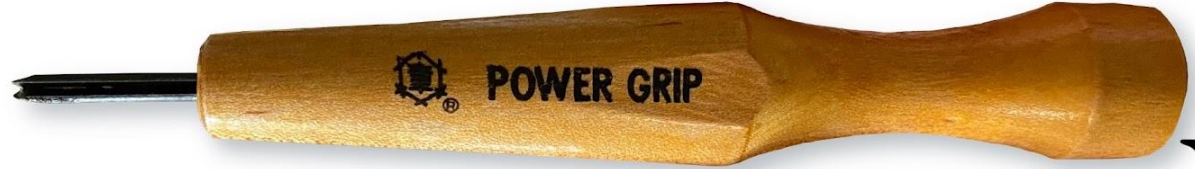


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The Print Issue - March, 2023



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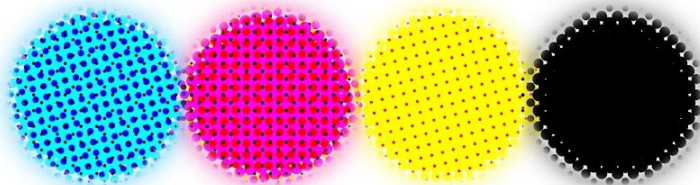
THE PRINT ISSUE

From Johannes Gutenberg's first printing press to 3D printing our own shoes. Explore the journey of print from the past to the possibilities of the future. We tell you how we reckon print will affect art and design. Also, a freebie. And shopping suggestions. Ooh oh, and a sneak peek into the next magazine issue. All that and more in March, 2023's Know Thy Art magazine's Print Issue.

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PRINT: IN RETROSPECT

Around the year 1436 Johannes Gutenberg invented the printing press. To understand the impact of his invention, we must first see what the world was like before his invention.

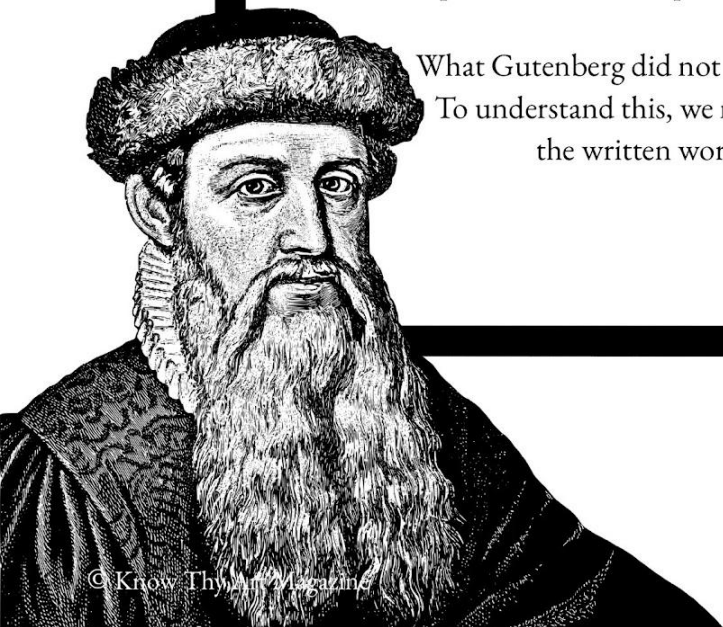
Ancient civilisations like the Mesopotamians, wrote on rock. So did many other cultures around the world. Later on animal hide, papyrus, bamboo reeds, palm leaves and other such reading and writing material were used. Places like Egypt, India, China, Europe and South America have archaeological evidence of the use of such materials. You might simply have to visit a museum to see the evidence.

In 105 AD, China, during the Han Dynasty, something groundbreaking happened. A courtier named Ts'ai Lun invented paper! At this time, text and images were hand written on paper to make a book. You could imagine the value of a book as thick as Harry Potter 4 if it were hand-written.

