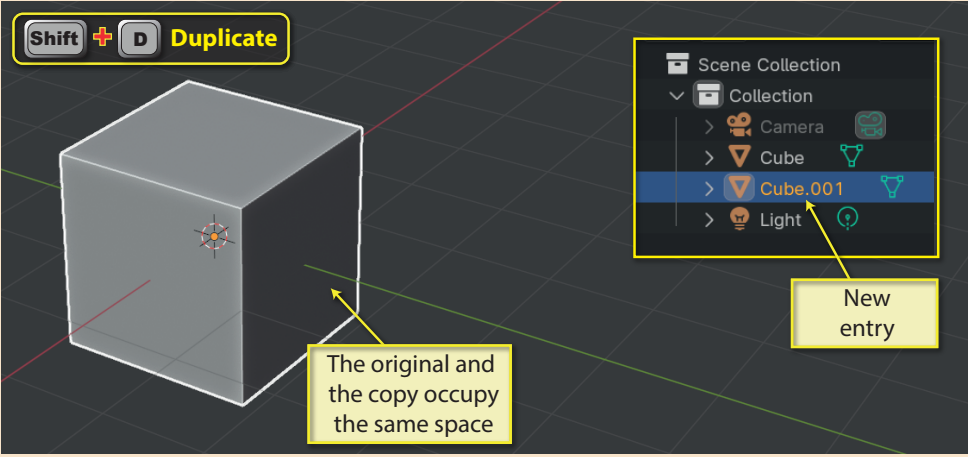**Duplicating Objects**

When we want only one or two copies of an existing object, there are two common ways of doing this. One method makes a copy which is entirely independent of the original while the second method links any copies made to the original and to each other.

Once the object to be copied has been selected, pressing **Shift+D** will create an exact duplicate of that object, positioning it in exactly the same space as the original and a new entry added to the *Outliner Editor*. The copy is automatically placed in the *Move* state, so any moment of the mouse pointer in the *3D Viewport* will also move the object copy.

Shift ✚ **D** **Duplicate**

> Scene Collection
> Collection
> Camera
> Cube
> Cube.001
> Light

New entry

The original and the copy occupy the same space

If we want the copy to move in a particular direction, we need only press the axis letter, **X**, **Y**, or **Z**. Moving the mouse pointer moves the copy and pressing the left mouse button or the **Enter** key completes the move.
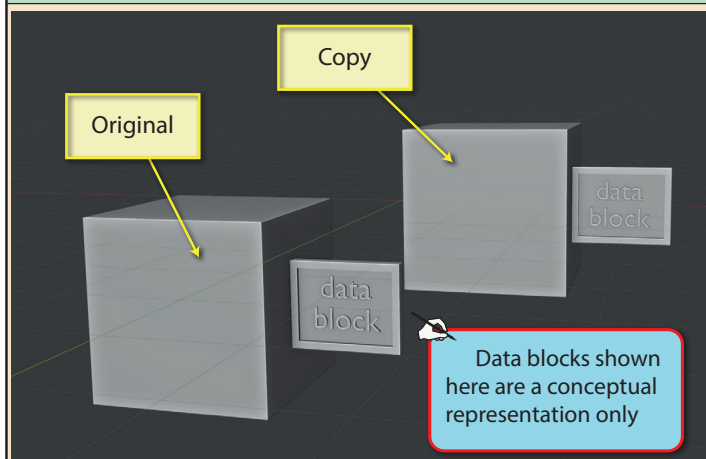
Copy

1

2
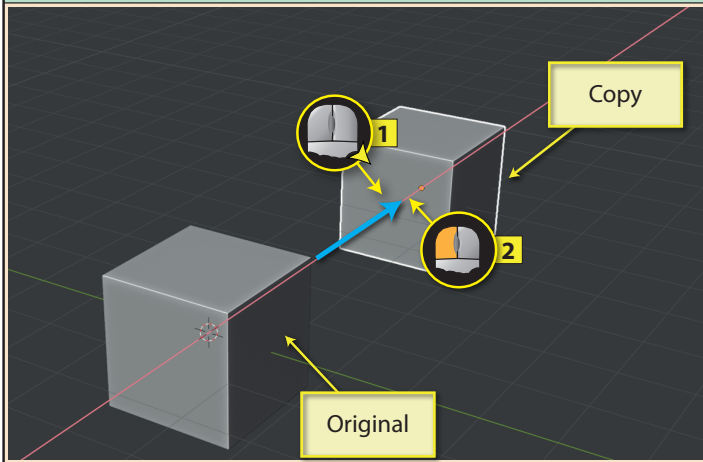
Original

The axes set it moves along will be determined by the current *Transform Orientation* setting. So if the object being copied has been rotated, we can select between Global and Local axes.

