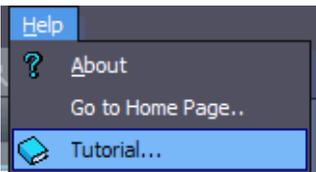


## Title: Compilation of Tutorials and Tips on Making DAP Templates (AOP) by Mary Warner

Before getting started on your own template adventure, I would advise downloading a copy of JPEX ( or any other jpeg extractor utility which you might find). The aforementioned one can be found here: <http://www.zexersoft.com/download/jpegex.zip> I believe it is shareware but it doesn't seem to be crippled in any way.

First, be sure to look at the DAP Help File accessed from the DAP Help Menu under "Tutorials". Oscar has provided a fairly detailed description on creating templates starting on page 23 of the current version ("Section 3.12 Templates"). The section is copied here for your convenience.



### 3.12 Templates

This is only for people who like to develop their own Painter custom templates. The Painters are created with AOP templates. You can create your own template if you wish, and you will use the Make AOP Template command in the Tools Menu.

The AOP templates can both simple and complex, it is a good idea to start from the default values (Reset button).

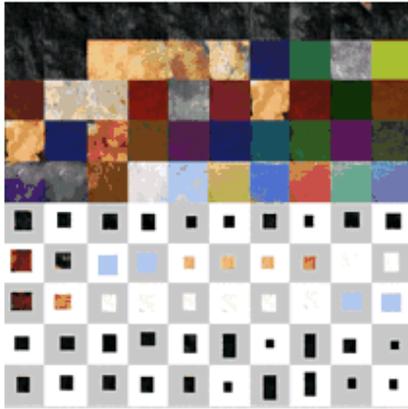
It is not easy to describe exactly the result of each parameter as they often work together and the result is a complex cumulative addition of the parameters over the time of painting.

The AOP template allows you to build your own custom painter strokes. These strokes needs to be set in a two jpg template files, each must be: 3000x3000 pixels.

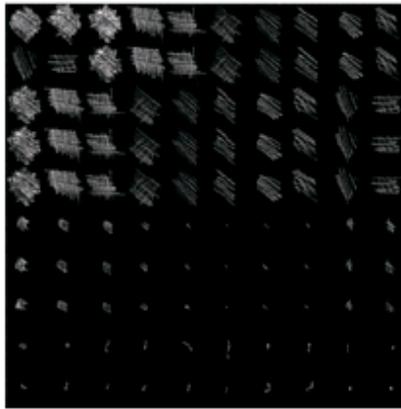
The 3000x3000 pixel image is divided into 100 rectangles 300x300 and each can have one brush (You don't have to fill all of them)

**Here is example of the two files:**

## Color



## Alpha



The example above is for Rez-Smart template which means first 50 brushes will be used as an underpaint and next 50 brushes (or less) will be used for details.

In this case we will set the template using Rez-Smart: Underpaint 50, Detail 50

As you guessed, the color can be anything, it doesn't have to be a solid color, it can be a texture, paint stroke or even an object and its corresponding alpha. This allows for great deal of experimentation.

### List of types:

Normal Color Painting - normal brush strokes

Grayscale painting - paint only in grayscale, regardless of palette color

Watercolor - the brush strokes are semitransparent and also blend into paper over time

Expressive Color Style - this style dynamically mixes Expressive and Realistic settings during painting brush strokes. The result is a wider, more colorful palette than Normal Color Painting but also less pronounced details.

Portrait with Simplify (A and B) - a Simplify cycle will be performed before the painting, the style requires Dry reveal mask.

Portrait with Segmentation - a Segmentation cycle will be performed first. It require Dry reveal mask

Simplify and Quit - There will be no ordinary painting done - only the Dry Reveal cycle.

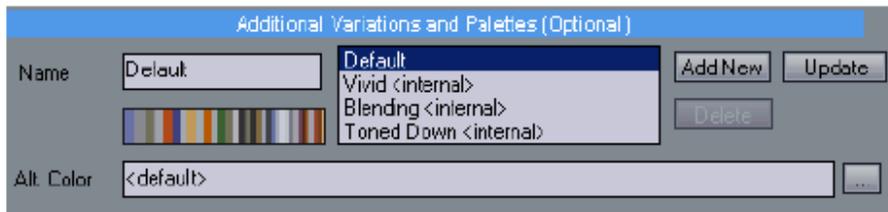
### Palette options.

The template can have optional palette styles. Each palette style is an alternative Color template file (the Alpha remains same for all Palettes)

Load alternative color jpg file, set name and press Add New.

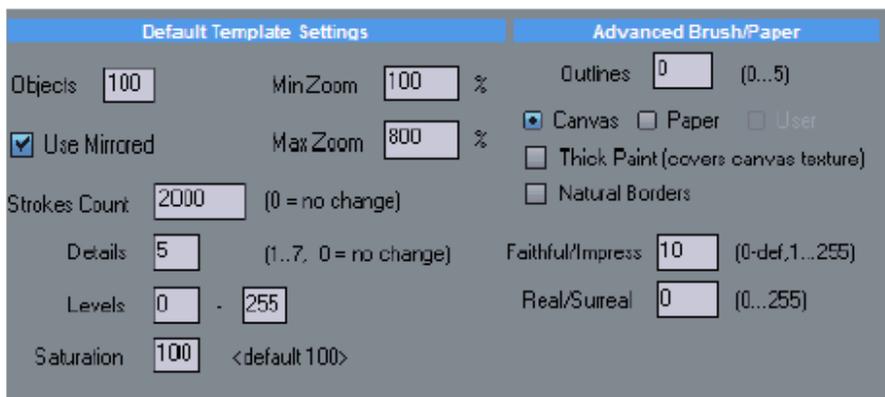
AOA - Aoa are alternative templates - instead of just different color - a whole template can be offered as an alternative in the palette option. Creating AOA template is same as creating AOP template, just when saving, select Alternative (embedded) Template.



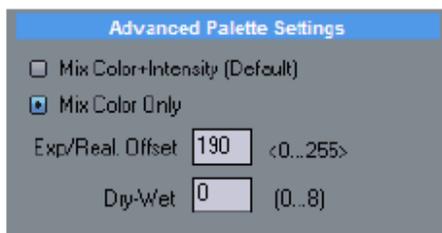


### Default Template Values

Those settings mostly mirror the main interface and are used to set default values when user select the template style.



Palette settings determine how the template is mixed with the colors from the actual photo. The Exp/Real offset sets the default offset of the control (when it is in center). Higher offset determines the image will use more real colors, lower offset it will use more expressive template colors. AutoSize<sup>TM</sup> can be also set as a default.



### Segmentation and Simplify steps

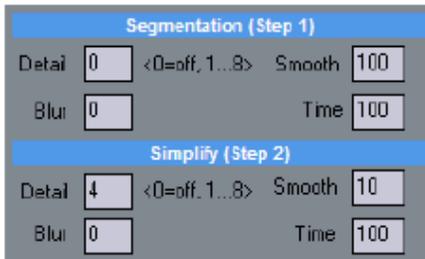
Those optional steps will be performed very first before any painting. They are switched off by setting 0 in the Detail. Time determines the relative % of the time used for those steps (100% default). Smooth will remove the photographic texture, smaller number will keep more of the texture.

Segmentation will simplify the image where almost nothing will be recognizable. This is used to remove background and create abstract texture and work with Portrait mask to omit the simplification of portrait figure.

Simplify will omit small photographic details.

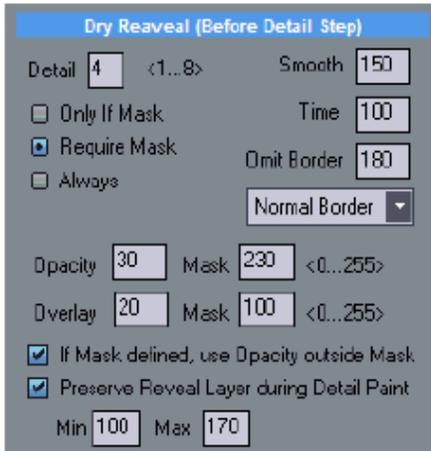
Any Type can use those steps by entering Detail > 0, but the Portrait with Simplify/Segmentation types will always use those settings.