Luckily, a man named Johannes Gutenberg is the reason the books on your shelf don't have to cost a fortune. Once he invented the printing press, the all exclusive books that took years to write, were now printed in a matter of days. The same printing plates could be used over and over again to even make multiple copies. It was as easy as using a stencil to draw the Mona Lisa.

Gutenberg was a man of strong religious convictions. He was simply tired of seeing the bible kept under lock and key in a church somewhere because of how time-consuming and expensive it was to make. He wanted these books of importance to be ubiquitous and easily accessible to the masses.

What Gutenberg did not realise was the true potential of his invention. To understand this, we must look at what print has done not just for the written word but also for print design.



PRINT TODAY

In the last few decades there have been so many unique styles of print machines, inks and styles that bring out unique characteristics in the design. Since understanding them would need at least a one hour class on each style, let us briefly look at a few popular print styles.

Linocut Printing

Linocut is as close as it gets to the age-old technique of block printing. Simply put, you carve out a design on a Lino block for pad. After this, you use a roller to apply ink on the block and use it to make an impression on the desired surface. Depending on the surface, the type of paint will vary. Linocut can be used to print on paper, wood, fabric and other flat surfaces.



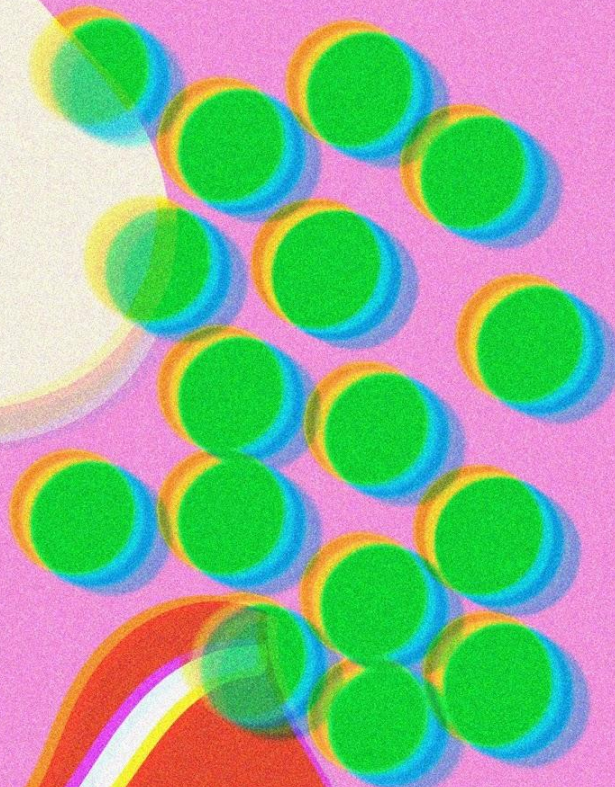
Cyanotype Print

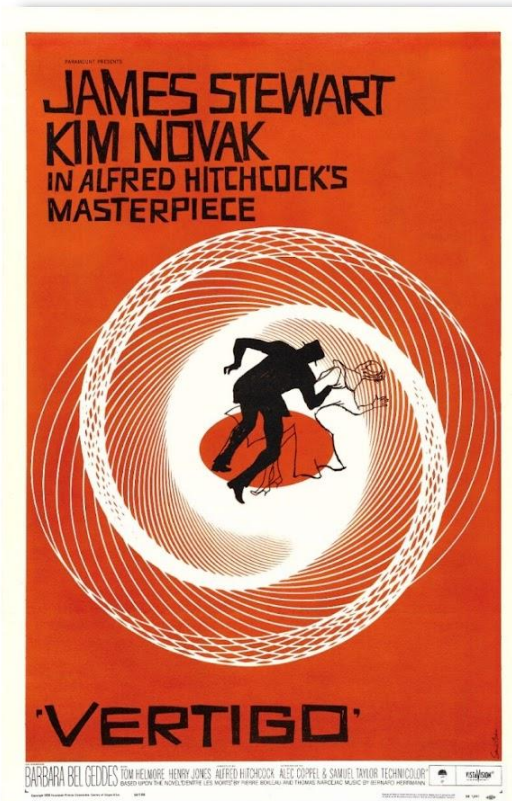
This is a technique where you use exposure, like photography, to capture the print of an object. Generally you use this technique to get silhouette impressions of leaves and flowers on an indigo blue cyanotype paper. Cyanotype is one of the most “DIY friendly” printing techniques. All you need is a sunny day to dry out the print.



