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# ARCHAEOLOGICAL ILLUSTRATION





an introduction to techniques using images from the SCRAN database

each section in **HOW TO DRAW** covers one artefact type (small metal objects, pottery and stone work) and takes you right through the illustration process from start to finish

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Created by Anne Taylor for University of Aberdeen, 2002. E-mail: <a href="mailto:ataylor@abdn.ac.uk">ataylor@abdn.ac.uk</a>

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## WHY DRAW?

# **EQUIPMENT**

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#### **HOW TO DRAW**

- small metal objects
- pottery
- stone work

## **MORE ACTIVITIES**

LINKS, BIBLIOGRAPHY and FURTHER READING

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©SCRAN/Colin J M Martin Archaeologist measuring a door for a scaled drawing



©SCRAN/Colin J M Martin Archaeologist drawing objects from the wreck of The Swan

# Why draw?

- to produce an accurate and detailed record
- to learn more about the objects themselves
- to inform others pictures are often clearer than words

Whether you are drawing a silver brooch or a piece of pottery the general principle remains the same; to draw an accurate outline of the object, as if viewed from directly above or from the side, to scale and with sufficient detail to show how it was constructed and how used.

But if you do not have access to objects such as Bronze Age pottery then how are you to begin? This resource provides you with a range of fragile and valuable 'objects' to practise with so that you can learn some of the techniques and conventions of the archaeological illustrator.

**BE AWARE HOWEVER** that these 'objects' are only available as images, sometimes enlarged and often photographed at an oblique angle. There may be some distortion of the outline and detail (circular brooches will appear to be oval for example) and you will not be able to pick up the object nor turn it over to study its construction. However the images do show a great deal of detail and you will be able to develop skills of observation and technique that will be useful later, when confronted with real objects.

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©SCRAN/John M McIntosh Illustrator's equipment

# **Equipment**

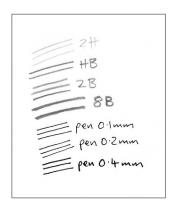
- good daylight source or angle-poise lamp
- good quality white paper for your printer
- tracing paper (pad of heavy weight 90g/m<sup>2</sup>)
- two small 'bull-dog' clips or some paper clips
- pencils (soft, medium and hard such as 2B, HB, F and 2H) and pencil sharpener
- or 'automatic' pencils (sizes 0.3 to 0.9 mm)
- eraser (good quality white 'plastic' type)
- ruler
- fine-nibbed black ink pens, nib sizes 0.1, 0.3 and 0.5 mm are best to start with (**not** 'rollerball' type but 'fibre tip' such as 'Pilot', 'Staedtler' or 'Rotring')
- magnifying glass or 'Fresnel' lens/magnifying sheet

# Start here – techniques



# Exercise 1 - drawing lines

The standard pencil used in schools and offices is HB (Hard Black). Soft pencils range from B (Black) to 9B (getting gradually softer, blacker and producing a thicker line). Hard pencils range from H (Hard) and F (Fine) to 9H (getting gradually harder and producing a thinner line).



©SCRAN/Anne Taylor Example of Exercise 1.

Place a sheet of tracing paper over a sheet of white paper. Now experiment by drawing on the tracing paper with different pencils to see how line thickness can vary. You may notice that as a pencil gets blunt the line gets thicker.

Draw some short, straight lines with a 'hard' pencil (2H) and label them '2H pencil'. Draw short, straight lines with a 'medium' pencil (HB) and label them 'HB pencil'. Draw short, straight lines with a 'soft' pencil (2B) and label them '2B pencil'.

On the same sheet experiment in the same way with as many different types of black pen as you have. Label each line with details of the nib thickness (such as 0.2 mm pen).

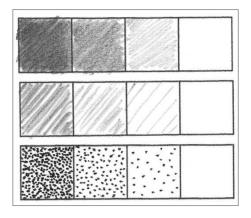
Keep your exercise sheet. It will be a useful reminder of different pencil and nib thicknesses later.



# Exercise 2 - shading



©SCRAN/John M McIntosh Shading with a soft pencil.



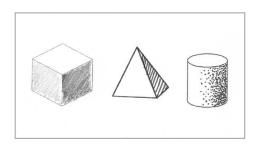
©SCRAN/Anne Taylor Example of Exercise 2.