### Dry Reveal Step

This step is inserted between Underpaint and Detail brush step. It is to reveal the features of the photography using a hair thin dry brushes.



The dry reveal can be used as one of:

- only when a mask is defined, if not defined this step is skipped
- require mask and always ask for it if not defined
- use this step always regardless if mask is defined or not

Omit border - the dry reveal will omit borders and apply only to center of image (0 switch off = whole image, 255 - fully omit borders)

Normal/Lighten/Darken Borders - works with the omit borders above and set if the borders should be lightened or darkened.

### Opacity without mask and Opacity with Portrait Mask

First number specify the Dry reveal opacity without mask and the second number specify opacity under the Reveal mask

Overlay and Overlay under Mask - specify overlay of the Dry reveal mask. overlay will darken and make more contrast image

If Mask defined use Opacity outside mask - if the Portrait mask is defined the Dry reveal will be also applied outside the mask using the first set of numbers. That means the Dry reveal will be partially applied outside mask and more strongly applied inside the mask. If unchecked the Dry reveal will be applied only under the mask

### Preserve reveal Layer during Detail Paint/Min-Max

If set the Dry reveal part will be preserved under the mask during detail paint - that means the detail paint

will paint less over the masked portrait area and more over the unmasked area (background). The Max specify how strong will be the detail brush outside Portrait mask area and the Min will specify how strong will be painted inside the mask.

**In addition , there is a post in the DAP forum from Oscar with some additional details (extracted below for your convenience) found here :**

<http://www.mmbforums.com/ipb/index.php?showtopic=22594&view=findpost&p=133567>

The current way of jpg templates is a bit temporary solution as I am planning to create more straightforward way with access to the brushes one by one.

A good template is harder task to do - I spent few days on each template and created many of them then selected the best ones.

I will quickly describe what I do:

I always use the template 50/50, that is first 50 are underpaint large brushes, next are small tiny for outlines and dark areas. (there is setting in AOP for that)

From a painting(s):

I took a picture I liked (some are paintings i have at home) then looked at the colors, selected significant patches of colors and place them in the first 50 spaces of the grid. Then i created new layer, took wacom tablet and created masks (brush strokes) by painting white over the patches. New layer below it - fill with black.

if the color patches already have some visible brush patterns then I duplicate layer. then selected first patch with rectangle - then Black and white and make the brush strokes stand out by moving the color sliders (for example darkening blue and lightening red), then levels and make it contrasty - move the black towards middle and white towards the middle.

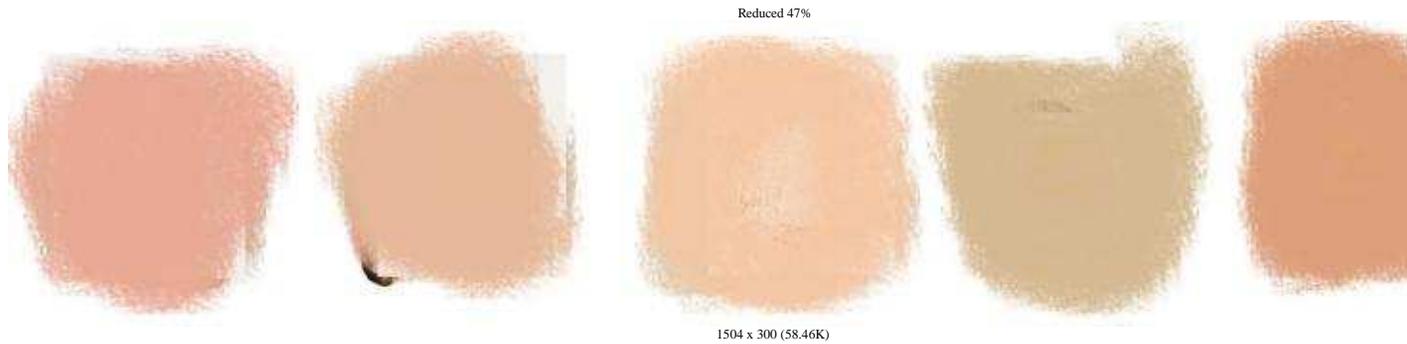
i did this for every patch so I got another layer of brush strokes.

So now i have color layer, black fill, my white brushes and another layer with extracted brush strokes from the original. I will set this last layer to darken my brush strokes and change the transparency so it affect my brush strokes - but not too much.

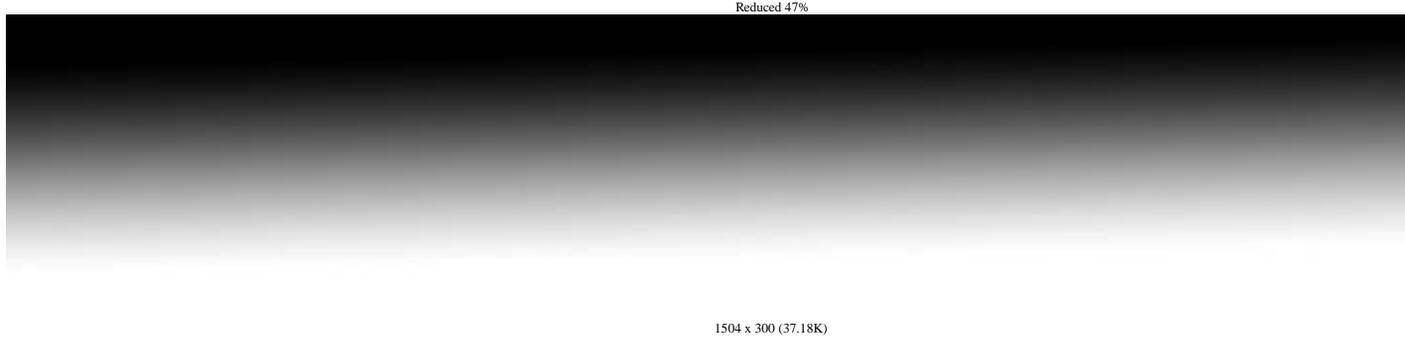
Now look at the colors - if they are all too regular - this will create too cartoony look, so i would create layer above, rectangle select the area, then gradient - BW gradient from one side to another. Then set that gradient layer as overlay, screen or even difference for crazy color changes. transparency to adjust. Such patches with gradients will then result in a smooth blend. you can choose only some of them as a painter would - for example only blue so a sky will be smooth but the rest will be more defined.

Gradients:

Normal:



Add gradient layer



Set it as overlay

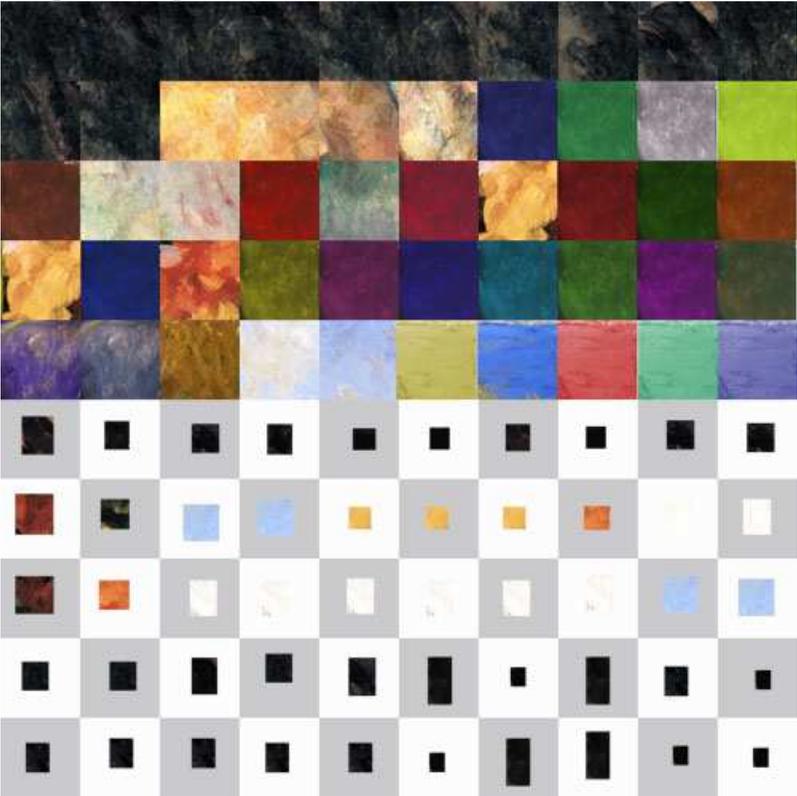


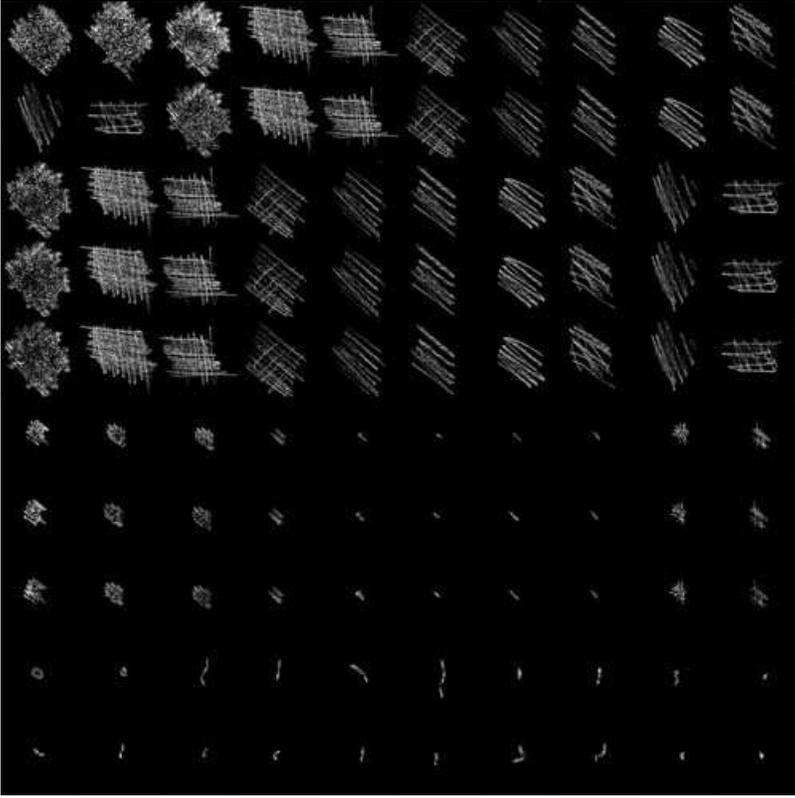
Painted by you:

the preset like chalk or pastels are actually all painted - I took paper, got black crayon from my kids and draw like 20 different patterns and crosshatches. (With the kids looking worried if I finally got mental and play with crayons again) Scanned. this will then become my mask layer - bit work with levels and inverse to make it good black and white (white brush on black background). I repeated the same patterns few times etc, so no need for 50 different ones.

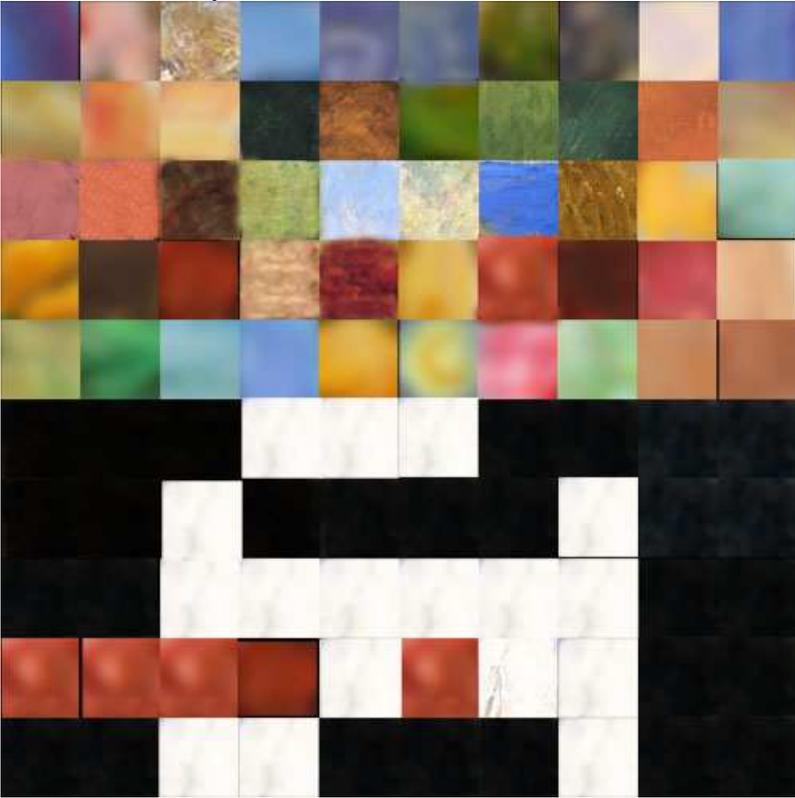
Then colors are simply colors squares, then I applied gradient to some of them as described above.

Simple color patches on Chalk





A different one, yet could be used with the same mask



In both ways the fifty patterns are from big ones to medium sized. the big ones will be used first. if I like particular color like blue, i will for example create big blue pattern then lighter blue smaller pattern - this will go to sky and will blend nicely.

Each color should be a bit different - so not the same blue but perhaps darker or lighter shade. The way you go from for ex. light large patterns to darker smaller patterns determine the style of painting - if it starts with lighter underpaint and then progress to darker details or vice versa.

The detail brushes:

next 50 brushes are for details - I spent most of the time on them as it is easy to create mess at this stage - this is crucial for well balanced image.

usually very fine tiny black strokes with various shapes. Sometimes I added a little larger semi-transparent white or light patch there which will then "remove" color at this stage. But most brushes are different shades of dark color, some tiny strokes are also white in some styles and sometimes primary color - flourishes like bright red specs, bright yellow brushes etc (ex. monet). But at his moment all are small.

The transparency - the system disregards any brush stroke that has no pixels with 200 or more of brightness (0-255) so if a brush has no pixels in mask above 200 - it doesn't exist and will not be used. So you should design the mask where at least part of it has white.

Good thing is that if you produce a pattern that has good detail brushes you can use them elsewhere with little modifications (perhaps colors etc.)

Now you do that and run it - watch what it does - some patterns will be not looking good - then you have to work on its mask and color more.

Now look at the color balance, see if there is some color group missing - does it create blue sky etc? think what style and what type of image is this for (landscape? still life?) each has different color needs. You may then replace some big brushes colors with others to balance the result.

For example my initial benson was yellow - brown as I actually followed the colors of a benson painting. looked ok but nothing really extra. I started replacing colors, put some blue, red increased saturation - until the result looked as I wanted - bright bold colors. Granted it is far from where I started and the benson name just stuck even that it has now different qualities - and it is one I like maybe most. I worked on the benson on and off for maybe 3 days. Refining it etc. So don't expect to be ready in 30 min.

Each templates can be refined to better look, just need time.

Each style is different so look what the painter does, does he use large underpaint then starts using darker small strokes to bring out details? Or (like monet) he doesn't use dark small brushes at all - he uses bright small brushes so any shading has to be done on the underpaint level?

=====

If you use the Rez Smart 50/50 setting then first 50 brushes are larger, last 50 brushes are smaller. It doesn't matter within the 50 the size of them, it just happened that I put larger on top row then smaller on next etc.. but they could mix within the 50. This is my modification, arcimbolder used all 100 brushes at same time, you can also do that when you specify rez-smart none.

It does take time to fine tune preset so don't be discouraged. All the presets look weird at first.



