

印刷設計(1)

印刷設計基礎論

(Fundamentals of printing design)

林啓昌・廖敏華編譯

五洲美術印刷技術叢書2—3

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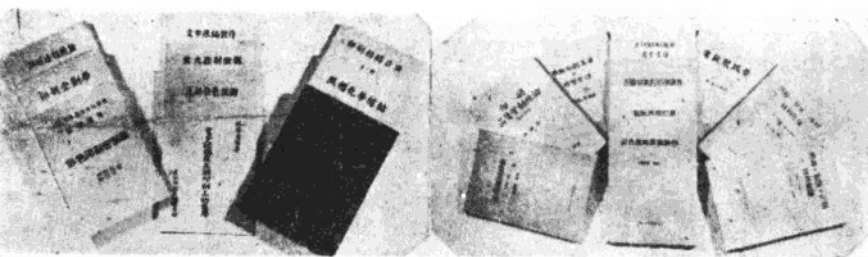
五洲美術印刷技術叢書2—3

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電話：9616136 • 9616137

印刷設計基礎論

美術印刷技術叢書 2-3

總經銷：五洲出版社

經銷者：全省各大書局

中華民國六十七年四月出版

定價：精裝新台幣 一〇〇元
平裝新台幣 八〇元

編著者：林啓昌・廖敏華

發行人：丁 璽 庶

發行所：五洲出版社

FOREWORD (前言)

This book is a fresh approach to an old and honored profession.

Many new processes and new materials

affecting printing have appeared in recent years.

Many new users of printed communications, in areas of corporate management which never before have done any printing planning, have broadened the scope of this medium.

Finally, in our fast increasing population, there are many new persons who are participating in the graphic arts for the first time.

For those reasons, and because everyone benefits when knowledge of an industry is shared, Kimberly-Clark Corporation has prepared and published this book.

This is not a comprehensive treatise on printing mechanics, but rather a basic introduction to help planners, buyers, and users of printed promotional material enjoy a greater return from their printing dollar.

Kimberly-Clark salutes you who have helped increase the importance of printing in the past, and you who will continue to increase the stature of this profession as you increase your own.

本書對昔日且具光榮歷史的職業言，是一種新奇的方法。許多新方法和新材料在近數年中已很明顯的影響到印刷術，許多印刷機構的新使用者在具體的管理方面，當任何印刷計劃完成之前，並未擴展在此種煤體的範圍。

究竟，在我們迅速增長的人口中，有許多新人員是第一次從事於印刷行業。爲了這些理由，和當一種工業知識的被分享是成爲每個人的利益時，Kimberly-Clark 公司已經準備且已出版了此書。

本書對印刷技術人員言並非一詳細的論文，但對幫助計劃者、買主，印刷材料使用者而言却是一種基本的介紹說明，以便對他們的印刷費用能享受到較大的利益回報。

Kimberly-Clark 公司向凡是過去幫助增加印刷重要性的人員和凡是將繼續加強此職業的地位的人員致敬。

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現代印刷在今日經濟領域中的重要力量

MODERN PRINTING

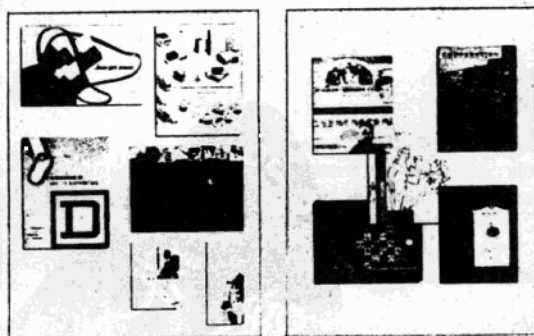
significant force in today's economy

Before considering printing processes and details, let's look first at the importance of the printed word today — who buys it, why, and how commercial printing is used.

Thanks to new products, new markets, and a constantly increasing population, U.S. industry has leaned more heavily on printing each year. Since this medium is the only means of mass communications of a permanent nature, it undoubtedly will continue to be a major force on the world scene — a key tool of U.S. business and industry.