Use a soft pencil (such as 2B) and shade in the first square completely. Leave the fourth square white.	
Now fill in the other two squares so that there is a progression: 1. black, 2. mid grey, 3. light grey, 4. white.	
Use a pencil or medium (0.3 mm) black pen and fill in these four squares in a similar way, but this time by	
drawing a series of fine parallel lines. To make the first square appear dark draw the lines close together.	
Lines that are spaced further apart will appear lighter.	
Use a pen (0.4 or 0.5 mm) and fill in these four squares in a similar way, but using stipple (tiny dots).	

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# Exercise 3 - shading for effect

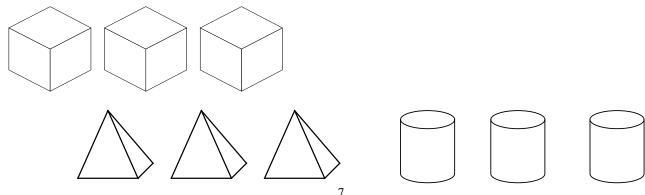


Use the same techniques of

©SCRAN/Anne Taylor Example of Exercise 3.

- a) shading solid areas with a soft pencil,
- b) drawing a series of fine parallel lines in pencil or pen, and
- c) stippling in pen

to produce a 3-D effect on the cubes, pyramids and cylinders reproduced in outline below. In every case imagine the light to be shining from the top left. For example, when drawing the cube leave the upper face of the cube white, make the front mid grey, and the third face dark.



# **Drawing small metal objects**

**EXAMPLE**: THREE DIFFERENT WAYS OF DRAWING A METAL BROOCH

Plaid brooch, in silver, decorated with niello and brass. University of Aberdeen, Marischal Museum: 18123

Date: 1650 - 1750 From: Scotland

Diameter: 73 mm







Style (a)
Style (b)
Style (c)

©SCRAN/Anne Taylor Style (a) shows the style of decoration by drawing the outlines only; Style (b) shows more detail by filling in the 'niello' decoration; Style (c) shows all of the decorative elements in detail and adds stipple to create a 3-D effect.

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# Step-by-step guide to drawing the plaid brooch

1. PRINT OUT THIS PAGE (the brooch image) on good quality paper (such as a heavy weight bright white), in colour and using high quality print resolution.



©SCRAN/University of Aberdeen SCRAN ID: 000-000-142-384-C PLAID BROOCH

Marischal Museum: 18123

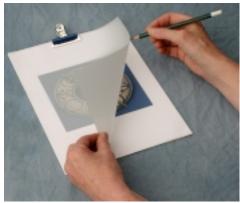
Diameter: 73 mm

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2. LOOK carefully at the brooch image you have printed.

You should be able to see these details:

- the brooch is made from silver
- decorated with brass inlay (the yellowy/gold areas)
- decorated with 'niello' (the solid dark areas are filled with a silver sulphide)
- the niello patterns have been described as 'circles' and 'tailed Ys'
- an 'oval' not a 'circle' niello pattern (top left) accommodates the pin hinge neatly
- the light on the brooch shines from top left (shadows appear bottom right) this is the standard convention when drawing archaeological objects
- 3. Place a piece of tracing paper over the brooch image. Use one or two 'bull-dog' clips or paper clips to fix the two pieces of paper together at the top, so you can lift the tracing paper up to see the brooch image underneath.



©SCRAN/John M McIntosh Tracing paper and brooch image fixed together at the top with a 'bull-dog' clip

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- 4. With a sharp hard pencil trace the brooch outlines and as much of the detail as you can see. If you can't see through the tracing paper lift it up and look at the brooch image underneath, then replace the tracing paper and continue. Work as accurately as you can the finished tracing will be used for your future drawings. If you make a mistake, rub out the line and trace it again.
- 5. LABEL the drawing in a corner with artefact name, museum name and number, and the artefact's actual dimensions (so that you can identify this artefact later when you have a collection of drawings it can be difficult to remember which brooch is which). Your drawing of this brooch should be labelled:

PLAID BROOCH

MARISCHAL MUSEUM: 18123

Dia: 73 mm

- 6. Remove the clip(s) and place the printed brooch image where you can see it. Now layer three sheets of paper a plain white sheet, your pencil drawing and a clean sheet of tracing paper on the top. Clip together at the top with one or two 'bull dog' clips or paper clips.
- 7. Decide on the style of finished ink drawing.

