XML representation of the above document fragment might appear as:

```
<chapter>
  <title>The sudden increase in disparity of ...</title>
  <abstract>
    <paragraph>
      Neogastropod disparity, measured by ...
```

```
</paragraph>
</abstract>
<section>
  <title>Introduction</title>
  <paragraph>
    Interest in disparity began as paleobiologists started
    to explore the Cambrian explosion in a rigorous,
    quantitative manner (
      <reference>Runnegar 1987</reference>
      <reference>Gould 1989)
    </paragraph>
  ...
</section>
...
</chapter>
```

Such markup relies on a tagging scheme: the set of element names that will be used. SGML formalizes the tagging scheme in a **document type declaration** or **DTD** that defines the possible **element types** and the context in which each is permitted. XML documents do not require a formal specification of the tagging scheme. However, formal specifications are possible. In particular, XML documents may also use a DTD, or they can use a **schema** for this purpose. FrameMaker supports XML DTDs but provides very limited support of schemas.

The context rules in a DTD allow software to assist an author in the creation of documents that match specified requirements. For example, a DTD can be used to enforce that all required items are specified on a title page in a prescribed order. Software can use this information to prompt an author for required elements in an appropriate order and to **validate** that existing material meets the specified constraints. FrameMaker's **guided editing** helps the author in this way.

In earlier versions of FrameMaker, the structured and unstructured products were available as separate products called FrameMaker and FrameMaker+SGML. FrameMaker 7.0 merged the structured and unstructured products into one; it was the successor product to both FrameMaker 6.0 and FrameMaker+SGML 6.0.

## FrameMaker's two user interfaces

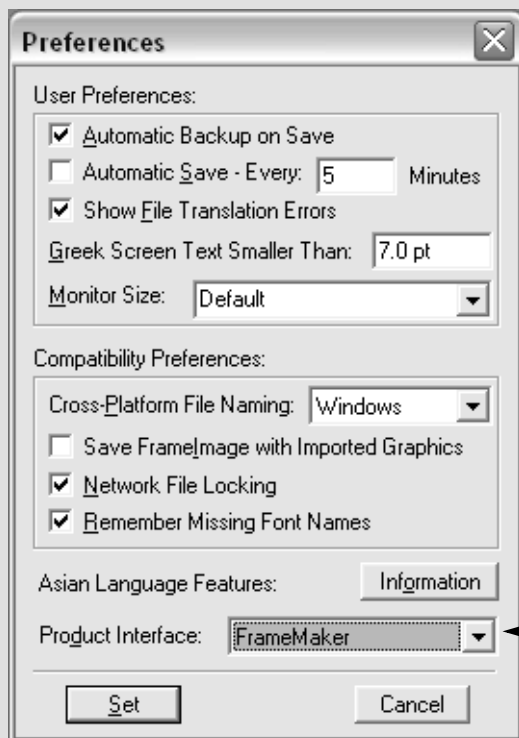
While FrameMaker 7.2 supports both structured and unstructured documents, users who never use structured documents need not be aware of the structure capability. For this reason, there are two variations of the FrameMaker user interface. The **original user interface** can be used only for unstructured documents. The **structured user interface** can be used for both structured and unstructured documents. When you install FrameMaker 7.2 on your computer, you are prompted to choose a user interface. However, you can change the interface you are using at any time.

In the following exercises, you will explore the two user interfaces and configure FrameMaker to use the structured version. The directions for all exercises in this class assume that all documents needed for the exercises have been installed in the directory `c:\structure`.

### Exercise 1-1. Selecting the original FrameMaker user interface

In this exercise, you will explore FrameMaker's original user interface. In the following exercise, you will look at the analogous features of the structured user interface. When you have completed this module, the structured user interface will be enabled. You must use the structured user interface to complete all other exercises in this course.

1. **Bring up** the Preferences dialog box again with the `File > Preferences > General` command.



