Basic Scanner Photography Using SilverFast Presets

By Marsha Tudor

Three dimensional scanning starts first with the selection of materials to be scanned. Commonly, people use plants, flowers, pods, fruits and other organic items. Additionally, there are a myriad of inanimate choices: fabric, ribbon, stones, jewels or random found objects and combinations of all of the above. Once the objects are selected then there are a host of decisions about how to expose them.

SilverFast offers complete manual control of all the exposure and correction settings. This ability is wonderful, but is best maximized once the presets have been explored to understand the possibilities.

There are 11 presets, which give a wide range of exposure qualities:

- **Standard**
- **Landscape**
- **Skin tones**
- **Gold tones**
- **Technic**
- **Evening**
- **Snow**
- **Night**
- **H-S-Cast**
- **Highlight cast**
- **Shadow cast**

Below is a chart that shows examples of each exposure, side by side. Some qualities differences are subtle and not readily apparent with small images, but the selection can produce dramatically differing results depending on the materials scanned.
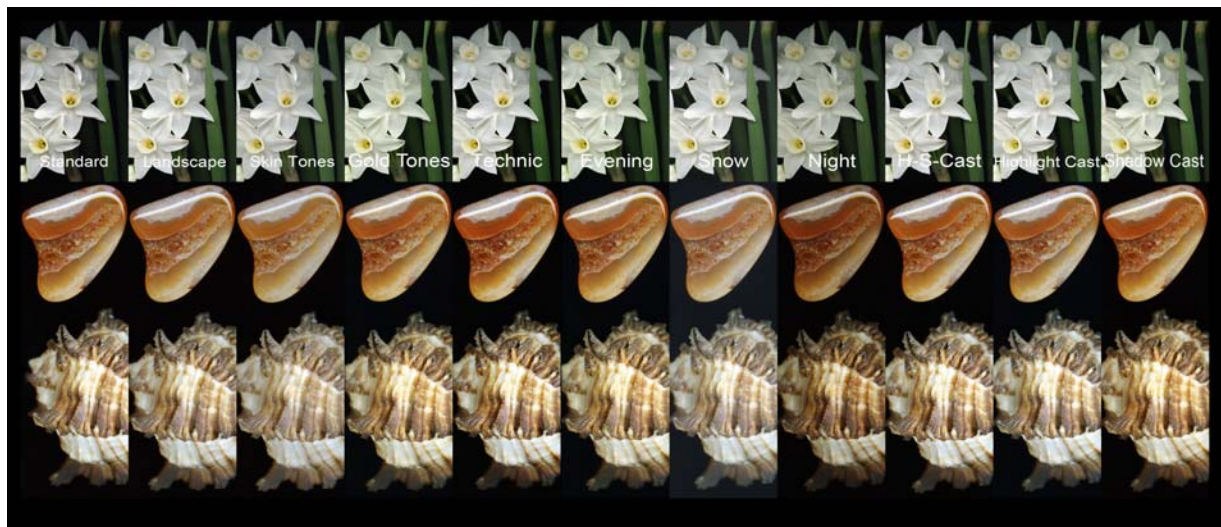
Some of the differences to look for are lower or higher contrast, better handling of whites, pure dark blacks and how these two disparate concerns get balanced. Typically, an exposure like "**Night**" will avoid whites getting blown out and will also produce deep rich blacks. The trade-off is that the image is darker.

"**Snow**" produces lovely soft images. Losing the black background is the trade-off. The above example shows the Snow images have a grayish rather hazy, even grainy looking background. If your workflow includes removing the backgrounds, then this downside is not a problem.

The "**Technic**" setting tends to produce high contrast saturated colors. These images can be very dramatic. The likelihood of blown out whites can be very high. Decisions are very important in advance using a setting like this because there is no going back.

"**Gold tones**" gives a nice warm feel that compensates when things otherwise might appear too harsh. The colors tend to be very rich. Be aware though, that it really is adding a yellow cast to the image. A very happy quality if you want it, but realize it will impact all parts of the resulting image.

"**Evening**" also warms the image and will help with preventing loss of white detail, as "Night" does, but keeps the overall image a bit brighter.

