

The Simpleton Author's Guide to “Self-Book Publishing and Printing”

OR

**How “*Senior Victor Celorio-Gutenberg*” is
*Changing the World of Publishing***

OR

**Might Authors Demand ... Cost Effective Printing
of Self Published --
“On-Demand Books”?**

By Douglas F Haack

Douglas Haack attended the Gutenberg Festival on behalf of IDG Books Worldwide Inc, where he is a Marketing Materials Specialist -- *a specifier and buyer of Marketing, Point of Purchase and Point of Sale materials.*

This report is to alert IDG Books Worldwide Inc. of the real-time changes taking place within our midst. Allowing decision makers be better armed -- in formulating future business policies -- to gain any and every advantage necessary to remain a respected leader in the industry – and a dynamic and profitable publisher.

***The Gutenberg Festival -- venue, Long Beach Convention Center, in LA.,
April 2000.***

Spent most of my first day, Friday, roaming the floor noting software and hardware exhibits, most specifically designed for printers with little application for the publishing industry. At about 2.30 I had covered most of the exhibits -- was at the far end of the hall where the smaller and less costly exhibitor booths were located. Digital printing featured really strong. Lots of suppliers to the industry, papers, envelopes, inks, rollers, finishing, folding, printing machines of small and larger sheet sizes. A well attended industry exhibition.

Almost walked by the Insta Book booth. I had already passed and happened to still be looking back, when I stopped and returned to investigate. Here was a display banner showing the Insta Book logo and corporate message. What can be the significance of a booth that proclaims an "instant book" as its exhibition show claim? We don't get excited about the term "Instant Printing" anymore! -- now do we?

I didn't expect to find any break-thru exhibits -- at least non that might change the course of printing and publishing history -- unexpectedly I did! This small out of the way booth has the potential to change the course of publishing. Let me be bolder. ***It will help change the course of publishing as we know it.*** 99 percent of all attendees ignored this booth! No real announcements have been made in the trade press.

I saw the following: a laser writer under computer control, printing Letter sized sheets, two sided -- each sheet imprinted with 4 pages. Nothing very extraordinary about that, you'd think!

Digital technology has changed the world for ever. The music industry is in turmoil due to the MP-3 standard -- for downloading digital music files across the internet. The website Napster.com -- having made the easy "exchange" of pop music between cyber friends -- will soon be locked in a historical court battle with the music industry.

The author Stephen King is publishing his second novel on the Web. He will sell each chapter down-load for a dollar. Not an inexpensive formula!

First things first! some history. Historically, the Sumerians were first to use the intaglio printing method with clay signature rollers, for the embellishment of pottery, as the first printing method, some 5000 years ago. This intaglio or engraved method, where the image is below the surface, one simply inks into the recesses of the stylus inscribed lettering in a clay cylinder. Excess ink is wiped with a blade like artifact, leaving ink in the recessed lettering. Rolled onto parchment like paper -- the parchment sucks ink from below the surface. And you have a repeatable image. There are other instances in the Eastern tradition, where a religious text image was chiselled into a stone wall of a temple and the worshippers could take a rubbing, (as children will do with coins) -- another method of duplicating an image, most accurately and very slow.

The Chinese, some three thousand years later developed, silk screen printing and wood block printing. Europe had to wait for Marco Polo to return before these printing methods were introduced -- used by the clergy, royalty and the merchant classes.

There's some controversy between the Dutch and the Germans, as to who was first to next introduce the most significant printing breakthrough in the 15th century. Was it the Dutchman DeCosta or the German Johannes Gutenberg.

For the purposes of this exercise I'm going to pick Johannes Gutenberg of Mainz. I'm biased due to my German heritage. Gutenberg, a goldsmith, became Europe's premier printer publisher, and thus altered the course of history for mankind. He was recently nominated as the "man of the millennium" by Time Magazine, and rightly so! His method of printing is known as letterpress. Where the page to be printed was first inked and the paper laid onto the type page, pressure applied and the resulting impression -- your book page. The Gutenberg printing museum in Mainz should be on any industry European traveller's itinerary. It's time this writer visited again!