**This was my posting in the forum when I first began making templates , primarily about the details of creating the brush and color grids :**

NOTE: This tutorial is located here in the MMB forum:

<http://www.mmbforums.com/ipb/index.php?showtopic=22663&view=findpost&p=133881>

here: <http://www.mmbforums.com/ipb/index.php?showtopic=22663&view=findpost&p=133893> and here:

<http://www.mmbforums.com/ipb/index.php?showtopic=22663&view=findpost&p=133917>

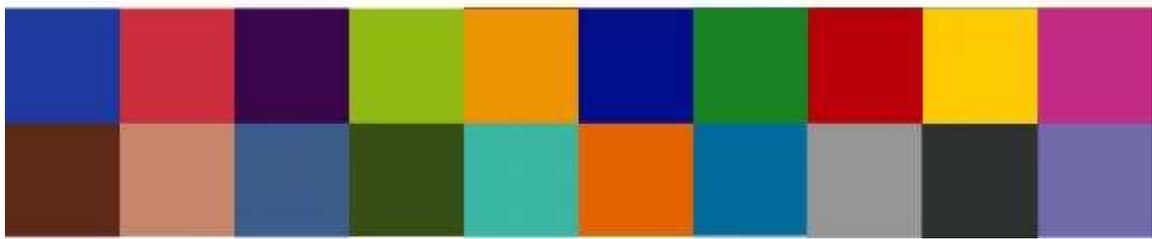
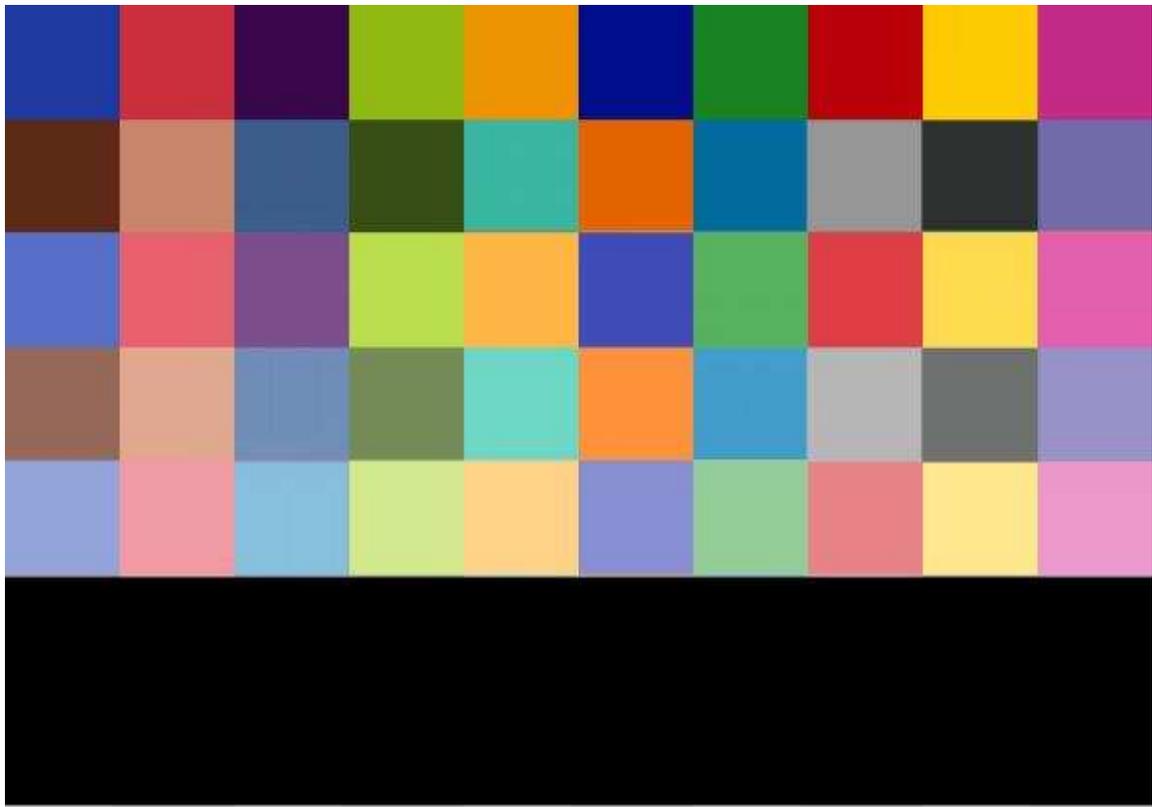
I have been experimenting and have made several. First off, if you haven't looked at this page, it will be helpful. [AOP File Details and Grid Template](#) Be sure to download the grid template. I used Photoshop to create my templates. Open a new 3000 x 3000 file. Paste the grid you download in as a second layer. For my "color" file, I actually found a Greytage Macbeth color chart knockoff and cut and pasted 300 x 300 squares from it onto the color template. I duplicated these squares several times in several different rows. Then I used adjustment layers to lighten, darken, change hue, saturation, etc. to get a good cross-section of colors. I have since made several of these color templates with different color arrangements. Then I made a composite layer (Ctrl, Alt, Shift E on the PC). Then I used various plugins -- especially the free Paint Engine plugin -- to further modify these color squares. I'm sure you could do the same with built-in filters in Photoshop as well. This provides color variations in your squares. I then experimented with adding layer styles incorporating patterns (I obtained some interesting results with canvas brushstroke patterns). Play with the opacity of the pattern for different effects. Save your .psd for further experimentation and do a "save as" to create a .jpg file which will be used for your .AOP file.

For the brushes, I created another 3000 x 3000 file and copied the grid png in as a second layer. Then I created a third layer and set my colors to the default black foreground, white background. I experimented with some free high res watercolor brushes I downloaded from various places on the 'net. Put one brush stroke per grid block. From my experimentation, it appears that the largest brushstrokes get used first and most often. Use much smaller strokes near the bottom of the grid (preferably over blacks, whites and a few accent colors), as these will be used to provide the detail. Once you get the

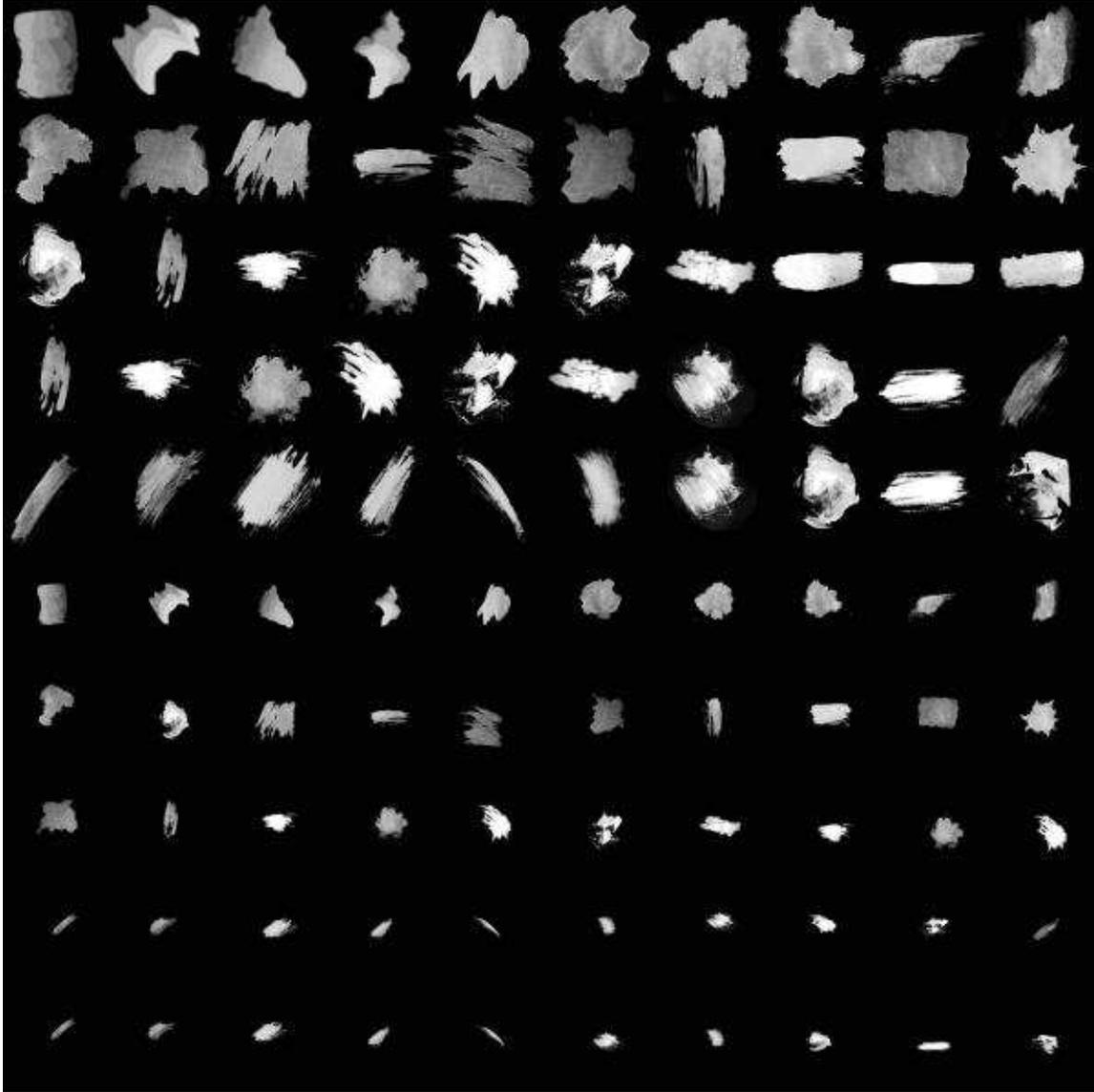
strokes looking like you want them, invert that layer (the brushstrokes become white and disappear until you do the next step). Add a new layer in between the grid and the brushstroke layer and fill that layer with black. Your brushstrokes will now be visible again. Save your .psd for further experimentation and do a "save as" to create a .jpg file which will be used for your .AOP file.

