

SELF PUBLISHING

Immortality on a Budget



by Tom Stone

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NOW AND THEN, people have asked me for practical advice on how to make booklets, e-books, illustrations etc. That is the reason for this little booklet. First of all, a few warnings might be in order. My native language is not english, and I have neither proofread nor spellchecked anything, so expect a bunch of errors along the way. Since I don't expect to profit anything from this, I have made it easy for me. Additionally, I do not attempt to teach how to draw or to use a computer, just share a few technical details that might not be obvious at first glance. Any information missing here can be found in books, on internet or by taking a class.

Why publish?

Yes, why indeed? There might be many reasons.

Having something to share. My notebooks fills up in a much higher rate than what I'm able to make use of. And some of it are quite good, so I feel that it is better to share it, than to let it gather dust in a drawer. Also, there is a desire to communicate. If I tell you my ideas, then maybe you will tell me yours - and perhaps then we'll think of something together?

A passion for the art. I have recieved so much from my art; friends around the world, an occupation that enables me to pay the rent, the tools to be able to be an "interesting person" in social situations. The art of magic have given me so many gifts, that I feel obligated to give something. To create a symbiotic relationship, where both I and the art gain something from our interaction. Yes I know how it sounds, but deep down, that's how I feel.

Profit. Yes, there's that aspect too. But the profit isn't as good as one might think. The world of magic is a small world, and not many people read books. I'm not very interested in selling and marketing, so I don't make a lot of efforts to sell my books once they are produced. Usually I have the stamina to sell them for a week or two, then I get bored and want to do something else. So, compared with the work put into it, there's not a big profit. Someone with an interest in marketing might have different experiences though. I am not to be trusted when it comes to matters relating to good business sense.

An interest in graphic design. Yes, this is a big factor for me. I enjoy to write and draw, and since I'm a magician I tend to write and draw things that are interesting to me, i.e. magic.

Ego and selfpromotion. Sure, this might also be a driving force, and nothing wrong with that, as long as it isn't the main reason for the desire to publish. If you have a big ego, just make sure that the material you publish are good enough to back it up. Myself, I don't have a big desire to impress a lot of people I've never met - but I do want to impress friends and people I respect. I do enjoy to get approving nods from my old heros Max Milton and Dusenbergh. To return favours are also important. Just as Max Maven and Tommy Wonder always makes me think and be inspired, I want to publish things that might cause them to think and be inspired. Not an easy task, perhaps, but there could certainly be worse goals than trying to impress friends like them.

So, do you know why you want to publish? Is it for profit, or to get an ego boost? Or do you have something solid to share? Or both?

What to publish.

My primary advice is; don't publish crap! But if you ignore that advice, then at least make sure that it is amusing, inspiring or new crap.

Try to be honest. If you publish something that isn't practical that you've never tried out in real life - then say so. Because if you pretend that the item is something practical that you've used for a long time, the readers will soon notice that you are making things up.

Evolution. If your material is based on previous effects and plots, then make sure that you've added something significant to your predecessors. Does your item solve a problem in the original effect? Or are your method smoother, or more deceptive? Perhaps the original effect was done with five secret moves, and your method only use three? Perhaps your method isn't better, but perhaps it allow a much stronger presentation? Or have a more sound dramatic plot?

If your version isn't better than the other versions out there, then maybe it is better to wait, perform it for a while and see if anyone seems interested in knowing the details. Because, do the magic world really benefit from yet another version of Ace Assembly if it is more complicated and less clean than the multitude that already are in print?

However, everything you publish doesn't have to be practical. There is a place for pipedreams and impractical ideas - as a source of inspiration for others. There's a lack of good and new magical plots, so if you got a good plot, but with a horrible method, it might still be of value to others.

For a long time I have had the idea of making a **"Book of Beginnings"** (*inspired by www.oyonale.com*). A book filled with intros to effects, that just stop in the middle of a sentence. Like:

At the conclusion to an effect, the magician looks his watch, and reacts: -"Damn, I'm running behind schedule. I'll have to do my next three pieces simultaneously to catch up!" He ask a spectator to lend him a bill, while bringing out a deck of cards and three coins. He turns toward a spectator and...

And then the reader is supposed to figure out the rest on his own. It's a good idea, and one day I might make a book like that. As long as you are honest, I see no reason to avoid pipedreams. But, of course, real and practical effects are still what people most desire from a book.

PUBLISHING MAGIC

If you have no budget at all, and no equipment, go to an Internet Café and write down your material there. Print it out, make photocopies and staple it together. Done.

Illustrations.

Of course, the descriptions will be easier to follow if you have some illustrations. If you are reasonably good at drawing, you can draw on free hand. If not, you probably have a talented friend who can help you.

Another option is to use photos. You can probably borrow a camera from a friend, if you don't have one yourself.

It's possible to find used system cameras of a rather good quality to a good price, if you search for it. Since many are replacing their old cameras for digital cameras, it's not difficult to find something suitable.

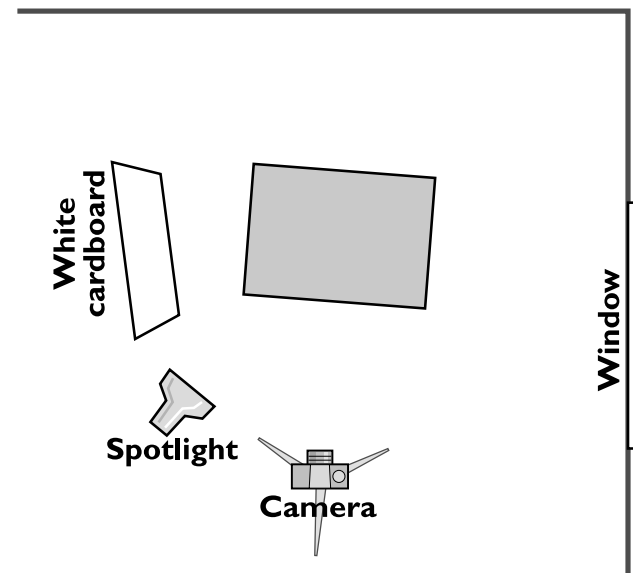
My camera is a Minolta X-300 that I bought in 1988, and it wasn't very

expensive, even as new. But since a few years back I'm using a digital camera, a Minolta DiMage 7, which has a resolution on 5.2 Mega Pixels. The key here is; the higher number on the Mega Pixels, the more detailed and larger pictures you get. Anything above 3 Mega Pixels can be used for self publishing. The brand doesn't matter really, because all the brands are good enough. However, what you should look out for is the price for surrounding equipment (*power supply etc.*), and how much battery it eats. Those things might differ a lot.

But if you don't have the computer hard- and software to process the digital photos, you are probably better off with an ordinary camera.

Lighting

The key to get good photos is light. And lots of it. You can probably find a place in your apartment that you can use as an impromptu studio.



Find a spot near a window where light comes in (*but avoid direct sunlight*). If the background is busy, hang a bedsheet (*preferably neither black nor white*) on the wall. If shooting a close-up effect, put a medium grey cloth on the table (I just use a grey sweater). On the other side of the table, place a large white cardboard, propped up on a chair. That will cause the light from the window to bounce back, to soften up harsh shadows. Also, aim a spotlight on the main area of interest. An ordinary floor lamp or bedside lamp works just fine.

If you have a flash to your camera, aim it towards the ceiling. However, if the flash is inbuilt, it is probably fixed and aimed right ahead. That might cause a problem, because you want the camera as close as possible, but on short distances, an inbuilt flash usually “burns out” the light areas in the picture. That can be overcome by adjusting the exposure in the camera. A digital camera usually have a setting called “Exposure compensation”, which you can set to **-0.3**.

On an ordinary system cameras it requires a bit more knowledge to adjust the exposure. However, most of them have an inbuilt exposure meter. Adjust the aperture until the camera recommend a shutter speed of **1/125** second. Fix that shutter speed, then set the aperture to the next higher number. *(The key to aperture values: A small number means that very little of the light is blocked, and a high number means that a lot of light is blocked from entering the camera).*

When dressing for the shoot, try to avoid very dark and very light colors on your clothes, Use clothing without patterns and dress like you are color blind, so you will get a good contrast between each garment.

It will be useful to have the help of a friend for the shoot, who can handle the camera. Myself, I usually don't bother, as I do these things on the spur of the moment, and it slows down everything if I have to wait for a friend to arrive. So I mostly use the self-timer on the camera.

So, it's time to take the pictures for an effect. Take almost twice as many photos as what believe that you will have use for - because it is damn annoying to realize much later that something is missing, so that you have to rig everything again, just to get a single photo.

Don't forget that the purpose of the pictures are to illustrate a performance piece. It is easy to look introverted or stern, as you are concentrated on remembering where you are in the effect, keeping track of your position in the image and making sure that the exposures are alright. But try to express emotions, like excitement, in your face and body posture - because it will not look very attractive if your humorous masterpiece is illustrated with a bunch of pictures of a person that looks bored as hell.

If using a digital camera, it is useful to have an external power supply, so you don't have to think about the batteries. Also, digital cameras often allows you



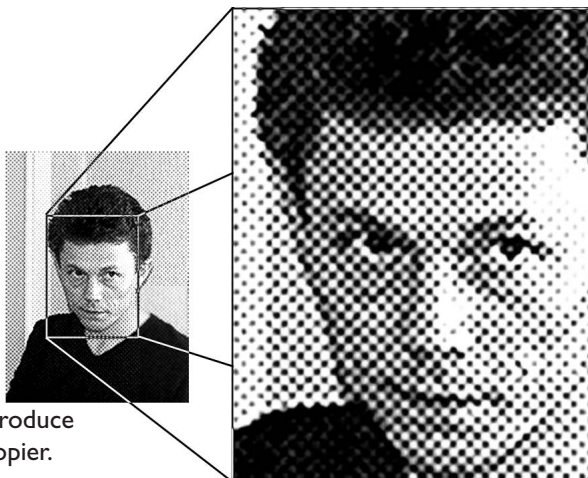
to hook it up to a TV, which might be useful to use as a monitor, if you are uncertain about your position in the picture.

To make it easier, go through the effect twice. The first time from the spectator's view, and the second time shoot the necessary secret views from above and below and over your shoulder etc.

Then, if using regular film, leave the rolls at a One Hour service, to get the photos developed.

The photos are back

Now, its not easy to use the photos as they are, in the context of reproduction, unless you use a computer. Sure, the quality of high-end photocopiers are much better now, than just a few years ago - but it's a bit too expensive to make that kind of color copies. To be more cost-effective, it's better to process the photos through a black and white halftone screen.



A halftone screen makes the photos easier to reproduce even on a cheap photocopier.

By that means that the color photo is converted to tiny black dots so small that they appear as graytones. And a photocopier is better at reproducing black & white dots than actual graytones or colors.

To do this, call around to a few local printers, preferably ones which have been existing for a long while, and ask if they have a **repro camera**. If they have one, ask if they can make halftone screens out of a few photos for you, suitable for reproduction on a photocopier.

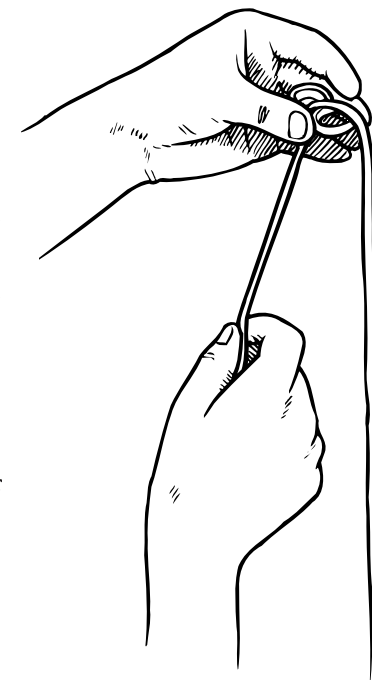
Make sure to tell them that you are a magician, and offer to make a small performance for them during a lunch break. With any luck, they will not charge anything for their work in return. (*Printers old enough to still have reprocameras have a different sense for trading favours and bartering than the newer digital printers*) - And who knows, if they like your performance, they might offer to print the whole book for a small symbolic fee.

However, there's another way to make use of the photos...

Line drawings

It is often better to illustrate magic effects with line drawings, because then you can make sure to only show the important parts, and skip unnecessary details in the background. As an added benefit, line drawings are much easier to reproduce even on very old photocopiers. Take a look at the drawing to the side here. It looks quite good, show only the important parts and you are spared the sight of my messy apartment in the background.

The things you need are a few waterproof fiberpoint pens that draws really black lines. A couple of different sizes are useful, like a very thin for fine details, and a broad one for filling in large black fields. Also some good and thin fiberfree drawing paper.



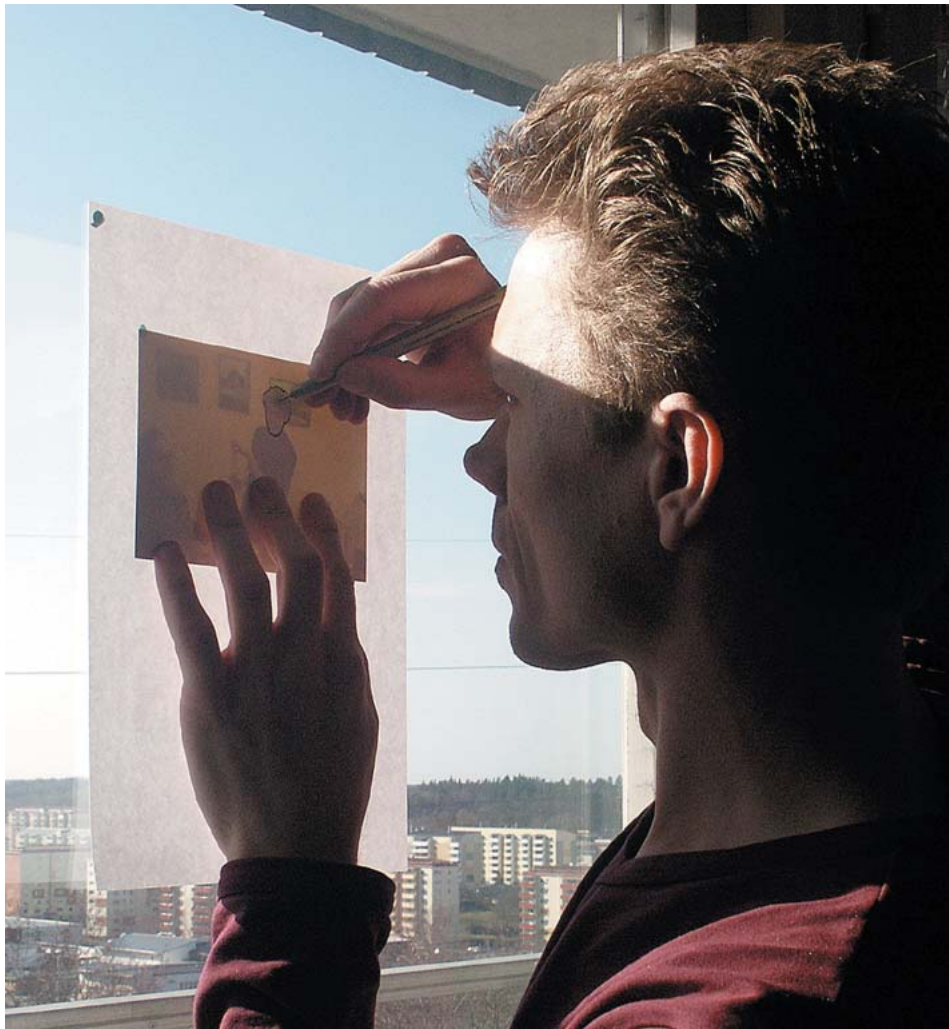
Fiberfree paper? Well, when you check for good paper, hold up a single sheet to the light and see how it looks with light shining through it. If it look grainy or blotchy, check another brand.

