

OCCUPATIONAL INFORMATION FOR VOCATIONAL  
PRINTING STUDENTS

STRATHMORE PARCHMENT

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By

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MASTER OF SCIENCE  
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## DEDICATION

It is with sincere appreciation that the writer wishes to dedicate this work to his wife, Helen. Without her gentle prodding and insistence it would have never been completed.



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## CHAPTER I

### INTRODUCTION

Education today is more involved than it was when grandfather was a boy. No longer does a knowledge of "the three R's" suffice. In the highly complicated society of the atomic age the student must also include a knowledge of how to make a living if he is to meet successfully the competition to be faced when he is "on his own".

College, and the higher fields of education do not beckon to the majority of the students leaving our high schools today. For the majority, whose formal education ends with their high school diplomas, their success in life depends largely upon a knowledge of the vocation they intend to follow. For the young man who knows what he wants to do, and who has had a basic training in the trade he has chosen, the future has some meaning--a definite goal.

This paper deals with the subject of vocational printing. It is designed as an introduction to one of the oldest trades known to mankind, a trade which today employs more than a million persons in the United States. For the student in vocational printing, or for the student who is seeking information about a trade, this will serve as a guide to a choice of occupation.

## STATEMENT OF THE PROBLEM

Occupational information for those interested in vocational printing is available from several sources. It is the guiding purpose of this study to present from the varied publications a composite picture of the possibilities for employment in the printing industry, personal and educational qualifications needed, duties performed, working conditions, advantages and disadvantages of the trade, wages and hours.

Although much has been written about the vocational aspects of the printing industry, much of the material is generalized while still more has pointed to specialized fields in the trade. Few high schools are blessed with libraries which carry a complete grouping of writings on the subject and the prospective students of vocational printing, in many cases, may not have access to information which would aid them in viewing the vocation from an over-all pattern.

With that in mind, this study is presented so that, with a little editing, it may be reproduced in booklet form and made available to vocational printing students and prospective students so that they may become better acquainted with the trade for which they are training, or exploring.



## REVIEW OF THE LITERATURE

Much of the literature written about the occupational information needed by the person desiring to enter the printing trade carries one phase or another, and only by studying all of the works in this field can he get a complete picture of the offerings of the industry.

The following is by no means all of the sources of information available, but is a listing of some of the best and most reliable sources of the information desired. After the student has made his selection of the type of work he would like to follow a more detailed description may be had by writing to the various trade unions and to the shops employing these workers.

Information on wages and hours in union shops may be secured from Bulletin No. 979, published by the Department of Labor, Bureau of Labor Statistics. Data for this work was compiled through the use of questionnaires, personal visits, and union publications. Contained in these tables are the minimum wages and maximum hours agreed upon through collective bargaining up to July 1, 1949.

Bulletin No. 902, from the same source, "Employment Outlook in Printing Occupations", gives the duties, qualifications, outlook, earnings, and working conditions

to be expected in the printing industry.

"Your Career in Printing", a booklet published by the New York Employing Printers, Inc., sets forth the opportunities for young men in the printing industry. "Few industries are so aware of the need for talented young people and few industries are so eager to advance talented young people to positions of responsibility", states this booklet.

Outlines of the jobs of Linotype operator and offset pressman are found in Occupational Briefs, No. 73 and No. 84, prepared by the Industrial Services Division, United States Employment Service.

R. Randolph Karch in his new book devotes a chapter to "How to Get a Job in the Graphic Arts".<sup>1</sup>

The future employment outlook for the printing industry can be found in the Management section of Printing magazine, a monthly publication printed especially for the printers of the United States. Other magazines in this field are The Inland Printer, the American Printer, and the Graphic Arts Monthly. From a careful study of these

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<sup>1</sup> R. Randolph Karch, Graphic Arts Procedures, Chicago, American Technical Society, 1948, Chapter 13.



magazines one can see the trend of wages and hours, working conditions, and other items of interest to the workers.

