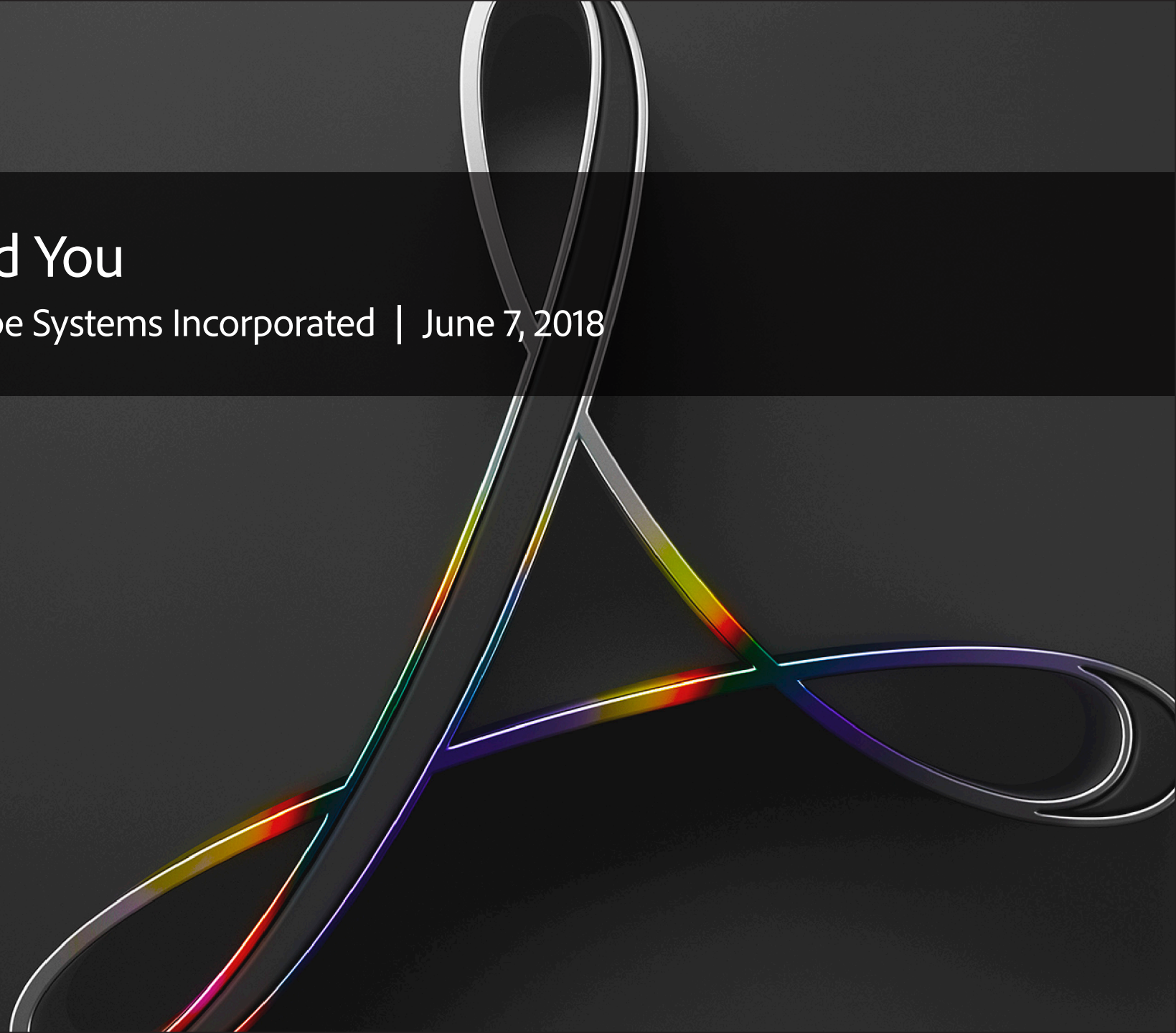




Lies Your Printer Has Told You

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You can fool all the people some of the time and some of the people all the time, but you cannot fool all the people all the time.