You want a paper that has a homogeneous translucent quality. Also, to avoid fuzzy lines and get fine crisp lines, it is important that the paper doesn't "bleed" - meaning that ink doesn't penetrate through the paper to the other side.

The pens should be waterproof, which you can check by drawing a line on a small piece of paper. Count to three, and then stroke a finger over the line. If the line get smudged, or fades, get another brand.

You can find what you need in a store for graphic design or art supplies. Check the yellow pages, and then ask the people in the store for advice.

While you are in the store, get a glue stick, some masking tape and some transparant tape too.



The Lightboard.

If you have the photos, thin drawing paper and some good pens, you can start doing line drawings - and you doesn't even have to have any skills to do it, except perhaps a talent for patience. Of course, if you have some drawing skills, it is easier, but even without skills, you will be able to get a nice result in the following manner.

Sort out the photos you need, and put them in order. One by one, fasten them on a sheet of drawing paper each, using a small piece of masking tape. Then, during daytime, fasten them onto a window, so that you can see the



photo through the paper. Then use a pen and trace all the details you want to have in the line drawing, as shown in the photo above to the left. The first 3-4 drawings will take almost forever, and you probably have to start over a few times, but then you will pick up speed.

For my first book in english; "**The Warpsmith's Toolbox**" (*in 1993*) I made 116 line drawings in that manner, standing at a window. The neighbours must have thought that I had gone nuts.

Since then, I have bought a lightbox (*available from art supply stores*), so now I'm not limited to work just during daytime. See the photo above.

Writing the text

Now, when I have the illustrations, I usually write the text for the effect. That's the order I prefer, as it becomes easier to refer to the illustrations then. I tend to use different small wordprocessors depending on what I'm writing, for a while, I even used a small word processor I had programmed myself.

For theoretical articles, I use a piece of software named **Z-Write** (www.stonetablesoftware.com), as that opens fast, has a simple interface, and are designed to handle snippets of text. But for effect descriptions and technical writing, I mostly use a program named **Style** (www.merzwaren.com).

Both these programs are only available for Macintosh, unfortunately.

But I'm getting ahead of myself. The assumption is still that you doesn't have any equipment. These days, you should be able to find an electric typewriter for almost no money at all, or even for free, so that is a valid option.

Someone among your friends is bound to have an old computer that gathers dust somewhere in a closet, which you can borrow. If used only for text, it doesn't matter if the computer is 15 years old. Or, you can go to an Internet Café. Or, if nothing else works - you can always write by hand, if you have a nice handwriting. Don't count that possibility out - because that might actually cause some additional interest for your little book.

What to look out for is left/right and up/down confusion in the descriptions, because such small things can really create a mess for those who will attempt to read it. After a complicated sequence, it can often be useful to have a position check.

Try to include a bit of personality in the writing also - and by that I mean your own personality, and not someone else's. A few details about why you started to develop the item in question, or something like that.

Then let a few friends read and try it - and if they can manage to follow the description, it's probably okey. Otherwise, adjust the text.

Checking the spelling and grammar is also useful. A good advice that I unfortunately seldom follow myself, as my spellchecker for english is full of bugs. But as a non-english speaker, I feel entitled to a bunch of errors - after all, I could decide to write in perfect swedish only, if that would be preferable. ;-)

Titles for the effects and the book.

Try to find good titles for your items. There's no need to get too clever, unless you get a kick out of it, but a unique name makes it easier for other magicians to refer to it, without confusing it for something else by someone else. For example, I made an e-book about my search for the ultimate Travellers effect. So I made a list where I wrote down everything I could think about regarding travels, voyages etc. And the 9'th item on the list was Jules Verne's **"Around the World in 80 Days"**. The main character is named Phileas Fogg - whom must surely be considered as THE ultimate traveller. So I named the e-book **"Tracking Mr. Fogg"**

If possible, try to find a title that reflect the content. If you got a book full of complicated pipedreams, it's probably not a clever move to name it **"Practical Innovations"**, unless you have a fondness for ironic humor.

Or try to play around with your name. Another e-book of mine was full of small bits and pieces. Small bits by Tom Stone. Small bits of Stone... so I named the book **"Gravel"**.

Another book was titled **"Coerceri"**, because in Stephen Donaldson's fantasy books, Coerceri is the name of the place where the gigants live - a town made of stone(!). And I'd like to become one of the giant within our field. Yes, I know, it's far-fetched, but the book will not be confused for another book.

If the effects are based on previous effects, it might be interesting to find a variation of the original title. I've got a piece where I take a close look at **"Out of this World"**. I've titled it **"Hubble"**, after the space telescope. A version of Daryl's **"Jolly Jumping Jokers"** are named **"Among the Mad Men"**. Etc.

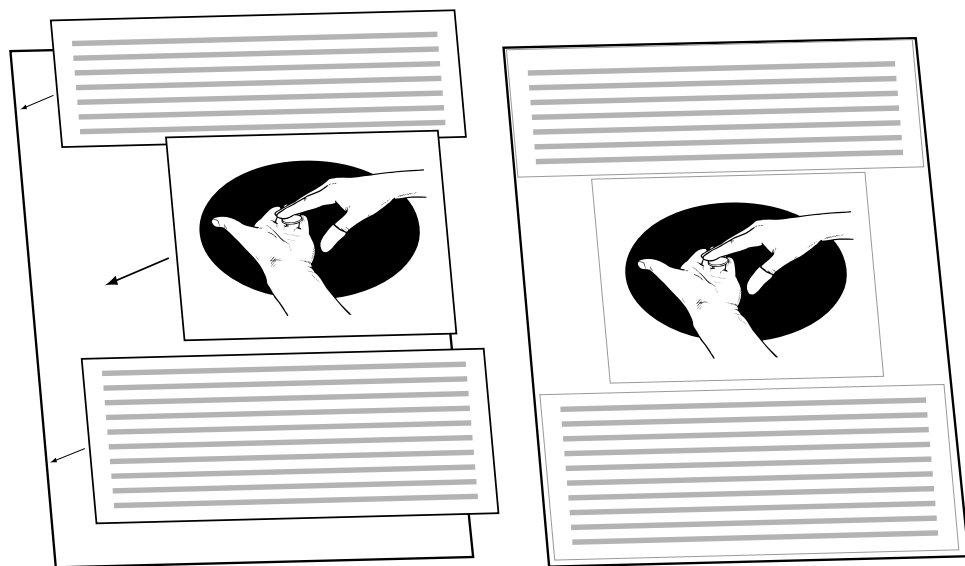
A version of Homing Card might be titled after anything that is known to return. Homing pigeons - what is the actual name on that breed in latin? A yo-yo? Boomerang? What's the name on the lost son who return to his family in the Bible? Spam mail? What's the name of the battered wife in your neighbourhood who always returns to her abusive husband? It's not necessary that anyone will understand the title - the point is only to make it easy to refer to, without confusing it for another effect.

Now, when all the text has been written, and all the illustrations has been drawn, it's time to put it all together.

Assembling the pieces

Now, I assume that you have a bunch of papers filled with text, either handwritten, written with a typewriter or printed out at an Internet Cafe. Also, you have papers with line drawings, or halftone screens of photos.

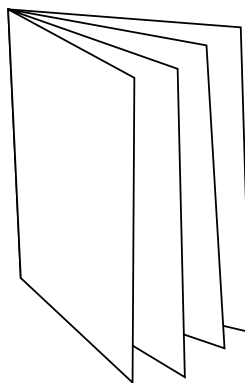
Use a pair of scissors to cut apart the text where ever you need to insert an illustration. Also, cut out the illustrations. Then, with a glue stick, assemble all the loose pieces of text and drawings onto blank pages of paper, as shown below.



After assembling everything, go somewhere where you can make photocopies, to a place like Kinko's or visit a friend who works at an office. Make the copies, staple them together, and then you are done!

Making a Booklet

But maybe you want to make a more "proper" booklet? Well, then you have to assemble the pages you've just made in a certain order. And the number of pages have to be a multiple of 4. Count the pages you've made, and divide with 4 on a pocket calculator. If you get a number with decimals, you have to add blank pages after the final page of your manuscript, until you get a result without decimals. Then make a small "dummy" of your booklet. Take as many sheets of paper as the number you got on

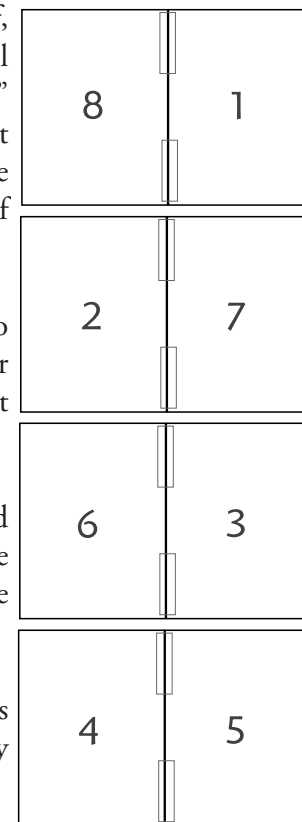


the pocket calculator. Fold the whole bunch in half, and put a staple through the crease, making a small booklet. Now, number the pages in this "dummy" with a pen. Remove the staple, and study each sheet in the dummy. You'll see that the page number of the last page is on the same surface as the page number of the first page - and so on.

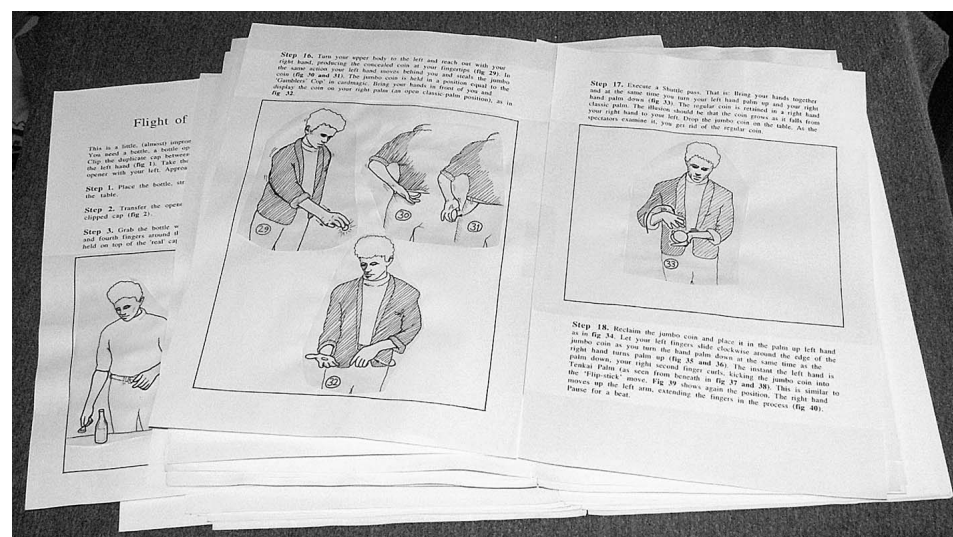
Use the sheets of the dummy as a guide on how to attach the "real" pages of your manuscript together (using transparent tape). The illustration to the right show how an 8-page booklet is put together.

Now, you can go to a print shop like Kinko's and ask them to make the booklet for you, as they have machines for folding and stapling, after they've copied the material for you.

This might seem extremely primitive, but it works just fine. My first book in english was done exactly like this, as shown in the photo below.



How to assemble an 8-page booklet.



Computers & software

Well, in this day and age, you probably have a computer already. Probably a sure bet, since you were able to find and read this ebook. But if you don't own a computer, it's not that expensive to get one anymore. Heck, I've got four of them: A 13 year old **Macintosh Performa 630**, which I still prefer to use for writing and smaller illustrations. An old used **Macintosh Quadra 650** that I bought 6 years ago, that I used for programming. A used **Power Macintosh G3** that I got cheap from a graphic designer 4 years ago, that I use for layout and illustrations (*like this ebook*). And a used **Macintosh iBook**, to be able to work on the road. None of them was very expensive.

Check the yellow pages for companies that lease out computers to businesses, then check their webpages. Most of them sell off the computers when they are returned, often to a very low price.

When it comes to software, keep your eye out for old software. When a new version of, let's say Adobe Photoshop appears, it is not unusual to see the previous version on sale. And software companies often try to get a bigger customer base by releasing older versions for free on CD's included in computer magazines, in which you also can check the classifieds for used software. Also, there are some excellent shareware and freeware programs that can be found on the internet. As I understand it, the freeware GIMP is just as advanced as Photoshop. Then there are pirated software, but there you have to follow your own ethics - remember that you don't get the printed documentation with pirated software.

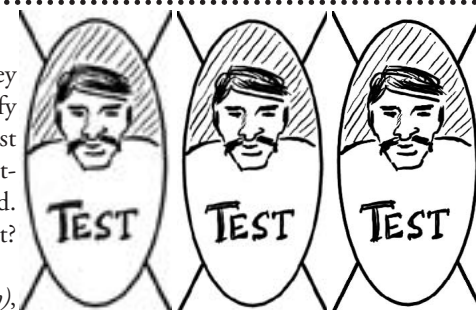
The software I myself use for images is Adobe Photoshop v. 5.0, which is what will be used in the following examples. Beware though, I will not teach you how to use the software, just to give some tips and advice on things that might not be obvious.

To get the illustrations into the computer, you also need a scanner (*or if you have a digital camera, you might be able to take photos of your drawings*). There's another way too, which I will explain later.

The scanner doesn't have to be very advanced, if used for line drawings. So both new and used ones can be found to a low price. Or borrow one from a friend. First of all, you need to understand what DPI means...