在考慮印刷作業過程和詳情之前，首先讓我們想想今日所談及之印刷的重要性——誰購買印刷品？為何要購買？以及商業印刷被採用的程度。美國工業界在印刷上有激烈需求的傾向，這完全要感謝每年的新產品、新的市場和不斷增長的人口。因此，此種媒介物是大部份消息來源的永遠方法，毫無疑問的，就一般而論，將繼續成為一主要力量——美國商業和工業界的主要工具。

[1-1圖]



NEW USES...“soft sell”

Many “products” of the printing press are familiar to every adult: school books, newspapers, magazines, posters, store displays, catalogs, advertising leaflets and broadsides, etc.

Newer uses have helped increase the popularity of commercial printing. Some of the new “soft sell” uses, covering several corporate areas, explain a service or tell industry’s story instead of trying to make an immediate sale.

In *public relations*, printing is called upon for many distinguished assignments: fully illustrated annual reports to stockholders; “facilities” books telling an institutional story of a corporation or one of its divisions such as Research; welcome or lobby booklets; external

publications to create a favorable corporate image”; special purpose publications covering such specific areas as distributor relations; brochures slanted to stockholders outlining a corporation’s multiple products, etc.

In the area of *personnel*, relatively new uses of printing are deployed to achieve communication from management to employee: professional-looking company publications (formerly called “house organs”); recruiting books for hiring the best possible employees; booklets to explain the many benefits offered such as profit-sharing, retirement, pensions, group insurance, etc.

In other areas there are the “how to” booklets: instruction guides, manuals, etc.

新用途——溫和式的廣告

許多印刷成品對成人而言是熟悉的，例如：學校書籍、新聞、雜誌、海報、貯藏品展示、目錄、廣告小頁和全頁紙的廣告（Broad sides）等等。

新近的使用已幫助了增加商業印刷的普遍性。有些新“溫和式的廣告”的使用包括某些具體的部份，如服務的說明或敘述工業的經歷而非達到即刻銷售。

在公共關係裡，印刷被要求擔任許多明顯的任務，例如：對股東們的年度報告說明。當做一種便利物，如敘述某公司創立經過的書籍或者它本身的劃分諸如研究部或者是歡迎部，最近編寫的小手冊，為創造良好的具體印象的出版物。特殊日的出版物包含了如特別地區分配者關係的小冊子則偏向股東們略述公司增產的概況等。

相對地，在全體人員方面，印刷物的新使用法是為達到從經營者到員工的溝通而被使用的，尋求職業公司的刊物（以前稱為職業介紹所），招考的書本是為了可能僱用到最好的員工，小冊子中說明了所供給的種種利益，諸如：分紅、退休金、養老金、團體保險等等。

其他方面有各種的小冊子如教育指南、教科書、操作指引等。



NEW USES... "hard sell"

In advertising, merchandising, and sales promotion, products or services in our competitive times are sold through all media: newspapers and magazines, television and radio, and "direct advertising" (defined as direct mail and all other printed material having a controlled rather than mass distribution).

Hardly a week passes without some new application of print in this tremendously im-

portant area. Self-serve dispenser cartons, novelty mailing pieces, elaborate 3-dimensional motion displays, sparkling catalog inserts, die-cut folders and brochures, beautiful as well as functional packaging—the list is practically limitless.

It is significant that the role of printing in today's world encompasses every civilized age group from kindergarten on. As the permanent medium of communications, printing is a vital, necessary force whose importance has increased every decade. The future of printing is beyond all imagination.

新方式——精細的廣告

在競爭的代理裡，廣告、商品銷售量的成長、產品、服務等都經由所有的媒體給予推銷。例如：報紙、雜誌、電視、收音機和直接郵件（限定直接郵購，和其他印刷品並行，而非大量分發贈送）。

幾乎在一週，某些新的印刷應用方法便超越了此一廣泛的主要範圍，自動販賣機分配紙盒、新式郵寄樣品，精巧的立體影片、閃光的目錄、小立方形的活動展示

物、壓切成型的折疊物小冊子等應的和有作用性的包裝等。——所表列出的實際上是無限制的。

印刷在今日的世界中從幼稚園到每一受文明教化的團體裡，扮演了非常重要的角色，當做消息的永久媒體的話，印刷是重要而必須的力量，它的重要性每十年倍增，印刷前途真是不可限量。