A weekly newspaper, the Publishers Auxiliary, carries not only an extended "help wanted" section, but also publishes articles by well-known authors on the subject of employment.

## CHAPTER II

### THE PRINTING INDUSTRY

From the very awakening of his mental faculties, man has ever proudly aspired to record his important deeds and to commemorate these achievements in some permanent visual form. An innate desire has also always been present to relate his experiences and communicate his thoughts to others.

The ancient cairns represent one of the earliest methods of expression. These served to reveal only that an important deed had been accomplished, and were monuments of mystery to all who were unfamiliar with the details of the incident. At this early date, man's ability to elucidate was nil.

The hieroglyphics of the ancient Egyptians and the cuneiforms of contemporary Persians and Assyrians--first carved upon rocks and the walls of caves, and later upon clay tablets--were the earliest methods used to record experiences and convey ideas in intelligible, as well as permanent form. These, no doubt had a direct bearing on the subsequent development of the alphabet, which was later simplified and given definite phonetic value by the Phoenicians.

It is said that the early Chaldeans used small bronze or copper punches to impress the cuneiform characters in the soft clay tablets, and that these might be called the world's first types. Thus, the inception of Printing can be traced to these early years of history; although this Art Preservative, as we know it today, probably originated in China many thousand years later, and did not come into general use until its appearance in Europe about the middle of the fifteenth century.

From the crude carvings on rocks and clay tablets, man slowly evolved the art of writing and perfected the necessary materials and instruments. By the use of a reed brush dipped in a kind of ink, he was first able to write on papyrus, then later on parchment with a quill pen, and finally he developed the first paper that is so familiar to us today. With the use of paper, the work of the medieval scribes flourished for many centuries before the art of Printing was discovered.

Man first learned to print by cutting on wood blocks the letters and words of an entire page, from which as many impressions could be made as were desired. This was a slow and difficult process, but a large number of books and records could be produced this way much faster than was possible by hand copying.

It was not until about the year 1440 that the idea was developed of cutting the individual characters on separate pieces of wood, or casting them in metal; thus making it possible to arrange these letters for any desired text, take as many impressions on paper as were required, and then distribute the letters into their respective compartments in a tray so that they would be ready for use again. The invention of printing from movable types in Europe, and its first successful promotion, are not traditionally accredited to Johann Gutenberg of Strasbourg and Mainz, Germany.

Along with his invention of movable types, Gutenberg found it necessary to devise a press for making the impressions on the paper. This first printing press resembled the wine and cider presses of that day, on which the pressure was applied by means of a screw and lever. For three and a half centuries a press of this kind was used. It is said that Gutenberg could turn out three hundred printed sheets in a work-day of that period. Slow work as compared with today's standards; but a decided improvement over the previous methods of hand writing and block printing. Here was the simple beginning of a new craft, through which was born an infant industry destined to enlighten and develop the entire human race, and thus



become one of our largest and most important business enterprises.<sup>2</sup>

Printing is an art, a great industry, and one of our chief means of communication. Developed in Germany about five hundred years ago, printing made possible the extension of education. As printed books and pamphlets multiplied and newspapers began to be published, they played a great part in spreading ideas, influencing public opinion, and aiding the people to obtain a voice in government. Their contribution to the growth of democracy was so fundamental that freedom of the press was one of the basic rights incorporated in the first amendment of the United States Constitution.

"More workers were employed in printing than in such large manufacturing industries as furniture, leather, and rubber or such important public utilities as telephone and electric-light companies. Printing is especially important as a field of employment for skilled men, affording opportunities in many different skilled occupations and, as a rule, paying better-than-average wages. Jobs are to be found in all parts of the country, in small towns as well as big cities. Many printing craftsmen are in business for themselves."<sup>3</sup>

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<sup>2</sup> John A. Backus and Milford M. Hamlin, Facts about The Printing Industry For Schools, American Type Founders, Elizabeth, New Jersey, 1940.

<sup>3</sup> Employment Outlook in Printing Occupations, Bulletin No. 902, United States Department of Labor, Bureau of Labor Statistics, 1947.