Risograph Printing

Risograph is a Japanese printing technique developed by the Riso Kagaku Corp in 1980. Perhaps this is why the colours, look and style of this printing technique has a very “80s” vibe. In this technique, you ideally print on colour at a time. For each colour, the paper will have to go through the printer again and again until the entire image is printed. The cool thing about this technique is that you can mix two colours to get a third colour. Sometimes, with human error, the paper can even shift in the printer and give you a chromatic aberration effect. This means that every rise print, even if it is of the same design, can look slightly unique because of these small errors.





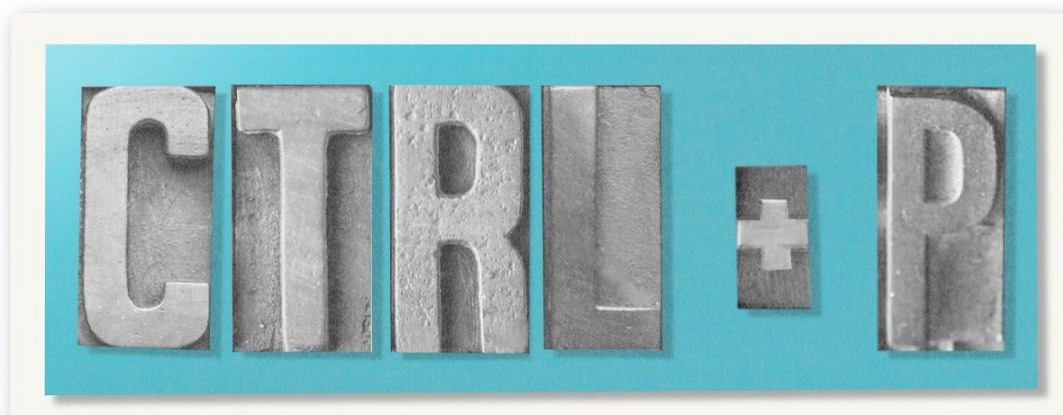
Silk Screen Printing

Silk Screen or Screen printing is called so because it involves using a wooden frame, called a screen. Silk screen printing was used to print beautiful designs on silk cloth. However, with time, this technique is used to print on paper, canvas and other transferable surfaces. This complicated process uses a wooden screen, a squeegee to spread the paint evenly, photo-emulsion of the design and the thick ink. The result is extremely beautiful as the ink is not really absorbed on the surface but results this is tactile texture.

Alfred Hitchcock's Vertigo film poster was printed in the silk screen technique.

Letterpress Printing

This is a relief printing method that uses letters carved in wood for metal to make direct impressions on the surface material. Simply use the letter blocks to make the words you need, apply the ink, make an impression and Bob's your uncle. Posters and adverts from the late 19th and 20th century mostly used this technique. If you ever saw a vintage poster of a World's Fair or even circus announcement, it is likely made by letter press printing.



Halftone Reprographic Printing

If you are from the generation that saw their favourite toy advertisement in a news paper, it is likely you were looking at a halftone reprographic print. This is like the analogue version of pixels. This is because halftone reprographic printing used dots with colour information, mixed and matched them to form a single photographic image.

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BIGGEST HIT!