Z **Move along Local Z**
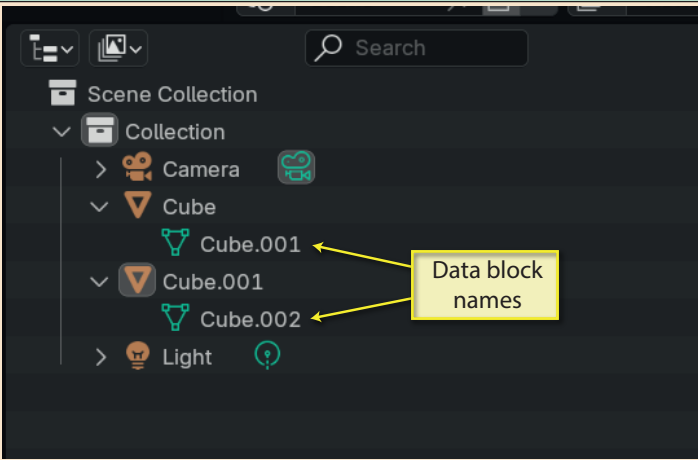
Local

Other axes sets are available
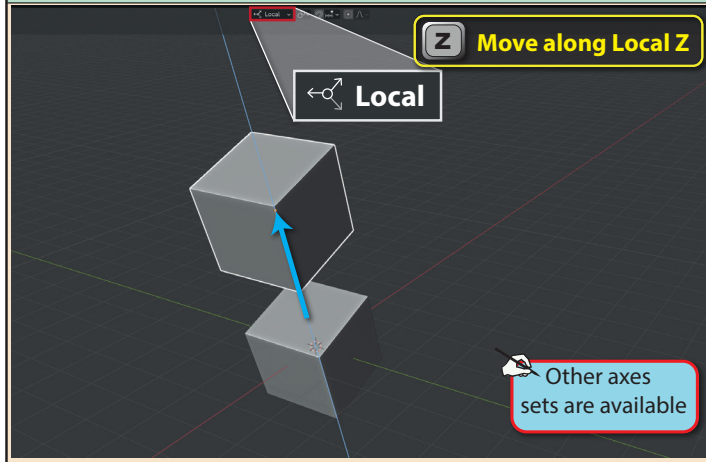
If we don't want the copy to move from its original position, pressing the right mouse button or the **Esc** key during the move, will return it to its starting location.

Esc / **Cancel move**

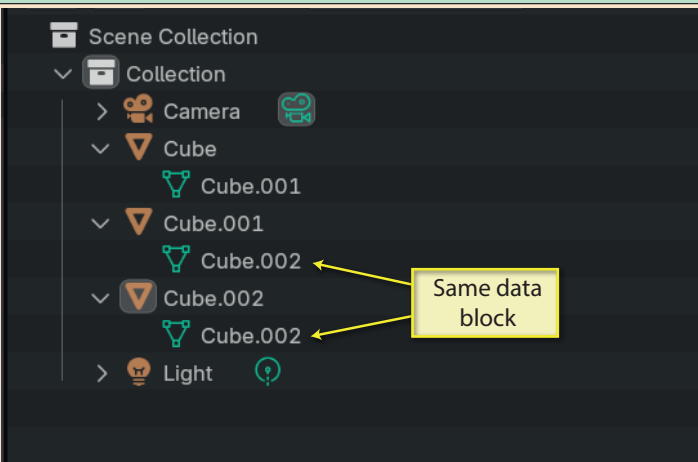This cancels the move only. The object copy still exists
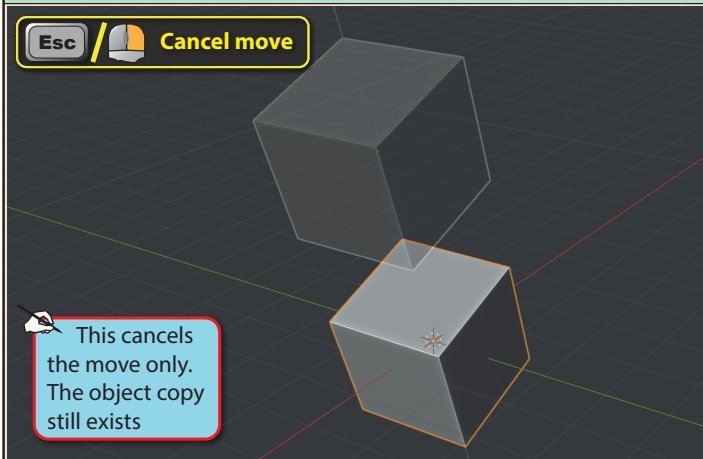
Every copy made using **Shift+D** is assigned its own data block in computer memory and hence can be moved, rotated, scaled and assigned a material independently from the original object or other copies.
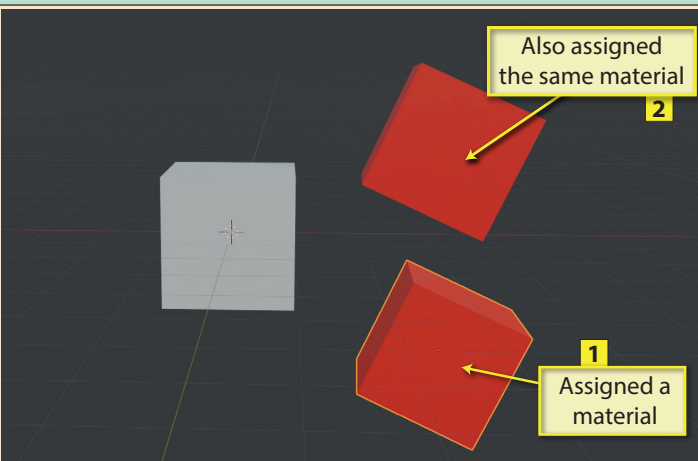
Copy