## METHODS OF PRINTING

Letterpress, lithography, and gravure, are the three main methods of printing in use today.

In letterpress (or relief) printing, the letters and designs to be reproduced are raised above the nonprinting areas of the type or the press plate. When the actual printing is done, ink is applied only to the letters and designs, usually by means of an inking roller.

In lithography (or offset printing), the plate is smooth or nearly so, with both the image and non-image areas on the same level, instead of on different levels as in letterpress and gravure work. Lithography makes use of the principle that grease and water repel each other. The image areas of the plate are coated with a greasy substance to which the greasy printing ink will adhere. On the press, the plate is moistened with water before each inking, with the result that only the image areas take up the greasy ink from the inking roller.

In gravure (or intaglio) work, the relation between the printing and nonprinting areas of the plate is opposite to that on letterpress. The letters and designs to be printed are cut or etched into the plate and are below the nonprinting surface. Ink has to be applied to

the entire plate, but the surface is then wiped or scraped, leaving ink only in the depressions. In printing, suction is created, which lifts the ink out onto the paper.

Letterpress is the oldest and by far the most common printing process. Practically all newspapers, most books and magazines, and most commercial jobs are printed by this method. The work done by photoengraving shops (which make plates for use in relief printing of illustrations and other copy that cannot be set up in type) and by stereotyping and electrotyping shops (which produce metal duplicates of type forms and photoengravings, for use as press plates) is also part of letterpress printing.

Lithography, though still much less common than letterpress work, is the most rapidly growing method of reproduction. Practically all items printed by the relief process are also produced by lithography--including, for example, books, calendars, maps, poster, labels, office forms, sheet music, and even newspapers. Almost all printing on metal and much of the printing on rough paper is done by this method.

Gravure printing, the least common process, is of two main types: rotogravure (in which press plates are made from pictures by a method based on photography) and

hand or machine engraving. The beautiful picture supplements of some Sunday newspapers are the best known roto-gravure products, but some magazine and other pictures are printed by this means. The process is used also in some printing on metal and metal foil. Hand or machine engraving is used in making engraved stationery, greeting cards, and similar products.

### IS PRINTING A PROGRESSIVE INDUSTRY?

"In an industry which pays high wages and whose existence depends upon its ability to produce many copies at low cost, it is necessary to concentrate on new ideas and better methods at all times. Perhaps printing seems less glamorous than some of the modern mass production industries, but no industry today is more acutely aware of the need for new ideas and better methods. It has been said, for example, that the next ten years will see the adoption of more improvements in printing than have taken place since Gutenberg. This may be an exaggeration, but in any event it means that bright young men with ideas will be welcomed into the industry as never before. If you are a person who is on the lookout for more efficient ways to get a job done, then you will find the welcome mat out for you in the printing industry."

Printing ranks high among industries with good safety records. The number of accidents is well below the average for all manufacturing industries, and there are only half as many serious injuries as the average for all industries.



Almost all printing workers are on a 40-hour, 5-day week or less. They enjoy regular vacations.

Perhaps most important, they have interesting work and job security. Printing workers have always had a long span of usefulness. They don't wear out. Throughout their working careers, they can usually keep their minds and their hands busy in constructive work without the fears and uncertainties to be found in many kinds of employment. A busy worker is usually a healthy and happy worker.<sup>4</sup>

#### FUTURE OPPORTUNITIES FOR EMPLOYMENT

Workers are still needed in various skilled operations in the printing industry, according to a survey of executive opinion made by Ernest F. Trotter, editor of Printing Magazine, at the beginning of the year 1950.

"Over one-third of those replying (35%) are still in need of skilled workers. This compares with 56% a year ago. About 27% of the demand is for bindery workers, 23% for compositors, stonehands and linotype operators (most of this demand is for compositors--"good ones" many repliers took care to add), 20% of the requests are for pressmen, with cylinder pressmen in most demand, job press and web pressmen next, in that order.

