

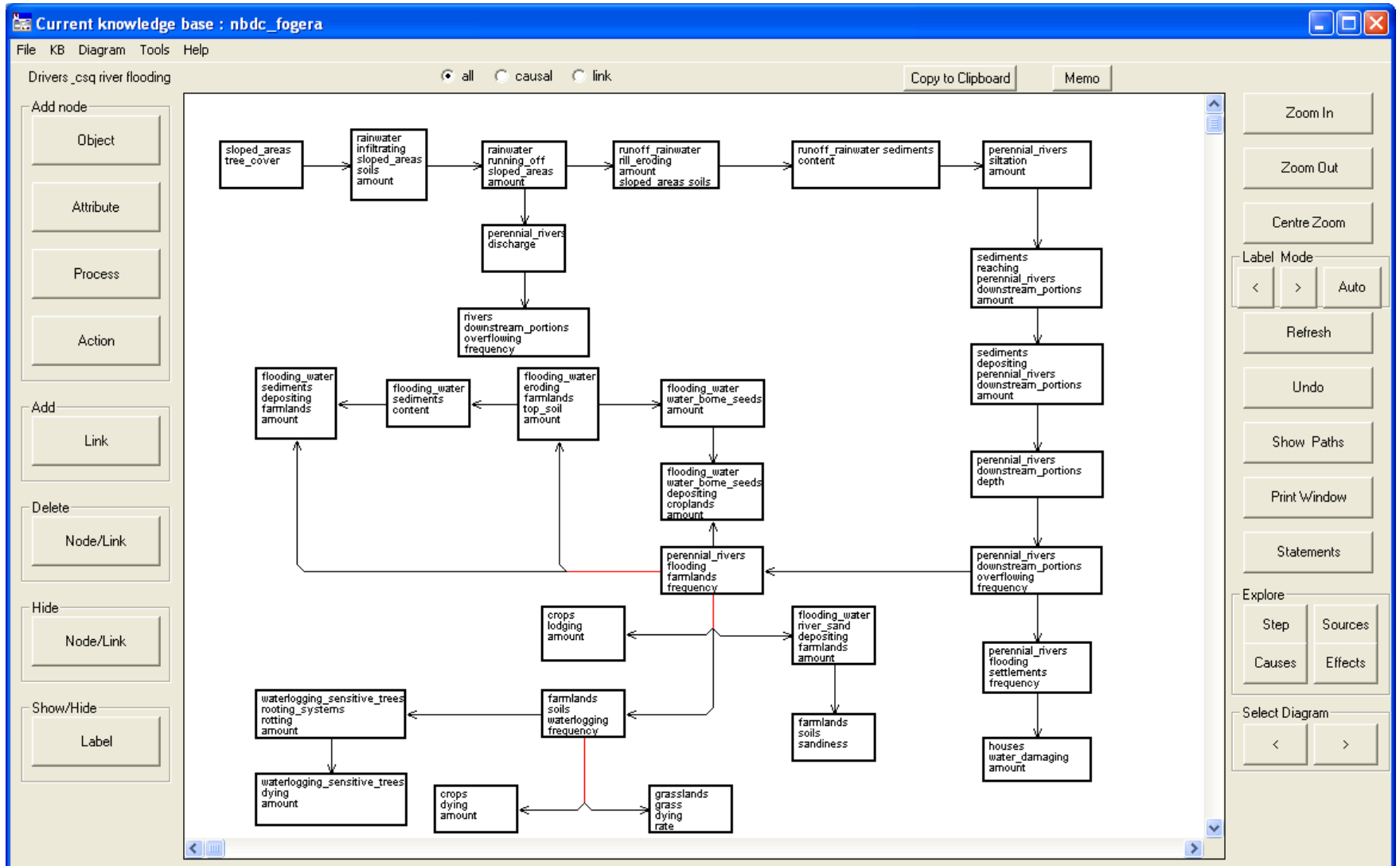
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# AKT5 diagrams

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How to create an AKT5 causal diagram and work with it