The Mystery of DPI

Study the three drawings to the right. They all look the same, right? But if you magnify them, you'll notice something odd - the first one looks jagged and distorted. Magnify a little more, and the second start to look bad. Then magnify some more.. What is this about?



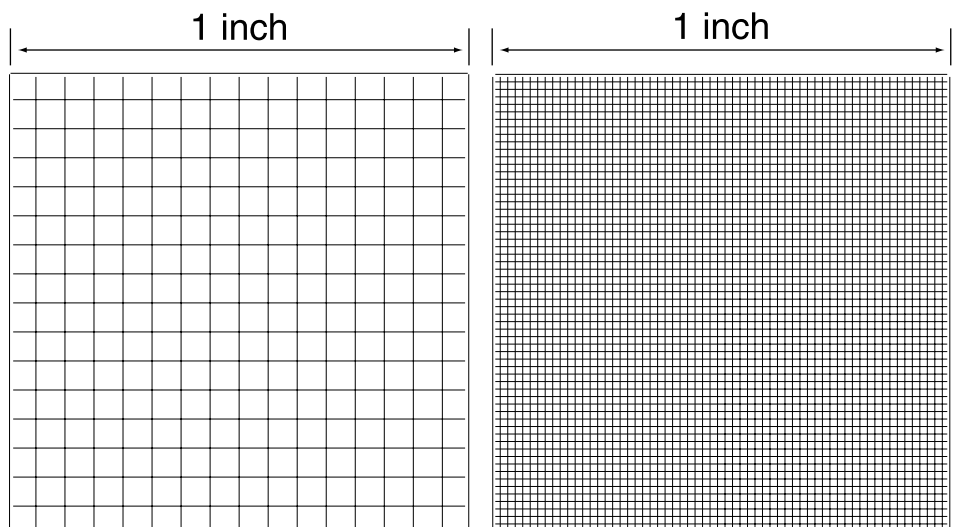
Well, this is about DPI (*Dots Per Inch*), which is how many dots that can be squeezed together into a single inch. On a computer screen, it's usually 72 dots (*or pixels*) in an inch, which looks okay because the light from each pixel blends together on it's way to your eye. But when printed on a paper, 72 dpi is way too low, and it looks jagged, because pigments on paper isn't luminous. Print this page out, and take a look at the drawings above again to see the difference.

Use the magnifying tool and magnify these three pictures, and see when each of them becomes pixelated

Take a look at the gridwork below. Imagine that you form a diagonal line, by coloring the necessary squares with a pen. The grid on the right will enable you to make a nicer and smoother line. Even if 72 dpi looks alright on screen, you need at least 150-300 dpi to make it look as good on paper. But here comes the mystery. Take a look at the gridwork below again. How is it possible to look at all the squares on the right, if they only can be viewed through the left grid?

Well, it isn't. To view a 300 dpi image on a 72 dpi screen, the computer either fakes it, by skipping most of the dots - or magnify the image so every pixel can be shown.

If you are going to print your images, you want to make them in the resolution of 300 dpi.



Scanning drawings

Scan the line drawings at a higher DPI than what you eventually are going to use, as that makes it easier to clean up, edit and modify the image. Something like 400-600 dpi is good.

There's a lot of other settings you can make, depending on the scanner, its software etc. Read the documentation. If you can set a whitepoint and blackpoint, do so. Avoid sharpening. Set size to 100 % and scan as a grayscale image at 400-600 dpi.

Scanned images often have a lot of noise and artefacts in them, as the light from the scanning reflects in the fibres of the paper.

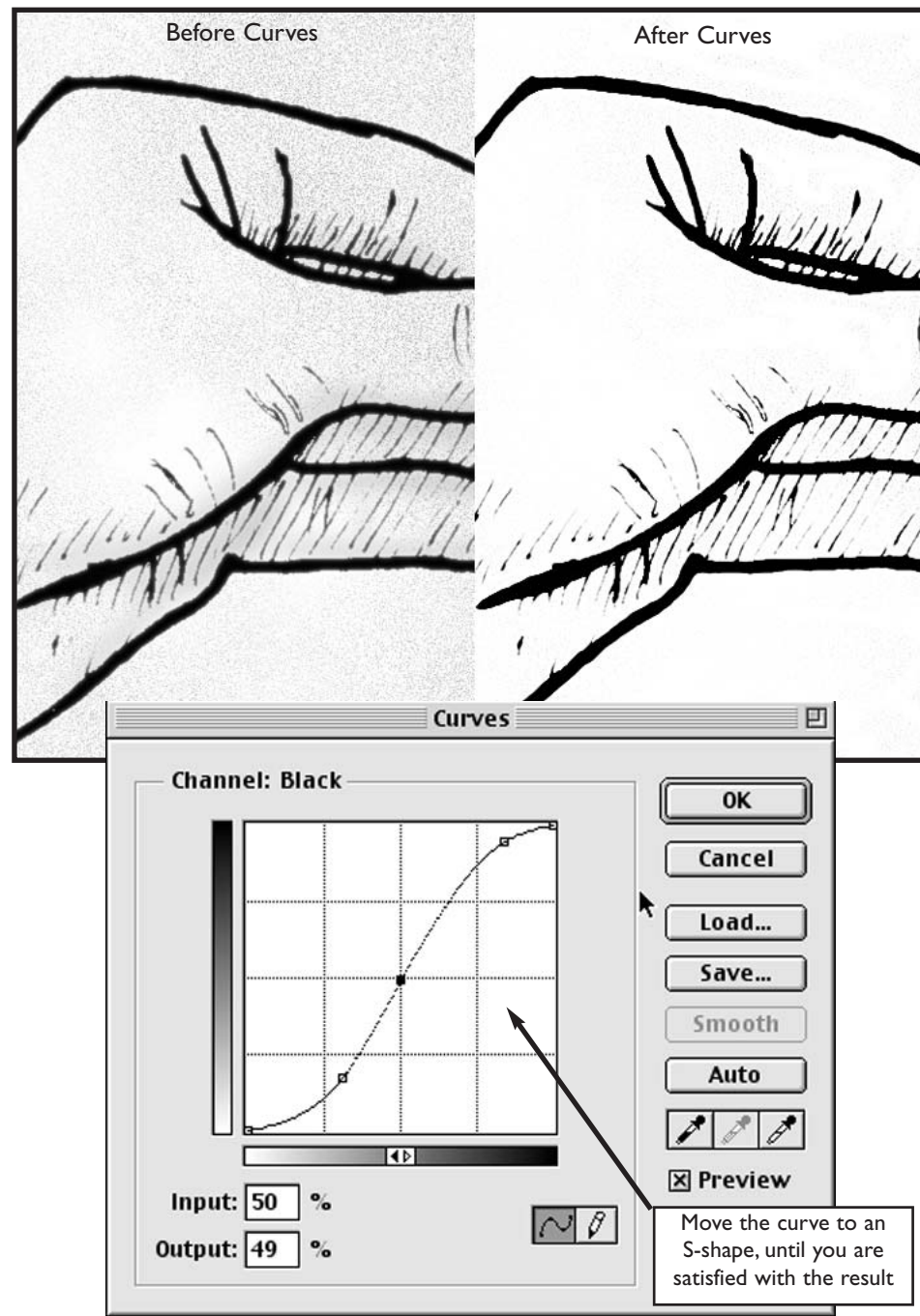
In Photoshop, run Adjust->**Curves** (in the Image menu), to get rid of the most of the noise, as shown to the right. Then, you might try "**Dust & Scratches**" from the Filter menu, however I seldom need it as Curves usually takes care of everything.

Then run "**Unsharp Mask**" from the Filter menu (a very advanced filter that only sharpens contrasting areas, like where black and white meets. Search on internet for information on how to use this extremely useful filter).

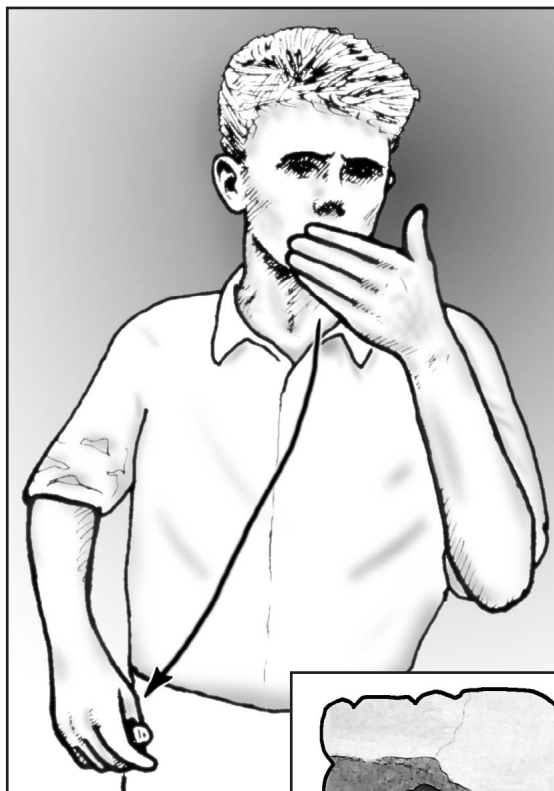
Now, check the image. If there are some undesirable spots larger than 1-2 pixels, you can use a black or white brush to paint over them. If satisfied, decrease the resolution to 300 dpi in the image size dialog, and then save the image as a grayscale Tiff (a file format that almost all image and layout programs can handle).

Here might be a good place to mention the value of giving the image good names. If the illustration is for an effect called "Zinger", then name the image "Zinger01.tif" so you can find it later, and don't have to go through a lot of images all called "Untitled01.tif". Collect the images in a folder called "ZingerTiffs", and put everything in a folder that you named after the whole project.

Of course, if you want to, you can make a lot more with your line drawing while you have it open in Photoshop. I'll show a few examples on the next page.

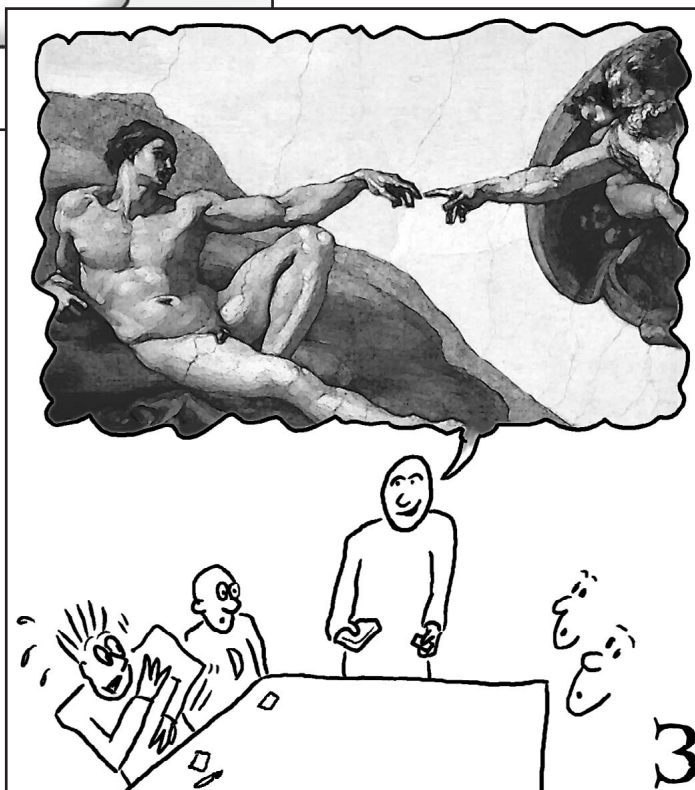


Cleaning up a scanned line drawing



If you want, it's quite easy to add depth to the drawings by masking off the background and add a gradient, then sculpt details in the main figure using shades drawn with the Airbrush tool. Do all this in separate layers though, to make it easier to correct eventual mistakes

Something else that is useful is the possibility to insert other images into your drawing. The illustration to the right is from a set of lecture notes I once made, and it shows an key moment in my effect "Ambivalent Travellers", and the image in the balloon was downloaded from internet and inserted into the drawing.



A better way

Of course, all this is a lot of work. To shoot pictures, developing them, making line drawings, scanning them, clean up the scans, modify them...

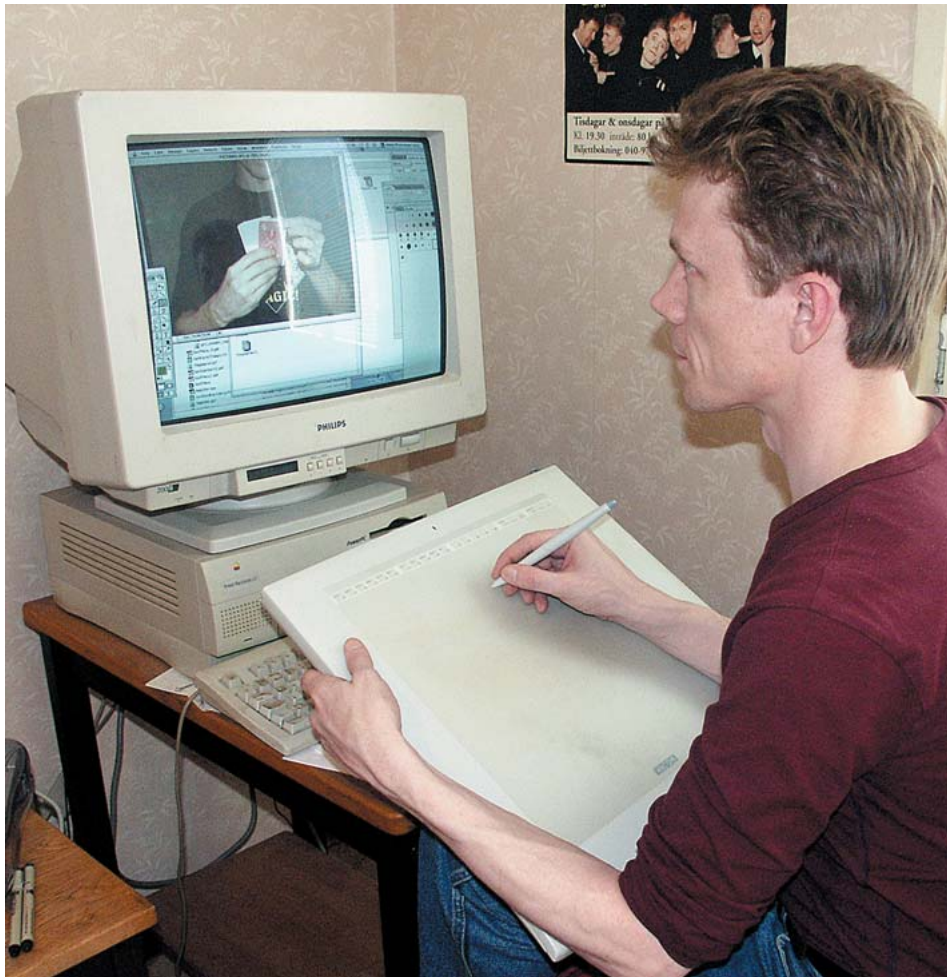
The illustration below is done differently. It has never left the digital world, as it is based on a photo from a digital camera, loaded into the computer, and then I made the line drawing directly in the computer. Take a look...