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<sup>4</sup> Your Career in Printing, New York Employing Printers Association, Inc., 461 Eighth Avenue, New York 1, N. Y., pp. 13-15.

More than 9% are seeking offset workers with offset pressmen most badly needed, cameramen, retouchers and platemakers next, in that order. The other 2% of the requests are for office employees and maintenance men. The need for salesmen was the biggest factor here (and some people added "with a following"), the requests for estimators being next in line. Thus it is evident that there are still many job opportunities available in all the skilled trades in the Graphic Arts."<sup>5</sup>

#### EARNINGS

Earnings tend to be higher in printing than in many other industries, owing to the large number of skilled workers employed, the strong influence of the printing unions, and other factors. In 1949, wage earners in book and job shops averaged \$2.08 an hour in comparison with 81 cents an hour in 1940; newspaper and periodical plants averaged \$2.49 to \$1.03 for the same periods. In no other manufacturing industry for which information was available were average earnings as high as in newspaper and periodical plants. During 1946, earnings averaged \$1.21 an hour in book and job shops and \$1.46 in newspapers and periodicals, compared with \$1.08 in all manufacturing.

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<sup>5</sup> Ernest F. Trotter, "Survey of Executive Opinion", Printing Magazine, January, 1950.



What an individual printing worker can expect to make varies greatly from one occupation to another, as well as from city to city, and in other ways. The best source of information on wages in different occupations are union wage scales. These scales are the minimum rates paid under collective-bargaining agreements and are usually uniform for each occupation in a given locality. They are, in general, representative of wage rates in skilled and semi-skilled printing trades, which are all highly organized.

In July, 1949, union wage scales averaged about \$2.21 an hour. For skilled workers, rates were generally between \$1.89 and \$2.91 an hour. Since July, 1949, wage scales have increased in some of the large cities.

In most printing plants, as in many other manufacturing plants, workers are paid time and a half for overtime work not only above a standard number of hours a week, but also above 8 hours a day. The standard workweek is usually 37½ hours in newspaper plants. In other printing shops, it is usually 40 hours. Work on Sundays and holidays is customarily paid for at time-and-a-half or double-time rates in most branches of printing. In newspaper plants, the standard workweek often includes Sundays and work has to go on as usual on holidays; however, time and a half or double time is paid for these days only when they are

not part of the employee's regular shift. Night-shift workers in union shops generally receive about \$5 extra for a 37½ or 40 hour week. There are many other types of provisions for overtime and special rates of pay.

How much workers earn during a year depends not only on their rates of pay but also on how regularly they are employed. Printing workers are fortunate in having steadier employment and earnings than those in many other industries. Earnings tend to be especially steady in newspaper work.

Paid vacations are called for by most wage agreements. The majority of union workers receive 2 weeks' vacation with pay after 1 year of employment. In addition, the printing unions are noted for welfare provisions for their members; for example, pensions, sanitarium facilities, and educational programs.<sup>6</sup>

#### LABOR ORGANIZATION IN THE PRINTING INDUSTRY

Workers seeking jobs in printing trades will find that the printing unions not only influence wages and working conditions but often have a strong voice in determining

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<sup>6</sup> Bulletins No. 902 and 976, United States Department of Labor, 1947, 1949.

hiring policies. Many plants are covered by closed-shop agreements, under which all workers in specified trades have to belong to the appropriate union. Union members are also often employed in plants having no union contracts.

There are six major unions of printing workers. Five are craft unions affiliated with the American Federation of Labor--the International Typographical union, International Printing Pressmen's and Assistants' Union of North America, International Photo-Engravers' Union of North America, International Stereotypers' and Electrotypers' Union, and the International Brotherhood of Bookbinders. The sixth, the Amalgamated Lithographers of America, organizes workers in all lithographic occupations. It is a member of the Congress of Industrial Organizations.