I would also suggest that you keep track of your naming conventions for the files and make notes of those that you use to create particular templates. I actually tried to incorporate the file names into the .aop file name. The reason for this is that once you have created an .aop, unless you go back to it immediately in the same session, there is no way to get a listing for the files you used to create a particular template. I learned that the hard way in the beginning.

Here are samples of both a color chart and a brushes chart. I did not apply any layer styles or texture effects to either file in case anybody wants to embellish them in creating their own templates. Have fun experimenting and please share any additional tips you come up with.



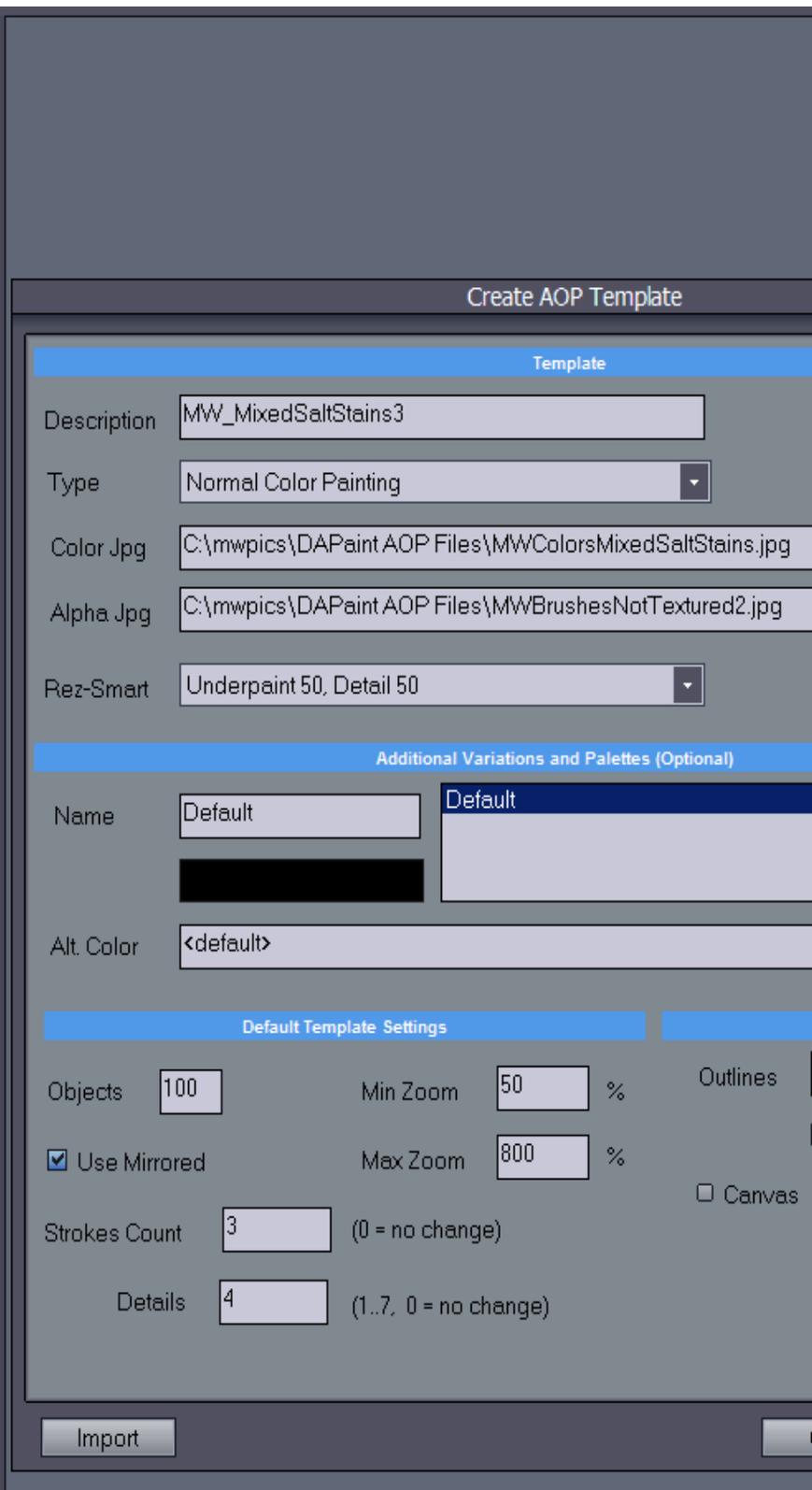
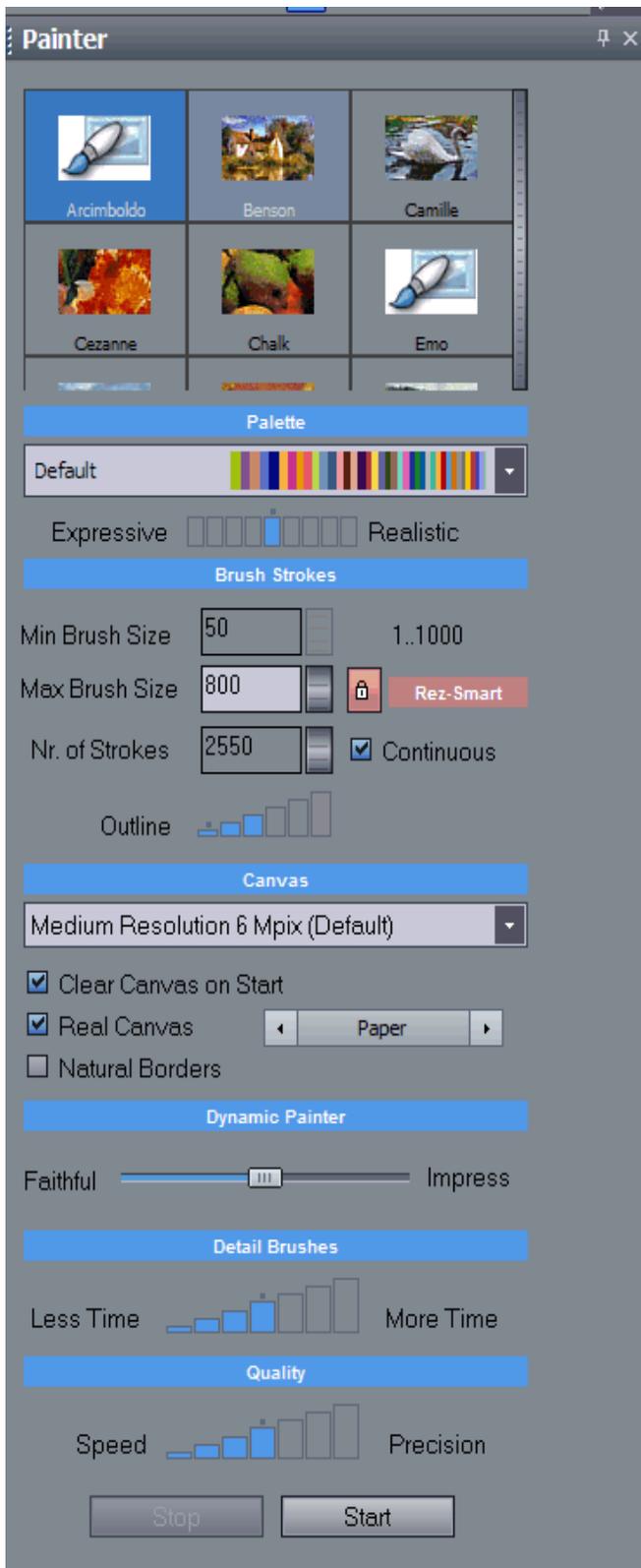
3000 x 3000 (116.98K)



3000 x 3000 (377.48K)

Tools	Help
Make AOP Template...	
Settings...	