Digital Printing

Digital printing is ubiquitous today with the latest inkjet, desk jet and laser printers. Almost always connected to a computer or with a built-in chip to analyse the image and determine the colour information that is then transferred seamlessly on to the surface.

These little snippets on famous printing techniques of these decades obviously don't even begin to scratch the surface. Watching YouTube videos or visiting a local printing press might be your best bet to fully learn and comprehend these techniques. However, no amount of writing or video would do justice to some of these fascinating printing techniques. When you actually touch a print texture or squint to notice the grain and quirks of these prints, your appreciation of it might increase ten-fold.

These analogue printing techniques have the knack for bringing out unique characteristics of the image, text or design in a way that a digital print might not. And whether or not you become an expert, it is always nice to have a print like that hanging in a favourite corner of your home.

SCREEN PIXELS AND PRINT PROFILES

The better the pixel resolution, the easier it is for a printer to properly decipher the image. This gives you a clearer print with perfect colour variations, light depiction and crisp lines.

When a designer sets their canvas to a good DPI or PPI quality, they are basically setting the print quality even before they start making the design. When they set a colour profile to CMYK, sRGB, Pantone or any of the sort, they already set the colour translation. Similarly, picking a type of paper, its GSM thickness, paper texture, gloss, matte, metallic finish and whatnot ideally decides the “feel” of the final print outcome.

Now, could you imagine all that with an added dimension?

3D Printing

3 Dimensional printing takes the design to a whole new level. If you thought Star Trek’s food replicator was futuristic, think about how 3D printing a steak is already possible and happening.

Designed a brilliant pair of sneakers? Draw it in a 3D app, make it in a 3D printer and wear it! Broke your frying pan handle? Design a cool new one with a grip for your hand, 3D print it and fix your pan. Even parts for rockets and satellites are 3D printed with ease. No need to have a massive lab or a factory.

Just to think, the technique of making and replicating a design to make mass produced prints was how Gutenberg imagined it and what printing has evolved in the 21st century. Today 3D printing is an integral part of product design, engineering design and even food printing.

What’s next in printing?

Material design is where the base material with a suitable chemical composition is determined. It is a mixture of design and chemistry. If material design for 3D printing is further developed, it is very likely that Star Trek’s food replicators would be in your kitchen near your toaster in the near future.

Getting the molecular structured and chemical compositions just right to make meat, fruits and even chocolate would be like buying printer ink from the store.

Why just food? People have already started to 3D print houses and clothing. Food, clothing and shelter, being a human’s basic necessities would likely just be fulfilled by a printer.

SENSEI SPEAKS

“God suffers in the multitude of souls whom His word can not reach. Religious truth is imprisoned in a small number of manuscript books, which confine instead of spread the public treasure. Let us break the seal which seals up holy things and give wings to Truth in order that she may win every soul that comes into the world by her word no longer written at great expense by hands easily palsied, but multiplied like the wind by an untiring machine.”

- Johannes Gutenberg

While the motivation behind Gutenberg’s invention was his religious conviction, there is no denying that every written idea (not just religious) got their set of wings with his invention of the press. Because honestly, where would the human race be without print?



Chris Hull is the inventor of Stereolithography, commonly known as 3D Printing. He patented it in 2014.

While Gutenberg invented the mechanical printing press in 1436, the oldest known printed book is the Buddhist Diamond-Sutra from 869 AD.

The Incredible Hulk was supposed to be grey. Because of a printing error early copies of the comic had the angry scientist in different colours. Stan Lee love the copies where Banner turned green and decided to go with it!