# The diagram interface



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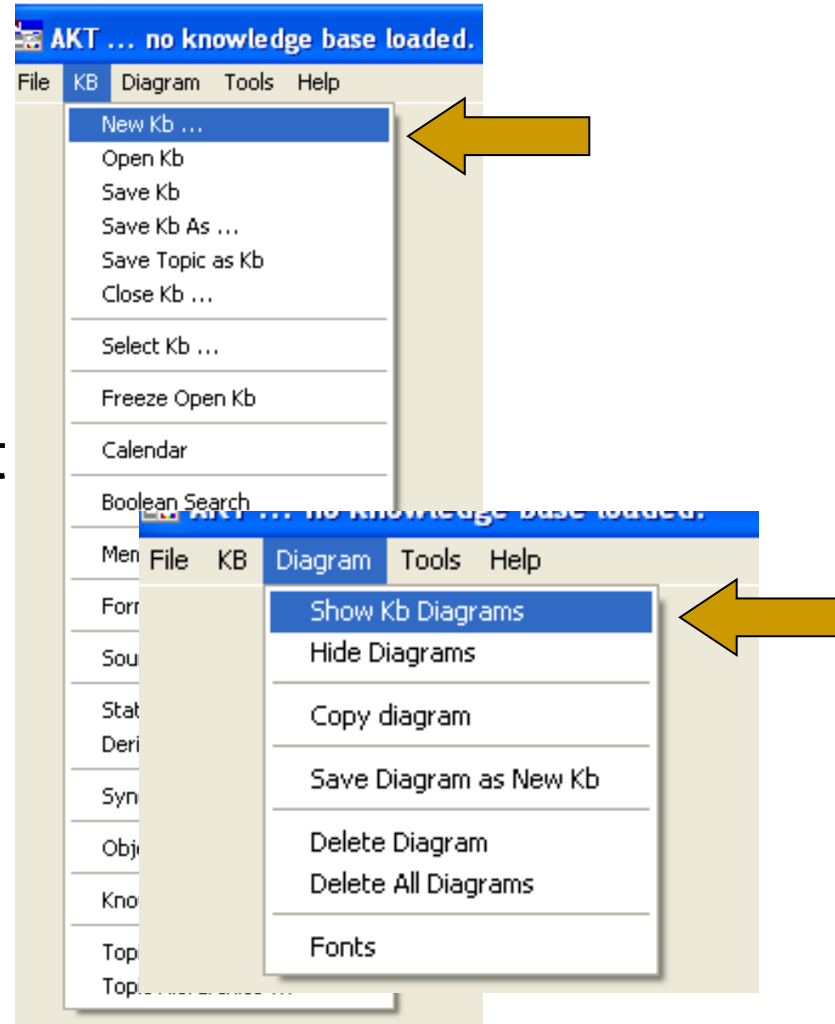
# Diagram based representation

- Can be used to create a knowledge base from scratch.
  - Can be used to modify and/or add to an existing knowledge base.
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# The diagram menu

- To create a new knowledge base, select **New Kb** and give it a name, enter your sources and then select **Show Kb Diagrams**
- If using a previously created knowledge base, select the relevant diagram.

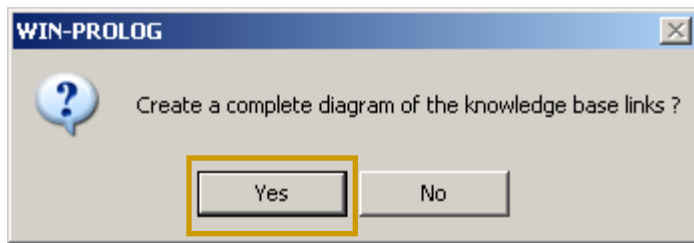
## The KB Menu



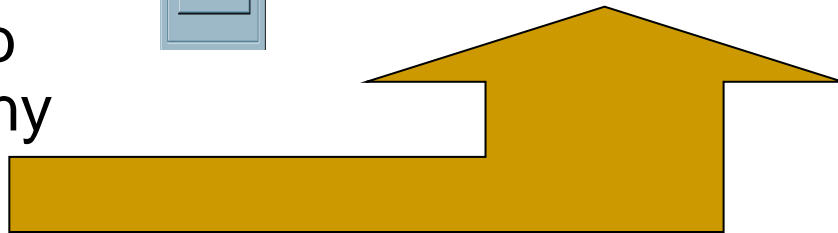
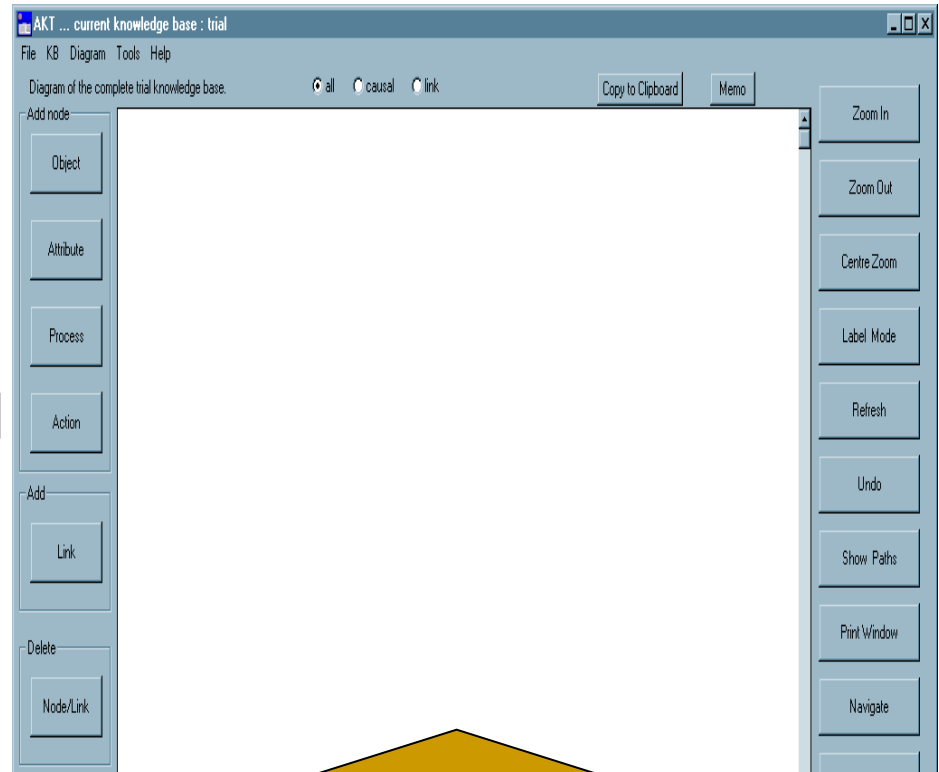
## The Diagram Menu

