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The Acrobat User

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The Acrobat TouchUp Object tool is remarkably useful when applied to text on a page. Let's see what it can do.

PostScript Tech

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This feature automatically fixes a hard-to-diagnose rendering problem associated with hairlines. You just have to know to turn it on!

Class Schedule

July, August, September

What's New?

Not much, you?

Working on a book; tell you about it later.

Short Ones This Time

I've been pretty much up to my ears this quarter, so I'm afraid this issue's articles are a bit short.

Still useful, though.

Contacting Acumen

Telephone number, email address, postal address

[Journal feedback: suggestions for articles, questions, etc.](#)

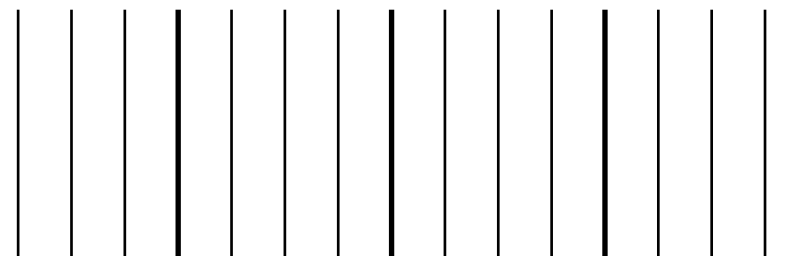
Automatic Stroke Adjustment

Here is an curious problem you may have encountered.

Say you are drawing a series of vertical lines of roughly the same linewidth as the printer's resolution, as below:

```
.1 setlinewidth  
  
0 30 600  
{ moveto 0 792 rlineto stroke } for
```

If you were to execute this on a 600-dpi laser printer, you would probably see something interesting; looking closely at the stroked lines, you would find that they are not all the same width; some are distinctly thicker (and therefore darker-looking) than others, as illustrated at right.



This problem exhibits itself with thin horizontal lines, as well.

This is caused by a variation in the rendering of the thin, stroked lines due to how each line falls against the printer's page bitmap.

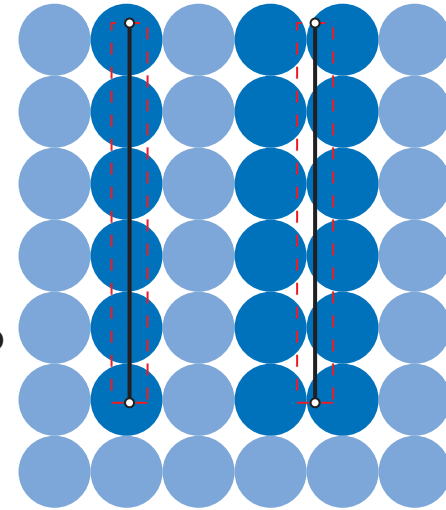
Let's look at this in detail.

Linewidth Variations Every vertical path you draw must fall somewhere against the array of printer dots that make up the page, the “page bitmap.”

If a line segment happens to run up the page near the center of a column of printer pixels, the stroked line—evenly distributed on either side of the path—will likely be rendered as a single column of pixels, as the first case at right.

On the other hand, if the path happens to run up near the border between two columns of device pixels, then the renderer will probably turn on two columns of pixels, as the second example at right.

The difference is clearly visible at 600 dpi and is distracting at 300 dpi.



Automatic Stroke Adjustment

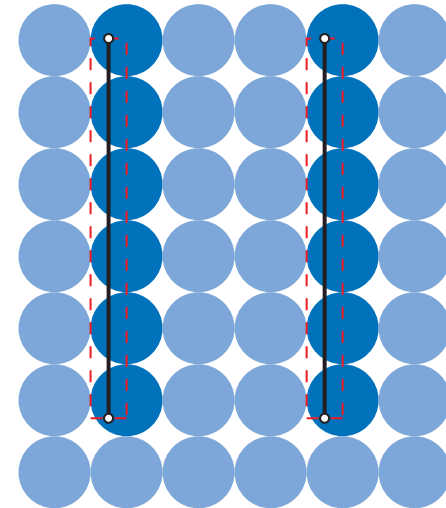
To fix this, you can turn on PostScript’s automatic stroke adjustment, with a call to *setstrokeadjust*.

```
true setstrokeadjust
```

When this feature is in force, the *stroke* operator adjusts the position of every point in the current path to a consistent position against the page bitmap. Specifically, all the points are moved to a position that is in $\frac{1}{4}$ -pixel from the nearest corner among the pixels, in the illustration at right.