Gutenberg's real genius -- he took the existing crude processes used by early printers and refined them to a repeatable precision, unheard of in his day. His most significant contribution was the design of a letter type casting device, allowing a printer to make each individual piece of lead type exactly the same height or length. This mould contained a hand engraved die letter type, the matrix. Molten lead was poured into a small cavity opening, into the otherwise tightly closed two part shell. Where upon cooling, the mould was snapped open and a uniformly formed letter was produced.

Each successive casting was precisely the same. This uniformity in height and width of each type letter in a hand set or composed page for printing is absolutely essential. Type letters that are lower will not print and type that is higher will puncture the paper, damaging the page and squashing the offending metal type letter. No doubt, Gutenberg's experience in metallurgy as a Gold and Silversmith, using the precision work methods of the jewelry trade, led to his achieving this revolution. The actual printing press, modified from the wine presses of the day, was also greatly improved by Gutenberg.

For the first time in modern man's history, books, the receptacles of knowledge, could be duplicated or printed in their thousands, thus began the dissemination of knowledge throughout the world and eventually down to the common people. Hand copying of books was, prior to Gutenberg's time, the usual method of duplicating the written word.

Any entrepreneurial author prior to this time, had to hire lots of help or painstakingly do the copying him or herself. Any poor, up and coming fiction author had no chance -- unless you consider the work of the monks of the established Catholic and Protestant orders, who monopolised the copying business, great fact or fiction publishers.

It took more than 500 years before the next great book printing breakthrough. The ingenious Mergenthaler Linotype, that mechanised the setting of metal type in about 1880. By this time printing presses had been powered, first by steam and then by electrical power.

Our potted history lesson continues -- what was the next great advancement in the graphic arts of printing and publishing?

After Mergenthaler's Linotype arrived on the scene in the 1880's to revolutionise the machine setting of type -- a solid lead metal line of letters, that comprised one line in a book. Any correction or editing entailed resetting the whole line or all subsequent lines of the paragraph. This machine made "penny dreadfuls" and newspapers more affordable to the masses.

Various other machines were developed over the next 30 years. There was the Intertype, the Ludlow display type line casting machine and some copies or variations. Another break thru came out of England early in the 20th Century with the Monotype typesetting method. The Monotype comprised a two stage process. A keyboard was used to code or punch a 4 inch paper tape with all the typesetting characters and spacing. The paper tape was then fed into an extremely precise but noisy metal casting machine, where a complete page of type was cast from a master matrix -- a complete assembly of all the letters and characters in a modern alphabet -- in a mould, from molten type metal, into individual letters, words and lines -- forming a full page of type -- the written page.

This allowed any subsequent editing, changes or corrections to be made relatively easily. A hand compositor could simply pull out the offending character/s or letter with tweezers and insert a correct one. The skill here was to finely adjust the word and line spacing, ensuring that each line was exactly and I mean exactly, the same length. Thus allowing multiple pages to be clamped together or imposed as a folding section in multiples of 4's, 8's 16's etc. The precise spacing-out of corrected lines ensured a tightly locked multi paged forme could be transported to the printing press, after being lifted physically off the imposition table or stone -- individual letters would not simply drop out -- leading to a collapse of the whole page, even of the whole forme.

By the 1960's, the major typesetting machinery manufacturers were looking to develop an improved and more efficient typesetting machine. Both the Linotype and Monotype with their molten metal casting pots, were smelly, hot and very noisy. The letterpress printing method was falling behind to the more efficient and mechanically sophisticated offset lithography printing method.