WARNING – Some of you may be extremely offended by the contents of this presentation!

Agenda

- A quick review of the *Reliable PDF Guiding Principles*
- A generous sample of “lies your printer has told you” (in no particular order)
 - What your printer (PSP - “Print Service Provider”) tells you
 - The truth (and perhaps some background for the fibbing)
- A brief analysis of some of the root causes and issues behind these “lies”
- Q&A

“It’s the workflow, stupid!” Reliable PDF Guiding Principles

Principle 1

The quality of an end-product directly reflects and can be no better than the quality of its source components.

Principle 2

Maintain content at its highest level of abstraction.
PDF/X-4 is your best friend!

Principle 3

Lose no data before its time ...
... Add no unnecessary data.

Principle 4

Avoid unnecessary and cascading data and attribute transformations.

Principle 5

Problems detected earlier in a workflow are generally easier and less expensive to correct than equivalent problems detected later in the same workflow.

Principle 6

Disciplined use of standard operating procedures for a workflow is a major success factor for consistent production and hence, reliable production.

Principle 7

The reliability of a workflow is limited by and to the reliability of the workflow’s least reliable component.

Principle 8

Simplify your workflow!

The Lies – Very Basic PDF Creation

*We only accept print jobs created on Macs
or We don't accept print jobs originating from 'pee cees'*

- Absolutely absurd
- Based entirely on “platform bigotry” on behalf of members of the cult of *Saint Steve the Infallible*
- There is *platform equality* with regards to content creation and PDF creation from Adobe CC applications associated with PDF publishing workflows
- Ironically, PDF from Microsoft Office running on MacOS, even with Acrobat installed, can be significantly problematic compared to the PDF created on Windows

The Lies – Very Basic PDF Creation

You must create PDF via Acrobat Distiller (converting PostScript to PDF); we don't accept PDF exported from InDesign or saved from Illustrator

- PDF files created from PostScript characterized by
 - No color management
 - No live transparency
 - Diminished search and editability capabilities
 - Potential funky font problems (especially when combining PDF files)
- No recognized benefit of this workflow
- Complete *bubbe meise* based on bugs and file bloat in the earliest versions of InDesign

The Lies – Very Basic PDF Creation

Choose “Press Quality” when you create PDF and everything will be fine

- No, not everything will necessarily “be fine”
- Even the most recent version of the “Press Quality” joboptions create PDF 1.4 and converts all content to *U.S. Web Coated SWOP (v2)* CMYK
- Indicative of print service provider who doesn’t take quality, especially color quality, seriously

The Lies – Very Basic PDF Creation

You must provide your printer with a PDF file with printer marks (cut, bleed, etc.)

- Printer marks are the responsibility of the printer to add based on the actual print environment
- Customer-provided printer marks on individual logical PDF pages may in fact interfere with the page imposition process
- Printer marks are typically added by page imposition / PDF workflow systems
- It is the designer's responsibility to provide for "bleed" when and if necessary

The Lies – Very Basic PDF Creation

You must provide your printer with a fully imposed PDF file

- Imposition includes features such as:
 - ***n*-up** – multiple logical pages, $n \times m$ per printed sheet with or without margins, spaces between the pages, etc.
 - **Step & Repeat** – multiple copies of one logical page, $n \times m$ per printed sheet with or without margins, spaces between the pages, etc.
 - **Booklets & Signatures** – rearranging of logical pages onto printed flats for preparation of booklets and/or signatures of a book
- Imposition is the print service provider's responsibility based on the capabilities and characteristics of the printers and substrate used
- Designers / print customers provide PDF files with logical pages (with bleed if necessary)
- May be a warning that the “printer” might be a low-end office copier!

The Lies – You Must Send Us ...

PDF's OK but you must also send us all your source documents and assets "just in case..."

