Toning

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Introduction

Toning a black and white photograph is the process of converting the silver within the print to another metallic compound. It's a chemical process that can be done without a darkroom and always with normal lighting on. It's a great way to spend time creating a "personalised" print during long winter evenings and in the first or our "Back to Basics" articles we explore the options and possibilities for this historic art form.

In a sense, adding false colours back into an image which has been deliberately drained of its original colours sounds a little perverse. But toning is a popular way of helping to change the `feel' of monochrome images. Warm colours such as selenium and sepia can help to create a peaceful, calm mood, whilst the hues from gold and blue toners can generate a chilling edge to images.

The relationship between image colour and mood is important, because it will affect the message of your image. Get it wrong, and all your image does is to confuse: like shouting "I love you".

Too many photographers seem to think that toning is a "craft skill" (for which read "trick") for turning an ordinary photograph into an exceptional one. Toning which is sympathetic to the subject and mood of an image can certainly enhance a photograph, but it is very unlikely to rescue it from oblivion.

General pointers

Toning is not only good fun, it is a simple technique. In most cases, the technical complexity extends only so far as putting a print in a tray of liquid, watching the colour change, removing the print and washing it. It really is as simple as that.

The toning is applied to prints after they have been processed and washed in the normal way and can be undertaken in ordinary room lighting or even outdoors. Good ventilation is recommended.

Before we look at the individual toners, here are some general pointers. Different papers will respond differently. Generally speaking, fibre papers react more enthusiastically than resin coated papers, and warmer tone (e.g. chlorobromide) papers respond better than cold tone (e.g. bromide) papers. The developer used can also influence the result. It is not only the extent of toning which is affected by these variables, but also the colour. This means that getting to know your materials is an important element in achieving predictable results.

Some papers will prove unwilling to respond to certain toners getting some resin coated papers to react to gold toner, for example, can be difficult and you can put some prints in selenium for hours with relatively little apparent effect.

Clean working methods are essential for efficient toning. It is important to wash dishes carefully to prevent contamination between toners the working life of gold toner, for example, is significantly reduced if it becomes contaminated with even small amounts of selenium toner. Dishes which have been used for bleaching must be washed thoroughly before they are used for other chemicals - indeed, some photographers will keep separate trays for specific toning and bleaching processes.

It is vitally important to wash prints thoroughly between toning processes. Poor washing will result in "streaky" or "uneven" toning and can result in chemical blotches which are difficult to remove. Fibre prints, in particular, need prolonged washing between processing stages to prevent chemicals being carried over from one bath to the next.

Types and Brands of Toner

The most common toners used with modern black and white printing include Sepia, Blue, Copper/Red and Selenium. All of these toners are available Fotospeed. Tetenal also offer alternatives with Rockland providing unique options of some standard toners.

Sepia toning

Figure 1
Black and White print untoned.

Figure 2
Sepia toned. Print was placed in toner solution (diluted 1+9) for 1 minute and washed under running water for 2 minutes.

The thiocarbamide formula for sepia toning offers both an "odourless" process and one in which the colour of the tone can be controlled between a light yellow-brown and a rich dark brown. The Fotospeed ST20 sepia process is one of many proprietary kits available.

Sepia toning is a two-bath process: the print is first bleached and washed, before toning and the final wash. If you wish to make your own sepia toner, here is one of many available formulae:

Bleach

Potassium ferricyanide   100g

Potassium bromide   100g

Water to make   1 litre

The amount of potassium bromide used can be reduced for warmer tones.

Toner solution A

Thiocarbamide	100g
Water to make	1 litre

Toner solution B (activator)

Sodium hydroxide	100g
Water to make	1 litre

Add the sodium hydroxide to the water slowly.

This formula provides a strong bleach and highly concentrated stock solutions for the toner and activator. The bleach can be used at much higher dilutions where partial toning is required.

Working solutions for the toner can be mixed according to the colour required. To make 1 litre of working solution toner:

Colour	Toner A	Toner B	Water
Purple brown	20ml	100ml	880m1
Cold brown	20ml	60m1	920ml
Mid-brown	20m1	20ml	960m1
Warm brown	60m1	20m1	920ml
Yellow brown	100ml	20ml	880m1

The colour will vary between different papers and depending on the paper developer used.

The basic process is simple: bleach the print until all the blacks in the image have been removed. Wash until the yellow stain has been removed. Place the print in the toner until no further colour change takes place and then wash. With warmer colours, rinse the toned print and immerse in a bath of 2% solution of acetic acid, which will help to remove surface "scum" and clean-up highlights. Then wash the print thoroughly.

To get richer tones, you can start the process by immersing the print in the toner bath for 3 minutes and washing then complete the process as normal.

This thiocarbamide formulation generally retains the image density of the original, but with the higher concentrations of thiocarbamide (for the yellow-brown tones), image density may reduce slightly, so it may be necessary to start with a slightly darker print than normal 10% extra exposure).

If you wish to retain the blacks in the print, only partially bleach the image before toning. For example, add 100ml of the normal strength bleach to 900m1 of water to get a much softer working bleach bath, pulling the print when the highlights and light greys have disappeared. The toner will `take' more evidently in the lighter tones leaving the darker tones with much less evident colour shift. When using partial toning, the print should be rinsed and then fixed before washing.