It looks rather good, I think. Crisp and nice lines, but it doesn't look artificial or computer generated. There's a bit of personality and character in the drawing.

So, how is this done then? Well, it requires a slightly larger initial budget, because I make use of a piece of equipment that it is unlikely that you can borrow from a friend, and you need software that can handle the device.

The prop is a digital drawing pad with a pressure sensitive pen that can be hooked up to the computer. A **Wacom Graphics Tablet**...



A Wacom drawing pad is an amazing tool, and I don't understand how I survived before I got one. I got three of them. Two tiny ones, one for the Performa 630 and one for the laptop, and a large one for the G3, which is shown above. A small one can be found at a reasonably price, but the larger ones are very expensive. I had some luck though, because when Macintosh went over to only use USB cables for input devices, there were a lot of older equipments on the market that couldn't be used for the new computers. Which didn't bother me, as I only have old computers.

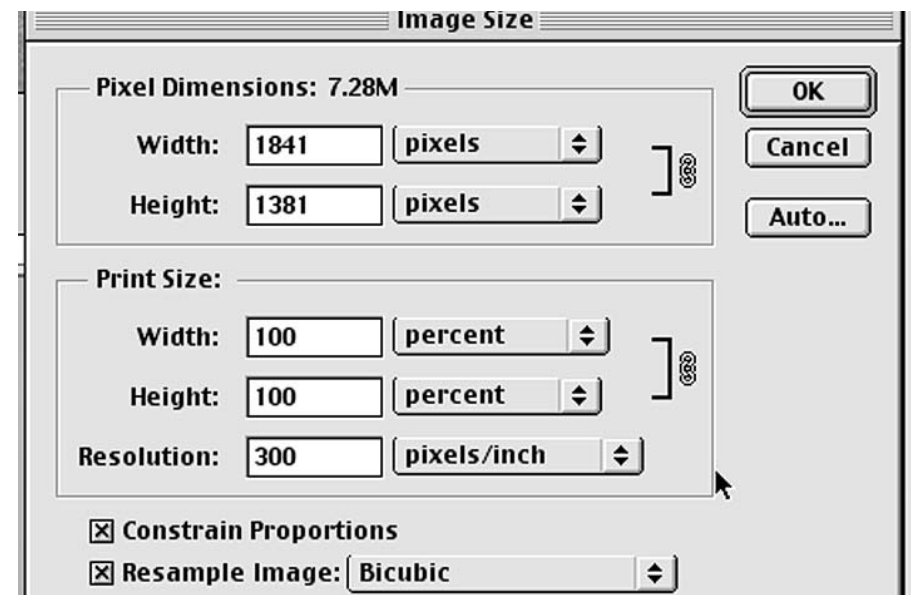
So I got the large Wacom pad at a fraction of the original price. Check the classifieds in the computer magazines, and you might have some luck too.

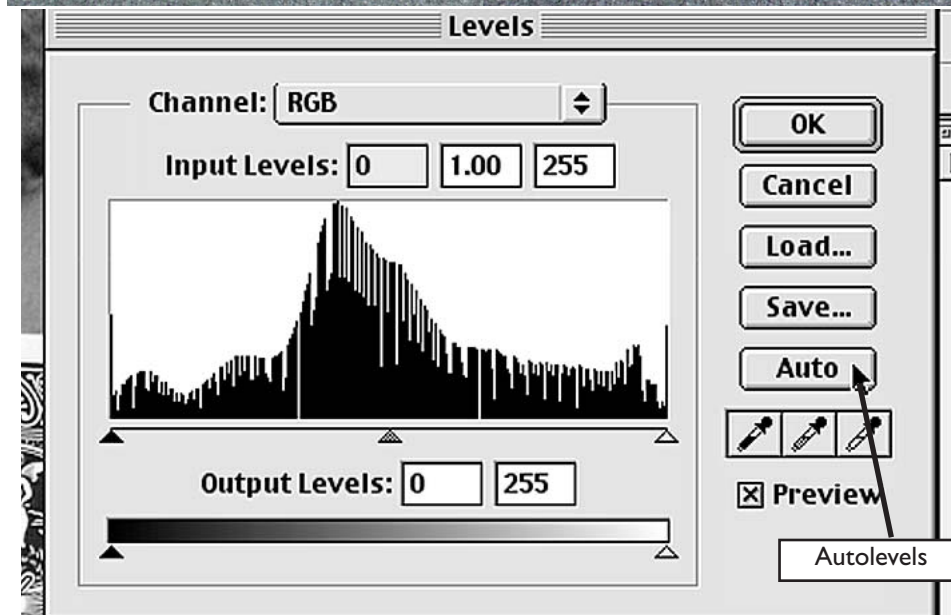
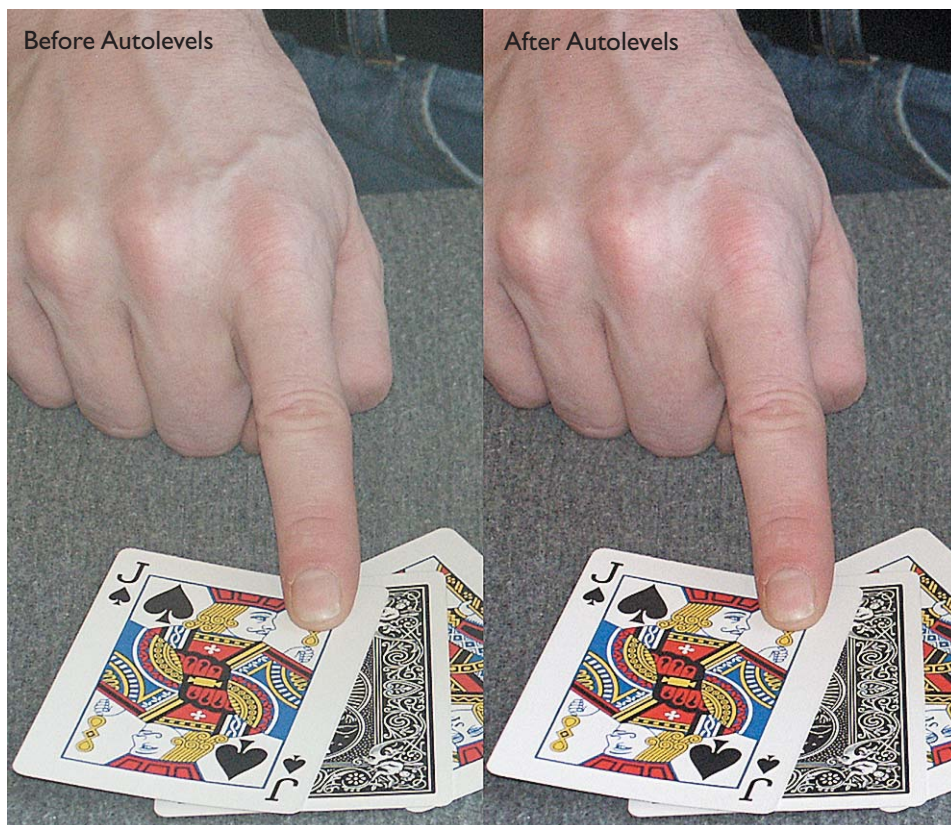
Step by step

Let's walk through the creation of an illustration. The assumption is that you have Photoshop. If you use the freeware GIMP, or any other image software, things might be named differently, so you have to translate yourself.



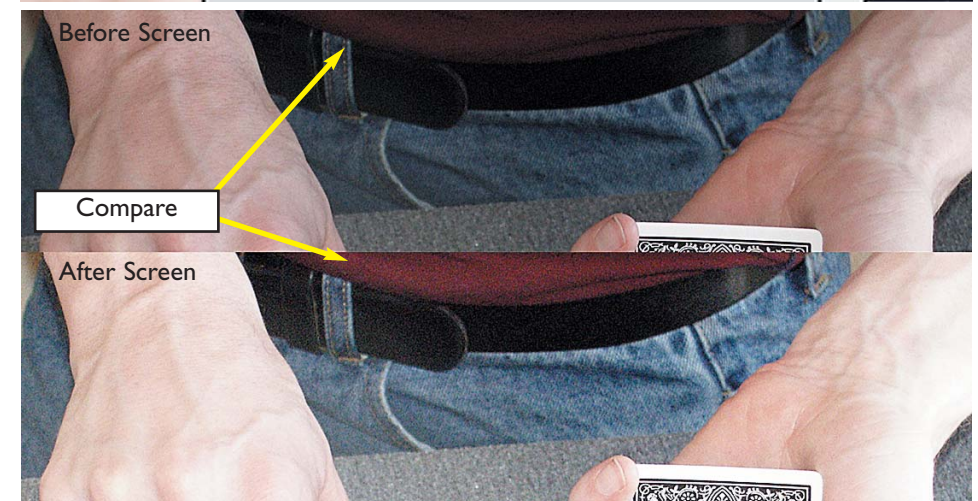
Open the picture in PhotoShop. Crop it to get rid of everything but the necessary details. Select **Image Size** in the Image menu. In the "Print Size" box, put Width and Height to 100%, then enter 300 pixels/inch in the resolution field. Hit OK





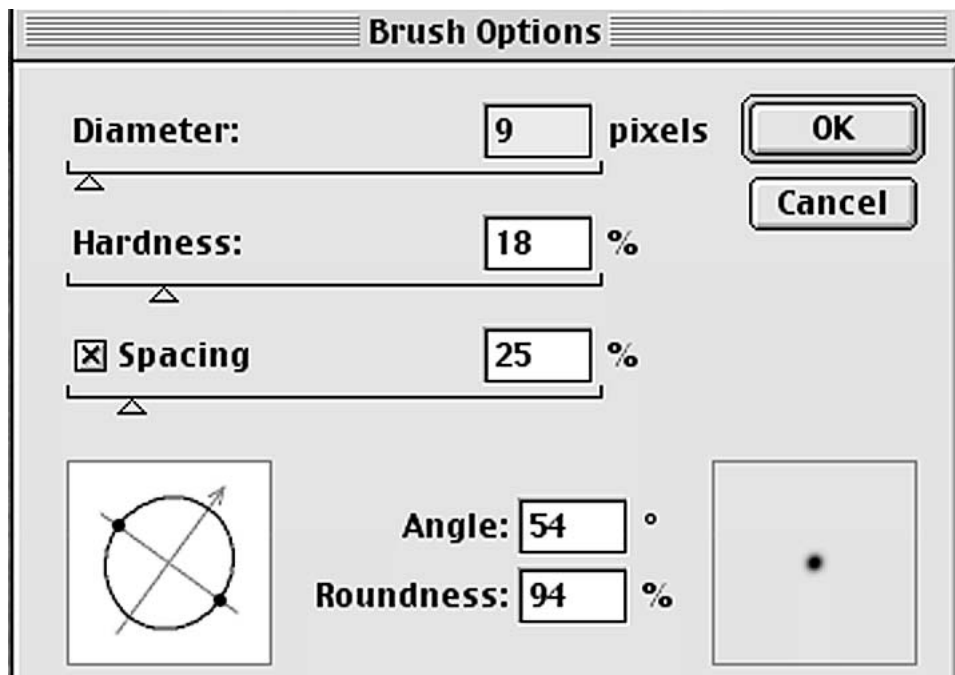
Select Adjust->**Levels** in the Image menu, and click "Auto". This usually makes the picture a bit sharper and nicer in many ways.

If the photo is very dark, and you have trouble seeing the details in the dark areas, you can use this trick: Make a copy of the background layer, and set the blending mode of the copy to "Screen". That way the dark details will come out. Then save the image as a Photoshop file (or any other format that will not merge the layers).



Now, make a new empty layer. If you have limited screen space, make frequent use of the Tab key, as that toggles the visibility of all the clutter surrounding the main window.

Choose "Actual Pixels" in the View menu (or use the magnifying tool to view the image at 100%).



First choose a brush size you like.

You can use a little math if you have questions like:

- "My favourite real pen is so-and-so thick. How many pixels might that be?" or

- "Hmm, I like this 12 pixel brush, I wonder how wide that will be on the printed page?"

For inches:

$\text{Pensize_in_inches} * \text{Resolution} = \text{Width_in_Pixels}$

$\text{BrushSize_in_pixels} / \text{Resolution} = \text{BrushSize_in_Inches}$

For millimeters:

$(\text{Pensize_in_mm} / 25.4) * \text{Resolution} = \text{width in Pixels}$

$(\text{BrushSize_in_pixels} / \text{Resolution}) * 25.4 = \text{BrushSize_in_millimeters}$

For illustrations in the resolution of 300 dpi, I use brushes in the size of 4, 6, 9 & 12 Pixels

For regular objects like cards coins etc. you'd want nice lines, for which we'll use Paths.

Choose the pen tool, and start to put points around the object. A simple click will make sharp corners, but if you drag the pen, you'll get smooth soft curves in the path.



When done outlining the object, select "Stroke Subpath" in the Paths window (usually next to Layers & Channels window). Choose "Paintbrush" in the popup menu, and click okay. If it looks good, delete the path leaving just the line, otherwise Undo it and adjust what looks wrong.

Repeat until you've outlined all the objects. Create new layers if there's a risk that you'll mess up previous outlines- you can merge those layers later.

Now, make a new layer, and trace the contours of the hands, using the Wacom board. I use a 12 pixel brush for outlines.