# Creating a knowledge base from scratch

- With a new Kb, a diagram will be generated that is blank



- With a previously created Kb that has no diagrams, a diagram will be generated that contains *all* the causal and link statements in the Kb (otherwise, select any existing diagram)



# Diagram creation

If we look at an example from a simple statement:

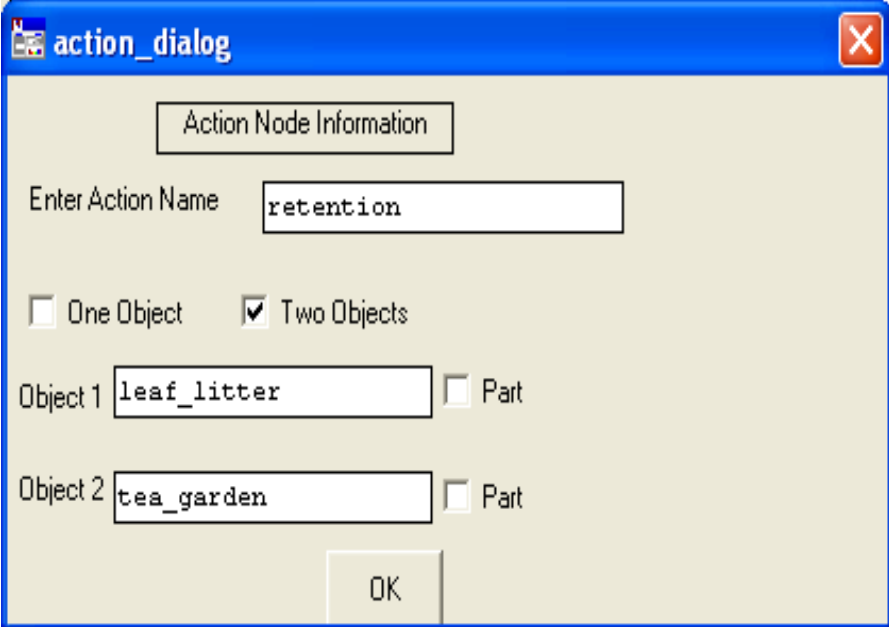
“retention of leaf litter in tea gardens results in increased nutrient content of the soil”

This can be broken down into the following:

1. “retention of leaf litter in tea gardens” is an *action* with the action term and two associated objects (*retention*, *leaf\_litter* and *tea\_gardens*)
2. “increased nutrient content of the soil” is an *attribute* with an object term, its attribute and value (*soil*, *nutrient\_content* and *increase*)
3. “results in” is the link that joins the above together in a causal relationship

This is a causal statement that can be represented diagrammatically by creating two nodes joined by a link.

- “Retention” is an action so click on the **Action** button on the left hand side of the diagram interface and then click on the diagram screen.
- This action is attached to 2 objects (i.e. leaf litter and tea gardens) so select this option and then enter the objects in the correct order.
- Select **OK**



The screenshot shows a dialog box titled "action\_dialog" with a close button in the top right corner. The dialog contains the following fields and options:

- A tab labeled "Action Node Information".
- An "Enter Action Name" field containing the text "retention".
- Two radio button options: "One Object" (unchecked) and "Two Objects" (checked).
- An "Object 1" field containing "leaf\_litter" and a "Part" checkbox (unchecked).
- An "Object 2" field containing "tea\_garden" and a "Part" checkbox (unchecked).
- An "OK" button at the bottom right.



