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Even if you are not a computer whizz, you can still use images in your manuscript effectively if you follow a few simple guidelines.

In this third Tantamount Guide we take a look at some basic image issues

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Image tips for technophobes

Image resolution

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The big picture

Resolving resolution

Historically, standard computer monitors had a resolution of around 72 ppi – that's 72 pixels per inch. To fill a square inch of your screen, you would need an image with 72×72 pixels, and to fill a four inch square you'd need 288×288 pixels.

Each pixel takes up space in the computer memory, so the more pixels in an image, the bigger the file size. This means that if you want to send a photo via email or use an image on a webpage, it's best to keep it small so that it doesn't take too long to load. However, if you make it too small, the computer won't have enough information to do more than show a tiny image: if you try to make it bigger, the missing data will have to be invented.

At 72 ppi, an image that is 144×144 pixels only contains enough information for a two inch square. This means that if you want to display it as anything bigger, the picture will look blurred, as the computer software will have to "guess" what colour dots to use to fill in the spaces. To display it as a four inch square, for example, three quarters of the information would have to be invented. (Incidentally, this means that most TV CSI-type "enhance" procedures are unrealistic: the detective asks the techie to zoom in on an image and the computer software supplies estimated data to fill in the blanks. It can't retrieve information which isn't there, it can only make a guess using the logic programmed into it, so any resulting details are based on guesswork, not fact.)

Once we start talking about printed images, we need to work with higher resolution – usually 300 ppi – if the pictures are to appear clean and crisp.

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At screen resolution, four inches is 288 pixels, so if you try and print a four inch square picture you've downloaded from a webpage, the resulting picture will either be big and fuzzy on paper, or high quality and about the size of a passport photo.

If your image is too small for the purpose, it will appear blurred.
Left: 300 ppi image; Right: 72 ppi image enlarged to 300%

So far, we've talked about using 72 ppi for displaying images on screen; but monitors and displays are improving, and tablet screens – where your enhanced ebook is likely to be seen – tend to have much higher resolutions, typically ranging from 150 to 250 ppi, although some displays are now just as hi-res as print. So although a small picture can be scanned and used successfully alongside a story you post on your blog or webpage, it may make a very disappointing full page illustration for an ebook.

This also means that if you have images which you have optimised for web, they won't be high enough resolution for use in your enhanced ebook when it's read on a tablet.

It's tempting to think that you can simply "size up" the image, using the program you used to optimise it earlier. But this is still essentially asking software to interpolate missing data. In fact, you need to go back to the original image and work from that. If you scanned the image at 72 ppi, you'll need to rescan it at 300 ppi resolution. It may look huge on your computer monitor but that's the size you'll need to work with for a high-resolution tablet display.

Resolving resolution

The images we have talked about so far are bitmap or raster images, where each pixel is individually defined with its own values for colour and luminosity: each is independent from all the other pixels that make up the image, so when we ask the computer to make the image bigger, it has to invent values to fill in the information it lacks.

If you start with a circle, though, however large you make it, it does not lose definition, but remains a perfect circle, while a two by three rectangle will remain a two by three rectangle, whether the units are millimetres or inches. These shapes are defined by mathematical formulae and can be made bigger or smaller without losing definition.

Since it is possible to combine multiple shapes and curves to produce a single image, the complexity of vectorial images is almost unlimited. This type of image – an image composed of geometrical shapes that are defined by mathematical formulae – doesn't have a resolution: the borders will remain clear and precise no matter what size it is.
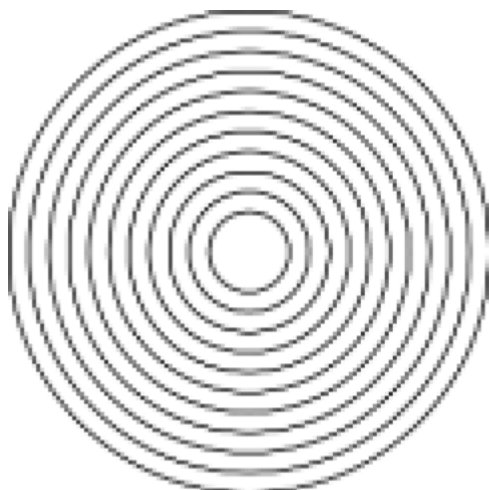
*Bitmap image increased by 300%*
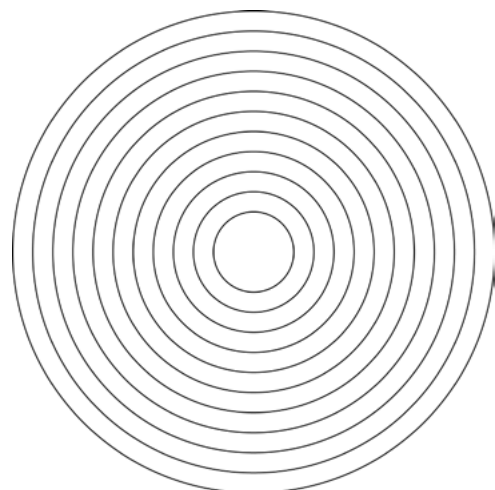
Vector image increased by 300%

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Trimming down

Any time that graphic elements are used in a document, it's likely that some of them will need to be cropped, either in order to fit the page or simply to improve the image composition.