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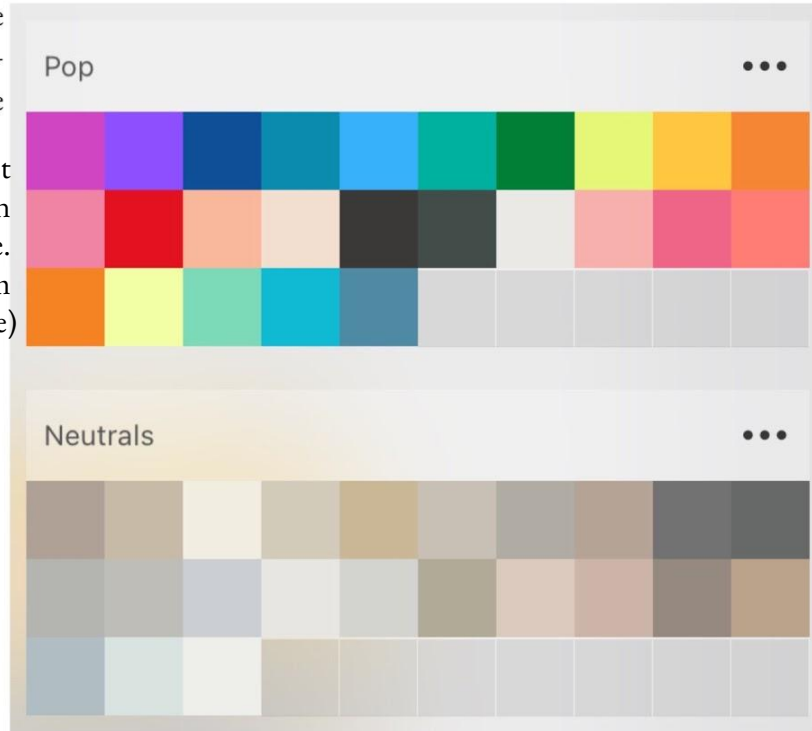
*The Incredible Hulk copyright Marvel.
Photo for representational purposes only.*

FREEBIE

Colour Pop Palette

+

Neutral Colour Palette



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KNOW THY ART - ADD TO CART

KODAK Mini 3 Retro 4PASS Portable Photo Printer (3x3 inch variant)



ASK THE EDITOR

Do I have to draw my digital art in a CMYK palette for print projects?
- Alan, New Jersey

When you make art digitally you will use what is called a “colour profile.” There are many colour profiles like CMYK, CMY, RGB, CMYK+, Pantone, sRGB, CIELAB etc.

Out of these, the 2 most popular and oldest are the RGB and CMYK colour profiles. RGB stands for Red, Green and Blue. CMYK stands for Cyan, Magenta, Yellow and K is Black.

There are many differences in RGB and CMYK. You can simply Google these differences. However, we must go beyond the academic difference you will see in a textbook to see how the difference applies in the real world.

Now RGB is basically used for artwork that is meant to be seen on a screen, like webpage art, social media posts etc. CMYK is used for print art like prints, posters, billboards etc.

About 10 years ago, if you made RGB digital art to be printed, you would probably be in trouble with a drab print outcome. But today, printers are so much more capable and precise.

There are many digital artists who would use an artwork for online advertisements and have the same printed on a print ad too. What these artists do is they have conversations with print people they trust. Print people today mostly know how to get the best out of their printer. Adjusting printer settings (depending on the printer brand and model) is done by the push of some buttons and voila!