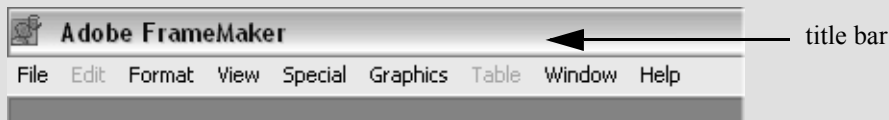
2. If the Product Interface pop-up menu shows FrameMaker, **skip** to step 7 on page 14.
3. In the Product Interface pop-up menu, **choose** FrameMaker.
4. **Click** Set.

FrameMaker warns you that the selected interface will not take effect until you exit and restart the software.

5. **Exit** FrameMaker with the `File > Exit` command.

**Exercise 1-1. Selecting the original FrameMaker user interface (continued)****6. Restart FrameMaker.**

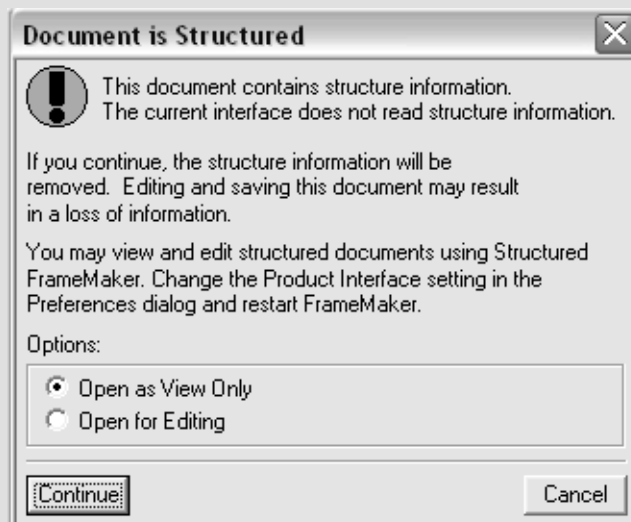
The upper left-corner of the FrameMaker window identifies the current user interface:



Since the title bar reads “Adobe FrameMaker” and does not mention structure, you are using the original FrameMaker user interface.

**7. Now attempt to **open** the structured document `c:\structure\sample.fm` with the File > Open command.**

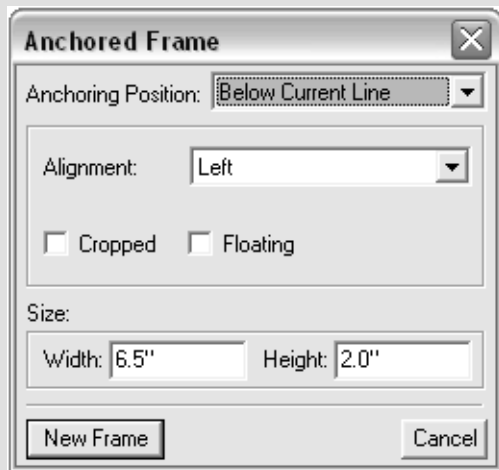
FrameMaker warns you that structured features cannot be preserved through this user interface:

**8. Click Open for Editing and then Continue to open the document. Since you will not save it, there will be no loss of information.****9. Observe the icons in the upper right corner of the document window. There are four, for the paragraph catalog, character catalog, graphics tools palette, and equation palette:**

As you will see later, the structured user interface displays additional icons.

**Exercise 1-1. Selecting the original FrameMaker user interface (continued)**

10. **Bring up** the Anchored Frame dialog box with the Special > Anchored Frame command:



There is no mention of elements or structure in the dialog box. As you will see below, this dialog box has an additional field in the structured user interface. Several dialog boxes are slightly different in the two user interfaces.

11. **Click** Cancel.

12. **Close** the document without saving it.