Most typesetters and other composing-room workers are represented by the International Typographical Union. In newspaper and job printing, either shop foremen who are themselves union men or the union shop chairman usually do the hiring, disciplining, and firing of composing-room employees, in accordance with union rules. Pressroom workers, too, are usually covered by union agreements. Practically all the letterpress and rotogravure pressmen who are organized belong to the International Printing Pressmen and Assistants' Union. The large



majority of lithographic and offset pressmen, as of other lithographic workers, are in the Amalgamated Lithographers of America.

Photoengravers are almost completely organized by the International Photo-Engravers' Union of North America. The proportion of stereotypers and electrotypers unionized by the International Stereotypers' and Electrotypers' Union is likewise extremely high.

Although employees in binderies are not so strongly organized as the groups discussed in the last two paragraphs, many skilled bookbinders and other bindery workers are represented by the International Brotherhood of Bookbinders. The proportion of workers belonging to this union is higher among journeymen than among less-skilled employees.

#### GETTING THE JOB

Having completed the courses given in a vocational or other schools, the graduate is then ready to try to get a job. Some of the problems he will run into at this time are discouraging to him, but if he will keep in mind that he has a product to sell and follow the best methods of merchandising that product, he will succeed in getting the job he is after.

Employment may be secured through a number of different ways; 1. Employment agencies and school employment bureaus; 2. Answering and placing newspaper and magazine advertisements; 3. Inquiring about openings by calling at printing plants; and, 4. Through contacts who know of openings. Any one of these methods does just one thing--secures for you the prospect of employment. The rest is up to you.

#### EMPLOYER OBJECTIONS TO THE SCHOOL-TRAINED WORKER

The job-hunting graduate sometimes will run into quite a number of objections from employers. A knowledge of what these objections are and how to overcome them can be of great help in securing employment.

Lack of experience can be called one of the strangleholds on a school graduate who is looking for a job. Printers, although few of them adequately train help, look for a market of good printers for their openings. Most of them expect this help to be experienced. A few of them feel that no school can train help correctly or sufficiently. They believe this for several reasons:

They have tried out graduates from one or several schools and have found them wanting in several qualifications. Perhaps these young printers had not gone to



school for a sufficient time to learn the necessary skills, or had been graduated from schools where standards are low. Some students claim to be graduates when they are not, and this adds to the trouble for others better qualified.

Few employers are familiar with the workings of schools, or what the schools are trying to do. Often they cannot differentiate between junior high school printing courses and the trade and professional courses. Having usually served the oldtime apprenticeship, they still believe that the only way to get started on a career in printing is to sweep the floor, deliver packages, and melt metal, according to the old type of "printer's devil" apprenticeship.

To combat this opposition, a printing school graduate should not apply for a job he knows he cannot hold. He should not claim to be able to perform skills he cannot accomplish. He must admit that he is starting in the trade. But he should not, in any case, belittle his training or be modest in stating the duties he can adequately perform. When the subject of school training comes up between the prospective employer and employee, the graduate should sell him the idea that his school is a good school, and prove it by references to catalogs and the amount of work accomplished. A man or woman gets out of schooling

what he or she puts into it.

#### WHAT TO SAY

What to say when applying for a job is of great importance. Almost as silly as the man who sticks his head into an employer's office and asks "You don't need any help today, do you, mister?" is the man who states, when questioned about his abilities, "Oh, I can do anything!" The employer takes very little stock in such an obvious falsehood. It is very important to tell exactly what one can do for an employer; for example:

"I'm best at machine composition, setting about a galley an hour, but I can also set ads, set job composition, makeready jobs, and feed platens to register at 2,000 per hour." Or, "I'd like to work in the layout department, because at school I excelled in this work, but I can also do hand composition of job work, and help out, if needed, in the pressroom or bindery." Or, "I prefer a selling job, but when necessary, I can set type by hand, operate a press, and . . ."

In large city shops one may be employed in one department full time, as in the composing room or pressroom. In country plants, he may be expected to work all around, and perform a dozen or more duties. One should keep the type

of shop in mind when applying for employment.