And finally, this was from a tutorial that I never quite got finished on additional details from making AOP Templates:

Let me preface this by saying that I don't know enough about artists and "real" painting to be trying to emulate any particular artist. I am simply trying to create AOPs that are useful to me for making relatively believable paintings from photographs I have taken. That means fairly similar colors and enough detail to actually be able to tell what the picture is supposed to be.

These tips by saying that my tips are observations based on my experience. Without definitive confirmation from the programmer, my observations may not be 100% correct in every respect. But since I have spent some time making notes so that I would remember this information the next time I sit down to create some AOPs, I thought I would share it so that others may not have to spend so much time.

Thus, I use a pretty colorful palette. If I use multiple palettes, it usually has to do with texturization rather than color. If I want really different colors than I find in a photo, I just find another photo that has colors I would prefer to emulate and pick the Impression or Impression + palette and select that photo as the palette. To me, it saves a lot of time in creating color palettes.

One thing that I have found is the largest brushes get used the most. They use not only the color that matches their location in the color palette, but shades of that color and sometimes even other colors as well.

I do think that the colors are used "top down" and as far as I can tell, the choice made in the "Rez Smart" box makes a difference on the middle rows. The top 4 (or 5 rows) of brushes are used first, no matter the colors. The bottom 4 or 5 are used second. A brush needs to have at least one spot of pure white in it to be used, so if there are more "gray" brushes that don't have at least one pixel of 255, that brush gets skipped altogether.

My experience (somewhat patterned on examining the palettes in the original AOPs supplied by Oscar and by a lot of trial and error), is that only the top 4 or 5 rows of brushes will be used during underpainting. If you use dry reveal, brush size doesn't seem to matter a great deal, but if you don't want the dry reveal step, then smaller brushes at the bottom are better, particularly if you want the painting to have a lot of detail. You can mitigate the actual size or mix of brushes top to bottom somewhat by the settings used in the AOP for minimum and maximum brush sizes.

Regarding colors, my experience is that an all-over mix works best. I believe that you need a good mix of colors in the last 4 rows, including a couple of blacks, for the best detail. I also try to have at least a row of very pale colors (yellow, red, green and blue particularly) for detail accents.

Anyway, that's what I have experienced. And the bottom line really is that creating AOPs is a very subjective process and pretty much of a crap shoot that can suck away large amounts of your time. While it would be nice for Oscar to chime in, I seem to remember that he has said before that a lot of it is trial and error. If you haven't already done so, the best way to educate yourself is to take existing AOPs that have looks that you like and pick them apart. Go into the AOP template maker and import them and study the settings. Likewise, use the program "jpegex" previously recommend here (or any program that provides the same functionality) and pull out the jpps for both the brushes and color templates from existing AOPs to see what Oscar and others have done. Most of all, have fun!!

From the manual: (MW note: not sure if this applies if Dry Reveal is set to always run

Preserve reveal Layer during Detail Paint/Min-Max

If set the Dry reveal part will be preserved under the mask during detail paint - that means the detail paint will paint less over the masked portrait area and more over the unmasked area (background). The Max specify how strong will be the detail brush outside Portrait mask area and the Min will specify how strong will be painted inside the mask.

This one drove me crazy for a while but the number of "Strokes Count" number in the "Default Template Settings" section of the Create AOP Template box equates to the "Nr. of Strokes" number WHEN THE CANVAS IS SET TO "STANDARD RESOLUTION 2.5 MPIX". If you change the canvas resolution to "Medium...", "High ...", or

"UltraHigh ...", that number will change correspondingly.

**Default Template Settings**

Objects  Min Zoom  %

Allow Mirrored Objects Max Zoom  

Strokes Count  (0 = no change)

Details  (1..7, 0 = no change)