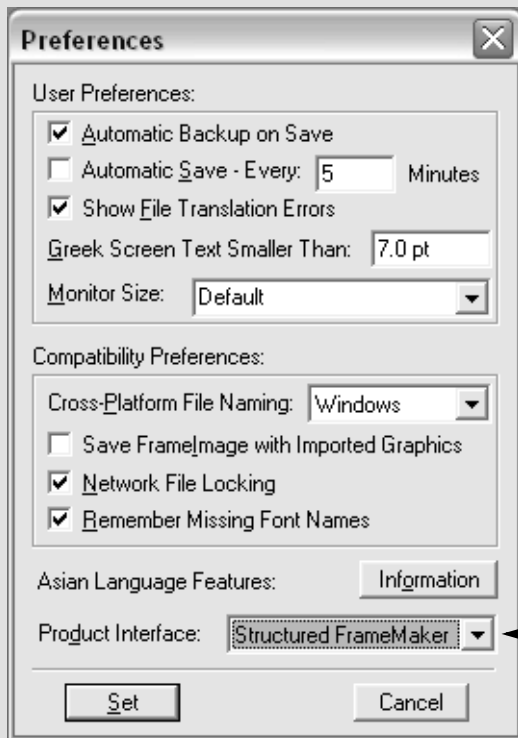
**Exercise 1-2. Selecting the structured user interface**

In this exercise, you will enable the structured user interface and observe some of the resulting changes in FrameMaker's behavior.

1. **Bring up** the Preferences dialog box again with the File > Preferences > General command.

**Exercise 1-2. Selecting the structured user interface (continued)**

2. This time, **choose** Structured FrameMaker in the Product Interface pop-up menu



The Product Interface  
pop-up menu

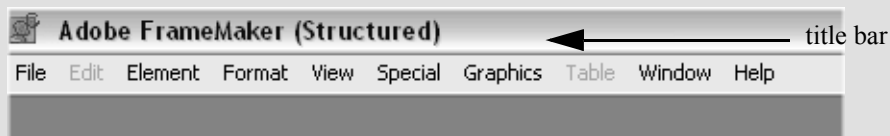
3. **Click** Set.

FrameMaker warns you that the selected interface will not take effect until you exit and restart the software.

4. **Use** the File > Exit command to exit FrameMaker.

5. **Restart** FrameMaker.

The upper left-corner of the FrameMaker window identifies the current user interface:



The title bar now reads “Adobe FrameMaker (Structured)”, indicating you are using the structured FrameMaker user interface.

6. Once again, **use** the File > Open command to open `c:\structure\sample.fm`. The structured user interface opens the structured document with no warning messages.



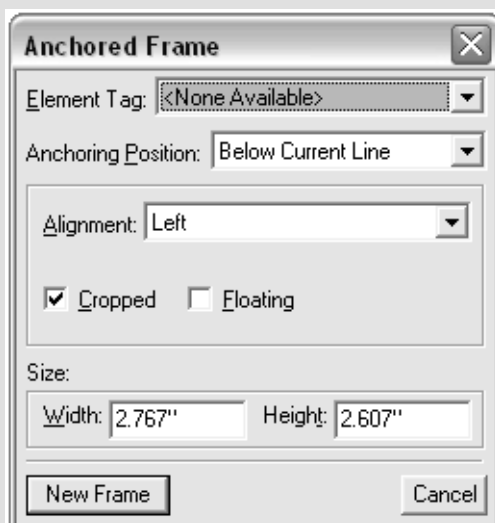
**Exercise 1-2. Selecting the structured user interface (continued)**

7. **Observe** the icons in the upper right corner of the document window:



Three new icons appear above the original four. Use of these icons is discussed in later modules. These icons still appear when you edit unstructured documents using the structured user interface; there is no need to click on the icons, though, unless you are editing structured documents.