- Often results in surprises due to regeneration of PDF with "fixes" the printer thinks should be made (and not limited to technical issues)
 - Improper and unwanted "spelling corrections," changes in capitalization, changes in phrases, changes in colors, changes in design, etc. as a result of trying to be "helpful"
 - Typically noticed only after printing is completed
- Increased costs to the printer are ultimately passed onto the customer
- Concerns about misappropriation of digital assets (more later under "fonts")
- Best strategy is always to provide a "print ready" PDF file (can you say PDF/X-4?) and if the printer thinks there's a problem, have them contact you to make changes in the source document and regenerate and the printer a new PDF file

The Lies – Color

You should / must convert everything to CMYK

- Which CMYK?
for example, *U.S. Web Coated (SWOP) v2* CMYK \neq *FOGRA 39* CMYK
- Many print service providers have multiple presses
 - Different technologies (offset, flexo, digital toner, digital inkjet)
 - Different color characteristics
 - Don't necessarily know which press will be used when PDF file submitted
 - Problems with TAC when CMYK imagery JPEG compressed and decompressed
- Interactions with transparency effects
- Who / what is going to convert non-CMYK colors to which CMYK colors when and where in the workflow?

The Lies – Color

You should / must convert everything to CMYK – continued

- What's behind this demand?
 - Content with seriously out-of-gamut RGB colors
 - Office bright blues and greens
 - Lack of author and/or designer understanding of these issues for content creation
 - Need to preview on-screen early in design process (assuming there is a design process that considers color)
 - Blame the customer if colors are “wrong” mentality on the part of print service providers

The Lies – Color

You should / must convert everything to CMYK – continued

- The truth (will set you free)!
 - Full ICC color management is required for proper rendition of color in publishing workflows (not limited to print!)
 - You need to assume that Microsoft Office RGB is really sRGB
 - Keep content in its original color space with ICC profiles (including in generated PDF) until it needs to be rendered either on screen (such as with Acrobat) or by the RIP/ DFE for printing
 - Always preview colors in Reader/Acrobat before printing
- Adobe most strongly recommends use of PDF/X-4 settings for PDF creation with no color conversions either during PDF creation or prior to asset placement

The Lies – Transparency

You must flatten all transparency

- Transparency flattening converts non-opaque objects into corresponding opaque objects based on the colors of those objects and the objects they interact with
- Transparency flattening generally yields an output device-specific PDF
 - Involves a transparency blending color space for transparency blending
 - Requires specification of a resolution for rasterization that might occur during transparency blending
 - Do you know the color space and device resolution of the printer on which the document will be printed?
- Pre-flattened PDF files may print (or even display) with various color anomalies, pixelization, and other “rendering artifacts”

The Lies – Transparency

You must flatten all transparency – continued

- The truth (will set you free)!
 - Keep content with live transparency in its original color space with ICC profiles (including in generated PDF) until it needs to be rendered either on screen (such as with Acrobat) or by the RIP/ DFE for printing
 - It is the experience of Adobe and our OEM partners using the Adobe PDF Print Engine technology that quality and performance of pre-flattened PDF is never better than for PDF files with live transparency
- Adobe most strongly recommends use of PDF/X-4 settings for PDF creation with no color conversions or transparency flattening during PDF creation; nor should such conversions or flattening be performed prior to asset placement

The Lies – Fonts & Text

“Font” is a four letter word beginning with an ‘F’...

You must not use TrueType fonts

- Remnant of the “font wars” of the late 1980’s through early 1990’s
- All PDF-direct RIPs/DFEs fully support TrueType fonts
- All PostScript printers for well over 20 years fully support Truetype fonts (printer drivers support otherwise)
- Has no technical basis in truth
(was based on problems with some early, poorly designed and produced amateur-hour freeware fonts, many of which were in TrueType format)
- The real issue is not the font’s format, but rather the care with which a font is designed, produced, and extensively tested

The Lies – Fonts & Text

*It's OK to send font files with your content to your printer / designer ...
... everyone does it!*