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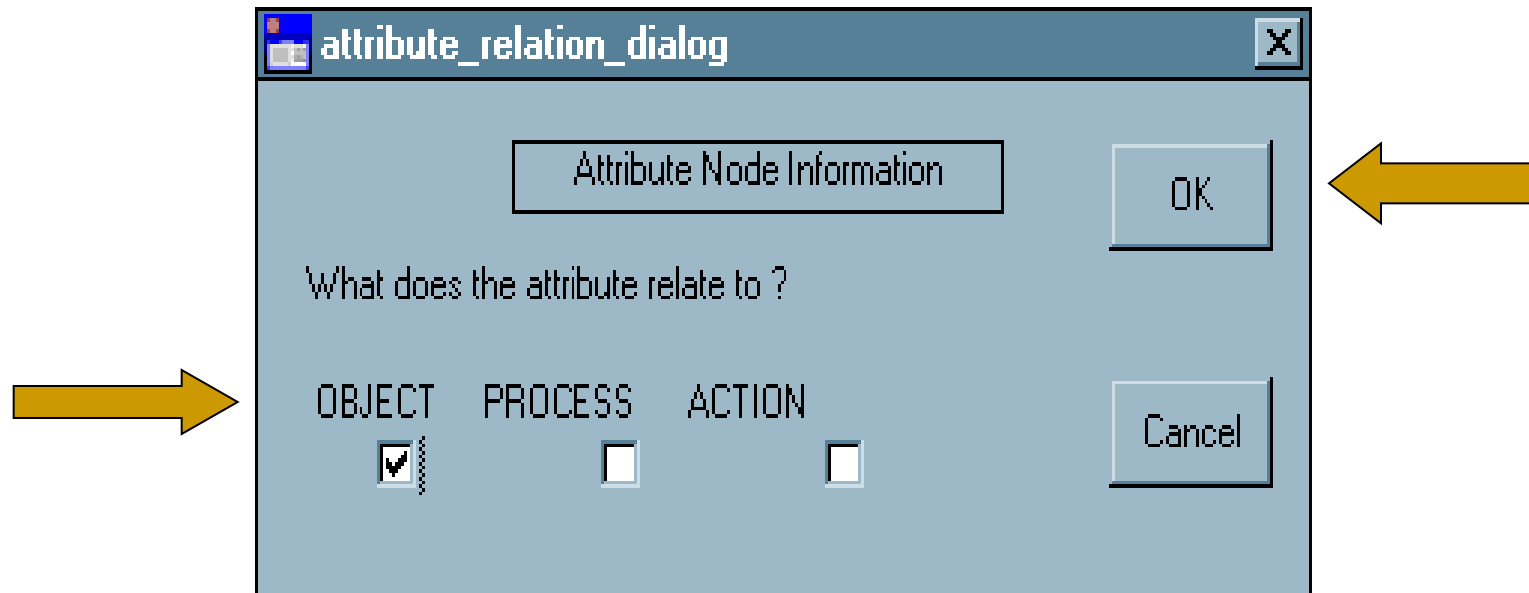
A node will then appear  
as a blue circle to indicate  
it is an action