The "Rule of Thirds" can be used when you need to cut an image: imagine the image divided into nine sections by imposing two equally-spaced vertical lines and two equally-spaced horizontal lines as shown in the diagram; usually, the best picture composition is obtained if the focal point is positioned as marked, at or near to the intersections of the horizontal and vertical lines.
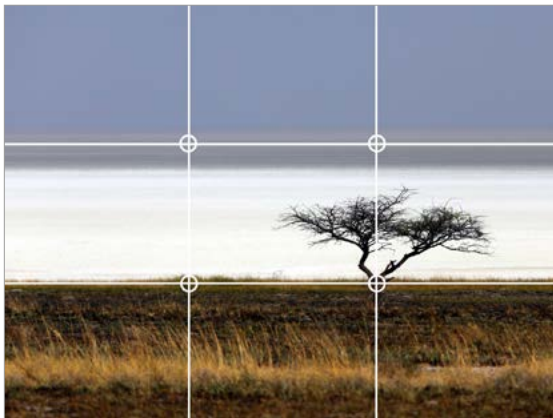
Decapitation

When you have a close-up of a face that you need to crop to reduce the image height, it's better to cut off the top of the subject's head rather than lop off the point of their chin. It's better to scalp your subject than to cut their throat.
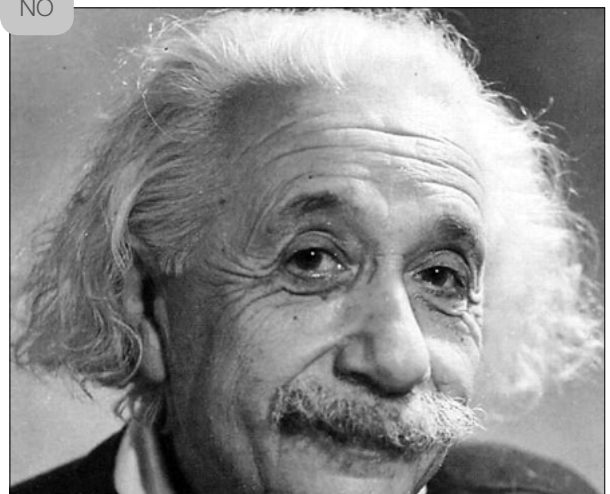
There are many points at which you can cut across the forehead, but the best effect is often achieved by cropping just above the eye brows or just above the hairline, as these both provide natural closure to the face.
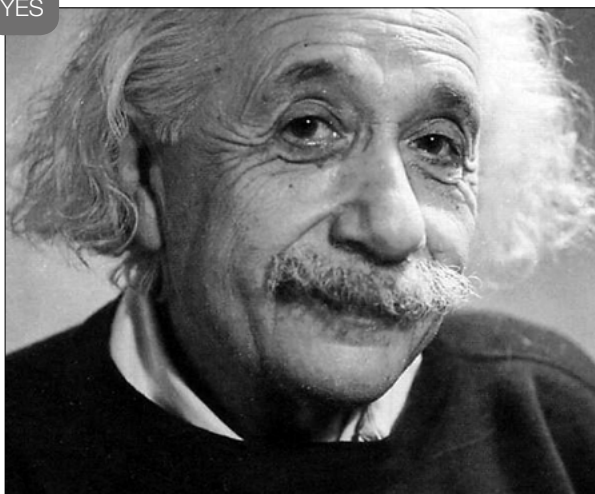
Better cropping

Unnatural cropping

Positioning: look inside

Particularly with portraits, images often face either to the right or to the left. When pictures of this type are included in a book or magazine, it is better to position them so that they are facing towards the spine of the publication, so that they are looking towards the centre of the book, not towards the exterior page edge.

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In order to achieve this, it may be necessary to flip the picture horizontally.
Remember that not all images can be flipped: the human body is not
symmetrical, so never flip a picture of a named person.
This doesn't only apply to faces, but to action pictures, too: usually you
want the subject of the picture to be running, walking etc. into the book,
not trying to exit via the page edge.

YES

The dog is integrated into the double page composition

NO

The dog seems eager to leave the book behind

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authorbranding

Tantamount's international team of professionals boasts over a quarter of a century of experience in areas including graphic design, publishing, IT and language training. Now we are working to push the boundaries of the evolving space where technology and tradition, image and language meet and interact.

We are proud to offer our expertise in design, education and digital publishing to clients of all sizes, from individuals to professional associations to multi-national publishing houses.

Take a look at our creative portfolio and visit the Tantamount website to find out more about us and about our projects, and check our blog for more technological tips and news for writers and publishers.

The concept of author branding spans three important areas: publishing, visual design and marketing. At authorbranding.co.uk we harness state-of-the-art technology to empower indie authors to discover the right tools and formats for their work so they can develop and present a clear, coherent and consistent brand image.

We can help you give your writing a professional edge. Working with us will allow you to focus on your writing while we deal with all your digital, editorial and design needs, saving you time, money and headaches.

To learn more about the importance of a coherent, unique and professional image, check authorbranding.co.uk, where you'll find full details of our services for authors, artists, publishers and businesses.