- Most font foundries specifically prohibit this practice in their EULAs (End User License Agreements) unless the printer / designer is already licensed to use the font (such as with Adobe Font Folio)
- If you are sending PDF/X files with fonts embedded for printing or placement in other content, there is no good reason to send raw font files
- Just because “everyone does it” (which they don’t), it is neither legal nor morally correct

The Lies – Fonts & Text

You must fully (not subset) embed fonts in your PDF files

- Rationales
 - Font substitution will or might occur if a font is only subset-embedded
 - Absolutely not true
 - PDF rendering always uses the embedded font regardless of whether it is fully or subset embedded
 - Fully embedding a font allows for editing text in a PDF file
 - Absolutely not true, at least for Acrobat or any product based on Adobe's PDF Library
 - PDF text editing in Acrobat requires that the font used by the text being edited be installed on the user's system regardless of whether the font is subset or fully embedded in the PDF file
 - This is both a legal and technical issue
(FWIW, so-called "fully embedded fonts" usually don't embed much more than the glyph outlines, very basic font metrics, and metadata)
- Bottom line – except for PDF forms, buys you nothing other than bloated PDF file size

The Lies – Fonts & Text

Outline all your text for printing

- Rationales
 - Text won't render correctly or reliably on RIP/DFE unless outlined either in the authoring application or in Acrobat
 - Gets around the problems of “bad fonts”
 - Gets around PDF font embedding license restrictions

The Lies – Fonts & Text

Outline all your text for printing – continued

- The truth (will set you free)!
 - General text rendering problems due to font issues
 - Would likely appear in the text authoring application and Acrobat when entering text or attempting to do text outlining!
 - If you can display and print to even a cheap local printer with the live text from Reader or Acrobat, you are good to go
 - Real font problems of the type (pun intended) feared are exceptionally rare
 - PDF files with outlined text
 - Are neither text editable or searchable
 - Are typically very bloated in size (each character is an individually-defined, filled polygon)
 - Typically render on screen or RIP very slowly
 - Rendering quality is often very poor at lower magnifications due to geometric scaling; the “hinting” technology of the font is lost
 - This process buys you absolutely nothing!

The Lies – Fonts & Text

Outline all your text for printing – continued

Examples use Garamond Premier Pro Italic

40 pt Text
Rendered with Font
– Live 1:1 Rendition

*The quick
brown fox ...*

4 pt Text
Rendered with Font
– Live 1:1 Rendition
& Ripped @ 600 dpi
(1000% magnification)

The quick
brown fox ...

*The quick
brown fox ...*

4 pt Text
Outlined Text
– Live 1:1 Rendition
& Ripped @ 600 dpi
(1000% magnification)

The quick
brown fox ...

*The quick
brown fox ...*

The Lies – PDF & Adobe Illustrator

*Your PDF is bad and we attempted to fix it in Adobe Illustrator
(and if it didn't print correctly, it's your fault)*

- Adobe Illustrator is **not**, repeat **not**, repeat yet again **not** a general purpose editor of PDF files!!!
- Adobe Illustrator can safely edit a PDF **if and only if all** the following conditions are true:
 - The PDF file was created with a version of Adobe Illustrator *no newer* than the version you are editing with
 - The *Preserve Illustrator Editing Capabilities* option was checked when saving PDF (an option **not** available for PDF/X files)
 - All fonts used in the original Illustrator file are installed on the editing system
 - All placed-via-link content in the original Illustrator file is available in the same locations on the editing system

The Lies – PDF & Adobe Illustrator

*Your PDF is bad and we attempted to fix it in Adobe Illustrator
(and if it didn't print correctly, it's your fault)* – continued

- Otherwise, one or more of the following symptoms may be experienced:
 - Content may be totally lost
 - Fonts may be substituted
 - Text may be outlined or rasterized
 - Character spacing and line endings may significantly change
 - Incorrect character set encodings may be used yielding corrupted text
 - Color conversions may occur;
Adobe Illustrator operates in *either* CMYK or RGB mode
 - You may see significant issues with gradients and transparency effects