Offset lithography uses the natural aversion of oil and water. Early artists (i.e. Toulouse-Lautrec) used the Litho Stone method to print his famous colorful posters. The image was drawn onto the flat surface of a porous stone (a litho stone) using a greasy crayon. Water was then poured on the stone and image. The water is repelled by the greasy image, only moistening the non image area of the stone. Ink is applied with a roller, and only inks the greasy image, the retained stone moisture repels the ink in the non printing areas.

On the modern offset lithography press, the metal printing plate is the litho stone and the image on the plate chemically attracts ink coverage. The non printing image, chemically repels the ink. The revolving inked plate cylinder, transfers or offsets the inked image to a rubber blanket, the blanket in turn lightly touches or prints to the paper passing between

the offset and impression cylinder. This method has become universally the more cost efficient printing method for all books and commercial color printing. We won't touch on the less used, but superior color printing method of rotary Gravure or Intaglio printing in this treatise.

After 1960, the transistor began making an impact and early computer engineers were being asked to help harness the evolving computer, the "electronic brain" to printing and especially to the setting of 'cold type' – remember, pages of type to this point had been almost exclusively achieved by the use of hot molten metal.

In my own case, by 1962, I was plucked off the traditional General Composing room floor of the NSW Government Printing Office, where I was training and transferred to the Document Reproduction center, where evolving cold type methods of typesetting were being used. This delighted me as an 18 year old. I could wear a white shirt and necktie and saw myself as having 'joined management', with a brighter future, having been selected above other trainees to learn the newest technology of the day.

Here we worked with cold typesetting -- paper tape driven Fridan Justo Writers, Addressograph Mutigraph Varitypers from Newark, the then new IBM Golf ball typewriter. A more pleasant working environment, free of poisonous lead, unpleasant inks, solvents and paperdust. The Varityper was my favourite. This ingenious typewriter allowed the operator to actually set lines of justified type and interchange type of bold to medium face and italics. Vary type sizes from 5pt to 12 pt. All achieved mechanically, quickly, cleanly and very cleverly, without heat and little noise! This was my introduction to paste-up -- the page composition method I personally used and managed until 1987.

Also during the late 60's and early 70's magnetic memory typewriters, dominated by the IBM Composer, became the printing and publishing industry's budget typesetting workhorse.

In the late 70's – smaller affordable machines called Phototype setting systems (expensively researched and developed in the 60's and 70's as high-end newspaper composition systems) came to dominate the industry – first mechanically driven with finely engineered servo motors controlling optical lense combinations to achieve style and type size changes, strobe light exposed or imaged thru a master type negative template of a type font family – exposed and printed to light sensitive photo paper – the final past-up galleys or output.

Then as the 70's closed photo typesetting was changing to PC controlled typesetting output. Again, the high-end systems were way ahead and going digital – constructing each letter of micro sized pixels (picture elements) from an in-built memory of type shapes or styles, pre-written or burned digitally and permanently into Read Only Memory (ROM). PC based word processors, combined phototype setters proliferated and banished hot metal type. The first budget units, with 8" floppy discs were relatively cheap and very efficient.

By 1985, Aldous Pagemaker and the Adobe Postscript page description language, harnessed to the laserwriter – began transforming the graphic arts and publishing for ever. By mid 1987, Pagemaker was challenged and overtaken by Quark Xpress. Pagemaker, with its more familiar pasteboard desktop concept was the easier program to use and master. Quark, introduced difficult to manipulate, active parent and child type and picture boxes, but allowed the user infinite typographical spacing adjustment -- the kerning and tracking of individual letters, in whole lines and paragraphs of type. Quark Express has dominated.

The notion and ability to finely typographically craft, adjust and manipulate type in a wysiwig way on screen, firstly with a Mac, spelled the decline of most high-end typesetting manufacturers by the middle 90's. Proud names such as Berthold – a European industry standard for type excellence, stopped competing and today mainly markets its finely drawn digital fonts in an ever evolving and competitive market. High output Imagesetters now proliferate and dominate all type and graphic picture imaging and 'computer to plate' is unexpectantly overtaking and making venerable film to plate largely redundant.

