

# Instructions for using the Trees 3.1 Player and the tree drawing tool

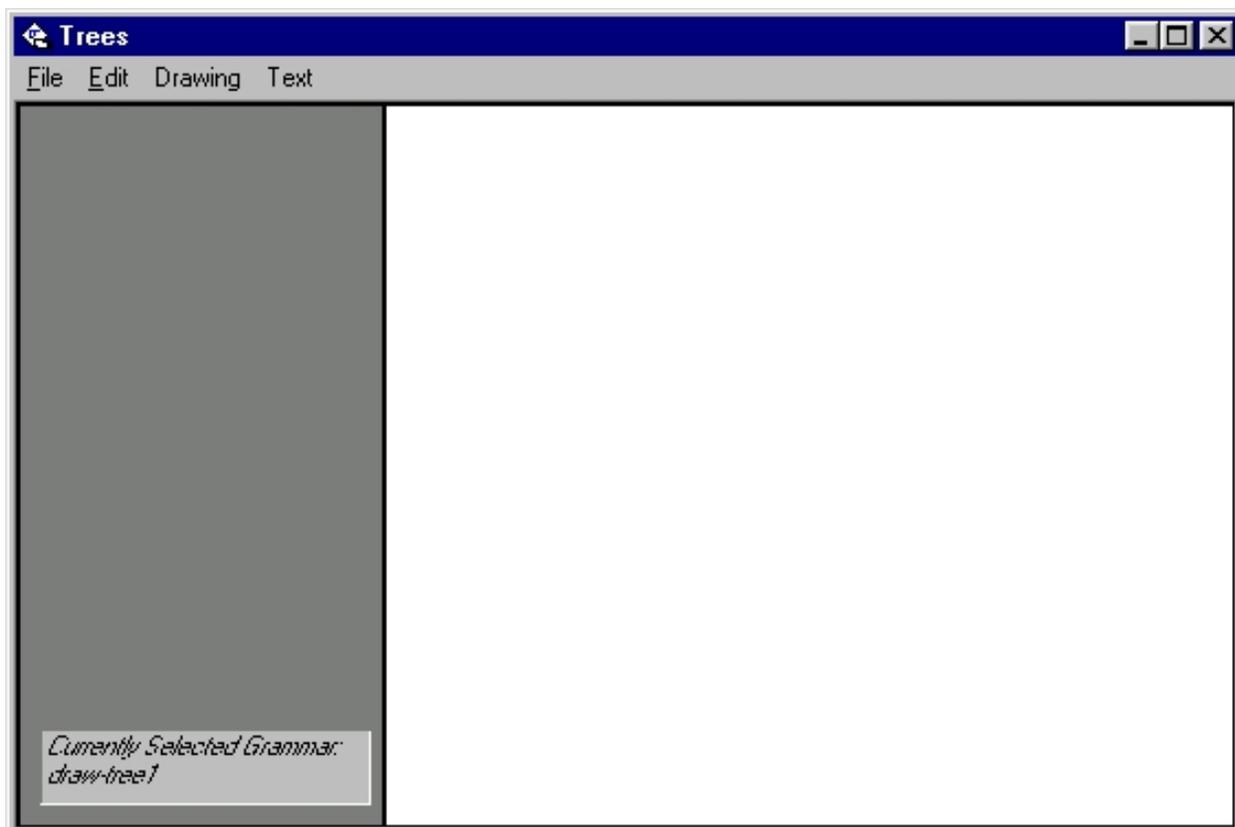
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Thank you for using the **Trees 3.1 Player**. This program allows you compose the structures of sentences and words in natural and artificial languages. The structures are created from grammar tools programmed in advance. The program can be used for exercises in a syntax class that are based on grammar tools designed by an instructor. It can also be used to draw trees for insertion into word processing documents. This latter function requires the grammar tool **draw-tree.tgr**, downloadable from the Penn Trees website. You may also download some sample grammar tools written for use in teaching syntax from the the following URL:

<http://www.ling.upenn.edu/~kroch/trees/sample-grammars3.html>.

If you are interested in using **Trees 3** for teaching purposes, a license is available which includes: (1) a full version of **Trees 3** that supports the creation of new grammar tools and (2) access to a substantial archive of grammar tools written for pedagogical purposes. The full version also includes an extensive manual documenting the many features of the program. Please contact the program authors for further information (email address: [kroch@change.ling.upenn.edu](mailto:kroch@change.ling.upenn.edu)).

## Opening moves in using Trees 3 Player.



1. Open the program by double-clicking on it. A window like the one above will appear. The white area is where the workspace in which trees are built will appear. The gray area is where the tools and lexical items used in building trees appear (see below). The **File** menu contains commands for opening workspaces, for saving files, and for choosing grammar tools. The **Edit** menu contains commands for undoing actions, for copying trees to the clipboard and for clearing (deleting) trees. The commands on the **Drawing** menu control the shape of the trees in the workspace. The menu allows the user to set the angle of the tree branches with one another, the length of the branches, the size of the gap between the labels and the branch vertices, and thickness of the branch lines. The **Text** menu sets the font style and size of the node labels in trees.
2. Go to the **File** menu and select **Choose Grammar**. You will be given a file opening dialog window. Choose the **draw-tree** file. If later you want to use another grammar, simply repeat this step and choose another grammar file. The name of the chosen grammar will appear in the “Currently Selected Grammar” window.
3. Select **New** under the **File** menu. This command creates a new workspace in the white area of the program window and brings up the trees palette in the gray area. You will need to open a new workspace for each tree or set of trees you want to construct. The workspaces can be saved with the **Save** and **Save As** commands under the **File** menu for later reuse. Select **Close** under the **File** menu to exit a workspace. You will be prompted to save or discard its contents.
4. The trees palette contains tools for manipulating trees and the lexical items (usually with associated syntactic structure) from which you will construct your trees. The labeled diagram below outlines the functions of the various tools and windows in the trees palette:

# Trees palette

The image shows a software interface for a grammar tool, titled "Trees palette". It features a toolbar at the top with three icons: a cursor, a pair of scissors, and a magnifying glass. Below the toolbar are several buttons labeled "D", "I", "N", "P", and "V". A list of lexical items is displayed in a scrollable area, with "like" selected. Below the list is a diagram of an elementary tree structure for the word "like". At the bottom of the palette, there is a text field showing the currently selected grammar name.

**Cursor tool:** used to drag trees and subtrees

**Magnifying glass tool:** click with the glass on a node to see or change its properties.

**Scissors tool:** click with the point of the scissors on a node to break a tree into two pieces at that node

**Lexical items:** this list shows the words belonging to the currently selected category.

**Elementary tree:** the tree structure, if any, associated with the lexical item selected above. Click on the root of this tree to drag it into the workspace.

*Currently Selected Grammar:*  
*local-var2*

**Grammar name:** the file name of the gram-mar tool that is currently controlling the program's behavior.

## Building a tree structure.

1. Select the lexical category you want from the categories boxes.
2. Select one of the lexical items that will appear when you select a category. The lexical items in **draw-tree** are all anchored in strings of dummy symbols – ##### – which you can later replace by words.
3. Drag the elementary tree fragment that is associated with the lexical item you have selected to the workspace window to the right.
4. Repeat steps 1-3 as often as you like to assemble a collection of tree fragments in your workspace.
5. To join structures in the workspace simply drag the highest node of the fragment you wish to join until it is directly over the node you wish to join it to. If it is an appropriate joining place Trees will automatically combine and the joined structure will be redrawn. In **draw-tree**, any node labeled “XP” that has no daughters will allow substitution.
6. If you need more tree fragments to build a larger structure, simply repeat steps 1-3 to drag more fragments into the workspace combine with the already built structure.
7. If you make a mistake in building your structure or for any reason want to detach a part of the structure you have built, select the scissors icon at the top of the Trees Palette and then click with the point of the scissors on the node you wish to detach. Some grammar tools may not support the scissors. To delete a tree, select its root node and then choose the **Clear** menu item under the **Edit** menu.
8. The **draw-tree** tool allows the user to change the labels on nodes, including leaf nodes. This is how words are added to tree structures. To change a node label, click on the label with the magnifying glass tool. A dialog window will appear into which the new label is to be typed. You can also change the color of the node by shift-clicking on it with the magnifying glass. Enter the name of the color into the dialog box that appears. The colors supported by Trees are: black, white, gray, red, orange, yellow, green, blue, violet, cyan, and magenta. The tool has an “Instructions” menu with directions on how to change node labels and colors. Click on the menu items to read the instructions.
9. Double-clicking on a node with branching structure below it replaces the structure with the standard large triangle that is used to abbreviate structures. Double-clicking again brings back the full structure.
10. Some grammar tools, including **draw-tree**, will support transformational movement and/or adjunction. To move or adjoin one constituent onto another, simply drag the moving/adjointing constituent onto its landing site. If attachment is allowed at that site, the landing site will become hilited. Then simply release the mouse button and the moving node will attach to the landing site. In **draw-tree**, click on the *General instructions* menu for directions on how to carry out various sorts of tree composition and movement. Other tree modifications require the use of the scissors tool or the magnifying glass. Instructions for using these tools are given in the *Using*

11. *scissors/magnifying glass* menu. Note that if you are running Trees 3 under Virtual PC, the control key does not function. Substitute the 'z' key for control wherever it is required.
12. When you have completed a tree, you may save it in a file. To save, select the **Save** function under the **File** menu. If later you want to go back and change the tree you have built, select **Open** under the **File** menu and open the tree.
13. To build another tree select **New** under the **File** menu. To change grammars close any open workspace and select **Choose Grammar** under the **File** menu. To exit the program, choose **Quit** under the **File** menu.

## **Copying a tree into a word processing document.**

There are three ways to copying a tree you have created with Trees to a word processing document:

- a. If you are running Trees Player on a Windows computer, you can also select the root node of the tree and copy to the clipboard with the **Copy** command under the **Edit** menu. From there you can past the tree into the documents of any word processing program, like MSWord, that supports Windows BMP graphics.
- b. If you are running Trees Player on either a Macintosh or a Windows computer, you can take a screenshot of the tree you want to insert into your word processor and then drag the screenshot file into your document.
- c. There is a menu item called "export qtree specification," which copies a labeled bracketing in the *qtree* format to the clipboard. This labeled bracketing can then be pasted into a Latex text file and will be converted into a tree when the file is formatted. If the selected tree contains an abbreviation triangle, that triangle will be coded for in the *qtree* code. Instructions for and the files needed to use qtree are available at

<http://www.ling.upenn.edu/advice/latex.html>