The Lies – PDF & Adobe Illustrator

*Your PDF is bad and we attempted to fix it in Adobe Illustrator
(and if it didn't print correctly, it's your fault)* – continued

- Why is this true?
 - Adobe Illustrator does not support the full PDF imaging model
 - PDF is not the actual native file format of Illustrator
(embedded “private data” within a PDF file container is that format)
 - Pure PDF doesn't have the context of the original source content
- Observations with regards to misuse of Adobe Illustrator:
 - The source of demands for conversion of all content to CMYK and/or outlining all text?
 - The source of more mysterious “it didn't print correctly” queries to Adobe than almost any other single issue over the years!
 - Mistaken Adobe marketing announcement of the late 1990s that “PDF is the native file format of Adobe Illustrator”



Analysis of Some of the Root Causes & Issues

The democratization of publishing – Everybody is a publisher!

- The “tools” are inexpensive and ubiquitous ...
\$2,500 buys a tremendous amount of computer, printer, and software, well beyond even the wildest dreams of publishing professionals even twenty years ago!
- ... But training (professional or otherwise) isn't!
Anybody (and seemingly everybody) can go out and hang up a shingle proclaiming themselves to be a designer, a publisher, a creative professional, or whatever.
- There are serious downsides to the perception that desktop publishing and digital printing have fully eliminated the need for many specialists and skills

Analysis of Some of the Root Causes & Issues

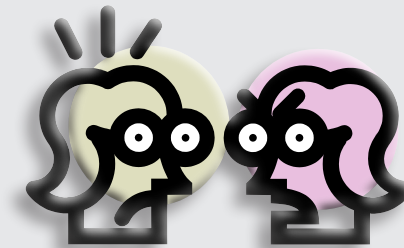
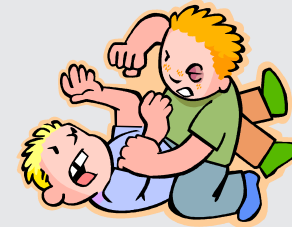
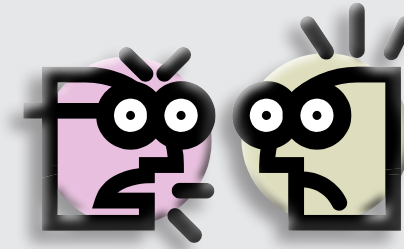
The relationship between the *creative professional* and the *print service provider* in general is highly dysfunctional!

- ***It's the creative professional's fault!***

- The "files" are incorrectly constructed
- Problems with fonts, images, color, transparency, etc.
- 50% to 90% of the "files" need rework (at least according to the print service provider)

- ***It's the print service provider's fault!***

- An "attitude" problem
- Obsolete software, RIPs, and workflows
- Knowledge is out-of-date
- Low-ball quotes; minimum service



Analysis of Some of the Root Causes & Issues

The Creative Professional's Comfort Level

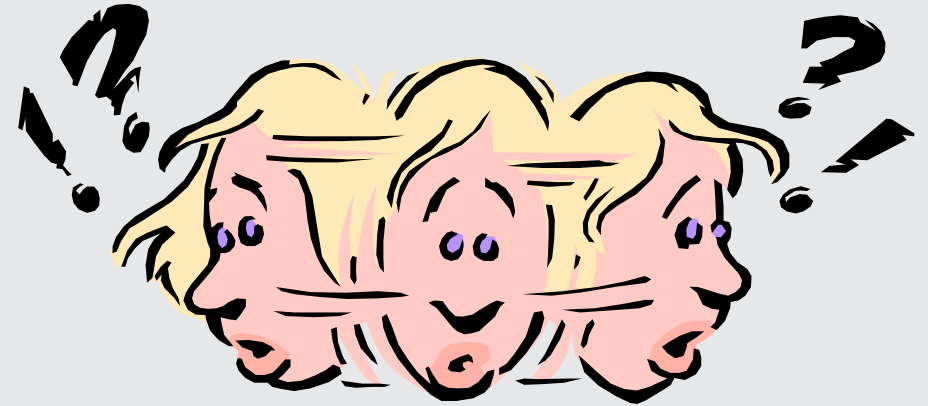
- Drag & Drop Design
 - Use any color scheme that “looks good”
 - Use purchased stock art “as is”
 - Use digital camera photos “as is”
 - Push a button to make PDF
- It's the “printer's problem” to make it all work
 - Any issues created by the designer can somehow be “fixed” by the printer
 - The print service providers implicitly encourage this behavior by continuing to “fix” jobs, successfully or otherwise!