The compositor, my indentured trade craft, traditionally considered the educated gentleman and skilled craftsman of the printing industry -- for hundreds of years -- is now gone forever. Everyone's a typesetter and an artist these days! The PC now in combination with the Web has egalitarianized access to much knowledge and many skills – not a bad thing!

The Insta Book concept has been developed by Victor Celorio, a citizen of Mexico living in Florida with his American born wife. Mr Celorio, a 20 year resident, has been granted a Patent for his book production method by the US Patent Office. He has been granted 16 individual mechanical innovations. Mr Celorio is a self educated inventor and entrepreneur. Started his working life as a 12 year old hotel Busboy and print shop worker and later manager in Mexico City.

He has developed a computer program that manipulates a MS Word document, allowing a laser printer to continuously print two sides of a single sheet, or a four page section.

A stream of printed 4 page sections enters the patented binding black box – to be assembled, cut in half by an ingeniously machined cutting wheel (the unique cutting edge of the wheel is a part of the granted patent listing). This very subtle cutting edge imparts an enlarged area for the binding glue to hold and set more strongly.

The complete book's pages are assembled and clamped. A glue well rises and precisely dunks the binding edge in hot glue. A pre-scored color cover (from the systems included color laser printer) is positioned and fitted to the glued binding edge and a finished untrimmed book emerges from a slot. The final book needs to be trimmed three sides in a guillotine. They had a hand operated trimmer at the show -- simple -- it did the job.

This book printing unit, comprising two laser printers and the binding black box, can print between 20 or 30 books an hour, costs of about \$45,000 with a hand trimmer (the

show special price). With some minor modifications, the unit will produce a 4" thick book if needed – *an astonishing electro mechanical achievement for this relatively small amount of money.*

A mechanical three sided book edge trimmer finisher, will eventually be developed as part of the system. This complicated and precision mechanical attachment might cost as much as the present set-up in my opinion.

20 or 30 books an hour doesn't sound like a lot of books. Health Journalist and author Bill Sardi, owner of the machine being used to exhibit, told me -- he had a garage full of books for three years – until he sold out his first title. Bill Sardi is a working self-publishing author and popular health broadcaster, feels his investment for the Celario Insta Book unit, is an absolute “sure thing”. His actual material costs to produce 20 copies of a 240 page book is \$2 each, plus his labor.

Amazon.com have an instant book printing machine for reprinting out of print books – it supposedly cost them some millions of dollars. Xerox supply the printing industry with all kinds of high speed copiers, laser printing and collating machines at hundreds of thousand of dollars per set-up. I believe Mr Celorio has a practical machine. We will be watching with interest to evaluate Mark III of his machine -- Gutenberg Festival in 2001.

Douglas Haack attended the Gutenberg Festival on behalf of IDG Books Worldwide Inc, where he is a Marketing Materials Specialist -- *a specifier and buyer of Marketing, Point of Purchase and Point of Sale materials. He was awarded an Australian NAPL Gold Medal for Innovation in 1998 for his design and production of a -- DL correspondence envelope sized pop-up device that expanded in three directions, presenting a personalized magnetic good-will card.*

He has 30 years printing and advertising industry production experience. Starting as a hot metal (compositor) typesetting trainee, he progressed thru the industry technicalities of estimating and planning for letterpress, litho and screen printing, before sales and sales management. He is a graduate of the Sydney Technical College, School of Graphic arts. He was a self employed designer and print broker in Sydney, Australia for 20 years before coming to the USA with his American wife in 1999.

In his early twenties he left the industry temporarily, trained and worked as a civilian military air traffic controller, specializing in precision approach radar, while living in Europe and working with the US Army for almost five years. He now lives in the Northern Californian Sierras Foothills town of Grass Valley, when not in his cubicle in Foster City.