As a consequence, vertical and horizontal lines will always render consistently for a given line width.

With no effort at all, the problem goes away.



So what do we lose? Nothing, really. The placement of the path points are offset by a fraction of a pixel, significantly less than the imprecision of the printing device itself. I am told by an Adobe contact that stroking is no slower with stroke adjustment turned on (which I assume means that the adjustment process takes *much* less time than the actual rendering of the path).

There's really no reason not to turn on automatic stroke adjustment.

Final Notes A couple of minor closing factlettes:

- Stroke adjustment is part of the graphics state, so it is subject to *gstate/grestore* and *save/restore*. You may therefore need to turn it on at the beginning of each page.
- PDF has this same rendering problem, only worse, since it is frequently rendering to display devices at 72 dpi or so. Acrobat cures this by having automatic stroke adjustment turned on by default.

Dictionary Look-up and Other Text-Select-Tool Marvels

I'm embarrassed to admit how long it took me to notice the convenient functions available in Acrobat (and, to a lesser extent, Adobe Reader) by right-clicking text with the Select tool (the leftmost tool in the Select & Zoom toolbar, illustrated at right).

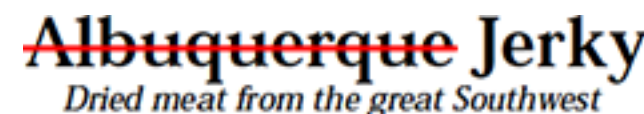
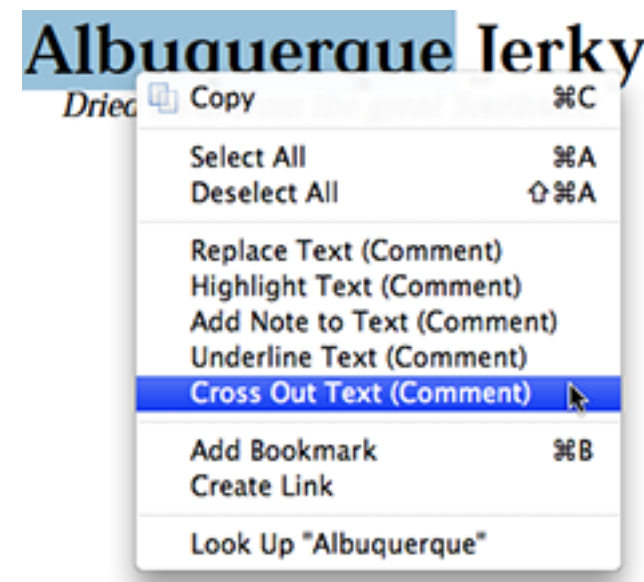


When you select text with this tool and then right-click on the text, you get a contextual menu (right) with some very useful items in it.

The Copy, Select All, and Deselect All items are clear enough and not too exciting. The other selections are by varying degrees useful and unexpected.

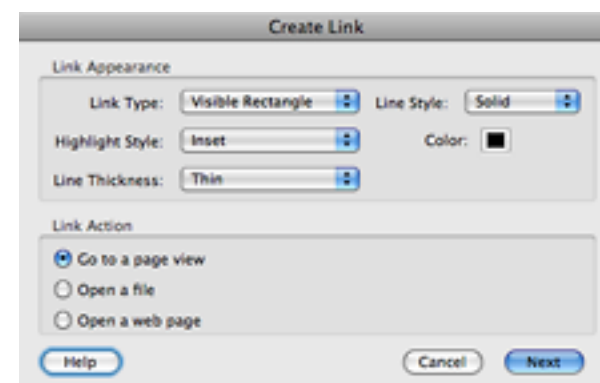
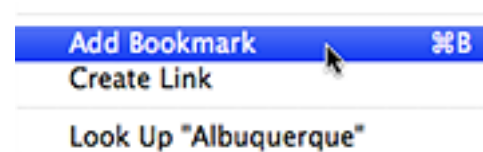
Annotation For example, the middle set of commands allow you to add standard text annotations indicating the selection should be replaced, highlighted, annotated, underlined, or crossed out.