#### WHAT THE EMPLOYER EXPECTS OF EMPLOYEES

Speed is an important consideration in mechanical duties. Employers think in terms of time, which is cost to them. They want to know not only what the applicant can do, but how fast he is, and how well the job will be done. They know a man needs to know how to make adequate, correct layouts; but they are not interested in one who takes a half-day to make one for a simple job. They are interested in speed on a typesetting machine, but a speed of 3,000 ems an hour is useless to them if half a galley must be reset because of errors. Likewise a man who can handfeed 2,200 sheets an hour on a platen press is a good worker, provided he has his the guides, and all sheets are printed correctly. In short, an employer wants workers who do not "fiddle around", and who are not too slow.

Loyalty is expected of workers. An employee who takes the interests of the employer to heart is valuable. Another quality of a good worker is that he comes to work on time every morning. Work cannot be completed on schedule when employees are loose in attendance. Printers are expected to be neat, look well, and work without a mess of material scattered about them.<sup>7</sup>

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<sup>7</sup> Karch, op. cit., pp. 337-338



## CHAPTER III

### JOB OPPORTUNITIES IN THE PRINTING INDUSTRY

Printing is a large industry. Engaged in publishing and printing are about 250,000 wage earners and 130,000 salaried personnel. There are perhaps as many as 65 different kinds of employment in the printing industry. Among these are jobs which are clean and others which are dirty; some are repetitive, others are diversified. Some kinds of jobs will suit the loquacious, others the taciturn. Still others will appeal to those who delight in competitive natures. There are jobs for white-collar workers, and for those who prefer blue work shirts; also for the workers who are cogitative as well as those who prefer automatic operations. These jobs can be divided into six classifications:

- |                   |                       |
|-------------------|-----------------------|
| 1. Composing room | 4. Lithography        |
| 2. Pressroom      | 5. Professional       |
| 3. Bindery        | 6. Allied-Platemaking |

Each job is discussed on the following pages, and an explanation is made for each on the nature of the work, the working conditions, the personal qualities needed, the preparation needed, the opportunities for advancement, and the advantages and disadvantages.



## I. COMPOSING ROOM JOBS

### 1. AD COMPOSITOR

The ad compositor assembles the types and materials used in composing advertisements found in newspapers and periodicals. He may or may not set type by hand, especially in the larger newspaper composing rooms. Most of the ads are already laid out, and he merely follows the layout.

Working conditions. Usually, the working conditions are good and in well-lighted shops. Most newspapers are organized and have a strong union. The work might be dirty in some printing plants. The ad compositor may be required to operate the Ludlow Typograph, and must know how to operate all composing room machinery other than line-casting machines.

Personal qualities needed. The ad compositor must be willing to take orders easily and willingly, to work well with others on group projects, and must be able to read and follow written directions.

Preparation needed. In union shops, a six-year apprenticeship is required. In others, he must have a similar broad training in a composing room.

Opportunities for advancement. Ad layout man, who designs the setups for all ads to be set, and composing room foreman are the advancement possibilities for the ad compositor.

Advantages and disadvantages. Good wages and hours are paid these workers. However, the work is inside, and may be at night. The ad compositor stands at work.

## 2. PROOFREADER

The proofreader not only scans the first proof of newly set type, but also looks for errors which may have occurred in the original copy. He or she may be aided by the copyholder, who reads aloud from the copy.

Working conditions. Most first-class printing establishments have good quarters for their proofreaders, but some house them where the noise of the shop gives interference.

Personal qualities needed. The proofreader must have a natural curiosity, and perhaps a "suspicious" nature-- enough at least to take nothing for granted. His job is to find errors.

Preparation needed. The proofreader should have a good general education, especially in English grammar,

spelling, word division, compounding of words, history, and geography.

Opportunities for advancement. Promotion to head proofreader is the next step in his advancement.

Advantages and disadvantages. The proofreader must read all day, which requires good eyesight. The work is physically inactive. Most good proofrooms are quiet, but some may be noisy, which interferes with comfort.