〔第一章完〕

印刷的科學

一、印刷是應用科學之一，印刷的原理和方法

，完全依據科學。科學愈進步愈發達，印刷的方法便因應用器材機具的更新而快速發展，齊頭並進。

二、照相機的精密光學系統，感光材料，電子光量敏感程度的正確控制，高速精密印刷機及製版機具的力學結構與電熱系統，以及溫度濕度對印刷品質的影響等等，無一而非物理學的範圍，故印刷從業員必須對物理學有深刻的研究基礎。

三、照相的顯影、定影、水洗及加厚減薄，或調色對濃度的變化，製版的腐蝕、電鍍、整面、及版面吸水拒墨或吸墨拒水程度的構成，印刷紙張的適性、油墨的調配、紙張之製造，以及一切印刷材料藥品的特性等等，無一而非化學的範圍，故印刷從業

員，必須對化學有深刻的研究基礎。

四、對物理及化學的深入研究，物理與化學在印刷上的實際應用，品質管制的精密計算，成本控制的正確分析，以及工業管理緊要路線，或電子計算機程式設計等等，無一而非數學的範圍，故印刷從業員，必須對高等數學有深刻的研究基礎。

五、照相、製版、印刷、裝訂等的作業程序，操作機具的方法，故障排除與品質改正的處理等，莫不井然有序，捨科學方法而外，必步調大亂，一無是處。總之，無論從事印刷技術生產實務，或從事印刷企業管理，均與科學密不可分，捨科學即無印刷。蓋印刷企業管理，亦與心理學、經濟學、會計學、統計學、市場學……等相關也。

基本組成因素

BASIC "INGREDIENTS"

Although all the component parts of different printed pieces are rarely identical, there are similar basic ingredients involved in the average commercial job.

The table indicates ten ingredients along with some of the usual sources or suppliers. Note that there is a choice of suppliers in several cases, depending on how the job is assigned.

雖然許多不同印件的所有組成部份很少是相同的，然而在一般商業印刷品上包含了不少相同的基本組成。

表列指出十種常見組成因素的過程，說明了在某些情況下依工作設計，具有選擇性。

For the beginner, a thumb-nail description of each of the ten ingredients follows:

1. COPY 原稿

This is the written part of the job: the text, descriptions, headlines, tabular matter, etc.

Usually it is prepared before layout is made, although in some cases copy is written to fit a pre-conceived layout. Old-timers have their copy finalized before it leaves the typewriter to avoid changes that can cause unnecessary costs.

首先將這些十項組合步驟詳述如下：

，雖然在某些情況下原稿被書寫成適合於預先構想的版面設計。

1. 原稿

印刷品中文字書寫的部份：如內文說明，標題，表格等，通常都是在版面設計之前完成

以往的人為了避免改變和增加不必要之額外費用起見，都使得原稿在離開打字機時才算最後完成。

2. LAYOUT 版面設計

This is the "blueprint" — an artist's conception of the finished job. Layouts are usually prepared on transparent paper with pastels or pencil, then mounted on opaque sheets. Layouts can be very rough, semi-comprehensive,

or so comprehensive that nothing is left to the imagination. Normally they are the same size as the finished work.

Changes and corrections can be made easier and far more economically on the layout than in the more finished stages of the job.

這是一種藍圖——藝術家完成印件的概念版面設計通常是使用色筆和鉛筆在透明紙上佈置，然後繪在不透明紙上。

3. FINISHED ART 完稿

This includes illustrations, hand lettering, charts, color blocks, etc. ready to be made into plates. It follows the layout as a guide. Fin-

在版面設計時做改變和修改比在宗成時才做來得容易而且較為經濟。

這包含了準備印版的，挿插，手工寫字，圖表，彩色版等。它是隨著版面設計去做一種

4. PHOTOGRAPHS 相片

Similar to finished art, photographs can be corrected if necessary by retouching, before in 印版前也可使用修飾方法給予修改。

