

# Shapes 1: Vector Tools in Corel® Painter™

John Derry



©2006 John Derry

The world of digital painting and illustration speaks in two primary languages: raster and vector. Raster graphics are composed of pixels; vector graphics are composed of mathematical data. Pixels are great for creating expressive natural-media style brushes; vectors are great for creating precisely controlled imagery. Painter is primarily a pixel-based application, but it also contains a subset of vector-based tools called Shapes. Within the Painter environment, Shapes occupy the role of swiss army knife. Shapes can be used in a wide variety of situations—even for pixel-centric work. This installment will provide an overview of Shapes' controls. In the next installment, we'll cover the various ways Shapes can be employed within Painter's crazy world of pixels.

## Raster vs. Vector

No, this is not an advertisement for an upcoming heavyweight fight. *Raster* and *vector* are merely descriptive terms for two basic types of computer-based image-making, each with its own particular strengths.

The *pixel* is a basic unit of digital image-making. A generic pixel contains position-specific color and transparency (alpha channel) information within the context of an image made up of a massive array of pixels. A *pixel-based* image is akin to a mosaic of millions of colored tiles arranged to produce a recognizable image. It is only under extreme enlargement that individual pixels are obvious within an image. For the most part, Painter users do not deal with pixels on an individual basis. Painter handles all of the heavy lifting required to paint with millions of pixels in real-time to produce the illusion of oils, chalks, watercolors, and so on.

*Vector* graphics are made up of *lines*, *curves*, *objects*, and *fills* that are all calculated mathematically. *Vector* graphics enable both high precision as well as high resolution imagery. Vector graphics are particularly well-suited to the creation of crisp graphic shape, line work, and text. Pixel-based tools such as brushes cannot interact with *Shapes*.

## The Shapes Layer

In Painter, a *Shapes* object exists on its own layer type: the *Shapes* layer. A *Shapes* layer is created when any of the *Shapes Tools* are used to create an object. *Shapes* behave much like the vector tools found in such applications as *CorelDRAW* and Adobe *Illustrator*. The resulting point and curve segments—referred to as a *path*—are then selectively adjusted with the *Shape Selection* tools to distort or alter the *Shape*. A *Shape* can be an individual line or an enclosed shape. To retain *Shapes* layer information, save the file in Painter's native *RIF* format. Saving in another format, such as Photoshop, will *convert* the *Shapes* data into *pixel-based* layers.

## Shapes Tools

*Shapes* are edited by adjusting *points* and *curve segments* with the *Shape Selection* tools. *Shapes* are created using the *Pen*, *Quick Curve*, and *Rectangular* and *Oval Shape* tools. All of the *vector* layer types can be converted to a *pixel* layer for enhancement with Painter's *pixel-based* tools. *Shape* layers can be converted to a selection via the *Convert to Selection* command (*Shapes* menu). This is particularly useful for using the *Pen* tool as a highly controllable selecting tool to extract a complex element from a pixel-based image, such as a photograph. We'll cover this in greater detail in the next installment.

## Shapes Tools Property Bar

When any of the *Shapes* tools are selected from the *Tool* palette, the *Property Bar* provides a set of convenient adjustments. *Fill* and *Stroke* attributes can be toggled on and off; their colors can be edited. Close *Shape*, *Convert to Layer*, *Convert to Selection*, and *Open Shape Attributes* commands are available.

## Shapes Tools Contextual Menu

When any of the *Shapes* tools are active, either the right mouse button or *Control key* (Macintosh) can be used to pop up a context-specific menu at the cursor location. This menu contains a set of adjustments: *Delete Last Point*, *Close Shape*, *Convert to Layer*, *Convert to Selection*, and *Open Shape Attributes* buttons are provided.

## Shapes Preferences (Corel Painter Menu > Preferences)

The *Shapes Preferences* dialog provides options for *Shapes*' default behavior, as well as path and handle appearance.

## Shapes Attributes Dialog

A *Shape* has editable *Stroke* and *Fill* attributes available via the *Set Shape Attributes* dialog (either the Shapes menu or Shapes Tools Property Bar), or by *double-clicking* on the *Shapes* layer entry in the *Layers* palette. The visual appearance of *Shapes* layers can be modified in the Layers palette via the *Compositing Methods* and *Opacity* controls.

## Shapes Visual States

A *Shapes* object can be viewed via one of two alternate visual states. With the *Layer Adjuster* tool (Tool palette) active, a *Shapes* object is surrounded by six adjustment *handles*. These *handles* are used to manipulate the *Shape*. Alternatively, with a *Shapes Tool* (Tool palette) active, the selected *Shape* displays its *path* and point *segments*, which can be edited with the various *Shapes Tools*.