For style a) - take a medium pen (0.3 mm) and trace over the outlines.

For style b) - as above and then fill in the 'niello' areas using a thicker nib (0.5 mm).

For style c) - DO NOT BEGIN BY DRAWING AN OUTLINE, but use a fine pen (0.1 mm) to trace over the detail in the brass inlay areas and other fine line details. Use a thicker nib (0.5 mm) to fill in the 'niello' areas. Use a medium nib (0.3 mm) for the tiny dots ('stipple') to represent the areas of shadow on the pin and around the edge of the brooch, emphasising that the light source is top left. Finally draw in the outlines around the edge of the brooch and pin.

- 8. Add the artefact identification name and number and the dimensions to every drawing.
- NOW go to the IMAGE GALLERY SCRAN images to draw, print out the silver-gilt brass belt-plate on to good quality paper with high print resolution and draw it using similar techniques.

# **Drawing pottery**

The general aim when drawing pottery is not only to produce an accurate, measured drawing but also to show the type of pot. Shape (or form) and decoration are therefore important. Many illustrators now include extra information to show how a pot was made, from what material, and how finished and fired.

#### **EXAMPLE:** THREE DIFFERENT WAYS OF DRAWING A HAND-BUILT POT

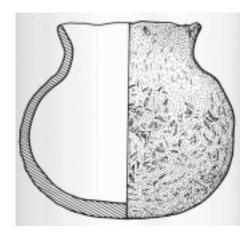
In the nineteenth-century illustration (a) the pot has been drawn in perspective and as if from slightly above so that the interior is partly visible. Styles (b) and (c) are more diagrammatic/schematic. In (b) the pot has been drawn directly from the side and as if split in 2 halves, with the exterior on the right and the section (demonstrating thickness of clay) on the left. This style shows the shape and decoration clearly (good for typological exercises) but the use of ruled lines and a solid black section do not convey the uneven lines of a coiled and impressed pot. Style (c) shows the exterior and section, as well as the irregularities, of a hand-built pot very well.



Style (a) ©SCRAN/(PSAS 1882-83) Alba/NMS



Style (b) ©SCRAN/Anne Taylor



Style (c) ©SCRAN/Gaidheil

Style (a) is an urn (H: 280 mm) from Seamill, West Kilbride in PSAS 1882-83, Fig. 5, p72; Style (b) is a beaker (H: 198 mm) from Clinterty, Aberdeenshire, Marischal Museum: 19707 drawn by Anne Taylor; Style (c) is a crogan (H: 900 mm) from Isle of Lewis drawn

by Helen Jackson.

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## Step-by-step guide to drawing the beaker

1. <u>PRINT OUT THIS PAGE</u> (the beaker image) on good quality paper (such as heavy weight bright white), in colour and using high quality print resolution.

©SCRAN/University of Aberdeen SCRAN ID: 000-000-142-588-C

BRONZE AGE BEAKER, with impressed decoration, from Westside of Brux, Kildrummy, Aberdeenshire

Marischal Museum: 19739

Height: 160 mm Dia (rim): 120 mm

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2. **LOOK carefully** at the pot/beaker image you have printed.

You should be able to see the following details:

- it is made from clay
- the slight unevenness and varying thickness of clay suggest it has been hand-built, not wheel-thrown
- decorated with rows of tiny dots and <> shapes (made by pressing a roulette, the tines of a comb or some cord into the unfired clay)
- the surface is not shiny so it has not been burnished or glazed
- the rim of the beaker is slightly chipped
- 3. Place a piece of tracing paper over the beaker image. Use one or two 'bull-dog' clips or paper clips to fix the two pieces of paper together at the top, so you can lift the tracing paper up to see the image underneath.
- 4. To follow the conventions of archaeological illustration you have to turn a 3-D photograph into a diagram or schematic representation, as shown by the illustration below (where the orange outline represents the photograph of the beaker). Draw a dot on each side of the base of the pot (on the outer edge) then use a ruler to draw a line across from dot to dot. Draw a dot on each side of the top of the pot (again on the outer edge), where the rim appears to meet the outer edge, then use a ruler to draw a straight line across from dot to dot. These two horizontal lines represent the base diameter and the rim diameter. Mark the centre point along the rim line and along the base line, and use a ruler to draw a straight vertical line from rim to base. This central vertical line represents the height of the pot.

