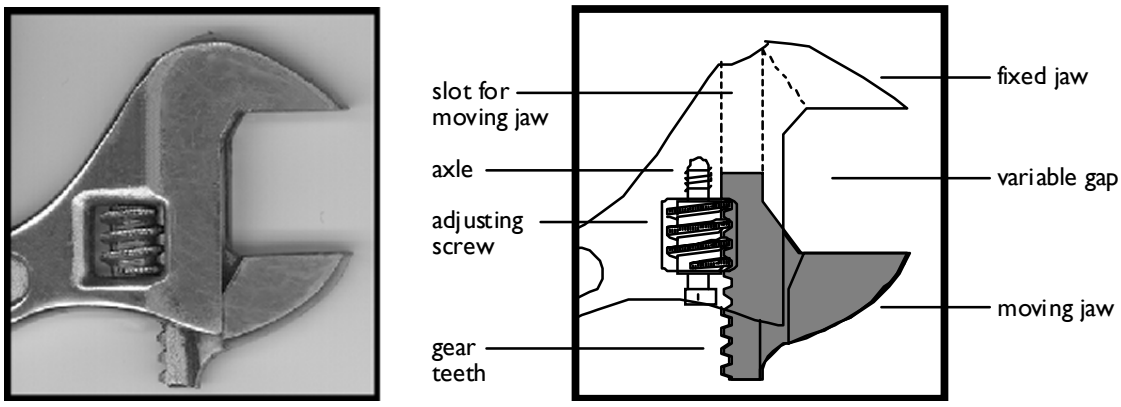
Representational Genres

Now let's move on to compare different types of depictions in more detail. To emphasise the extent of the differences that can exist, we've chosen two types of depiction that lie at opposite ends of the picture spectrum; photographs and diagrams. Figure 1.1 is instantly recognisable as a photograph. Even if we know nothing about mechanics' tools, we can tell from the 'look' of this illustration that it has been produced by a camera. It is certainly not a diagram. You don't have to understand the subject matter of an illustration to tell whether it's a photograph or a diagram. All photographs have certain graphic characteristics in common and tend to show their subject matter in particular sorts of ways.

Figures 1.2 and 1.3 both depict the top section of the spanner shown above. However, they do so in very different ways. The close-up photograph shows more detail than the previous one but less of the whole spanner. Despite these differences, Figures 1.2 and 1.1 can be thought of as belonging to the same 'family' of depictions. They both depict the subject matter in the same realistic way (i.e. much as we might expect to see it in our everyday experience). However, Figure 1.3 shows the same object in a far less familiar and more technical way that is typical of diagrams. Although the size and overall subject matter of these two illustrations are identical, the representations *look* quite different. The diagram clearly does not belong to the same graphic family as the photograph.



Figures 1.2, 1.3 Examples of two 'families' of representation

If you were to look through a variety of instructional materials, you would find a huge range of illustrations that you instantly recognise as photographs. You could also find others that are just as clearly diagrammatic. What we are talking about here is the way in which the subject matter has been treated (or rendered). Photographs and diagrams are examples of two different pictorial **genres**. By genres, we mean particular types of illustration that are clearly different because of the distinctive ways in which they depict their subject matter. This distinctiveness involves depictive conventions (that ideally are shared between the author of a picture and its 'reader') concerning what types of things can be expected in certain types of picture. For example, we usually expect to see a more 'realistic' treatment of the subject matter in a photograph than in a diagram. We recognise that an illustration is a photograph because it has certain very distinctive characteristics such as smoothly graduated shading of the surfaces of depicted objects. In contrast, this type of surface treatment tends not to be used in the simple line-drawing style found with most diagrams.

Different genres of illustration are often used for different instructional purposes. For example, photographs may be used where the goal is to help a learner *recognise* or *identify* the subject matter. In the case of Figure 1.1, the photographs are sufficient to show us what each tool looks like and to distinguish

them via their superficial differences. If we had to pick out an adjustable spanner from a whole box of tools, the photograph would be very helpful. However, the next two Figures show that a photographic depiction is less useful for helping us to understand the *structure* of a crescent spanner. Despite the extra detail provided in the close-up photograph, we are still left guessing about what is hidden below the surface. The more revealing treatment used in the diagram shows us how the spanner is constructed and can help us understand how it works. The photograph *describes* but the diagram can *explain*.

The specific way in which subject matter is depicted (and in particular, the pictorial genre used) can have a crucial effect on the effectiveness of instruction. The choice of one visual treatment rather than another is important both for the *author* who produces the graphic material and for the *students* who will use it as a resource for learning. As a result, there are implications for how we should *design* instructional illustrations and how we should **use** them in the process of instruction.

From the author's point of view, some pictorial genres will be preferred over others for a particular purpose because of the more powerful instructional possibilities they offer. As demonstrated by the diagrammatic versus photographic versions of the spanner above, aspects of the subject matter that can be shown readily in one genre may be difficult or impossible to show in another.

From the students' point of view, the interpretative demands of some types of depiction can be more challenging than those of others. For example, students who lack the knowledge and skills required for appropriate decoding of the special graphic conventions used in the spanner diagram may find that depiction