黑白負片的光面印相（常可手工修正）常使白之在彩色攝影中，某些型式的原稿亦常使用之。

即原稿排版 有機械排版和人工排版，通

5. COMPOSITION 組版

This is copy set in type — either machine set or hand set. Proofs are usually submitted in "galley" form to be read for corrections. It

活版印版，一般使用金屬而經由照相刷版方法來完成。（也有使用木質、塑膠或其他材料），其金屬版的品質，很明顯地，決定了

6. LETTERPRESS PLATES 活版

Printing plates for letterpress are usually made on metal through a photo mechanical process. (Wood, plastic, and other materials are also used.) The quality of the engraving, ob-

版面設計可以是非常草率地，或較精細的，或完全精細而易瞭解的設計，不必去推測，通常是與完成品同大的尺寸。

ished art should be checked carefully, since any changes made later will require new plates. Artwork usually is made larger than final size, in order to allow reduction for the sharpest possible reproduction.

指導、經驗工作，必須小心的檢查，因此任何較遲的改變都需要重新製作印版，為了求得最鮮銳複製效果總行縮小照相，所以，必須做得比最後的尺寸少許大些！

plates are made. Glossy prints of black and white negatives are usually used. In the case of color photography, several types of originals are used. (See Chapter 10.)

常需有鉛字樣張以供閱讀校正，在所有校正中，第一次打樣是很重要的，排字工人與原稿相同的錯誤，不須對客戶負責，來個原稿上的改變稱為更正，應對客戶負責任。

is important to make all corrections on these first proofs. Errors on the part of the type-setter are not charged to the customer. Changes made from original copy are called "alterations," and are charged for.

複印品的品質，在正式印刷前為了檢查用之，不論是用單頁式或者拼貼成完整的樣張均然。樣張則很容易印取。

viously, determines the quality of the reproduction. Proofs are easily pulled for inspection before the job is run, either in page form, or pasted up into a complete dummy. (See Chapter 13.)

	ADVERTISING AGENCY 廣告公司	ADVERTISING DEPT. 廣告部門	CREATIVE PRINTER 創造性原稿製作	ART STUDIO 藝術照相館	PHOTOGRAPHER 照相家	PRINTER 印刷廠	TRADE TYPE SHOP 鑄字廠	PLATEMAKER 製版	PAPER DISTRIBUTOR 用紙經銷商	MOUNTER AND FINISHER 裝訂加工	BINDERY 裝釘廠
1. copy 原稿											
2. layout 版面設計											
3. finished art 完成藝術											
4. photography 照相											
5. composition 組版											
6. plates (letterpress) 凸版											
7. plates (lithography) 平版											
8. paper 印刷用紙											
9. presswork 印刷											
10. processing 加工											

[2—1 圖]

7. LITHOGRAPHIC PLATES 平版

In offset lithography, everything — type matter, photographs, art, etc. — is transferred to a thin

平版印刷裡，凡是一打字原稿、照片、藝術作品等，是經由照相製版的方法轉移到薄而

flexible metal plate through a mechanical process of photo-chemistry. Proofs are available, in a somewhat more complex operation. (See Chapter 12.)

可彎曲的金屬板上經由比較複雜的作業，所以校樣是有用的。

8. PAPER 用紙

Unlike some of the other ingredients, printing papers come in an astonishing variety of brands, types, weights, textures, colors, and

不像其他的組成要素，印刷用紙在廠牌、型式種類、重量及纖維組織、色相和格價上產生重大的變異。宜將適當的紙張用於適當的

9. PRESSWORK 印刷

After plates are approved, the job finally is ready to be run. The size and type of press,

印版被認可之後，最後工作即準備付印，印刷的型式和尺寸、印墨、印刷方法必須事前

prices. There is always the right paper for the specific job. It is important to know in advance what paper will be used because many of the other ingredients will be planned accordingly. (See Chapter 14.)

印刷品上，應預先知道將使用何種紙張是很重要的，因為許多組成因素需符合事前設計。

inks, and method of running will have been determined. Once the press is started, no changes should be made by the customer. (See Chapter 15.)

