<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Trends and developments in pre-press technology.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Author(s)</strong></td>
<td>Mustafa Jabbar.</td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td>1994</td>
</tr>
<tr>
<td><strong>URL</strong></td>
<td><a href="http://hdl.handle.net/10220/2869">http://hdl.handle.net/10220/2869</a></td>
</tr>
<tr>
<td><strong>Rights</strong></td>
<td></td>
</tr>
</tbody>
</table>
Trends And Developments In Pre-Press Technology

By

Mustafa Jabbar
WORKSHOP FOR EDITORIAL MANAGEMENT FOR WOMEN JOURNALISTS
KATHMANDU, NEPAL, 7-14 DECEMBER 1994.
ORGANIZED BY: MANUSHI & AMIC
DAY 4, SATURDAY, 10 DECEMBER 1994
TRENDS AND DEVELOPMENTS IN PRE-PRESS TECHNOLOGY
MUSTAFA JABBAR

Printing industry has a long history of technology development and tradition. It is an art which have developed through centuries and perfected with the latest of this century's unique invention; computer. Printing crosses different phases of critical and vital phases. Traditionally the job was for people with an artistic knowledge and taste. It was never a common business. It involves expert of different fields who performs to the best of their ability to finish a printing.

We can easily identify the phases of printing by at least three major areas.
1) Pre Press
2) Press
3) Post Press

Pre Press
Pre Press stage covers the entire working process of creating a single copy to be multiplied in the next stage. It covers the stages of creating the manuscript, editing manuscript, data entry, proof reading, correction, formatting, makeup and all other works relating to text and graphics. In the final word Pre Press is the stage where all the integration before printing is done. Text, graphics, artwork and photographs are combined together after making necessary processing. These phases make the printable subject ready for printing by the printing machines. The end result of this phase can either be a film from which a plate is made or a direct plate to run it in a printing machine.

Press
Press is the multiplication stage. Printing machine is the only equipment we require to cross this stage. This stage also assembles color by giving multiple impression in multiple color. In fact the Pre-Press stage separates color to be assembled in the press stage. In this stage printing machines are used to produce multiple copies in hundreds, thousands, millions or more.

Post Press
Post Press stage is the finishing stage of any print job. This stage deals with the printed sheets. It assembles them and makes the final copy.

In this article we are only highlighting the Pre Press stage of printing process.
Pre Press stage of printing deals with two different objects.
1) Text
Text objects covers all the typesetting and related job done with the characters of any print job.
2) Graphics
Graphics objects are of two types. Artwork, design, layouts and all related work is one type of graphics and the other is the photographic type.
The entire Pre Press stage might involve Monochrome or Color works.
Depending on the technology to be used in the press stage, the Pre Press stage can use different technologies.
Traditionally Text and graphics were created by hand in wood or metal. There were different kind of materials to be used at the different phases of development of the Pre-
Press technology. Early Pre Press process was to prepare the materials on wood. These were fixed and not moveable. Gotenberg of Germany was the first successful man to move into the metal technology. His famous bible is one of the best printed book of all time. Even today no one could cross his finest work. Text and graphics created at his time was also moveable and reusable. Surprisingly Gotenberg’s technology is still in work in this part of the world with a minor change. Most of SAARC countries still have Letter Press technology working on. I know about Bangladesh, India, Pakistan and Nepal using Letter Press technology on a major scale. Though innovation of Offset Printing Presses has made a revolutionary change in the printing industry, we still have short run print jobs to be done on a Letter Press technology. Few Invitation cards, Visiting Cards, Letter Heads, invoices and Cash Memos of small business houses are still printed in the Letter Press. In the Pre Press stage of the Letter Press technology is straight forward and simple. When a printer gets the manuscript he does the typesetting on metal. In some occasions, wooden types may be used. Wooden types are mostly used for headings. I have seen many posters printed with wooden letters in Bangladesh and India even in 1994. Sometimes types are designed as artwork and metal/mylo blocks are created for better quality. It is the job of the professional typesetters, named compositors who sets the type and produce a proof copy by hand or semi automatic process. Even they do not use a Printing Machine to have a proof. Those proofs are traditionally marked by the professional proof readers and than corrected by the typesetters. After 2/3 proofs a corrected version is made-up as STONE for printing. Graphics are added as blocks in this stage. Some newspaper make a hardcopy and than the metal block of the whole page is made from it for printing. Their are some newspaper in this region which still use the traditional Pre Press technology for typesetting and graphics. Some of them than takes the page to the offset press for printing. In that circumstances the final output of the Pre Press stage is produced on cellophane, butter paper or tracing paper for directly making plates. Graphics are added after being processed in the traditional offset camera. Some newspaper make film from the Pre Press final on paper.