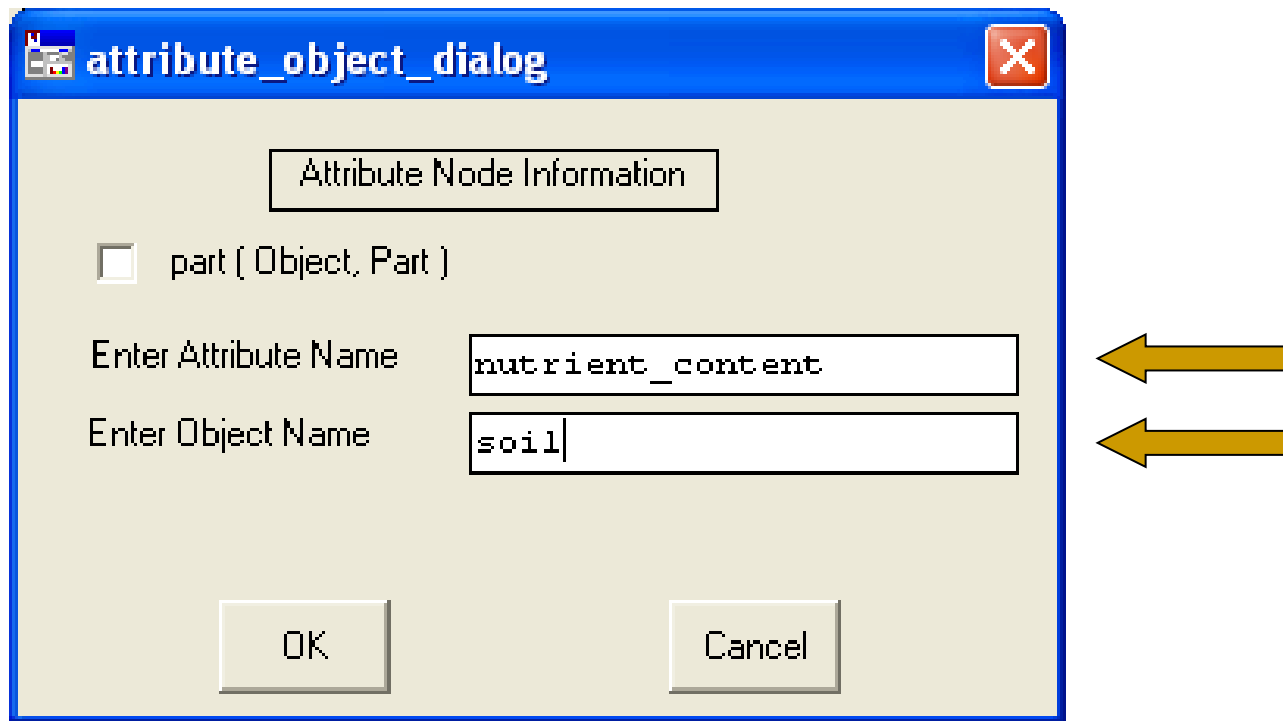


leaf\_litter  
retention  
tea\_garden



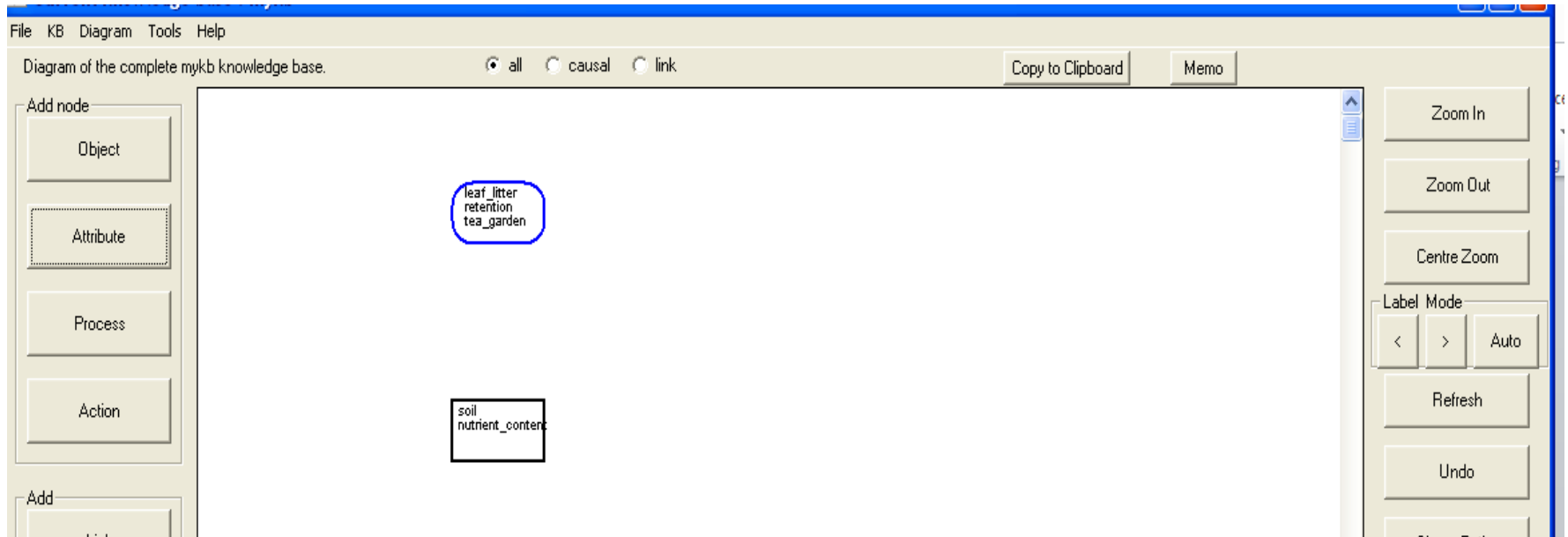
- “Nutrient content of the soil” is an attribute, therefore click on the **Attribute** button on the left hand side of the diagram interface and then click on the diagram screen.
- As the attribute relates to the object “Soil”, select the “object” box and then click **OK**





- Then add the attribute “nutrient content” and the object “soil” (there’s an option to tick “part” which doesn’t apply at this time)
- Click on **OK**

It will then look like this:

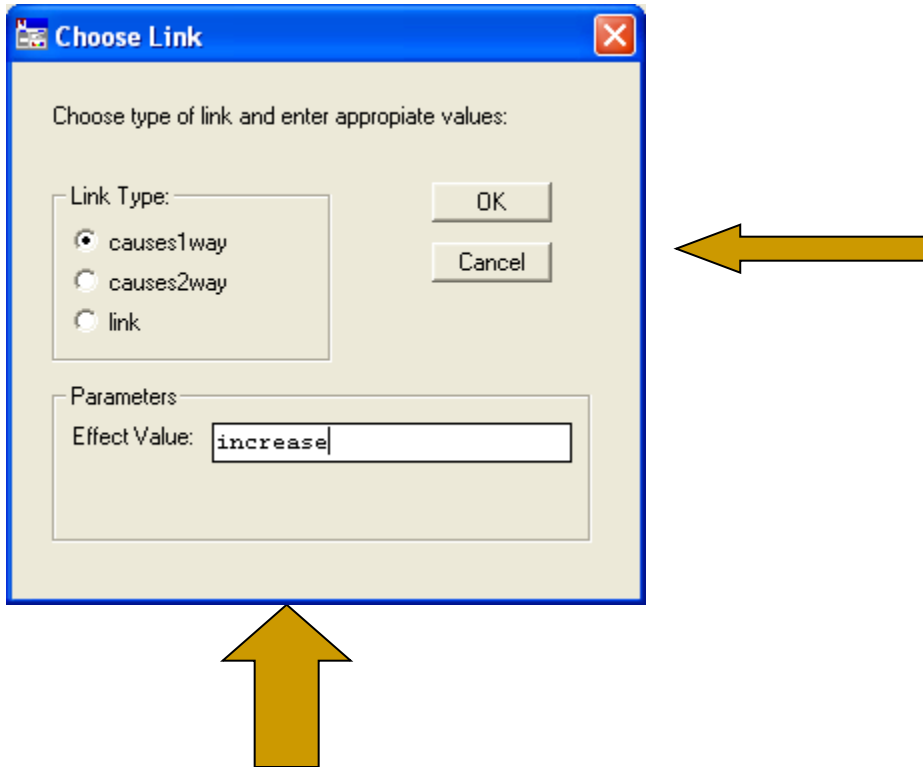


Attribute nodes are represented  
by a black rectangle

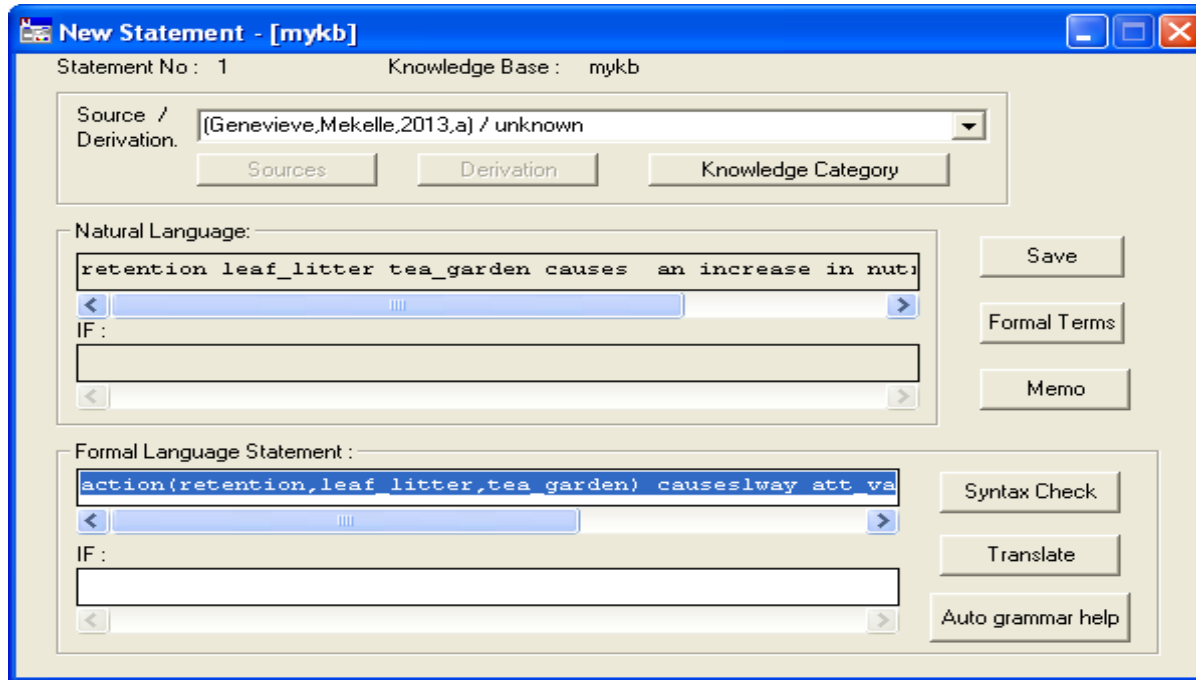
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## Linking the nodes