Illustration showing how to turn 3-D image into a schematic representation.

©SCRAN/Anne Taylor



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- 5. With a sharp hard pencil trace the pot outline (both left-hand side and right-hand side).
- 6. The left-hand side of the vertical line represents the inner surface of the pot (showing traces of the coils in a coil-built pot, or turning marks inside a wheel-thrown pot) and a section through the pot wall. These features cannot be seen clearly from the photograph and therefore cannot be reproduced accurately, but you can practise the drawing techniques. Measure the thickness of the clay at the rim and use this measurement as a guide for drawing a line parallel to the outline on the left-hand side.
- 7. Now deal with the right-hand side (the outer surface of the pot). To follow the conventions of archaeological illustration the bands of decoration have to appear as straight lines, parallel to the rim and base lines, and not curved as on the photograph. Mark with a dot, at the edge of your pencilled outline, the start of each band of decoration. Draw a horizontal line from each pencilled dot to the central vertical line (these will act as guide-lines for the bands of decoration). Then draw in the decoration details, using dotted lines and  $\Leftrightarrow$  shapes. If you can't see through the tracing paper flip it up and look at the beaker image underneath, then replace the tracing paper and continue. Work as accurately as you can the finished tracing will be used for your future drawings. If you make a mistake, rub out the line and trace it again.
- 8. LABEL the drawing in a corner with artefact name, museum name and number, and the artefact's actual dimensions (so that you can identify this pot later when you have a collection of drawings it can be difficult to remember which pot is which). Your drawing of this beaker should be labelled: BRONZE AGE BEAKER, Westside of Brux, Kildrummy

MARISCHAL MUSEUM: 19739 H: 160 mm Dia(rim): 120 mm

- 9. Remove the clip(s) and place the printed pot image where you can see it. Now layer three sheets of paper a plain white sheet, your pencil drawing and a clean sheet of tracing paper on the top. Fix them together at the top with one or two 'bull-dog' clips or paper clips. You are now ready to trace over your drawing in ink, using a medium nib (0.3 mm). Use a ruler to draw the central vertical line but draw all the other lines by hand (you are drawing a hand-built pot, not a piece of machinery). The conventions of archaeological illustration require that the top horizontal line (representing the rim diameter) does not meet the pot section at the left-hand side, as shown in style (b), but does meet the pot outline on the right-hand side. The section of a hand-built pot is usually shown as grey-hatched (solid black is used for wheel-thrown pottery), but this is not a hard and fast rule (see illustrations (b) and (c) in the EXAMPLES above). Also ink in the decoration details on the right-hand side of the pot.
- 10. Add the artefact identification name and number and the dimensions to every drawing.
- NOW go to the IMAGE GALLERY SCRAN images to draw, print out the 'Parkhill' beaker and draw it using similar techniques.

# **Drawing stone work**

a) Sculptured grave-slab (ringed

SCRAN ID: 000-000-474-908-R

cross), from Iona. Pencil and

body white on tinted paper by

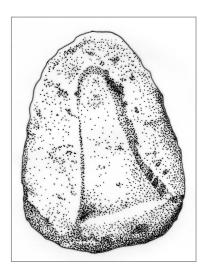
James Drummond (1816-77)

©SCRAN/Gaidheil Alba

**EXAMPLE**: TWO DIFFERENT WAYS OF DRAWING STONE WORK



b) Sandstone mould for a bronze flat axe, from Culbin, Morayshire. Drawn in ink using 'stipple' technique. University of Aberdeen, Marischal Museum: 15637 ©SCRAN/Anne Taylor



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## Step-by-step guide to drawing the axe-mould

1. <u>PRINT OUT THIS PAGE</u> (the axe-mould image) on good quality paper (such as heavy weight bright white), in colour and using high quality print resolution.