Before we look into the high end and the latest trend of the technology we can look into a mixed environment being widely used in the SAARC countries. In this countries small and medium newspaper uses computers for typesetting. Data Entry, proof, correction and formatting of text is done on PCs. Most of them started using Macintoshes since 1985-86-87. The capability of Macintosh to incorporate local language and the friendliness of the operating system were the main reasons to accept it as a DTP machine. In fact DTP was invented by Macintosh, LaserWriter, Pagemaker and PostScript. But now many of the new comers use IBM PC compatibles and Windows OS is the main reason for PC to be able to do DTP. Local languages has also been adapted under Windows. I hope life of PC users will be far better in 1995 when Windows 95 will be available in the market. Concept of Pre Press technology in this newspapers are mixing of old and new segments of both the world. These newspapers are generally weak in investment. They can not afford to invest in the whole new technology. They also utilizes the advantage of cheap labor in these countries. They have just replaced the compose section of the newspaper with the computer technology. Two major reason to adapt computers are:

1) Economically it is better to have a Computer Compose Section than a Metal based typesetting systems.
2) Significant improvement of the quality of typesetting could be achieved without extra investment.

However it has opened a new era in Pre Press technology of the region. Having a taste of IT they are going to accept the latest of the Pre Press provided they can afford it. Development of Pre Press technology was not so dramatic in few hundred years after Gotenberg. It’s only after the introduction of Offset Printing machines and the Offset Lithographic process system, the Printing World was significantly coming closer to the IT world. Metal typesetting moved to automatic machines from the manual system and those systems were called Type Casting machines. Keyboard was introduced to replace the age-old process of hand composing. In this part of the world, due to the complicity and diversification of the local languages and the small size of the market were the main hindrances of the development of Computer Based typesetting devices. The technology was also so expensive that it could not enter the main stream printing publishing industry. However we were getting specially developed typesetters based on PCs in the late seventies. Linotype was perhaps the pioneer in this field in this region. They introduced
typesetting systems, initially with the Electro-Mechanical systems and finally switched over to the digital systems. I have mentioned that the technology was so expensive that the average user could hardly afford it. And thus the impact of these technologies was not global. But it ignited the aspiration of the industry which was fulfilled by the advent of DTP since 1985. DTP is in reality the appropriate technology for the SAARC countries. It's low cost high performance ability has made it the only choice for the thousands of newspapers of the region. It has become the most changing technology also in a span of only 9 years, DTP has captured the low-mid and high end of the entire printing industry. Traditionally printing equipment relating to Pre Press were manufactured by highly skilled people and by few companies. That traditional manufacturers are now facing so much pressure from the PC peripheral manufacturers that many has closed their business. I feel their will be further major upset in this field.

We understand printing is a professional job to be done by professionals. From the time of invention of printing in China, it was the professional printers and the professional printing equipment manufacturers who were the heart of the technology. But after 1985 when LaserWriter, Pagemaker, PostScript were capable of making a new technology named DTP, the leadership of the development of printing technology switched over to different people. A whole new breed of non professionals became capable of doing better jobs than the traditional printing professionals. Developers of computer industry were in fact dictating terms for the new printing technology to arrive. Computer users were in fact teaching the printing professionals about DTP. Printing equipment manufacturers tried to fight back DTP with new technologies like ImageSetters and DrumScanners. Initially they tried to tell that DTP is an amateurism and it can never give professional results. Most of the printing equipment manufacturers used PCs to make dedicated typesetters. The early models of Linotype Typesetters used Apple's which were sold at taka 500,000 as a PC and got a price tag from Linotype at 10 times higher. They were developing dedicated software too. A Ready Set Go package software modified by Linotype was charged at few thousand Pound Sterling which was relaunched in few hundred dollars for the PC. But those systems could not be successful as the packages like Pagemaker, Quark Xpress were 10 times lower priced and 10 times better than the dedicated packages. Subsequently this manufacturers tried to link their equipment with the Macintosh. They were manufacturing ImageSetters with a hefty price tag and selling as high end publishing machines. High end Pre Press is mostly dependent on these breed of equipments. Traditional printing equipment manufacturers are now trying to put their equipment at the input and output end of the computer technology. Their traditional drum scanners with 50 times higher price than the Computer Peripheral manufacturer's CCD scanners are still considered as the dependable input device for color separation jobs. Their ImageSetters are again priced at 200 times more than the high quality Laser Printers and still considered to be the most reliable for output. But I personally feel that the mainstream technology will be different what we are looking now. The major user of the pre press technology will be those who will develop themselves with the PC industry. The present speed of the PC industry's growth will enable the PC peripheral manufacturers to develop products capable of giving excellent result in the Pre Press stage.