Levels  -

Saturation  <default 100>

wby  wbt

**Brush Strokes**

Min Brush Size  1..1000

Max Brush Size    **RS**

Nr. of Strokes   Continuous

Outline 

**Canvas**

Standard Resolution 2.5 Mpix

**Brush Strokes**

Min Brush Size  1..1000

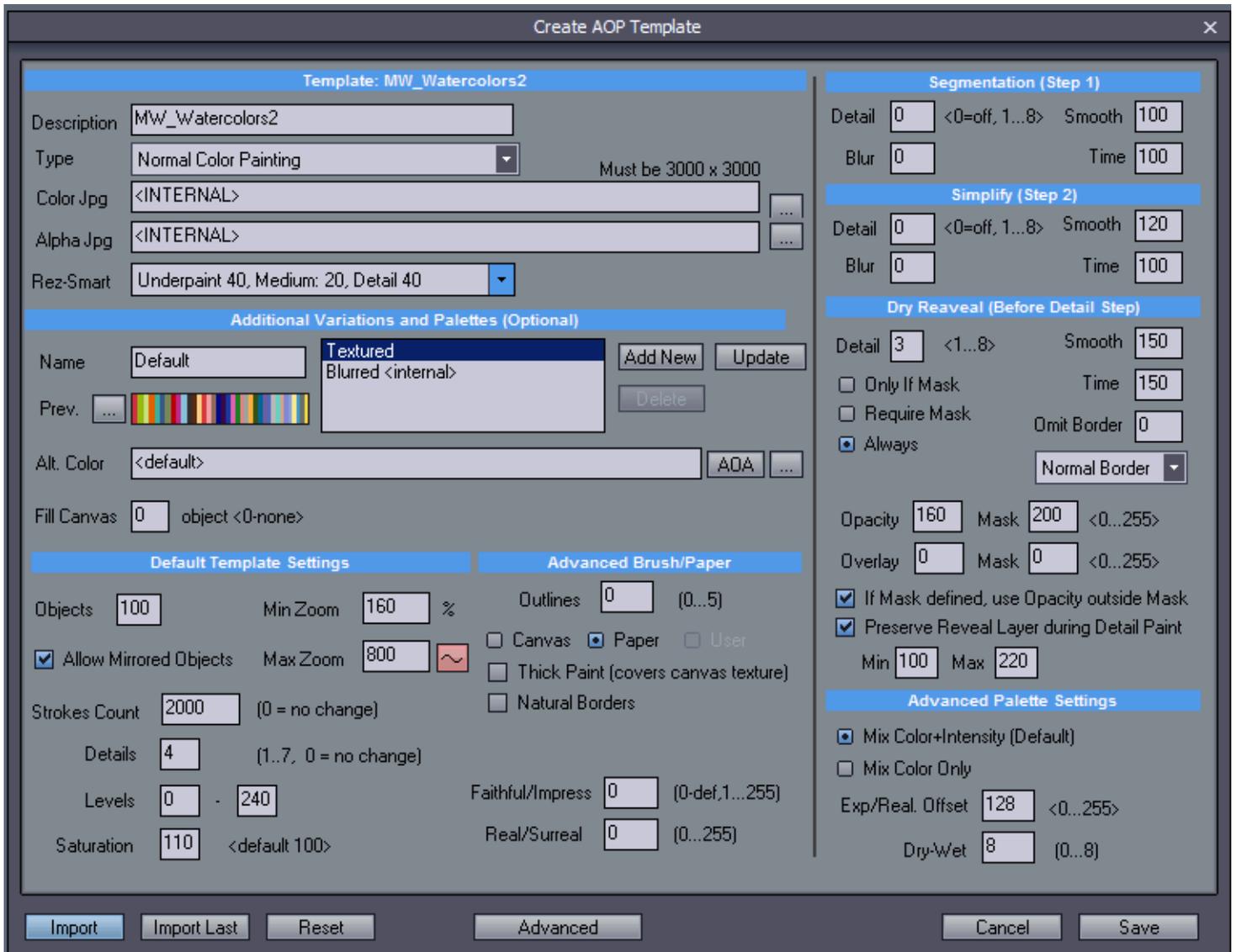
Max Brush Size    **RS**

Nr. of Strokes   Continuous

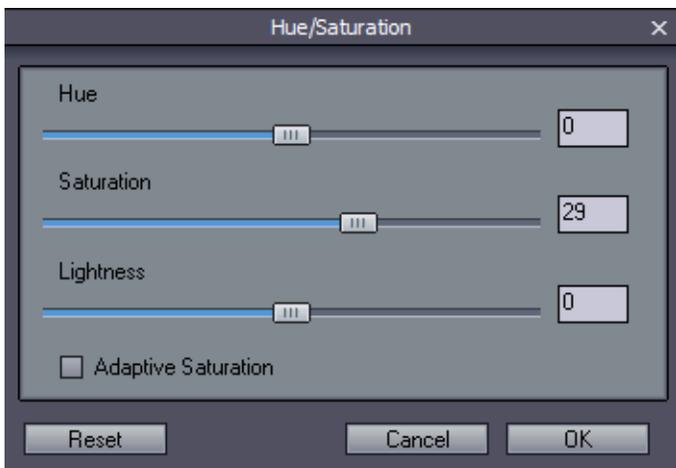
Outline 

**Canvas**

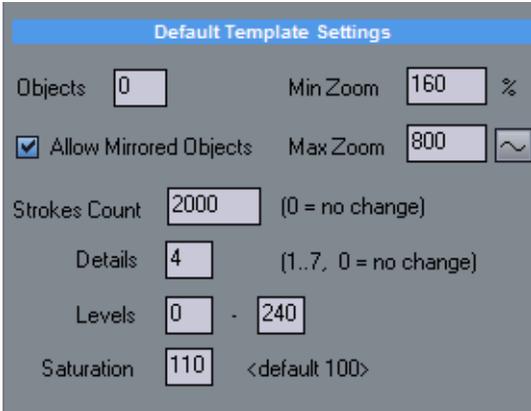
Medium Resolution 6 Mpix (Default)



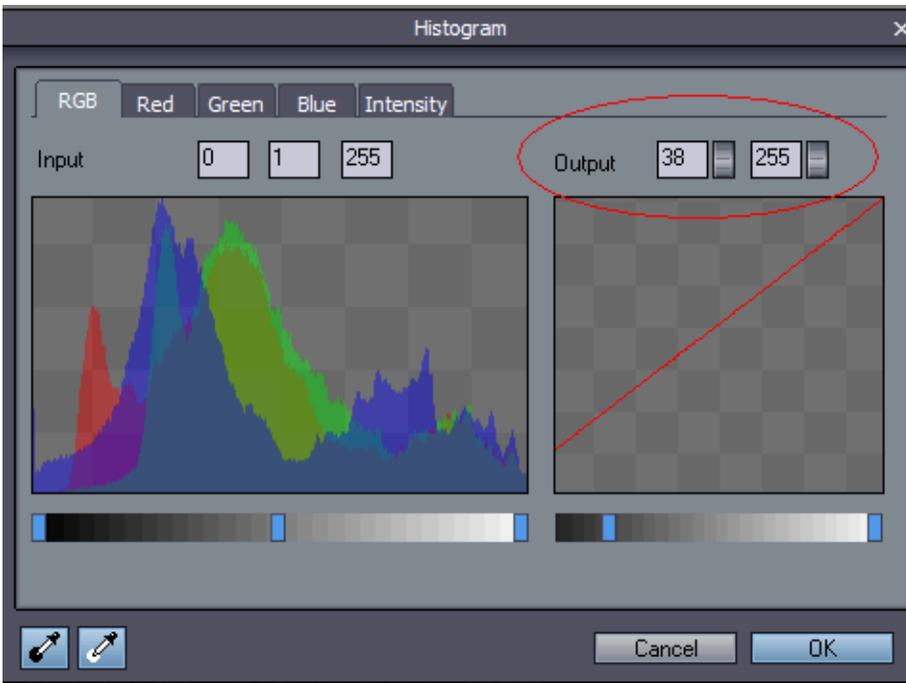
Modify the saturation level to make your colors "pop" (or to provide a more pastel feel).



The number in the box to the right of the saturation slider seems to equate to the number (+100) in the Saturation box under the "Default Template Settings" section of the Create AOP Template box.



Changing levels appears to use more or less color from your underlying photo. Open a photo and from the main DAP menu choose "Adjust\Levels". Moving the RIGHTHAND left and/or right side of the slider to alter the histogram will give you some idea of the effect you might achieve by modifying the two levels parameters in the "Levels" section under the "Default Template Settings" section. You can experiment with the look you might achieve by first going into the "Adjust\Levels" menu item and moving the left and right sliders. The numbers you set will equate to the Levels boxes under the "Default Template Settings" section of the Create AOP Template box.



Strokes Count  (0 = no change)

Details  (1..7, 0 = no change)

Levels  -

The following settings/information apply to using the Dry Reveal step itself or to allowing it to be used if the user creates a Mask:

**Create AOP Template**

**Template**

Description:

Type:  Must be 3000 x 3000

Color Jpg:

Alpha Jpg:

Rez-Smart:

**Additional Variations and Palettes (Optional)**

Name:

Prev:

Alt. Color:

Fill Canvas:  object <0-none>

**Default Template Settings**

Objects:  Min Zoom:  % Outlines:  (0...5)

Allow Mirrored Objects Max Zoom:

Strokes Count:  (0 = no change)

Details:  (1..7, 0 = no change)

Levels:  -

Saturation:  <default 100>

**Advanced Brush/Paper**

Canvas  Paper  User

Thick Paint (covers canvas texture)

Natural Borders

Faithful/Impress:  (0-def,1...255)

Real/Surreal:  (0...255)

**Segmentation (Step 1)**

Detail:  <0=off, 1...8> Smooth:

Blur:  Time:

**Simplify (Step 2)**

Detail:  <0=off, 1...8> Smooth:

Blur:  Time:

**Dry Reveal (Before Detail Step)**

Detail:  <1...8> Smooth:

Only If Mask Time:

Require Mask Omit Border:

Always Normal Border:

Opacity:  Mask:  <0...255>

Overlay:  Mask:  <0...255>

If Mask defined, use Opacity outside Mask

Preserve Reveal Layer during Detail Paint

Min:  Max:

**Advanced Palette Settings**

Mix Color+Intensity (Default)

Mix Color Only

Exp/Real. Offset:  <0...255>

Dry-Wet:  (0..8)

The opacity setting for Dry Reveal in the AOP equates to the slider available by right-clicking when Dry reveal is running in a painting

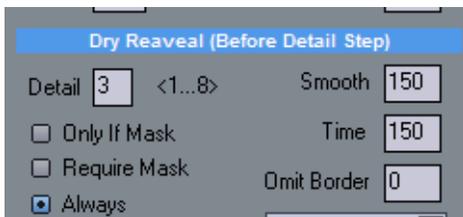
Paused... (R-click)



Clicking on the slider shows what reveal opacity you have selected . The left side of the slider (and lower numbers for opacity in the AOP template maker) will bring back less detail. Conversely, higher numbers and clicking on the right side of the slider brings back maximum detail.