©SCRAN/University of Aberdeen SCRAN ID: 000-000-142-209-C Sandstone mould for a bronze flat axe, from Culbin, Morayshire

Marischal Museum: 15637

H(overall): 84 mm



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2. **LOOK carefully** at the axe-mould image you have printed.

You should be able to see that:

- the mould has been carved in stone
- the matrix has been damaged, particularly at the top right-hand side
- the lighting has been arranged to shine into the matrix, highlighting the area that will form the cutting edge of the axe
- 3. Place a piece of tracing paper over the axe-mould image. Use one or two 'bull-dog' clips or paper clips to fix the two pieces of paper together at the top, so you can lift the tracing paper up to see the image underneath.
- 4. With a sharp hard pencil trace the axe-mould outline. Then trace in some of the detail (such as the inner edge of the matrix and any irregularities in the stone). If you can't see through the tracing paper lift it up and look at the image underneath, then replace the tracing paper and continue. Work as accurately as you can the finished tracing will be used for your future drawings. If you make a mistake, rub out the line and trace it again.
- 5. LABEL the drawing in a corner with artefact name, museum name and number, and the artefact's actual dimensions (so you can identify this artefact later). Your drawing of this image should be labelled:

SANDSTONE AXE-MOULD MARISCHAL MUSEUM: 15637

H(overall): 84 mm

- 6. Remove the clip(s) and place the printed axe-mould image where you can see it. Now layer three sheets of paper a plain white sheet, your pencil drawing and a clean sheet of tracing paper on the top. Fix them together at the top with one or two 'bull dog' clips or paper clips.
- 7. Use a fine black pen (0.1 or 0.2 mm) to ink over the outline of the axe-mould. Now use a thicker pen (0.5 mm) to stipple in the detail (tiny dots clustered closely together will make an area appear darker and in shadow, dots which are more spread out will suggest light falling on the surface). Don't forget to add the artefact identification name and number and the dimensions to every drawing.
- NOW go to IMAGE GALLERY SCRAN images to draw, print out the incised cross-slab on to good quality paper using high print resolution and draw it using similar techniques.

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#### **MORE ACTIVITIES**

- 1. Choose one illustration from the **IMAGE GALLERY of 19<sup>th</sup> century illustrations** and answer the following questions:
  - what materials has the illustrator used? Pencil? Pen and ink? Pastel? Watercolour? Or ...?
  - What are the techniques? Stipple? Short parallel lines? Soft shading? Outline and colour-wash? Or ...?
  - How does the technique help the onlooker to 'read' the illustration? (For example 'stipple' represents the rough surface of some stone work very well).
- 2. Choose another illustration from the **IMAGE GALLERY of 19<sup>th</sup> century illustrations** and look at it carefully. Pretend you are writing the instructions for tracing that image and write down a list of all the details you can see that are special to that image (as has been done for you in 'HOW TO DRAW a plaid brooch, beaker and axe-mould').
- 3. Choose your favourite illustration from the **IMAGE GALLERY of 19<sup>th</sup> century illustrations** and write down a few sentences to explain why you like this particular illustration.
  - For example, one of my favourite illustrations is of the Bellarmine jugs. They look like engravings or fine pen and ink drawings and manage to suggest the roundness of the jugs, the 'pinching' at the base, and the detail of the decoration just by using a series of short lines. I admire this technique because I find it very hard to do myself.
- 4. Search the **SCRAN database** for some more images to draw from. Try to choose objects that have been photographed with the light coming from the top left, and where the outline is clear enough for you to trace.
- 5. Next time you **visit a museum, or read a 'heritage interpretation board'**, look at the accompanying illustrations. What techniques have been used? Do the illustrations help in getting a message across? If so, how?
- 6. Go to a **library** and look at archaeological reports, journals and books. Do the drawings add to the information given in the text? If yes, what is this information?

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#### LINKS, BIBLIOGRAPHY and FURTHER READING

The **AAI&S** (**Association of Archaeological Illustrators and Surveyors**) is a professional body, established in 1978, that aims to set and promote standards within the field of archaeological illustration and surveying.

The website <a href="http://www.aais.org.uk">http://www.aais.org.uk</a> gives further information on the society's activities and some examples of good practice.

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