Where are we now and what next?
Most of the recent developments in our region was based on DTP. It will continue to grow that way. There are also major development in adapting Computers as Graphics workstation and Color Separation jobs. It is also definitely going to develop farther. I personally feel that to have a newspaper Pre Press unit we should consider few things. This region has mostly small and medium sized newspapers. With their financial weakness and the small workload I shall recommend most of them to grow with the DTP.

DTP is 9 years old. It has come to an age. Developments in this field are fascinating. There are 110 MHz PowerPC Macintoshes and 100 MHz Pentium PCs affordable to the mainstream newspaper establishments. With a high capacity harddisk and 48 MB or more RAM, anyone can have a very powerful workstation to do almost everything of the Pre Press except the input and output. Photoshop should be the best choice for Photo editing and Color separation, its 3.3 version is now available on Macintosh and Windows platforms, both the version has identical features. Interface is also almost similar.
You can have Adobe Illustrator as the main tool for the graphics designing. Don't consider Freehand at this stage as it has already lost its ground by merger. It may be a serious consideration after the merger of Aitsys is finalized.

For input purposes look at the high resolution CCD Scanners with transparency adapters. There are few. My choice is Umax. You can look at the drum scanner if you are concerned about the highest range of quality. But for the newspaper I feel high quality drum scanners can hardly add any extra quality. Because of the paper being used and the printing process being utilized, 2400 DPI CCD scanners should be good enough to meet newspaper demand. However there are some low priced drum scanners in the market. One of that is Scanmagic from Europe.

For black & white output settle down with 600/1200 DPI laser printers. Use quality tracing papers for final output. You might also consider low-cost ImageSetter priced very close to the high end Laser Printers. Most of the manufacturers are offering low cost imagesetters. They say that those are not suitable for color job. I think its not fully true. Most of the newspaper color job can be done on low cost ImageSetters. However for high quality output you still need to depend on the highend ImageSetters. Please note that 600/1200 DPI laser printers with 600 DPI Photograde support are quiet capable of outputting quality B&W photographs for the newspapers. 85 to 105 LPI is also quiet satisfactory. Apple's 16/600 PS with 12 MB RAM is good for both Mac & PC. HP Laserjet 4MV can also be an alternative. Please remember, many people talk about higher resolution printers. I have not found even 1200 DPI of some manufacturers to be better than the Apple's 16/600PS or HP's 4MV.

For a pagemakeup software you can depend on Pagemaker or Quark Xpress. Both the software have Mac and Windows versions. Those are very much compatible and identical in features in both platforms. My personal choice is Xpress.

For a data entry or newsroom operation, use 386SX/DX, 486SX/DX with 4/8 MB RAM IBM PCs or Macintosh LC575, LC630 computers. Only choice for word processing should be Microsoft Word. This software is also identical in Macintosh and Windows. Both the versions are compatible and easy to use by anybody.

If you do not have existing networks, try to have an Ethernet based network for Mac or PCs. For Macintosh Appleshare is built into all new Macs. You need not to have a software to be purchased. You can also use Appletalk Remote Access for outstations and remote link in a Mac. For PCs everybody talks about Novel. You can rely on it.

For type manipulation and special effects Typestry software can be tried.

Before I finish this article many of you might be asking for what software should be used for local language word processing.

I have not found quiet good software for the PCs to deal with Arabic or Urdu. But I can definitely tell you that Nisus is a good software for Macintosh which deals with Arabic nicely. For other languages of the region, Macintoshes enjoy the benefit of being pioneer. But Windows solutions are not bad. You can definitely use Windows for all Indic family of languages with interface. It is better not to use special and dedicated software in Mac or Windows.