I have found this to be *much* more convenient than using the Annotation toolbar, which requires me to (1) select the Text Annotation tool, (2) select my text, and then (3, finally) specify the annotation I want to apply to the text.



Bookmarks and Links The Add Bookmark command adds a bookmark to the document targeting the page on which the text resides. Furthermore, the selected text will become the bookmark's name.

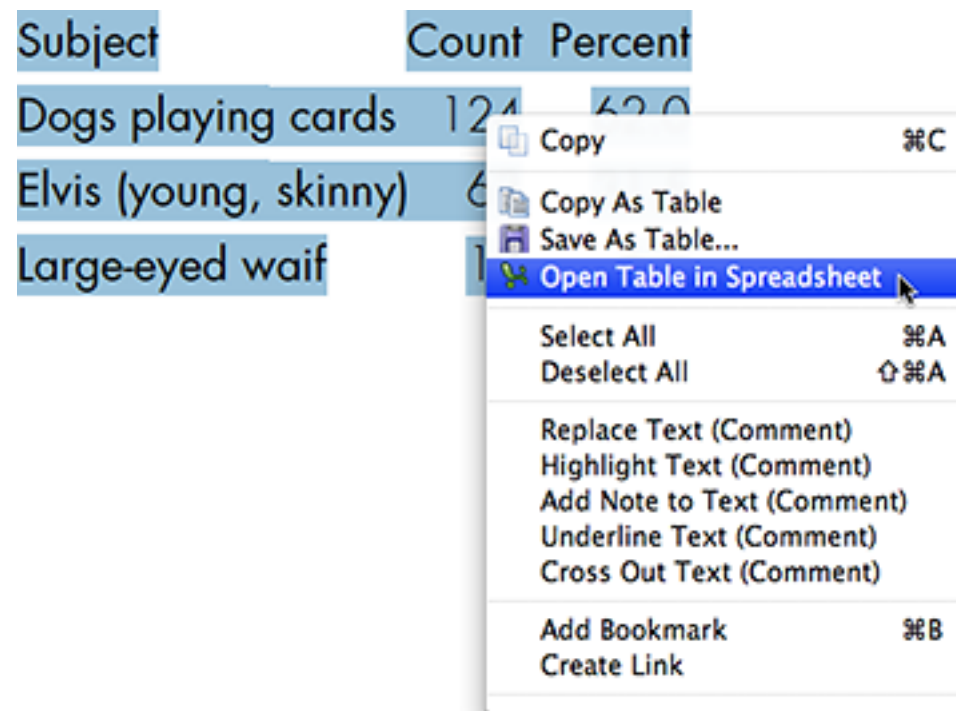
Similarly, *Create Link* creates a link positioned to exactly enclose the selected text. You will be presented with the usual *Create Link* dialog box that lets you specify what should happen when a User clicks on the link.



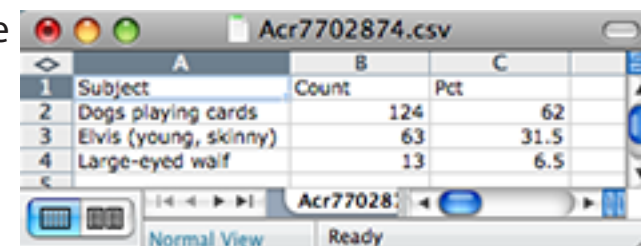
Tables Acrobat can detect if the text you have selected consists of tabular data and, if so, adds three table-related commands to the contextual menu. These can be amazingly convenient in the right context.

Copy As Table Acrobat copies the text as tab-delimited fields. You can paste this into a word processor or page layout software and the text will lay itself out properly as a table.

Save As Table Acrobat prompts you for a filename and saves the selected text to disk. You can choose among a variety of formats, including tab- or comma-delimited text.