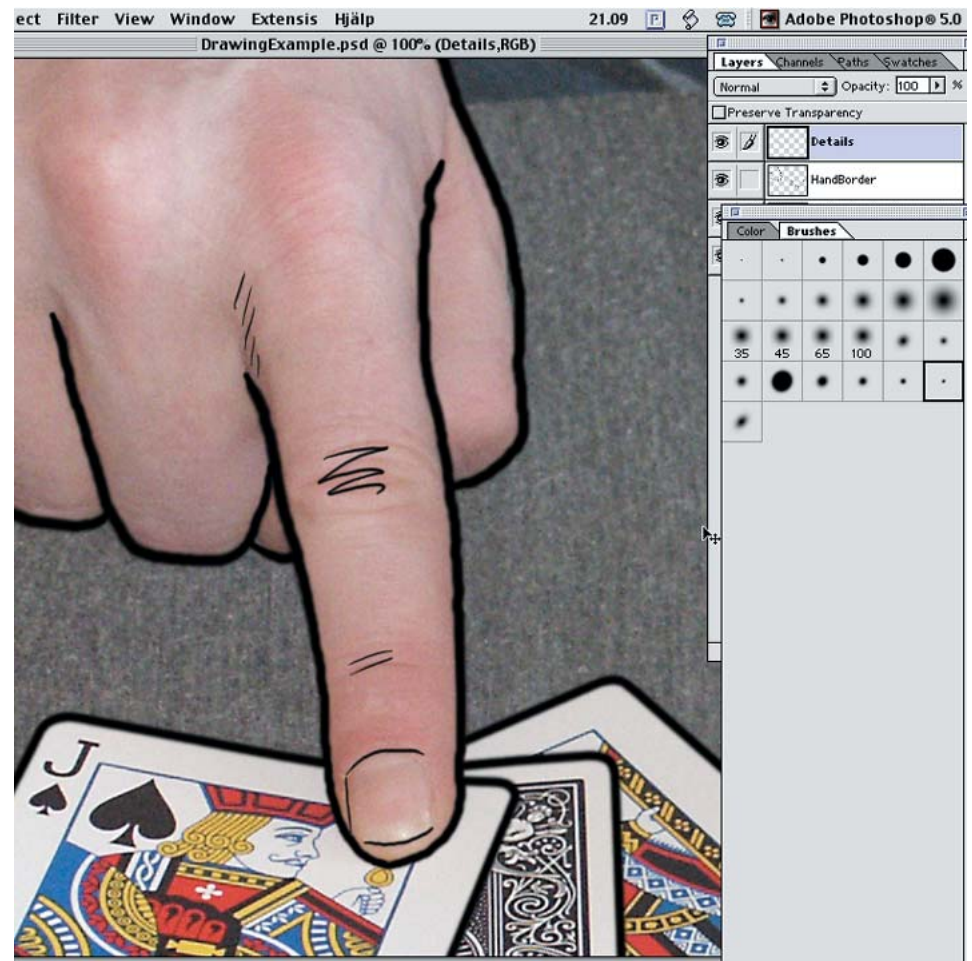


There's not many tricks I can tell you about this part. The pressure sensitive pen for the Wacom board is easy and simple to work with, and if you press hard, you get a thicker line, and a light pressure gives a thinner line. So, just trace the outlines of the hands.

Often, when tracing a part of the image where the line has to be broken up, it can be easier to do a continuous line, and then erase the undesired parts. Provided that you work in a new layer, so other lines doesn't get messed up.

You'll see that it is quite simple, even with limited drawing skills.

Save often.

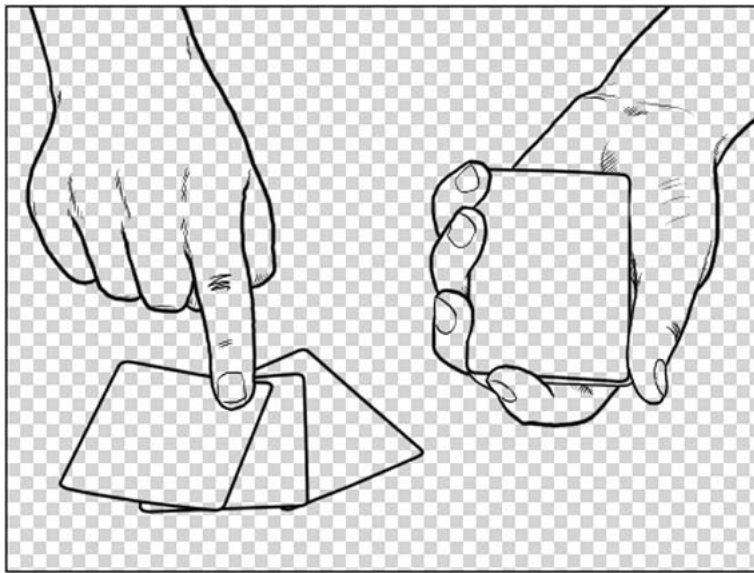


Then, in yet a new layer, I use a thin brush (4 pixels) for drawing nails, creases and shadows.

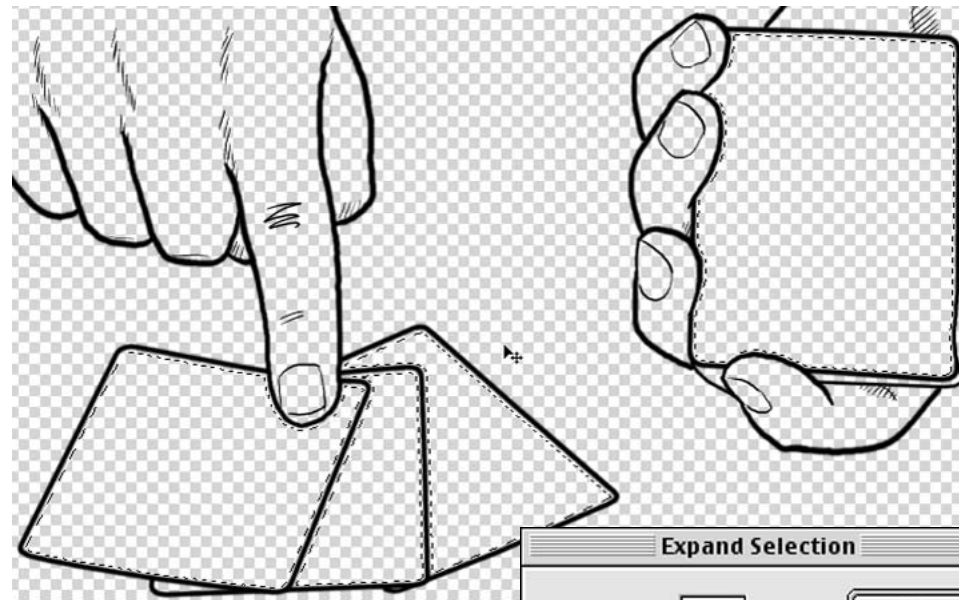
This might require a bit more drawing skills, as you have to decide which details you want to trace, and the style you'd like. Especially shadowing might be tricky, as you are tempted to do too much, or too little.

I usually close my eyes halfway, to get a more "fuzzy" view of the image - and the shadows that are visible then, I fill in with a bunch of thin diagonal lines.

When drawing details of a face, I draw the upper lip only, and then a shadow under the lower lip. A shadow under the nose. For the eyes, I draw the eyebrows, the top eyelid, and the iris - then I draw a shadow over it all. Sometimes I also do a little shadowing at the cheekbones.



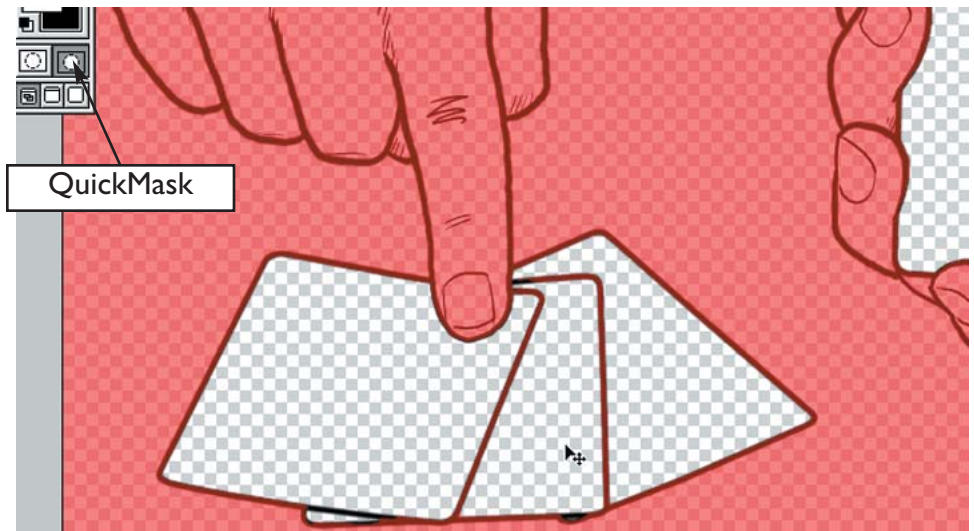
Now and then, turn off the visibility of the background layer, and check so everything looks right. When done, just replace the background with white, and flatten the image. Unless you want to "borrow" details from the photo to the drawing. Because that is quite simple.



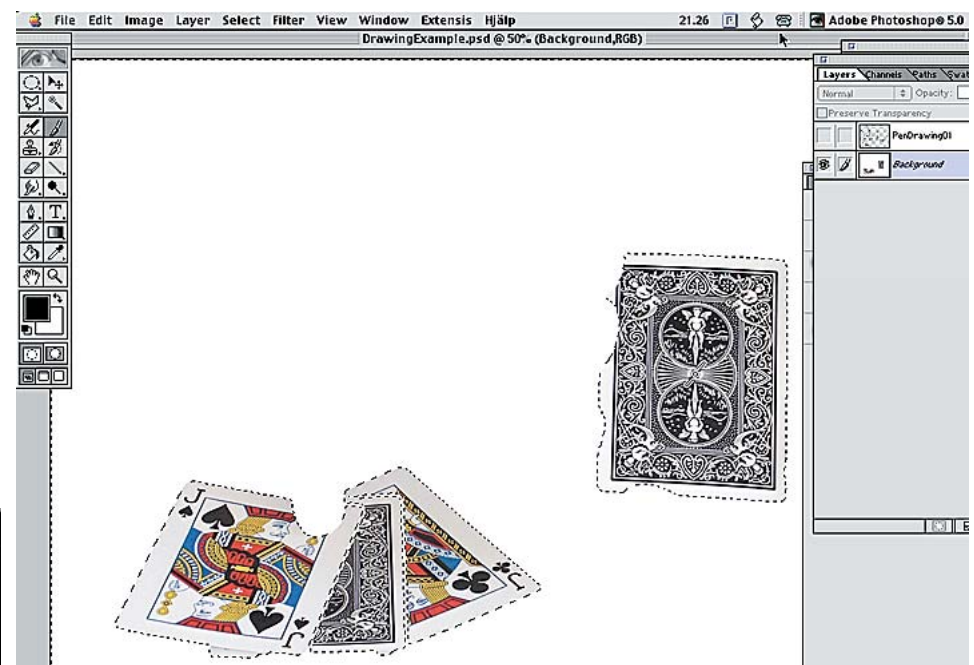
Turn off visibility of the background layer. Then merge all the remaining visible layers.

Use the Magic Wand to select areas in the line drawing, in which you want to borrow - for example card designs.

Select Modify->Expand in the Select menu, to expand the selection slightly.

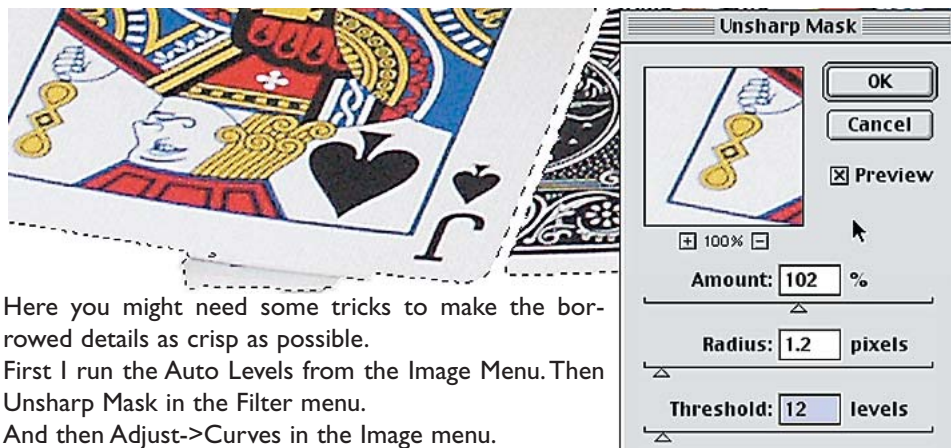


Then check the selection via QuickMask. Here, you can modify the selection if needed, by painting with a brush.

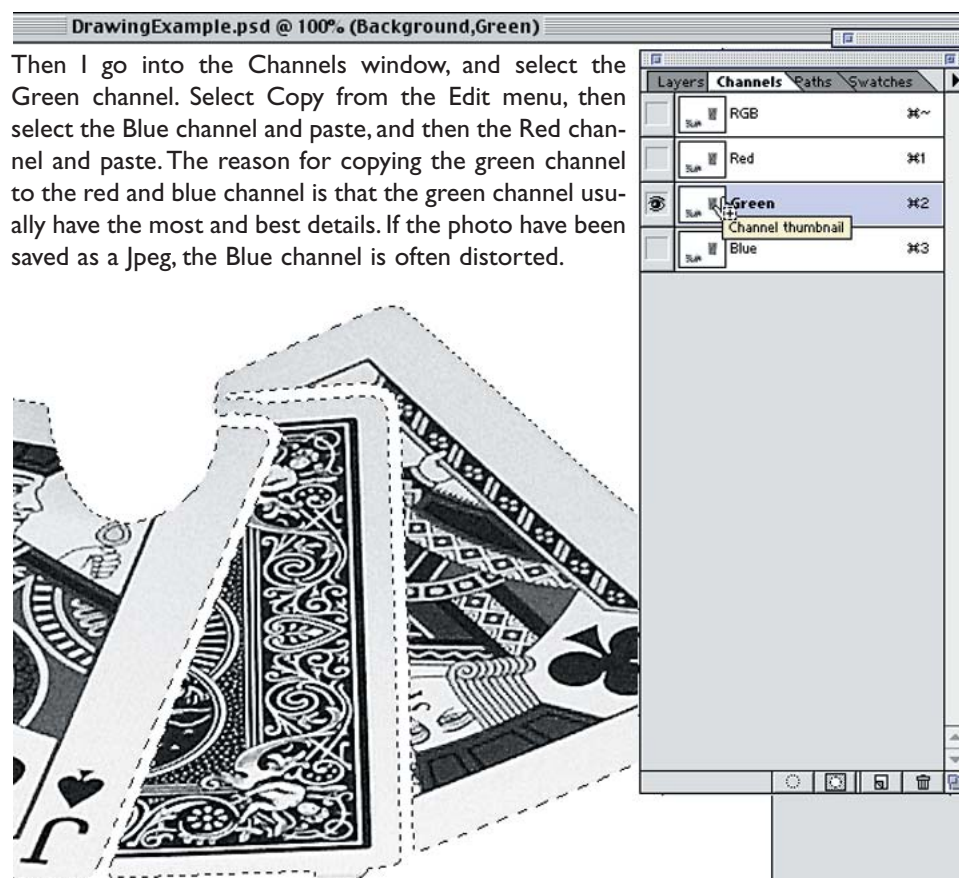


If the selection looks okay, then choose Inverse in the Select menu. Choose the background layer and fill the selection with white.

Inverse the selection again.