## Shapes Transformation Adjustments via the Layer Adjuster Tool

*Shapes* can be *transformed* (scaled, stretched, rotated, or slanted) via the *Layer Adjuster* tool. When *Shape* elements are selected with the *Layer Adjuster*, a set of *handles* appear at the *corners* and *sides* of the selected *Shape(s)*. When the *Layer Adjuster* cursor is positioned over the control *handles*, the cursor changes to indicate its *transformation* adjustment function at that control *handle*. *Scale*, *Vertical Stretch*, and *Horizontal Stretch* cursor adjustments are available by default. Holding down the *CTRL (Win) / CMD (Mac)* key toggles the cursor to make *Rotate*, *Vertical Slant*, and *Horizontal Slant* adjustments to the selected *Shape*.

## More To Follow

This installment provides you with a map of Painter's vector-based *Shapes* tools. In the next installment, we'll use this map to explore how these tools occupy a swiss army knife-like role within Painter.

*Viva la Painter!*

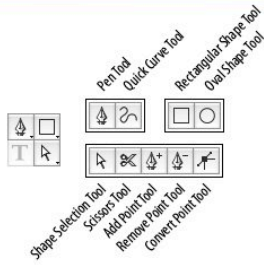
*John Derry is a pioneer of digital painting and one of the original authors of Corel® Painter™. Since 1985, he has leveraged his background in drawing and painting to advance the look and experience of traditional art-making tools on the computer. John has a bachelor's degree and a master's degree in Fine Art and is a practicing artist and photographer. He is currently serving as Corel's Painter Ambassador-at-Large. John's Web site is at [www.pixlart.com](http://www.pixlart.com).*

# Shapes Tools Schematic

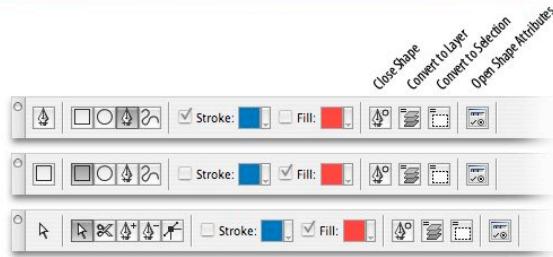
## in Corel® Painter™



### Shapes Tools



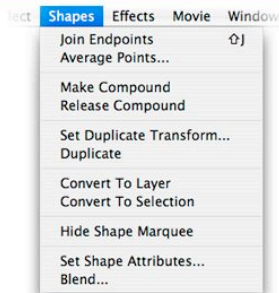
### Shapes Tools Property Bars



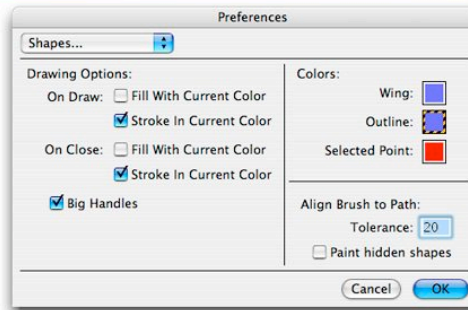
### Shapes Tools Contextual Menu

- Delete Last Point
- Close
- Convert To Selection
- Convert To Layer
- Set Shape Attributes

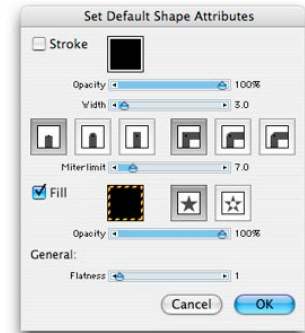
### Shapes Menu



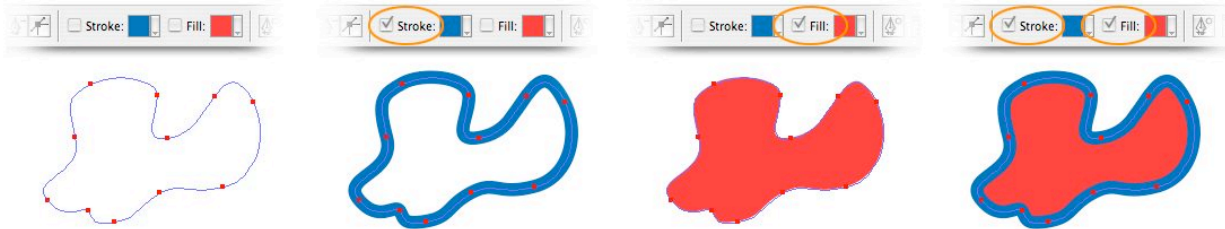
### Shapes Preferences



### Shapes Attributes Dialog

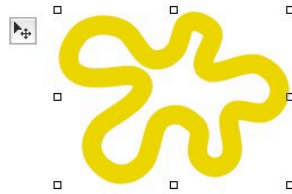


### Shapes Property Bar Stroke and Fill Options

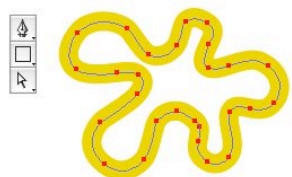


### Shapes Visual States

#### Layer Adjuster View (Transform Handles Visible)



#### Shapes Tools View (Points & Segments Visible)



### Shapes Transformation Adjustments (Layer Adjuster Tool)