- To link the nodes, first select the **link** button on the left hand side of the diagram interface.
  - Then **click and hold** the left hand mouse button on the action node (retention) and release on the attribute node (nutrient content).
  - Remember: The link needs to be connected **“in the direction of the causal flow”**
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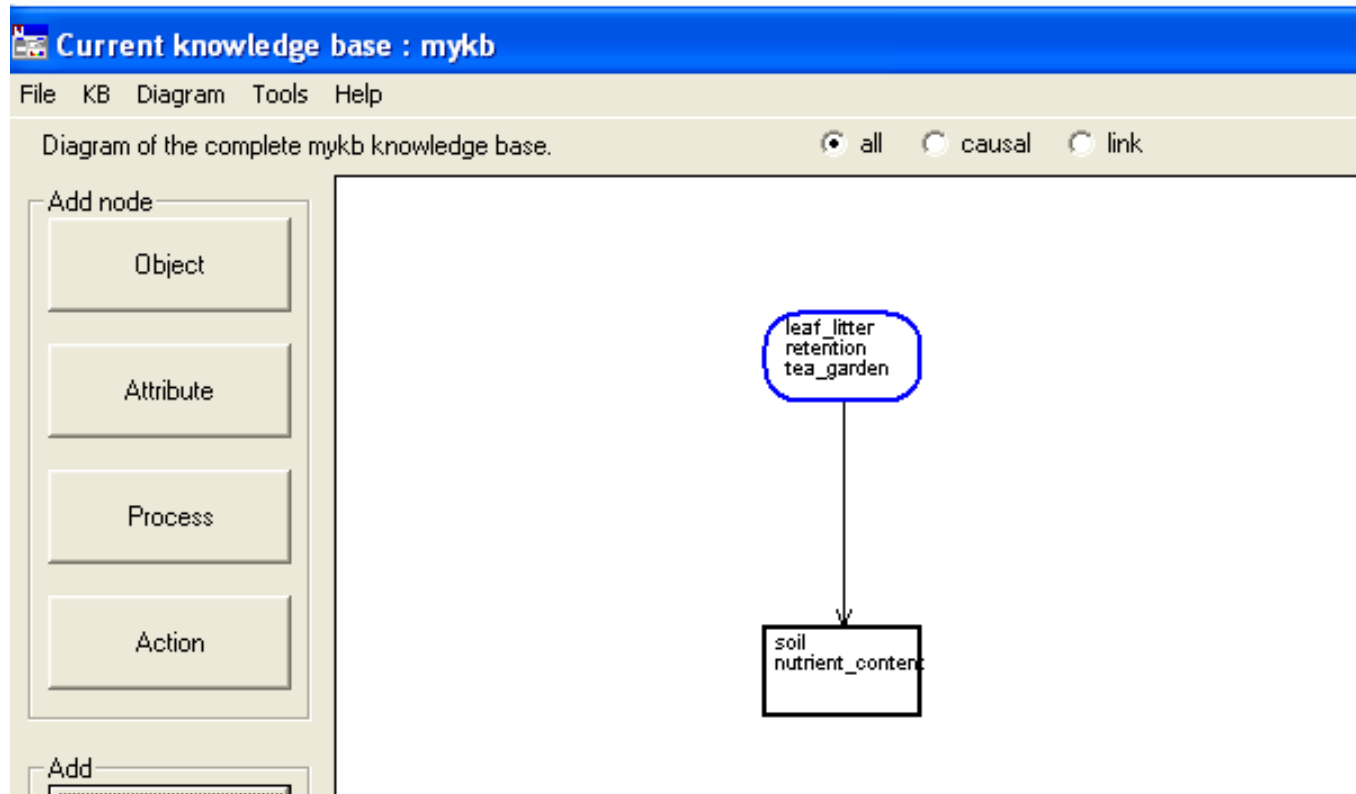


- The “choose link” dialog box will appear which needs to be completed (in this case, it’s a causes1way with the effect value “increase”)
- Once OK is selected you will be asked for the source details as when entering a standard unitary statement
- Choose a previously entered source to append to the statement



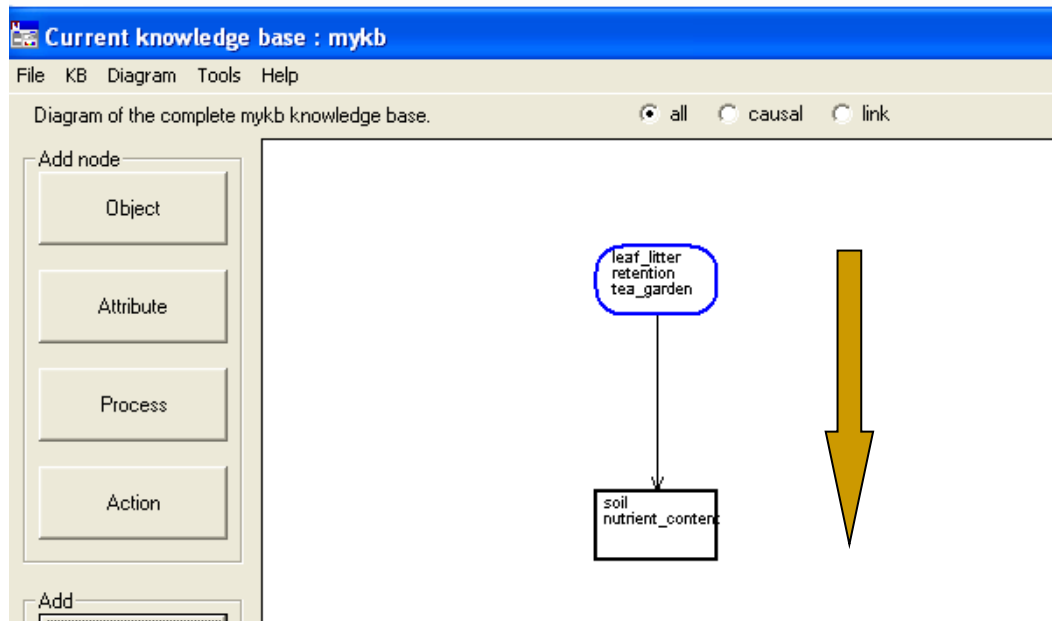
- The statement that has been created will then be shown
- It is now possible to edit the statement, add a condition or attach a memo
- To save the statement click on **Save**
- Once it is saved, you can revisit the statement and also edit the sources attached to it