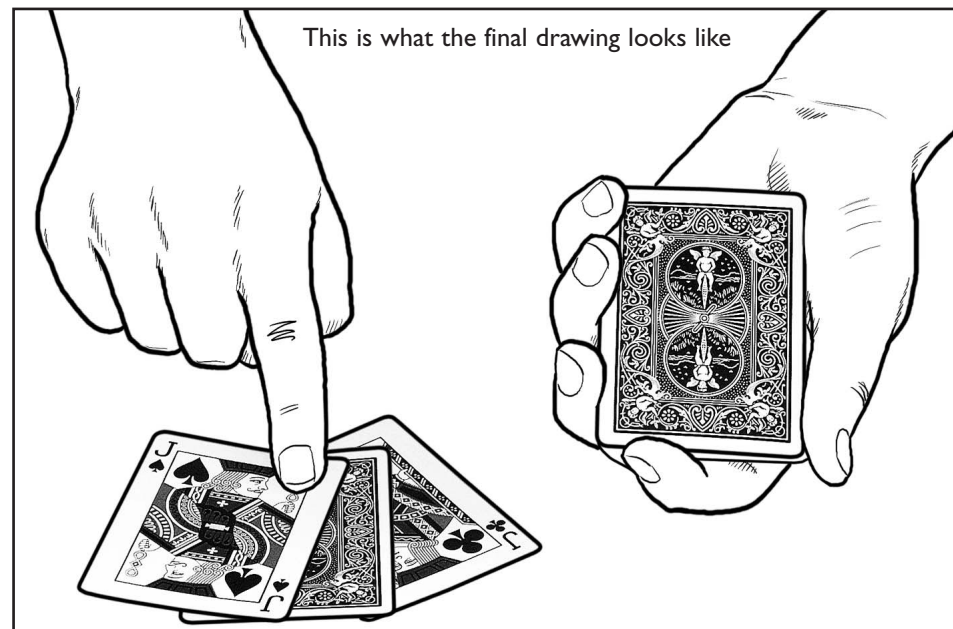
Here you might need some tricks to make the borrowed details as crisp as possible. First I run the Auto Levels from the Image Menu. Then Unsharp Mask in the Filter menu. And then Adjust->Curves in the Image menu.



Then I go into the Channels window, and select the Green channel. Select Copy from the Edit menu, then select the Blue channel and paste, and then the Red channel and paste. The reason for copying the green channel to the red and blue channel is that the green channel usually have the most and best details. If the photo have been saved as a Jpeg, the Blue channel is often distorted.



When satisfied, I go back to the Layers menu again and flatten the image. In the Image menu, select Mode->Grayscale, and save everything in the file format Tiff. (File menu->Save as->Tiff). Repeat with all the images.



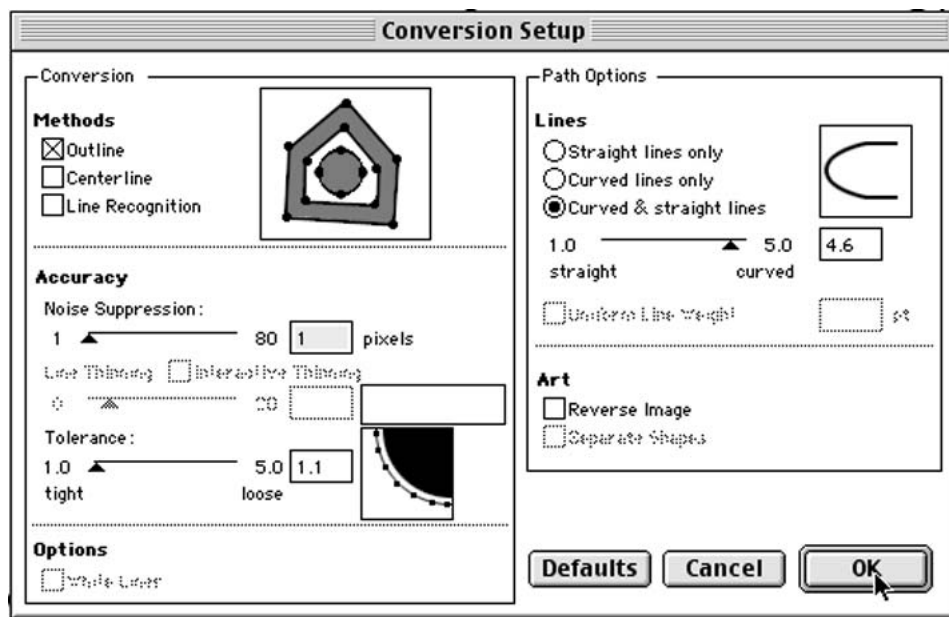
Vector Graphics

Now, you can use these drawings as they are. However, I prefer to make Vector graphics out of them, as that decreases the file size, and makes it easier to manipulate the image in a layout program. And they become independent of the resolution.

Look at the two images to the right. They both look more or less the same on the screen. Now, use the magnifying tool and zoom in on them as much as possible. Do you see the difference? The bottom one is converted to be described with mathematical curves instead of a gridwork of pixels, which gives much cleaner lines when printed.

To convert the grayscale Tiff to vector graphics, I use a piece of software called Adobe Streamline. Even an old version would work with line drawings like this, so it's possible to get an used copy at a low price, if you search for it.





Open the images in Streamline. My settings are usually:

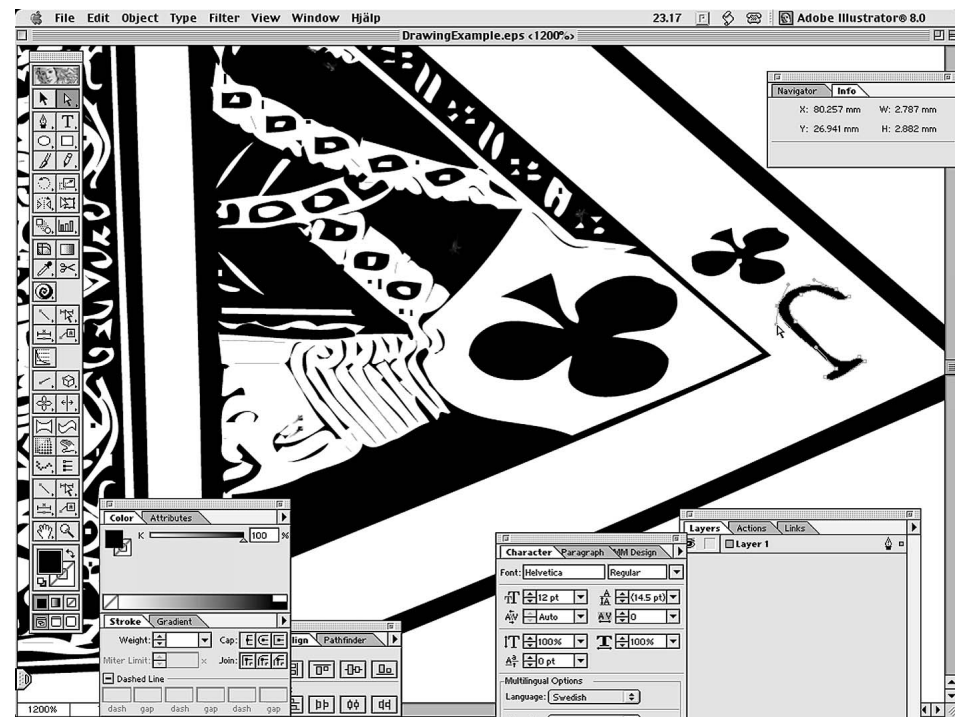
Color/B&W Setup:

Posterization: Black & White only
Edge Smoothing: None
Threshold: 50 %

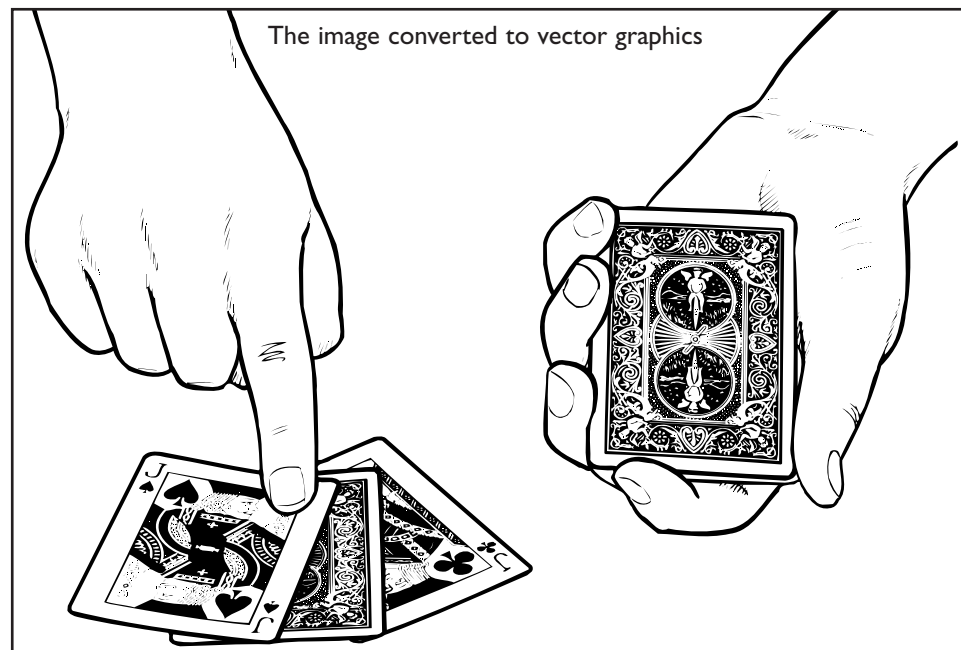
Conversion Setup:

Noise Suppression: 1 Pixel
Tolerance: 1.1
Curved & Straight Lines: 4.6

Then choose **Convert** in the file menu and save as **Illustrator EPS**.



Usually, but this isn't necessary, I open the converted file in **Adobe Illustrator** (which is a special drawing program for vector graphics) to make some small adjustments, or add a graphical detail or something.

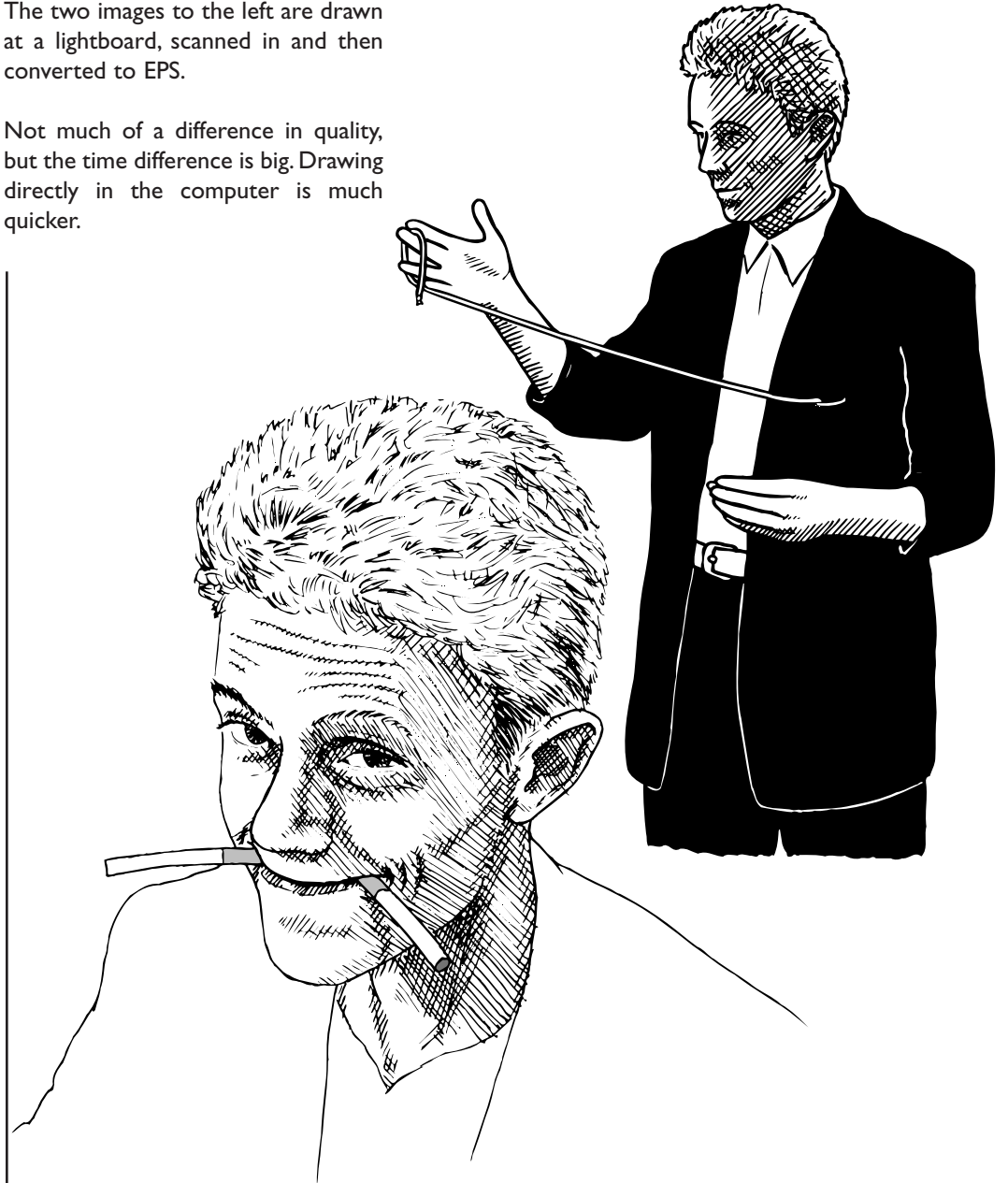
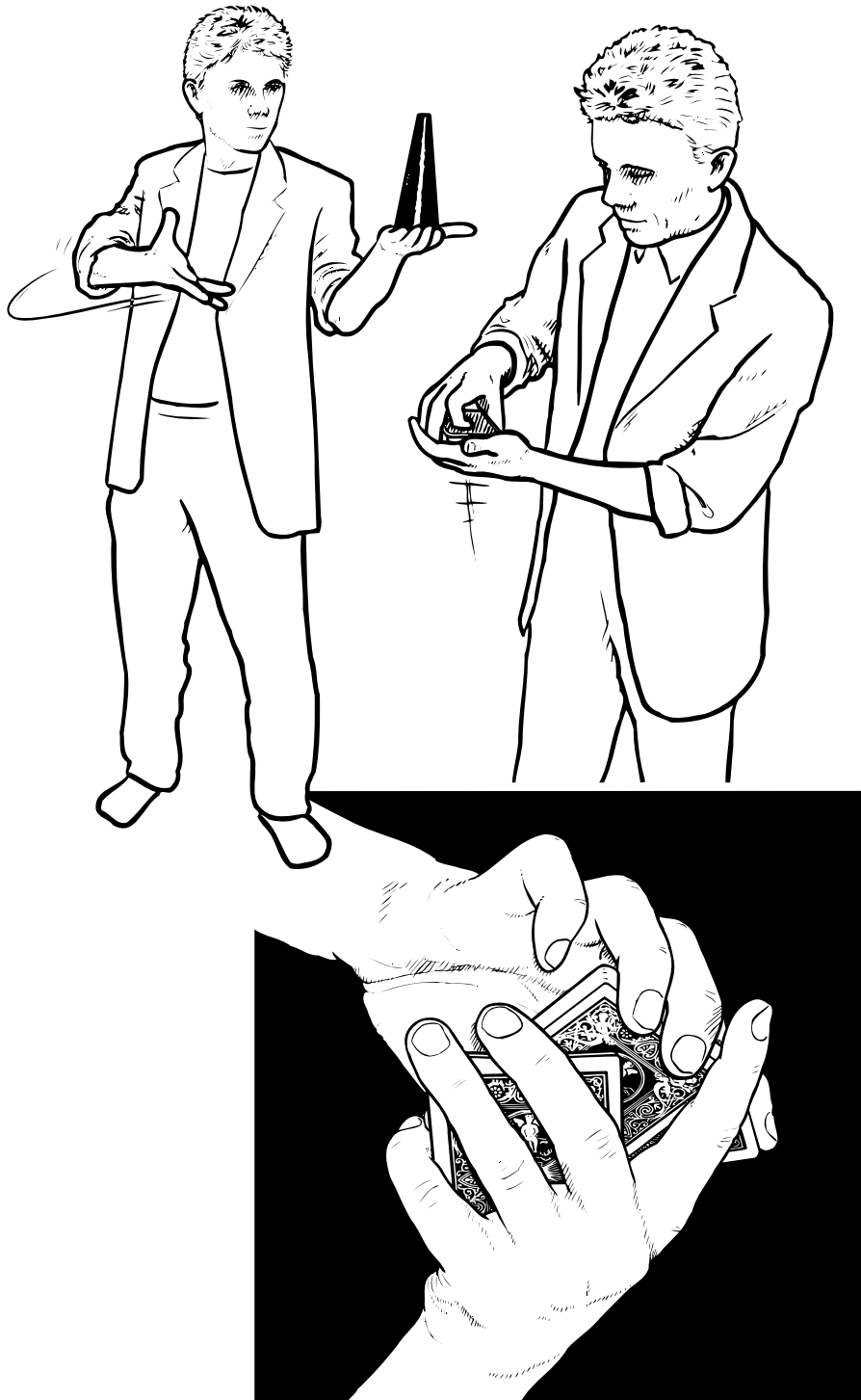