Original

data block

data block

Data blocks shown here are a conceptual representation only

The data block names can be seen in the Outliner Editor when we expand the object names.

Data block names

A second way of creating a duplicate is to select the original and press **Alt+D**. Superficially, this appears to do exactly the same job as **Shift+D**...

Alt + D Shared Data Duplicate

Original

Duplicate

...but as we can see from the Outliner Editor, the original and copy share the same data block.
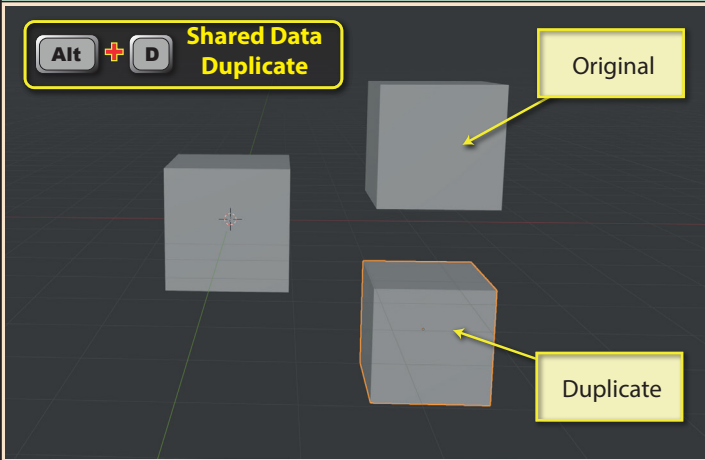
Same data block

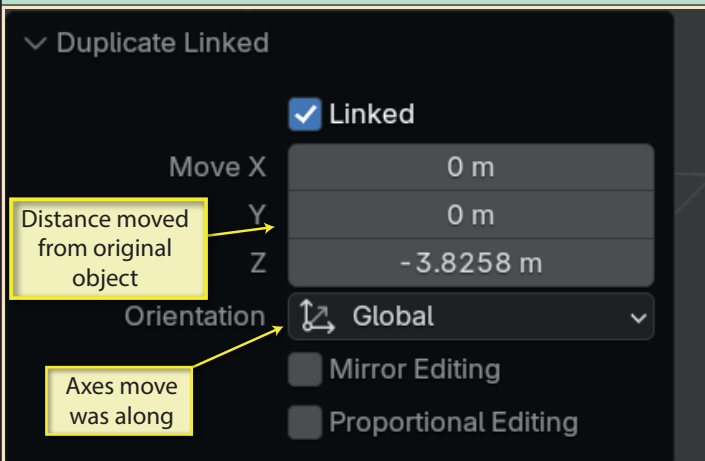Although objects that share the same data block can be individually moved, scaled and rotated in Object Mode, if we adjust one in Edit Mode, the other will automatically perform the same adjustment.

Edit Mode

Rotated in Edit mode **1**

Other object also rotates **2**

If we assign a material to one, the other will also be assigned that material.