已決定好，當開始印刷時，無法接受顧客更改的要求。

10. PROCESSING 印刷後處理

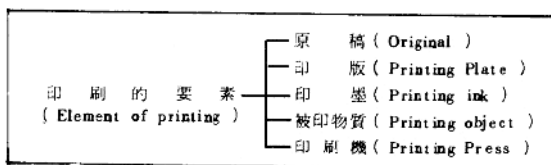
Finished press sheets go to the bindery or processor for any of a number of operations, depending on the job. These include laminating, die-cutting, embossing, cutting, folding, punching, stitching, collating, trimming, etc. (See Chapter 16.)

These highlights of some of the steps from conception to finished product indicate that a great deal of careful planning is required to make the final printed job an efficiently produced product, with quality tailored to fulfill the ultimate objective.

對任何作業過程裡，印刷完成的紙張，則送入裝訂或加工。這些作業包含了切成裱合、壓切成型、壓凸花、切割、折疊、打洞、穿綫、上光、裁修等。

這些明顯的步驟從起初之概念到印刷品的完成證明了該要有詳細的計劃，為的是印刷成品的品質能充分有效地滿足最終的目標。

〔第二章完〕



3

man with a key... 關鍵人物一印刷者

THE PRINTER

In the last chapter a table listed various "ingredients" of the printed job, along with sources for each. Of all the sources, the printer is by far the most responsible for the final product.



上章裡，表中列出了印刷作業的各種不同組成要素和每一程序的共同起源。而印刷者對

印刷者是關鍵人物——讓他幫助你 THE PRINTER IS YOUR KEY MAN—LET HIM HELP YOU

It is one thing to have him give you his

讓印刷人對於你所設定的詳細說明來給予你最低的價格是一件事。從作業的開始即一起

BUYER-PRINTER 客戶與印刷 RELATIONSHIP 者間的關係

Many buyer-printer relationships are pleasant, mutually satisfactory, and economically sound because they are based on trust and respect. How is this relationship built? How can it be more prevalent? Since both buyer and seller benefit from the ideal relationship, it might be wise to review some of the habits

許多客戶和印刷者間的關係，非常愉快，而互相感到滿意和價格公道，因為他們同基於信賴和尊重的基礎上，如何建立此種關係？如何使它更加發揚宏效？因此雙方的利益，從觀念上的關係，可以明顯地看出雙方成功關係的慣例。

良好的客戶會告訴你，他們不具有那些條件

SEVERAL TYPES 印刷廠的種類 OF PRINTERS

JOB PRINTERS are usually neighborhood firms specializing in short run announcements, business cards, forms, etc.

THE SMALL COMMERCIAL PRINTER, with from 10 to 20 employees, does form work and probably some advertising color work.

最後之完成品負有最大之責任。

lowest price for your set of specifications. It is another to work with him from the inception of the job, making use of his knowledge and experience so that there is no waste and no inefficiency from start to finish.

工作是另一回事。利用他的知識和經驗以致於從開始到完工，並無浪費且有效率。

of the successful buyer-printer relationships.

Good buyers will tell you that they have not one or two, but several sources for their printing. They fully realize the advantages that different printing houses can give, depending on the assignment. Through experience the buyer knows exactly which firms can be relied upon in each category. *He never demands more than his printer is equipped to give him—and he never accepts less.*

，但是有些原因是爲了他們的印刷技術，買方也充份了解，依據他們指示書，不同的印刷廠所能給予的各種利益。經由買者的經驗，那些公司行號可以信賴，他們都知道得一清二楚。買主絕對不要求，超過印刷者的設備所能提供的一切，而且也不接受小於其所美提供的一切。

LARGE COMMERCIAL PRINTERS include specialists and general purpose printers with from 20 employees to a thousand or more, with a variety of different types of equipment and facilities.

Then there are specialists among the medium and large printers—those whose primary output is packaging materials or displays or publications or continuous forms, etc.

All printers can offer creative help. Many will have valuable suggestions on selecting type faces and paper stocks, and can give good counsel based on their experience. A few others have full time professional services under the same roof as their production equipment, and can offer advertising planning, copywriting, layout, and finished art.