For the "Smooth" numbers, higher numbers appear to be more smooth (with less detail) -- picture below top is Smooth 10, Picture at bottom is Smooth 200. See more below



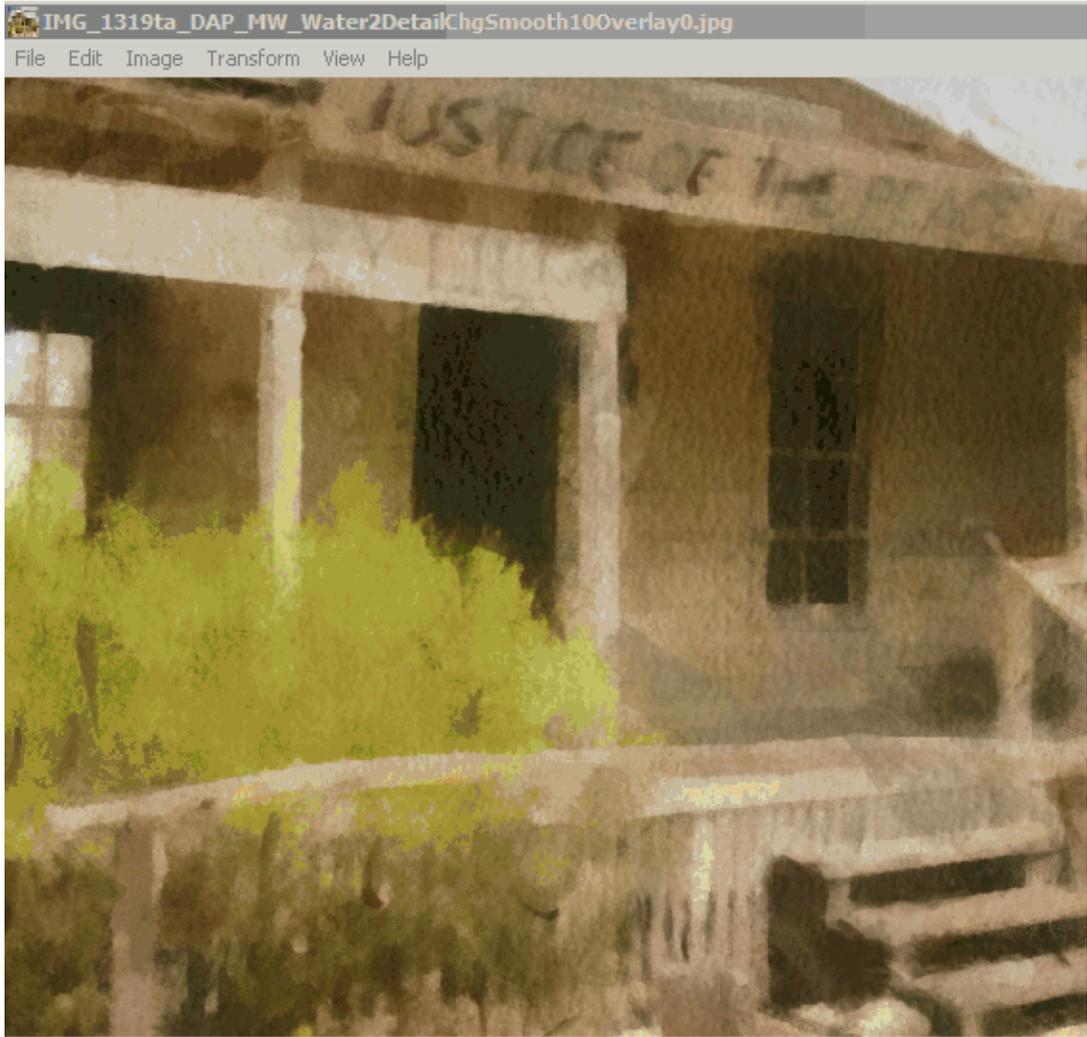




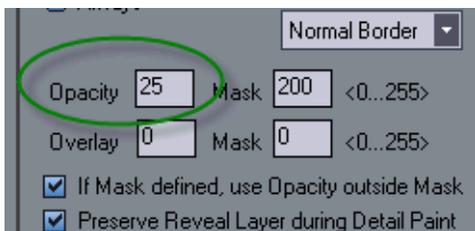
Below top is set on smooth 255, bottom is set on smooth 10 (much more detail).

Smooth255.jpg





For the overlay setting, higher numbers will make the painting much darker .

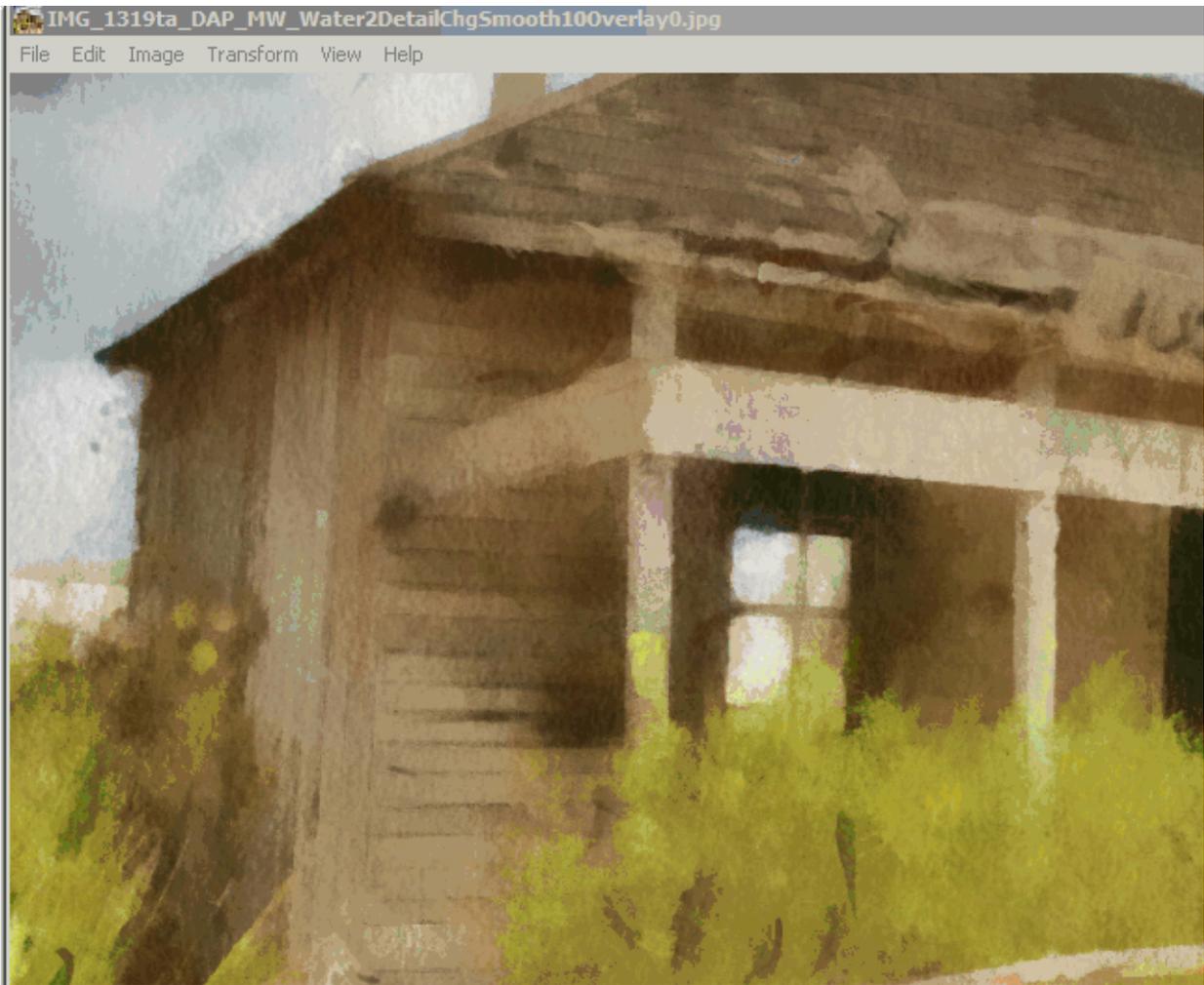


Top below is overlay 255, bottom is overlay 10

19ta\_DAP\_MW\_Water2DetailChgSmooth100overlay255.jpg

Image Transform View Help





Happy Template Making!