Also assigned the same material **2**

Assigned a material **1**
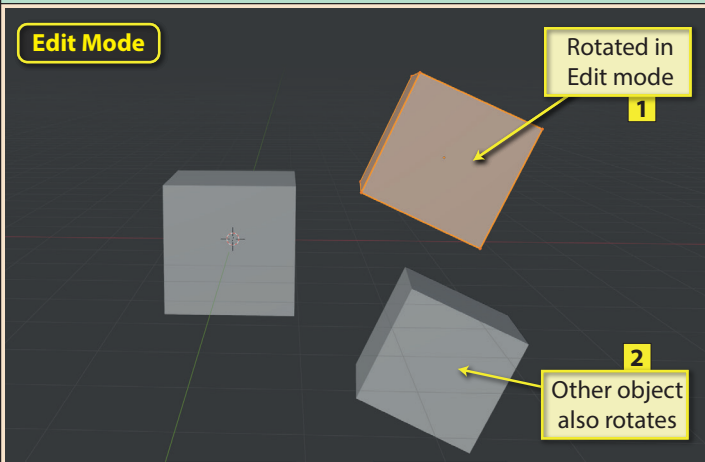
Immediately after we've made and moved our copy, the **Last Op panel** gives us access to various parameters. **Linked** indicated if the new object shares data with the original (*Linked* checked) or has its own data block (**Linked** unchecked).

Duplicate Linked

Linked

Move X   0 m
Y   0 m
Z   -3.8258 m

Distance moved from original object

Orientation   Global

Mirror Editing

Axes move was along

Proportional Editing

Even when an object has been copied using one method...

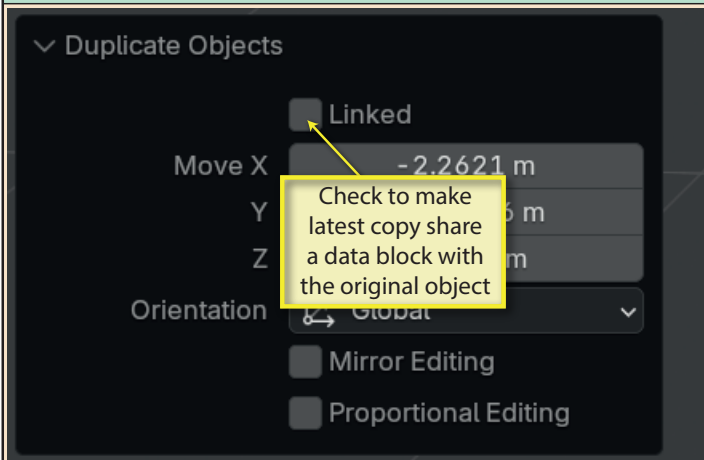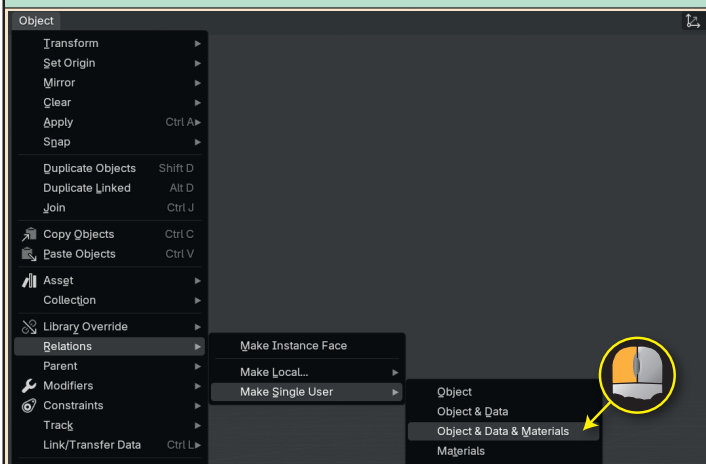Original

Independent copy (**Shift+D**)
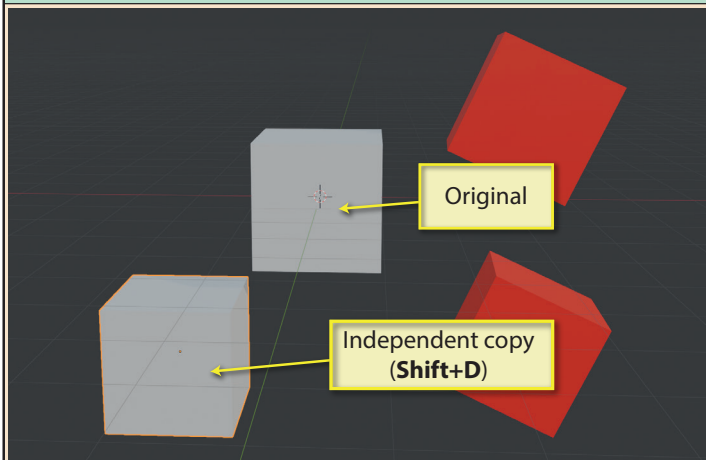
... we can change to the other method simply by checking or unchecking the Linked box in the Last Op panel.