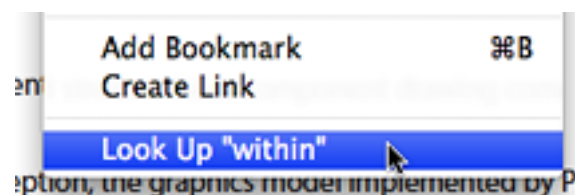
Open...in Spreadsheet This one's my favorite. Acrobat launches your spreadsheet software and pastes the text into a new document. The columns of text are assigned to separate cells in the spreadsheet, as at right.



	A	B	C
1	Subject	Count	Pct
2	Dogs playing cards	124	62
3	Elvis (young, skinny)	63	31.5
4	Large-eyed walf	13	6.5

Curiously, although the Acrobat documentation implies this feature should work with any csv-savvy spreadsheet software, I can find no way to specify the spreadsheet program that Acrobat should use; it automatically—and only—launches Excel. (Does anyone out there know how to change the spreadsheet program?)

Look Up in Dictionary Finally, and this one particularly tickles me for some reason, Acrobat will look up the first word in the selected text in *Dictionary.com*. It launches your web browser and automatically displays the appropriate definition.



As I said at the start of this article, I discovered the Select Text tool's contextual menu only in Acrobat 8, even though it was first introduced in Acrobat 7. Now that I know it's there, I find myself using the tools it offers all the time.



Schedule of Classes, July – September 2008

Following are the dates of Acumen Training's upcoming PostScript and PDF classes. Clicking on a class name will take you to the description of that class on the Acumen training website. These classes are taught in Orange County, California and on-site at [corporate sites world-wide](#). See the Acumen Training web site for more information.

PDF Courses

PDF 1: File Content and Structure	July 8–11		Sept 8–11
PDF 2: Advanced File Content	July 28–31		
Support Engineers' PDF	July 17–18		

PostScript Courses

PostScript Foundations	July 14–18		Sept 1–5
Advanced PostScript		Aug 25–28	
Variable Data PostScript			
Troubleshooting PostScript	July 21–23		

Course Fee Classes cost \$2,000 per student, except for *Troubleshooting PostScript* and *Support Engineers' PDF*, which are \$1,500 per student. There is a 10% discount for signing up three or more students. If you have four or more students that need to take a class, it will almost certainly be cheaper to arrange an [on-site](#) class.

Contacting John Deubert at Acumen Training

For more information For class descriptions, on-site arrangements or any other information about Acumen's classes:

Web site: www.acumentraining.com **email:** john@acumentraining.com

telephone: 949-248-1241

mail: 24996 Danamaple, Dana Point, CA 92629

Registering for Classes To register for an Acumen Training class, contact John any of the following ways:

Register On-line: www.acumentraining.com/register.html

email: john@acumentraining.com

telephone: 949-248-1241

mail: 24996 Danamaple, Dana Point, CA 92629

On-Site Classes Information regarding classes on corporate sites is available at www.acumentraining.com/Onsite.html. These courses are taught throughout the world; for additional information on classes outside the United States, go to www.acumentraining.com/OnsitesWorldWide.html.

Back issues All issues of the *Acumen Journal* are available at the Acumen Training website: www.acumenjournal.com/AcumenJournal.html

What's New at Acumen Training?

Busy Half-Year There's not much to tell just now. I've been teaching out of the country a lot and I'm working on a book.
More to tell next issue.
Until then, you'll just need to be patient.

Journal Feedback

If you have any comments regarding the *Acumen Journal*, please let me know. In particular, I am looking for three types of information:

Comments on usefulness. Does the Journal provide you with worthwhile information? Was it well written and understandable? Do you like it, hate it? Did it inexplicably make you think of that lemmings have the right idea?

Suggestions for articles. Each Journal issue contains one article each on PostScript and Acrobat. What topics would you like me to write about?

Questions and Answers. Do you have any questions about Acrobat, PDF, or PostScript? Feel free to email me about. I'll answer your question if I can. (If enough people ask the same question, I can turn it into a Journal article.)

Please send any comments, questions, or problems to:

john@acumentraining.com