Some options allow later manipulation in PhotoShop or other editing software better than others. The basic rule of thumb is that darks can generally be enhanced in Photoshop, bringing out more detail is relatively easy. Whites on the other hand must be well captured initially because there is no way to add back data that doesn't exist. If a large area of white is blown out in the initial exposure, it is permanent. If this is by design or worth it for other reasons, great. The point here is simply to do it mindfully.

The best way to gain control is of course, experimentation. Different materials will produce surprisingly different response to the same exposure settings as you will soon discover. Typically, I do several exposures of each object. This builds in forgiveness if I accidentally sacrifice an image by exposing it in ways that I decide later, I don't like.

Below are examples that illustrate some of these considerations:

Light Penetration:

Many of the concerns when scanning 3-D objects and when scanning flat surfaces are the same, but some specific things are especially important for scanning 3-D objects. The most notable is the depth of light penetration.

It is commonly known that the depth of field for scanners is VERY shallow. Beyond half an inch or so, depending on the model of scanner, there is not going to be much detail, but beyond the fact that things will not be in focus, they are also NOT illuminated much beyond that either. The impact of this situation is that even more decisions have to be made because they will influence how much data is captured; if the scanner can't see it, it isn't there.

Generally, the rule of thumb is that the darker settings capture the best quality images because they avoid the whites being blown out and tend to give richer colors. The problem is that the scanner's light won't reach anything that resides much above the glass. As with everything else, this is a matter of making calculated choices. Think about which is more important to you for later manipulation and the final effect that you wish to achieve.

"Night"   "Technic"   "Snow"

The arrows point to the area that is out of focus in each image. The "Snow" exposure clearly delivers light further away from the glass. The "Night" image detail can definitely be improved by some Photoshop corrections, but it will not ever have as much information in those "far away" areas. The same is true for the "Technic" exposure, it maximizes contrast which produces vivid colors, that will in some ways help with the apparent amount of focus, but detail definitely is lost.

Capturing White Areas:

The balancing act continues at the other end of the spectrum. High contrast and bright exposures always run the risk of losing detail in the light areas of the image.
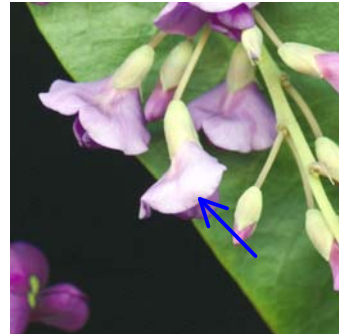
"Night"   "Technic"   "Snow"

These three images illustrate how with the "Night" exposure there is no data loss in light areas, but the overall image is of course, very dark and lacking contrast. The "Snow" exposure also is a low contrast exposure and areas of the lavender petals may wash out. Even more dramatic is the "Technic" exposure in the middle, some of the light areas disappear completely. Again, the theme here is to choose with understanding where the trade-offs are. In this case, one of the other 11 presets might be a better choice to gain brightness without blowing out the whites.

It may be that for the effect you wish to produce, loss of detail is not a problem, no reason why one shouldn't opt in that direction. The issue here is to be in control, do it on purpose. The SilverFast Densitometer can be used as a check, for any areas that are borderline. It will help you be sure.

Special Effects:

Another use for the preset exposures is to explore creative options that go beyond simply capturing the material. An example of this is to exposure the same material at two different settings and then combine them. Below are examples of grapes and grape leaves each exposed at two different settings.

"Technic"   "Night"

In this case, exposure is used to create spatial illusion, since (in the real world) as objects recede in space they become darker (or lighter), hues become more muted and overall have less contrast. We use these characteristics to our advantage. The high contrast "Technic" exposure creates bright crisp images that "pop". The "Night" exposure does the opposite. When they are juxtaposed it can appear as though there is actually a spatial relationship.

With the results:

Some materials will simply create magic on their own….. The following captures are the same texture exposed at the indicated settings:

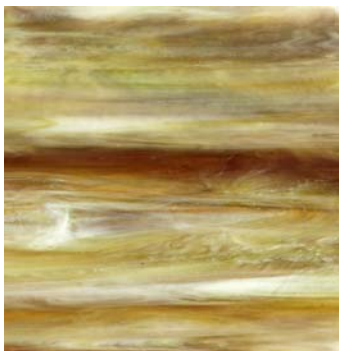"Standard"   "Night"

"Gold tones"   "Snow"

The stunning variability can be used on its own or be used to create composites:

See more examples at: http://www.MarshaTudor.com