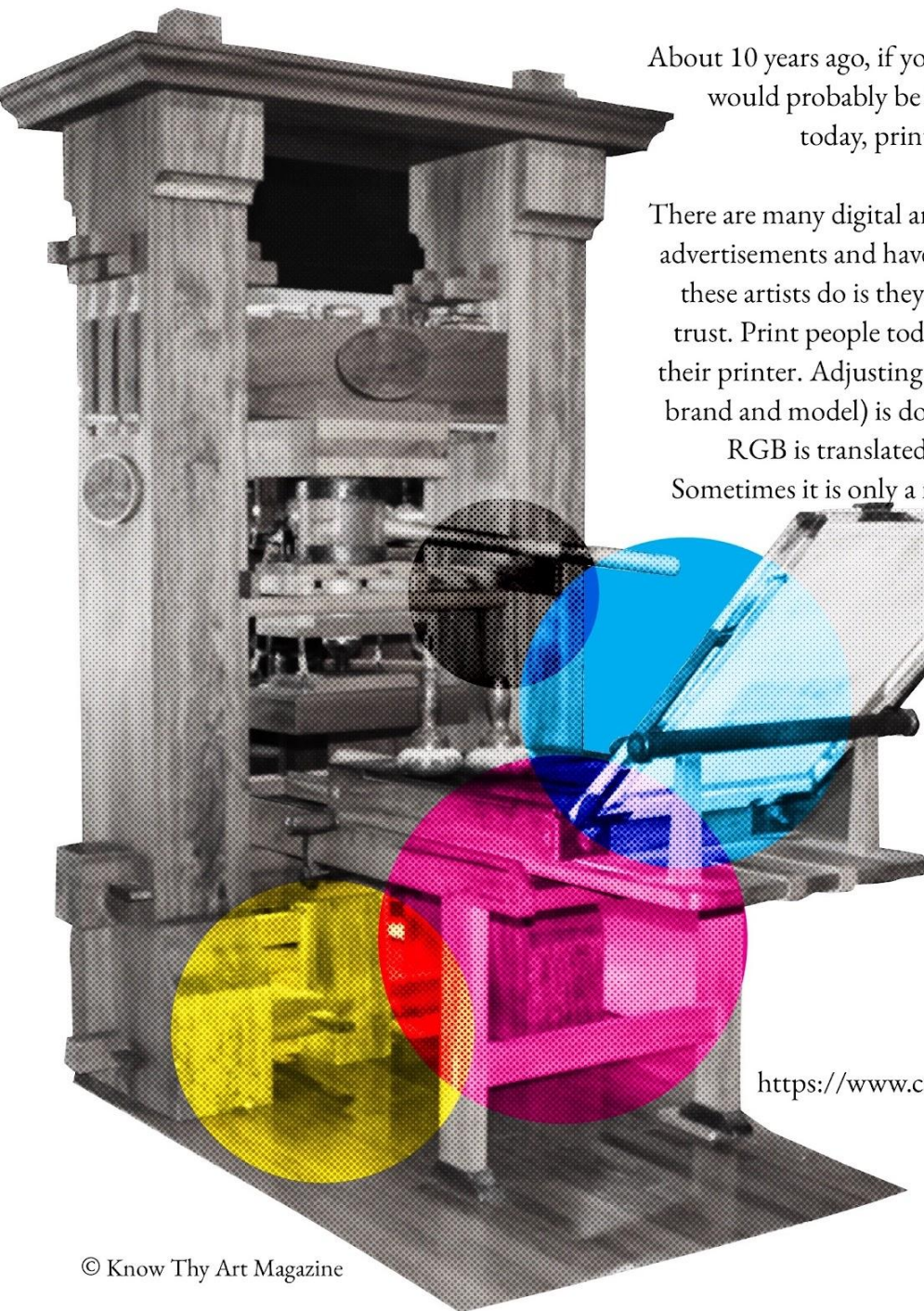
RGB is translated just as well on paper as a CMYK artwork. Sometimes it is only a matter of punching up the vibrancy of the artwork or even setting the print profile.

Conversely, if your print person says they would like to stick to CMYK, you are better off listening to them. It is always best to have a conversation with the print person before you print.

Here is a link to a site that tells you what print settings you should use for some famous printer brands and models.

Canson-Infinity ICC Print Profiles

<https://www.canson-infinity.com/en/icc-profiles?fp=443>



SNEAK PEEK OF NEXT MONTH'S ISSUE

The Ad Design Issue

In the next issue of Know Thy Art magazine, we'll explore cool poster making, design in branding and advertisement communication brought to focus with the cool use of design. Follow us and sign up for the news letter to get your copy of The Ad Design Issue.



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