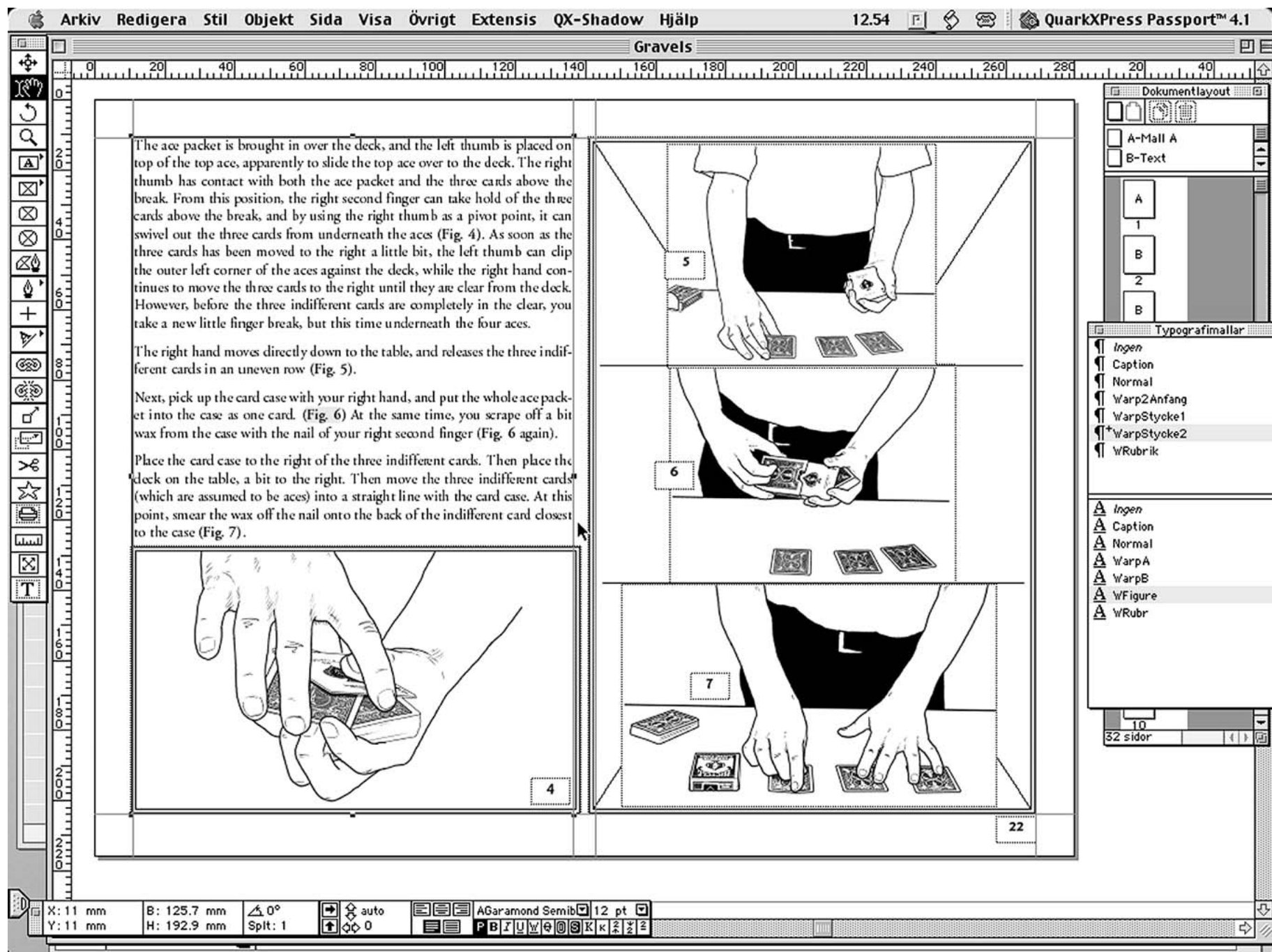
Exampels of Vector Graphics

The three images to the left are drawn with a Wacom Drawing Pad, and then converted to EPS Vector Graphics (EPS = EncapsulatedPostscript. This is the most common format for vectors).

The two images to the left are drawn at a lightboard, scanned in and then converted to EPS.

Not much of a difference in quality, but the time difference is big. Drawing directly in the computer is much quicker.





Layout & Typography.

After all the text has been written, and all the illustrations are done, it's time to put it all together. I've already shown how that can be done on a low budget, but if you want to get a nice result, you can do the layout on the computer too.

Many word processors have some limited layout functions, which might be enough to satisfy your demands. Read the documentation, as there often are some advice on these things, that might not be obvious at first. But if you want total control over everything, you need a more dedicated layout program, like **Quark Xpress** or **Adobe InDesign** etc.

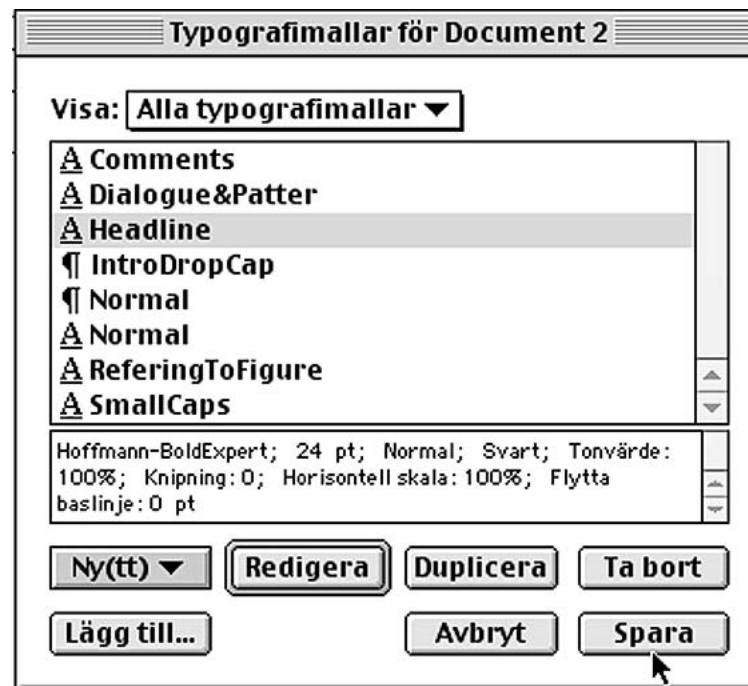
Layout software are pretty expensive, but old versions can often be found at a reduced price when a new version appears, so keep your eyes open. Now and then, you can find a free version on CD's that comes with computer magazines. Or demo versions that work for 30 days. Of course, there's always the possibility to get pirated software, but with software this advanced, you really need the printed documentation to be able to make the most out of it.

I use an old version of Quark Xpress, that I got as a gift from a graphic designer who had switched over to InDesign. Visit some local graphic designers, explain your situation and make a small performance - and who knows, in return they might give you all kind of old softwares that they don't use anymore.

If aiming for an e-book that will look good both on screen and in print, I usually choose the size "US Letter", in landscape orientation. And in two columns, because too long lines of text are difficult to read. Just like in this e-book.

To make the layout easy, make use of templates for as many things as possible; for page details that are used on more than one page. For typography etc.

When it comes to typography, I recommend that you visit a library and read a few books about typography and graphical design. It doesn't matter if it is old books. Or study the daily newspaper, because their focus is to communi-



Template for typography. Name the different styles with sensible names.

cate and they've have typography down to a science, as the stories need to be readable even though they are printed on low grade paper.

For example, it's easy to go nuts and use too many fonts. But that will most likely defeat the purpose of communicating, since it will make a cluttered appearance. I tend to use three fonts for each project.

- One interesting looking font for the headlines and the cover.
- A sans-serif font for page numbers, numbering illustrations, and comments outside the main body of the text.
- An easily read font for the main body of the text. Actually, I use a whole font family, which have different versions of the font, like a bold version, and italic version etc. Even though the layout software usually have the ability to convert any font to bold, italic etc, it never look as good as when using a specially designed version.

Additionally, I might use a dingbat font as well (*a font consisting of small symbols and decor elements*).

A lot of fonts can be found on internet. I only use Type 1 fonts.

How do you know if the font is easy to read?

Well, there's some hints. Take a look at the letters **a**, **e** and **s** in the font. If these letters are "open", the font is probably well suited for the main body of the text. But in a font like Helvetica, the e is almost a circle with a horisontal line through it. The s looks almost like the number 8.

Also, if the main purpose of the publication is to be printed out on paper, use a serif font for the main body of the text, as such fonts are much easier to read in running text.

So an example can look like this:

THE HEADLINE

TO START OFF EACH piece, I usually like to start with a Drop Cap, a big letter in the beginning, and then guide the reader into the text through the use of putting the first three-four words in Small Caps, which is a specially designed version of the font. This isn't necessary, but I think it looks really nice.

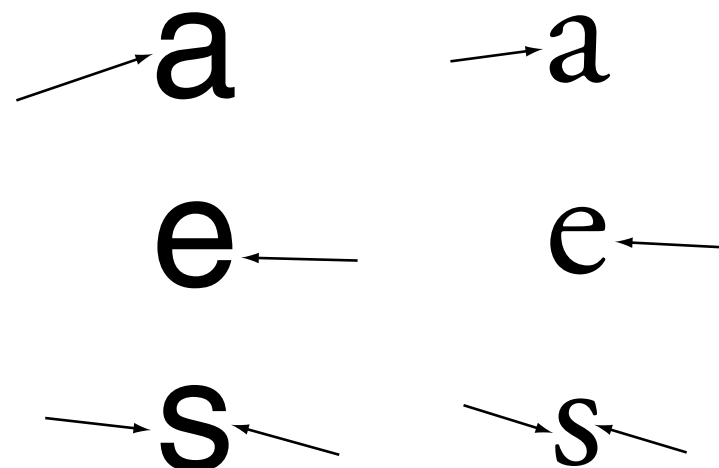
More examples

The sub-headline in the previous line is a bold version of the same font, in a slightly larger size than the main text. Its purpose is to make the text easier to navigate, and to get a little "air" into the text, so it doesn't become a gray mass. For comments in the text, I use an italic version (*just like in this little comment*).

- "*Ladies and Gentlemen, for dialogue and patter, I use a bold italic version of the same font.*"

And when referring to illustrations, I use a bold version from the same font family (**see Fig 1**). There's no illustration though, just the reference to one.

By now I think that I've illustrated the different purposes of the fonts. But to make it clear that the text has come to an end, I like to end everything by putting a dingbat after the final word. ♣



Helvetica

Garamond

Above: Notice how the curves in the Helvetica font almost closes up. Compare with the Garamond font where the curves are more open. The latter makes the text easier to read.

aes
MEKANIC
Futura

aes
MEKANIC
Janson Text

On the left: Sans Serif means that the letters are equally thick all over, and are without flanges at the end of the staples in each letter. This looks good in short words or large words. But they are difficult to read in longer texts or smaller sizes.

Use Serif fonts because serifs increases the readability. Also, it has a more "personal" feeling, and feels less mechanic.

To the right: Here are a comparison between Serif and Sans Serif.