∨ Duplicate Objects

☐ Linked

Move X   – 2.2621 m

Y

Z

Orientation   Global

☐ Mirror Editing

☐ Proportional Editing

Check to make latest copy share a data block with the original object

Even after the Last Op panel has gone, we can make an object that shares a data block idependent by selecting it then choosing **Object>Relations>Make SIngle User>Object&Data&Materials.**

Object

Transform
Set Origin
Mirror
Clear
Apply   Ctrl A
Snap

Duplicate Objects   Shift D
Duplicate Linked   Alt D
Join   Ctrl J

Copy Objects   Ctrl C
Paste Objects   Ctrl V

Asset
Collection

Library Override
Relations
Parent
Modifiers
Constraints
Track
Link/Transfer Data   Ctrl L

Make Instance Face
Make Local...
Make Single User

Object
Object & Data
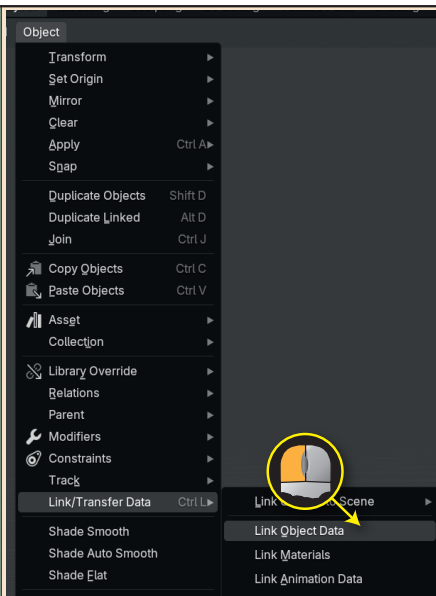Object & Data & Materials
Materials

For example, below we have used the **Object&Data&Material** on the lower red Cube and then assigned it a new material without affecting the original Cube.

Now has its own data block
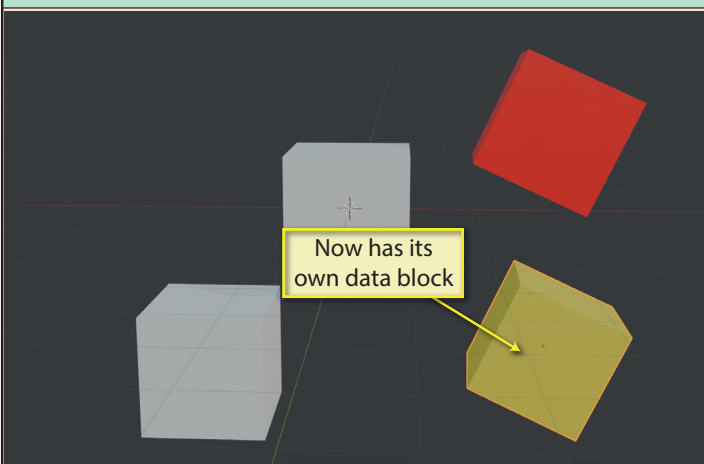
To have things work the other way round, make two or more previously independent object share the same data block, we need to start by selecting all the objects involved (they need not be the same shape)...

Final object selected
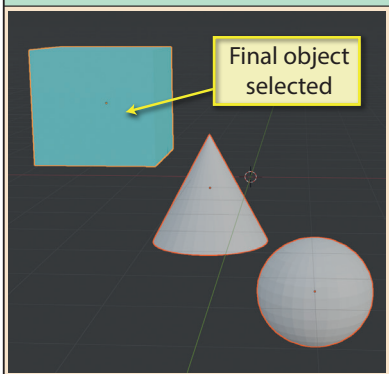
The data block of the active object can be shared with the other selected items by choosing **Object>Link/ Transfer Data>Link Object Data.**

Object

Transform
Set Origin
Mirror
Clear
Apply   Ctrl A
Snap

Duplicate Objects   Shift D
Duplicate Linked   Alt D
Join   Ctrl J

Copy Objects   Ctrl C
Paste Objects   Ctrl V

Asset
Collection

Library Override
Relations
Parent
Modifiers
Constraints
Track
Link/Transfer Data   Ctrl L

Shade Smooth
Shade Auto Smooth
Shade Flat

Link   Scene
Link Object Data
Link Materials
Link Animation Data

The other objects not only pick up the material, but also the shape of the active object.