### 3. COPYHOLDER

The copyholder reads the original copy to the proofreader so that the latter can mark any corrections. Filing and delivering of proofs are other duties.

Working conditions. Usually good, but in some cases reading must be done in a noisy shop.

Personal qualities needed. The copyholder must have the ability to read well, clearly, and enunciate properly. He must be able to read aloud all day from manuscript to the proofreader.

Preparation needed. Very little mechanical preparation is necessary, although a thorough knowledge of composition of type will help. A well-rounded general education will hasten promotion.



Opportunities for advancement. Promotion to the proofreader's desk.

Advantages and disadvantages. One must read most of the day, which may be tiring to the eyes. One must sit at a desk most of the time, and carefully file and keep account of copy and proofs, but there is much satisfaction in this educational work.

#### 4. HAND COMPOSITOR

The hand compositor's work and working conditions are quite similar to that of the ad compositor discussed in preceding paragraphs. Some hand compositors merely follow the layouts made by the layout man, or perhaps by the artist-designers of an advertising agency or book publisher. Others have some responsibility in designing the work themselves.

#### 5. LAYOUT MAN

The layout man, or typographer, as he is sometimes called, designs the advertising and other commercial work which the hand and machine compositors set in type. His created design is sent to the composing room with all measures and sizes and kinds of type marked in detail.



Working conditions. Work is done usually at a drawing board with the usual artists' tools. He creates rough, comprehensive, and visual layouts, and has much to do with the ordering of engravings and art work of various kinds.

Personal qualities needed. The ability to do a sedentary job, indoors. A definite talent for the artistic is prerequisite.

Preparation needed. A good background in modern typographic art principles is needed, along with a knowledge of type faces and their use. This does not mean that he necessarily must be a printer.

Opportunities for advancement. Promotion to art director or type director of a large advertising agency may be had.

Advantages and disadvantages. Confined, inside work at a drawing board, usually under pressure of time is found in this work, but layout is interesting work.

## 6. INTERTYPE AND LINOTYPE MACHINIST

The machinist keeps Intertypes, Linotypes, and other composing machinery in good repair. He does not manufacture parts, like the usual machinist in other industries, but he adjusts and places new parts on the machines in his

care. Most shops have a full-time machinist for every five machines, but in smaller plants he may operate one machine himself, and care for one or two others. In this job he is an "operator-machinist".

Working conditions. The work is greasy and dirty.

Personal qualities needed. The machinist must have a liking for complicated machinery, and for making repairs and adjustments.

Preparation needed. Usually a six-year apprenticeship is necessary for this work. The machinist must know not only the principles and operation of Intertypes and Linotypes, but also various models.

Opportunities for advancement. The machinist may advance to head machinist of a large battery of machines, equipment salesman, or erector.

Advantages or disadvantages. There is great satisfaction to the machinist in being able to keep complicated machinery in running order. However, it is greasy work, with a great responsibility for keeping the machines in working order at all times.

## 7. INTERTYPE-LINOTYPE OPERATOR

Operating line-casting machines is a keyboarding job. Some operators work on machines devoted solely to straight matter, and others work on multiple-magazine machines which compose large sizes of type for display.

Working conditions. In large shops, the operator will merely operate the keyboard, reading from his copy. In smaller shops, where his may be the sole machine, he must act as operator-machinist. In general the working conditions are good.

Personal qualities needed. The operator must be able to read quickly, divide words correctly, and be adept with his fingers. He must also be able to do his work without getting confused when under the pressure of deadlines.

Preparation needed. The best operators have a hand composition background, although men and women have become operators without this background. A six-year apprenticeship is needed in union shops, the last year of which might be served on the machine.

Opportunities for advancement. He may become foreman of the line-casting machine department, composing room foreman, or superintendent.



Advantages and disadvantages. One must sit continually at work, and read constantly. Where the operator does not take care of his own machine, the work can be as clean as an office job.

#### 8. MAKE-UP MAN

The make-up man works on daily and weekly newspapers. His job consists of assembling news columns and advertisements into chases. The job is quite similar to that of the ad compositor, although in many cases there is little transfer or training to other operations; that is, a make-up man may not be successful as an ad or commercial compositor.