Are you going to see the Wizard of Oz?
No, I need to to see a man about a horse.
Garamond (Serif)

Are you going to see the Wizard of Oz?
No, I need to to see a man about a horse.
Helvetica (Sans Serif)

Printing and ebooks

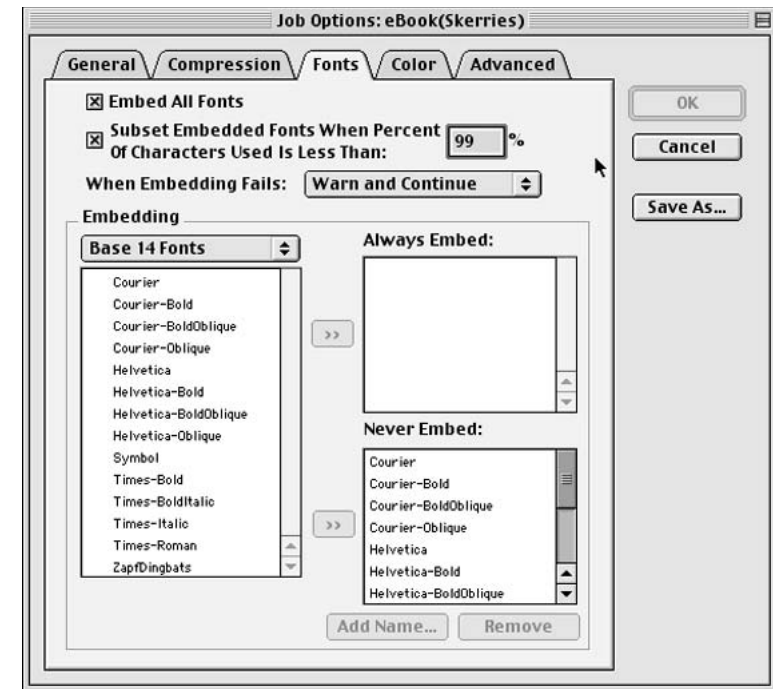
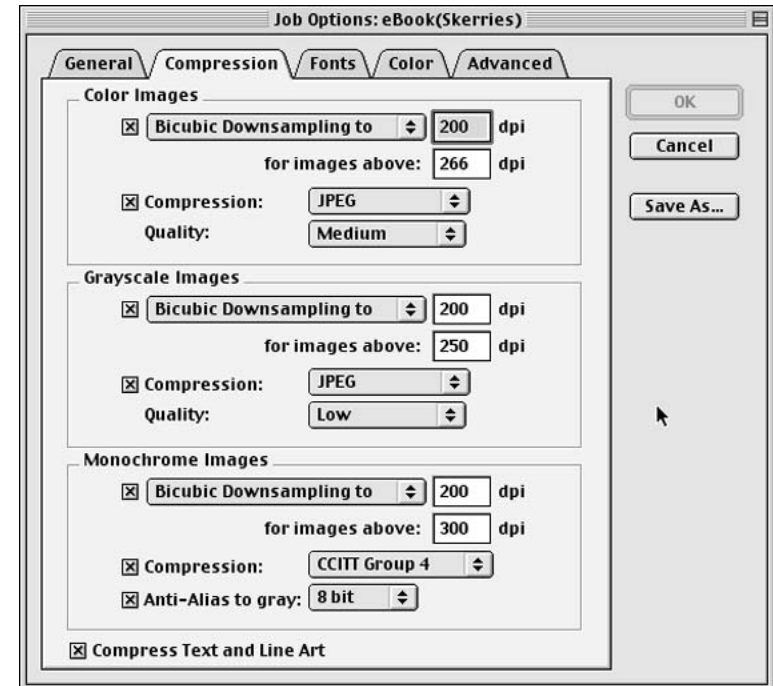
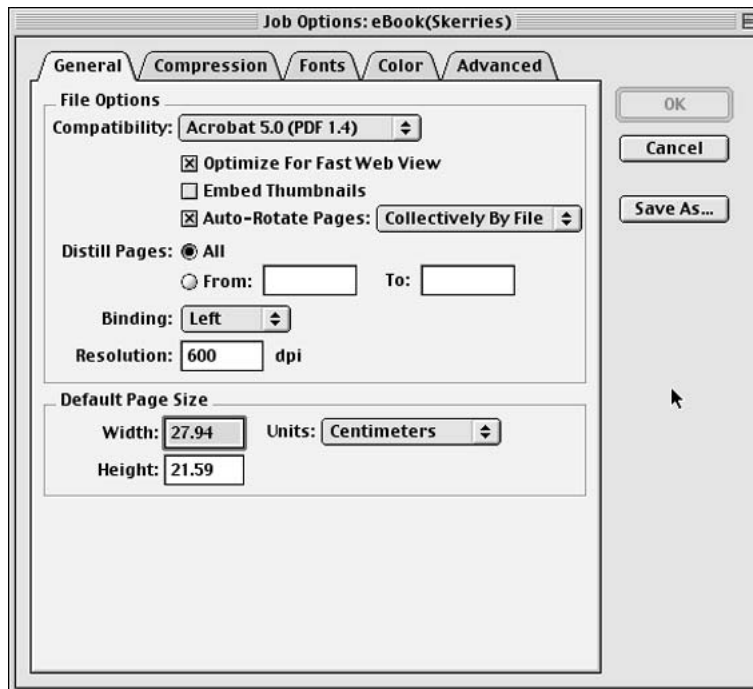
When it comes to printing, I refer you to the printed documentation of your layout software. Make sure that any links to images has not been broken. If leaving it to a professional printer, call them and ask for advice.

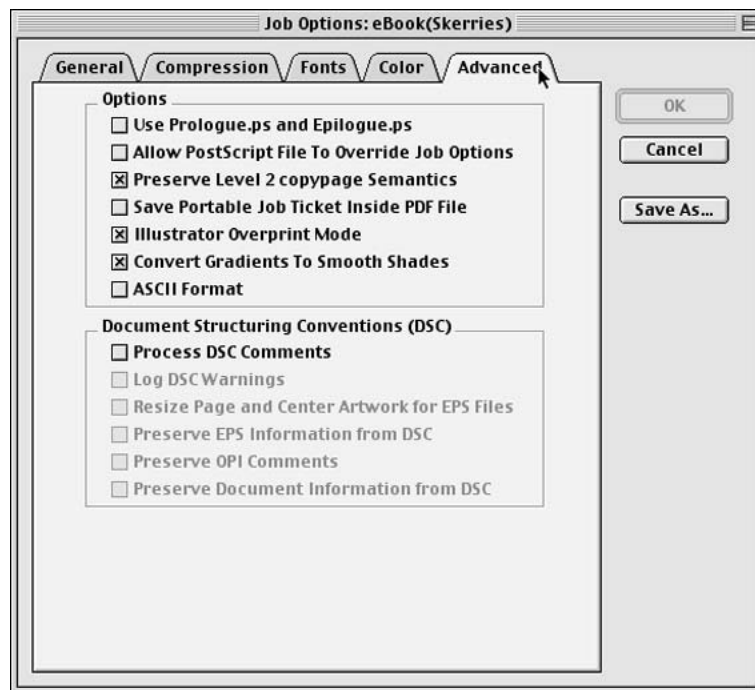
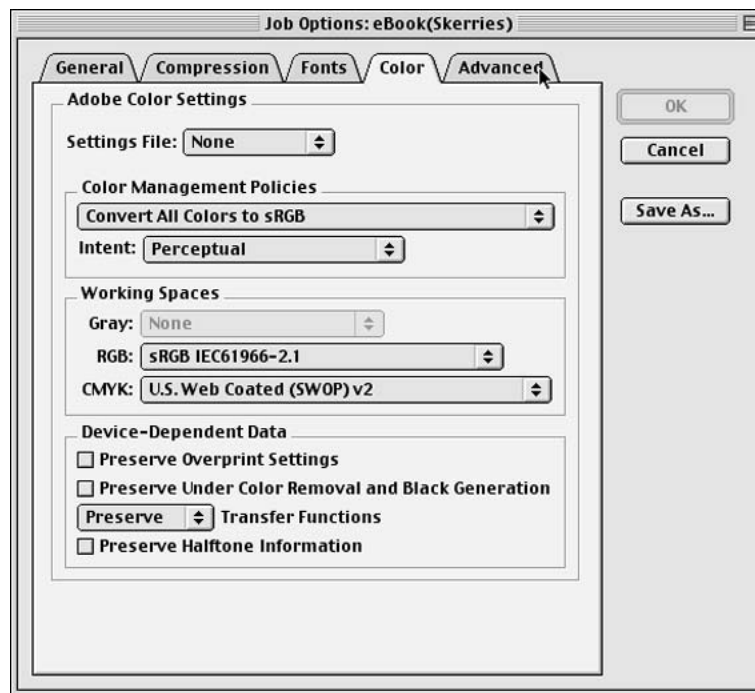
Adobe Acrobat

A good format that many printers prefer is the PDF format, which allows you to get all the illustrations and all the fonts into a single file.

The same format is useful for ebooks too. To create that, you need Adobe Acrobat. The full version. Version 5.0 is good enough. (a free reader can be downloaded from Adobe's website). The Help menu in Acrobat is the best I've ever seen - with tutorials, well written examples etc. Read it all.

To create PDF's, you choose Acrobat Distiller as the printer description in the Printing dialogue box. There are usually several other settings that can be done. Make sure that Tiffs in full resolution is included, and all the fonts. There are a lot of "job options" that can be set in Acrobat Distiller too. Mine are usually like this:





However, these settings are a bit over my head, and I've done a lot of guessing, but it seems to work alright.

There's some other settings to be done in the layout software's printing dialogue, regarding paper size etc. Any sentence you don't understand, feed it into Google on the internet, and you'll find everything you need.

Sorry that I'm not as detailed here, but I'm mostly guessing myself when doing the PDF's, so I can't tell you more than this.

My hardware and software

So, what have I used to create this ebook?

The hardware is an old Macintosh G3, (*system 9.2.2*) with a Wacom Intuos Graphics Tablet (*pre-USB*). The computer was used when I bought it, and the price was around \$400. The Wacom board was an outgoing model, and I got it for \$150.

I also have a very old Agfa SnapScan scanner, which was quite cheap.

And a Minolta DiMage 7 digital camera, which was priced around \$1800 when I got it - but today there are much cheaper cameras, just as good.

The software I've used are (*for illustration and layout*):

Adobe Photoshop v. 5.

Adobe Streamline v. 4

Adobe Illustrator v. 8

Quark Xpress v. 4.1

Adobe Acrobat v. 5

(*for writing text*):

Z-write

Style

(*the fonts*):

Adobe Garamond (*The expert set*)

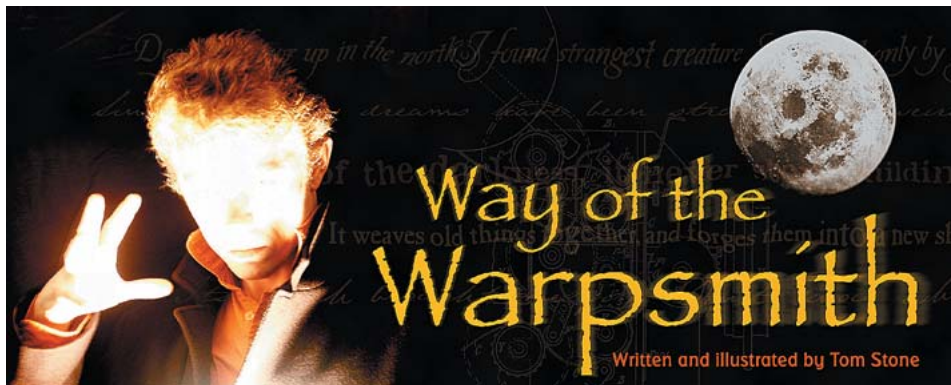
Gill Sans

Hoffman

(*Often used, but not in this project*):

POV-ray (*A freeware 3D software from www.povray.org*)

Dabbler (*A natural media software that was included with the Wacom board*)



Overexposed digital photo in the hallway, and a clipart moon. Assembled in Photoshop



2 digital photos in front of a black bedsheet in the hallway. Assembled in Photoshop

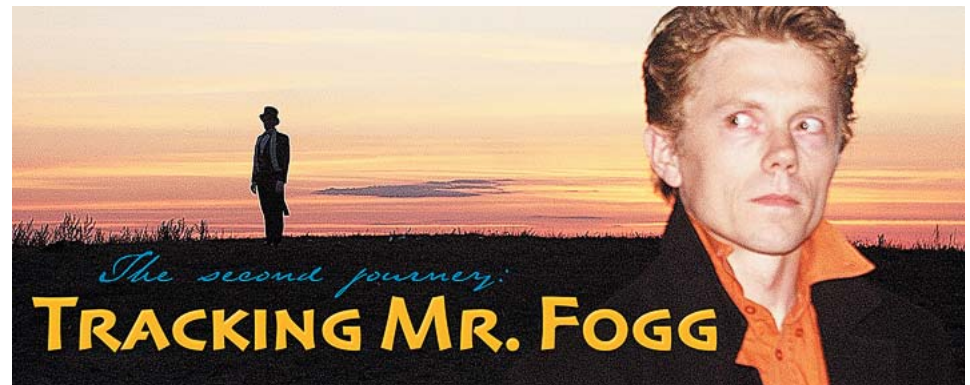
Final Thoughts

Of course, you need a cover for the book. If doing an e-book, then try to avoid colored covers that fill the whole page - because it's a pity if the reader runs out of ink while printing out the first page. No other advice, than to try to make the cover reflect either the contents or the title. The four examples above might give you a hint of the style of cover I prefer.

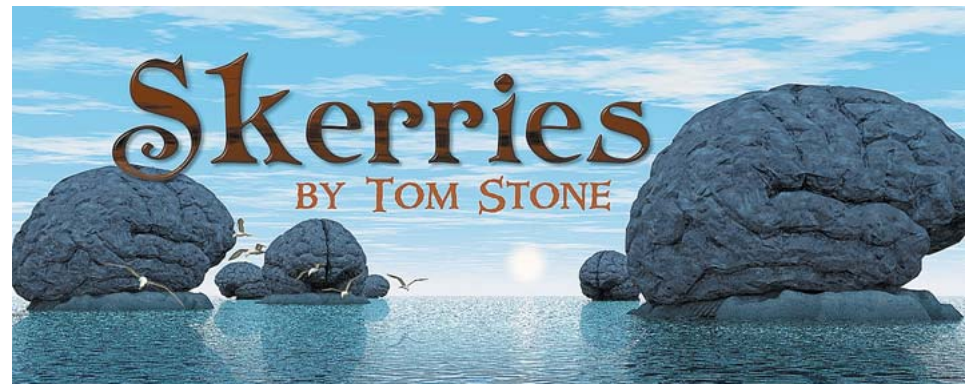
If using color images in your book, convert them all to CMYK, just to be on the safe side. Read the documentation of your software.

Save frequently. Let me repeat; save frequently.

There's no need to get the latest or most advanced software just for a small project like this. Make use of friends, borrow equipment, and exchange favours for performances. A book can be done almost for free. ♣



2 digital photos taken on the hill behind my house. Assembled in Photoshop



3D image created from scratch in POV-ray

Shareware

If you have found any of the information here useful, the price is \$5.

For private and personal use only.

(For use in education, in business or commercially, contact me first)

Either send a bill in an opaque envelope to:

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Domarebacken 42
145 57 Norsborg
SWEDEN

or send it through www.paypal.com to my email:
tom.stone@swipnet.se

Also, feel free to take a look at my previous works at:
www.warpsmith.tk

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