小印刷品的印刷者，通常是些鄰近的商店，特別是做些少量的印刷量如商業名片、表格等。

小型的商業印刷者：

具有10至20個員工左右，處理些表格、印刷或者可能也有些廣告彩色印刷。

大型的商業印刷者：

包含有專門人才和一般用途的印刷者擁有員工從20人至上千人，同時具有各種不同的設備機具。

因此，專門人才都集於中、大型廠中，其主

DIFFERENCES 品質上的差異 IN QUALITY

In printing, as in almost any trade or business, you usually get what you pay for. Labor costs in a given locality are about the same, and material costs are usually identical. Thus the difference in price is almost always due to the difference in quality. The time spent on a printing job is often the key to its cost. And remember that it takes longer—all along the line—to produce a fine looking job than an "ordinary" job. From art and typography to plates and paper, through presswork and binding and finishing, you can get mediocre workmanship or you can get the finest quality. It depends on what you want your printed

在印刷業裡，幾乎是你付出何種價錢，則你獲得何種品質。勞力成本在當地已知大約是一樣的，材料成品也是同樣的，因此在價格上的差異幾乎決定于品質的差異。印品作業

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Many printers fall into more than one of the categories discussed above. It is important to know which source to select for any given job in order to get the best results from your printing dollar.

要產量是包裝材料，（標題活字），出版刊物，商業表格等，印刷者能提供創造性的幫助，而很多在版式和印刷用紙的選擇上是有價值的建議，而且根據他們的經驗能提供良好的計劃，少數的印刷者在擁有和生產設備一樣的條件下，從事固定的專業服務和提供廣告計劃，撰稿、版面設計、完稿等。為了許多印刷者已開始討論上述種種的項目，獲得最佳之成果，了解原因來選擇任何已知之工作，是非常重要的。

promotion to accomplish.

Certainly no wise buyer would insist on the finest artwork, the best available paper, hand lettered type, multi-color process printing, and expensive binding for a throw-away piece that had no significance so far as results are concerned. On the other hand, it would be just as bad to plan carefully for a prestige promotional piece, then ruin it with poor materials and workmanship. In this latter case, the "cheapest" job turns out to be the most expensive, since it would be best not to print it at all. For all assignments the wise buyer turns to the printer who will give him the right quality for the particular job at the minimum cost.

所花費之時間常是成本的關鍵。同時守記一點，在生產上，所費時間較長者，通常生產出較精美的印刷品，從（原稿作品）和印刷術到印版，紙張經過印刷、裝訂、加工完

成等，你可得到平凡的工藝品或獲得最佳之品質，它決定於你要求你的印刷品進步到何種程度。

當然沒有聰明之買主無價值的印件堅持要最好的（藝術工作），使用最好的紙張？手工寫字排版、彩色印刷、昂貴的裝訂等，就有關之結果而言，那並無多大意義。

COSTLY PRACTICES 高價的實例

To get the best results from both a cost and quality standpoint it pays to work as closely—and as fairly—as possible with your printer. Here are a few practices which do NOT result in efficient purchasing:

Price squeezing—the beat-down-the-price method of buying.

從成本和品質觀點上言，爲了獲得最好之成果，付與印刷者和作品的代價儘可能極接近和合理有少數的結果是無適當的價格。

Price squeezing：殺價，壓低價格的購買方法。

另一方面，由於使用劣等的材料和技術，以致破壞了聲譽的成長，是非常可惜的，因此本來是最便宜的印刷品，却轉變成最昂貴的印刷品。聰明的買者對所有的指定，會求援於印刷者，他能爲特殊之工作以最低之成本，給予適當的品質。

Repeated demands for unreasonable rush service.

Piecemeal delivery of material to the printer.

Constant changing of copy, color, cuts, planning, etc.

The more you tell your printer, and the better you understand his problems, the more he can help you.

對急件、重複不合理的要求，

資料的交付不完整

原稿、色彩、樣式、設計經常的改變，資

料零零碎碎交付印刷者

告訴印刷者越多，你可能了解他的問題，同時印刷者更能幫助你。

〔第三章完〕