8. **Bring up** the Anchored Frame dialog box with the Special > Anchored Frame command:



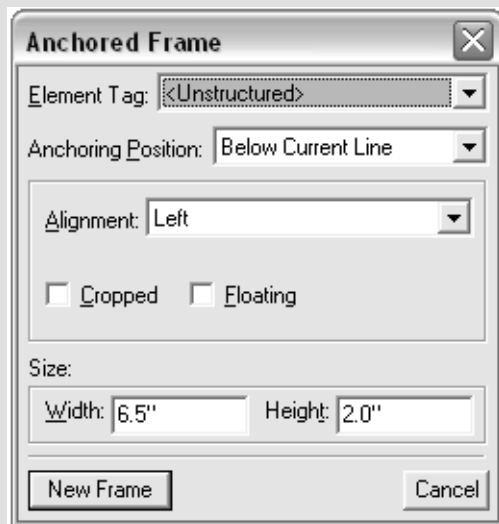
The first item in this version of the dialog box is the Element Tag pop-up menu. Use of this pop-up menu is discussed in a later module. This pop-up menu appears in the Anchored Frame dialog box when you are using FrameMaker's structured user interface. If you are editing an unstructured document, however, it contains only a single item (<Unstructured>) and selecting this item has no effect.

9. **Click** Cancel.
10. **Close** the document.
11. **Start to create** a new document with the File > New > Document command. In the resulting New dialog box, **click** Portrait to create a blank paper document. The new document is unstructured; the structured user interface allows you to edit both structured and unstructured documents.

**Note:** The structure-related icons appear in the upper-right corner. The displayed icons are determined by the user interface, not by the document.

**Exercise 1-2. Selecting the structured user interface (continued)**

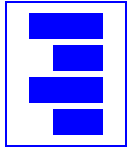
12. **Bring up** the Anchored Frame dialog box once more with the Special > Anchored Frame command:



The Element Tag pop-up menu still appears. The fields in the dialog box are determined by the selected user interface rather than the document being edited. The text <Unstructured> displayed in this field, however, indicates that the current document is unstructured.

13. **Close** the document without saving it.

In the remainder of this course, you will learn to edit structured documents using the structured user interface.



## 2. Exploring existing structure

In this module, you will learn:

- Tree terminology for referring to elements in a structured document
- To identify a structured flow
- To view element boundaries as tags or square brackets in a document window
- To open and inspect the Structure View
- To collapse and expand elements in the Structure View
- To set insertion points in a structured document
- To make selections in a structured document
- To navigate through an element hierarchy

In this module, you will explore the structure of an existing structured document without changing it. Since there are no changes, all exercises use the same file.

### Element tags in the status bar

Each *flow* in a FrameMaker document can be structured or unstructured. In an unstructured flow, the lower-left corner of the status bar at the bottom of a *document window* displays the current paragraph tag, prefixed with P : . In a structured flow, the *status bar* shows an element tag instead, with the E : prefix. A quick way to determine whether a flow is structured is to look and see whether the status bar shows a paragraph or element tag.

#### Exercise 2-1. Displaying element tags in the status bar

In this exercise, you will observe *element tags* in the status bar.

1. **Open** `c:\structure\sample.fm`.

The document opens with an insertion point at the beginning of the main flow.

2. **Look** in the left corner of the status bar at the bottom of the document window:

Flow: A E: Chapter

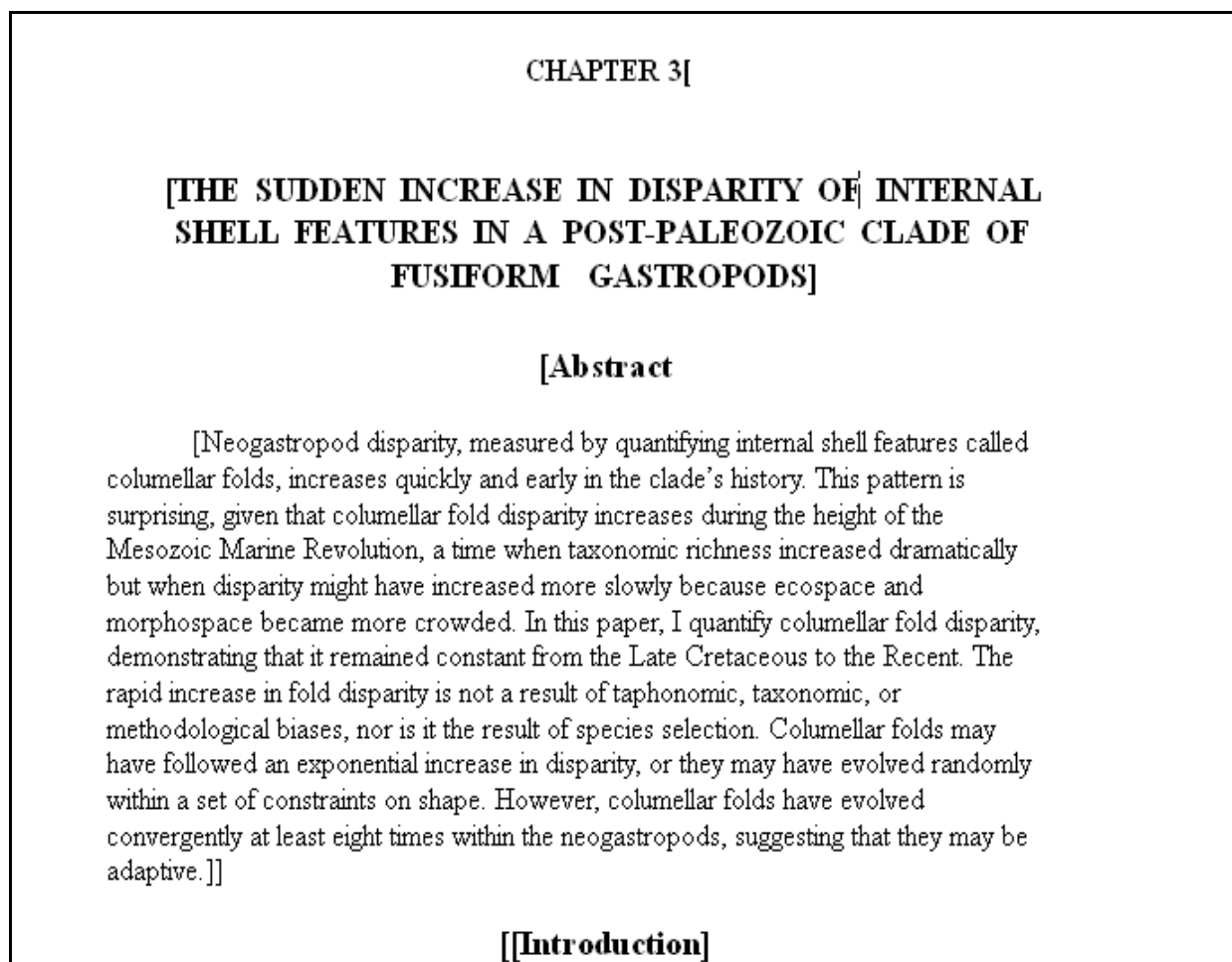
Instead of P : and a paragraph tag, FrameMaker displays E : and an element tag, indicating that the flow is structured. In this document, the *highest-level* (or *root*) element of the main flow is *Chapter*, and the insertion point is placed at the beginning of the *Chapter* element. Hence, *Chapter* is the displayed tag.

**Exercise 2-1. Displaying element tags in the status bar (continued)**

3. **Click** in different paragraphs in the displayed portion of the document window. The status bar changes to show the element tag of the current element.
4. **Leave** the file open for the following exercises (all exercises in this module use the same file).

**Element boundaries**

FrameMaker provides two view options for identifying elements in the document window, Element Boundaries and Element Boundaries (as Tags). When you view *element boundaries*, FrameMaker surrounds each element in your document with a matching pair of square brackets:



Unlike text symbols, element boundaries take up room in your document. Space is needed to indicate locations where multiple elements start or end. In the sample shown above, for example, note that the Paragraph in the Abstract and the Abstract itself end after the same text. The Abstract is followed by a Section that begins with a Title. The two left brackets on the last illustrated line indicate that both the Section and the Title begin just prior to the word “Introduction”.