Analysis of Some of the Root Causes & Issues

Many creative professionals are great designers but are technically clueless ...

- Great designs that cannot be printed properly
- Creative professionals and print customers all too often cannot reconcile pixels glowing on a screen with ink on substrate
- It is not “hip” to require graphic arts students to learn and master the technical underpinnings of print workflow



Analysis of Some of the Root Causes & Issues

The Print Service Provider's Comfort Level

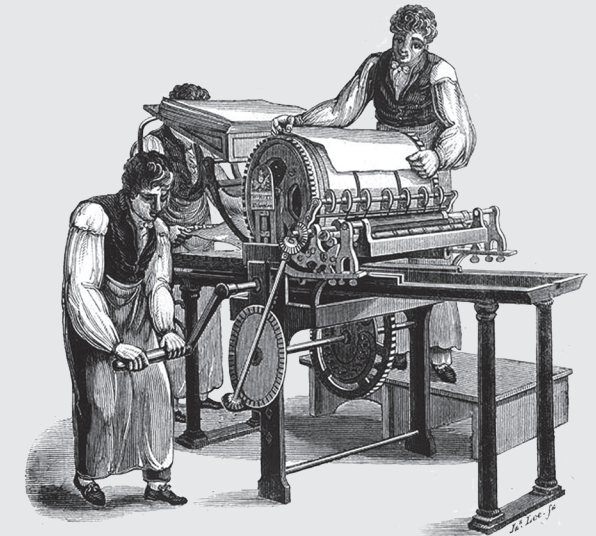
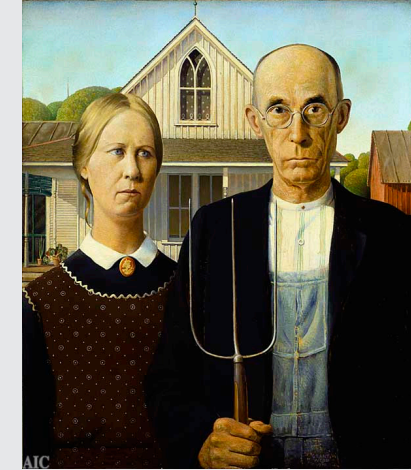
- CMYK primaries, “color by the numbers”
- Pantone or other book-defined spot colors
- Thanks, but no RGB!
- Pre-flattened transparency
- Love PDF,
but send all the source documents
and assets anyway, “just in case”
- CYA
Shift the blame for any problems



Analysis of Some of the Root Causes & Issues

Many Print Service Providers act like “mom and pop” businesses

- Failure to continue to make necessary investments in order to stay current:
 - Software – new products and latest versions / updates; failure to upgrade old hand-cranked and coal-powered RIPs and workflow software
 - Training – how to effectively work with customers and use latest products for streamlined and reliable workflows
- Attitudes
 - Spend 100 hours finding and trying out workarounds than spend \$200 for a software version upgrade
 - “If it ain’t broke, don’t fix it” Luddism
 - “My way or the highway” terrorism
 - Deliberate sabotage to prove point



Analysis of Some of the Root Causes & Issues

And as a result,
Bubbe meises, Witchcraft, & Urban Legends galore!

- Believed and perpetuated ad nauseam by creative professionals, print service providers, and vendors alike
- Insufficient and ineffective continuing education fails to eradicate this scourge



Q&A



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