# A basic link and node diagram

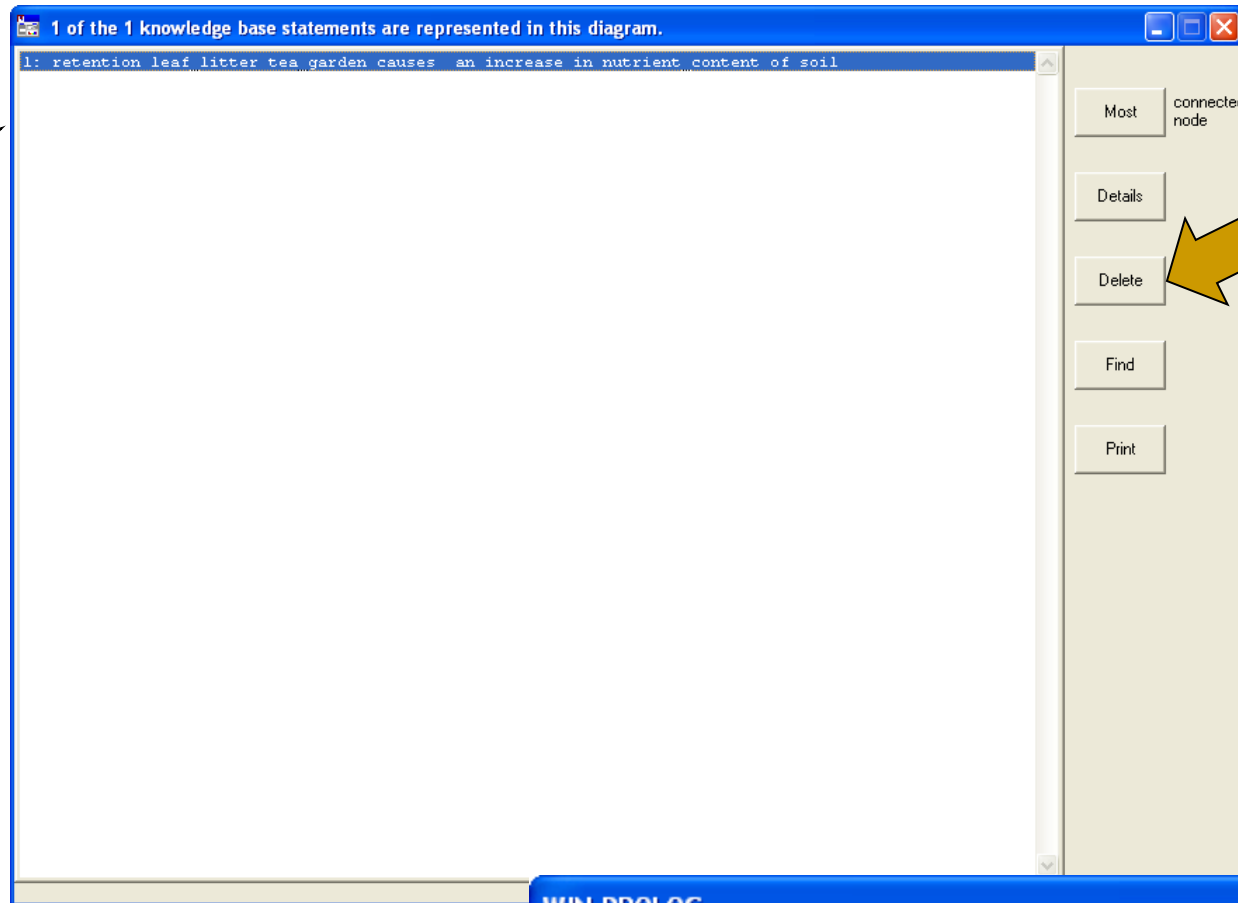


# Editing a diagram statement

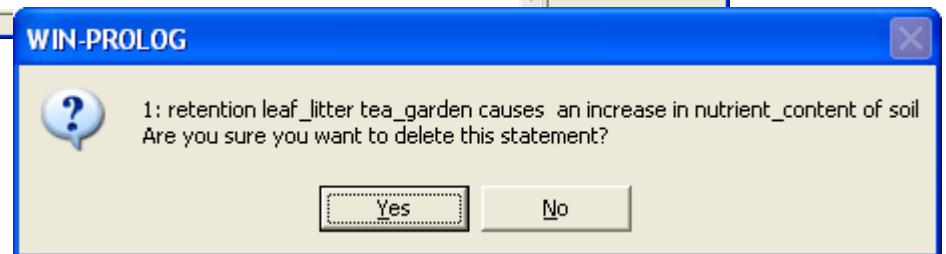
- To edit within the diagram interface, **delete the link first**. Click on the delete button, then **press the left hand button of the mouse on the first node and release it on the second**.
- This must be in the **same direction as the causal flow**







- To delete a statement, highlight it and then select **delete**



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## Things to remember:

- **Save the KB at regular intervals** to avoid losing any work.
  - **Create useful diagrams** that convey the meaning of what your informants said and make sure they are relevant to the knowledge base topic.
  - Update diagram titles so that a user can easily see what they are about.
  - **Delete any unnecessary diagrams** as they take up a lot of memory.
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