An interesting variation on sepia toning is (after thorough washing) to place the print in gold toner. This gives a much redder image.

Selenium toning

Figure 3
Black and White print untoned.

Figure 4
Selenium toned (diluted 1+3 for maximun effect) for 10 minutes and then washed for 3 minutes.

Of all the toning processes, selenium is probably the most widely used by photographers striving to produce fine monochrome prints. This is because it can be used to create subtle changes in the tonal range of images as well as to extend the permanence of prints. Fotospeed's SLT20 is our recommendation to buy.

Selenium toner should be used with care: use in a well-ventilated area, taking care to avoid skin contact. The use of latex gloves (not the thick rubber gloves used for washing-up) is recommended.
Follow the manufacturers' instructions. Treated with respect, there is no cause to be concerned about using this toner. The response of different papers to selenium toner is so varied that experimentation will be necessary. For this purpose, it is useful to keep test strips (or spare working prints which can be cut into strips for testing).

Depending on the paper and the effect required, selenium toner is commonly diluted with water anywhere between 1+3 and 1+19. For example, a popular use of selenium toner is to intensify the blacks and give a subtle warm tone effect to what remains identifiably a black and

white print. In such applications, a weak dilution is used, so that the print can be pulled before the shadow areas of the print take on the purplish-brown colour of full selenium toning.

My personal preference is to start with a 1+9 dilution and to observe the effects on a test strip. I put in three strips - taking one out after 1 minute, the next after 3 minutes and the last after 10 minutes. These will normally show quite different effects when wet but be careful: both the colour and intensity of tone can change markedly when the print is dried. Particularly with fibre papers, it really is worth the trouble of drying the strips fully to assess the toning effects: as "curl" doesn't matter for test strips, a hair dryer is fine for this purpose. Assess the prints in normal room lighting.

With some papers it is possible to pull the print at the point when the darker tones have taken on the reddish-brown selenium colour but before any colour shift is apparent. This split-tone effect can be interesting and effective in its own right, but it leaves open the possibility (after thorough washing) of using a further toner to change the colour of the highlights whilst retaining the brown shadows. It is even possible to time this so that mid-greys retain their original colour.

Gold toner

The other toner which adds to image stability is gold toner. Because it contains a small amount of gold chloride, it is an expensive toner to buy Fotospeed AU20 and Tetenal's are both around £30 both including VAT at 17.5%. The toner is normally used undiluted and stores well. Avoid contamination with other chemicals to preserve the life of the toner - i.e. use clean trays, avoid splashes from other toning baths, and make sure that prints are thoroughly washed before toning. According to manufacturers' advice, one litre of gold toner should process around 45 10x8 inch prints, but I believe this to be a little conservative.

Direct immersion of a print in gold toner will first cool the blacks of the print and then gradually introduce a subtle blue tone.

However, if a print has been sepia toned and washed first, gold toning will turn the browns to red. Again, the extent of this transformation varies between papers and can be significantly less marked once the print has dried.

Blue toner

Figure 5
Black and White print untoned.

Figure 6
Blue toned for 10 minutes and then washed for 3 minutes.

More vibrant blue tones can be achieved by use of a blue toner. We love Fotospeed BT20; it can be used for toning film or paper and makes 1.2 litres. Blue toners are usually very vigorous, so if any element of subtlety is required, it is usually better to work at a much greater dilution than normally recommended. But, again, you need to experiment to be able to assess the difference in hue between the print when wet and when dry. If you find your toning has gone "over the top", immerse in a weak (0.5-1.0%) borax solution.

The blue toner will normally cause a significant increase in the contrast of the print and can easily eradicate lighter tones, so it is advisable to print 15% darker and a grade lower than usual if you wish to counteract this impact in the final print.

Blue toner decreases the stability of prints. Making sure that the wash water is slightly acidic helps. Blotting the surface of the print after washing should reduce the possibility of spots from rust particles in mains wash water.

Copper toner

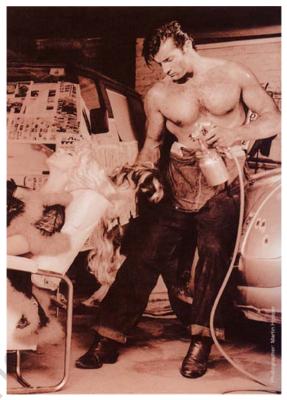

Figure 7
Black and White print untoned.

Figure 8
Copper toned. Print was placed in toner solution for 8 minute and washed under running water for 3 minutes.

Copper toning seems to have been unfashionable in recent years, but has, in my opinion, much to offer. We stock Fotospeed's RT20. Most proprietary brands are vigorous so increased dilution will give you better control if you seek subtle effects.

Initially, copper toning will cause a slight darkening of image tones prints pulled early will have good warm blacks. Longer immersion causes the prints to lighten so that some compensation may be necessary in the original prints.

Conclusion

This introductory article has just scratched the surface of what is possible with toning. Toning is not only good fun, it is a useful (and simple to use) tool for modifying image mood building it into your range of darkroom skills is highly recommended. But do try to make toning complementary to the mood and subject of your images.