#### 9. MONOTYPE CASTER OPERATOR

The caster operator on Monotypes must set up his machine to cast either straight composition, single type, or material for spacing. Sometimes he is adept on one or more machines.

Working conditions. The machines are relatively difficult to adjust in this high-precision work.

Personal qualities needed. The ability to make careful adjustments and to keep intricate machines in good running order, are the qualities needed.



Preparation needed. An apprenticeship of six years in union shops, or the equivalent at the Monotype school, is the preparation needed.

Opportunities for advancement. He may become foreman of the Monotype caster room, or foreman of the Monotype department, and composing room foreman or mechanical superintendent. If the caster operator knows the operation of the keyboard, he may become a "combination man", and increase his wages.

Advantages and disadvantages. Monotype casters make quite a clatter in operation, and require meticulous care to cast good type. One must stand while at work, and the temperature of the caster room is often very high, although some are air-conditioned. The work is quite satisfactory to the mechanically inclined man.

#### 10. MONOTYPE KEYBOARD OPERATOR

The Monotype keyboard room is often housed away from the clatter of the casters. As the name suggests, the operator manipulates a keyboard, which punches holes in a paper ribbon, which is used to operate the caster.

Working conditions. The keyboard operator sits at his machine, "typing" the copy which might be straight matter composition or intricate tabular work in columns

of figures. The work is clean, and many women are employed in this work.

Personal qualities needed. One must be so constituted that he can be confined to a machine all day. Attention to detail is important.

Preparation needed. An apprenticeship in a Monotype keyboard room or its equivalent at the Monotype school is needed. The better operators are those with a general composing room background. Some mathematics is needed, along with a good knowledge of word division.

Advantages and disadvantages. One must sit continually while at work, and the job is clean, but painstaking.

#### 11. STONE MAN

The stone or imposition man locks up the forms for the presses, which includes getting the pages for a multiple form in the correct position, as well as adjusting the forms so that they back one another up exactly--to perhaps one point or 1/72 of an inch.

Working conditions. The working conditions are generally good, as the stone man is one of the most valuable and important men in the composing room.

Personal qualities needed. The stone man is often "in the middle", so to speak, between the compositors and the pressmen. He must be able to get along with both, and be able to read orders and interpret directions accurately.

Preparation needed. A good and comprehensive composing room background will fit him for this job. He should know much more about printing than the compositor who does not make his own layouts.

Opportunities for advancement. He may be promoted to composing room foreman or plant superintendent.

Advantages and disadvantages. The stone man is continually correcting errors made by others. He must stand all day, and lift heavy forms. He is very often a "premium" man, making more wages than others.

## II. PRESS ROOM JOBS

### 1. PLATEN PRESSMAN

The platen press is one of the most simple to operate, and is either hand-fed by the pressfeeder, or has an attachment which automatically feeds the paper. The pressman adjusts the press to take various kinds and sizes of paper stock, and makes the jobs ready with overlays and underlays. A platen pressman usually cares for several



presses; pressfeeders work under his direction.

Working conditions. Light lifting of forms is required; otherwise the work is not hard to do. Today shops are fairly well lighted, and clean. The platen pressman has the responsibility of seeing that each job is made ready properly, and that it is fed correctly.

Personal qualities needed. One must be able to take orders willingly and to read instructions correctly from the job ticket or order. The pressfeeder looks to the pressman for his orders.

Preparation needed. Pressmen start as feeders, and later become apprenticed to another pressman. The pressman's union conducts an excellent school for its members where they can learn the operation of various machines.

Opportunities for advancement. He may advance to cylinder presswork, pressman in charge of all platens, or pressroom foreman.

Advantages and disadvantages. The work is not difficult, but the responsibility for good work rests with the pressman. Where feeders are employed, the feeders wash up the presses; otherwise the pressman does this work.



## 2. PRESSFEEDER

The pressfeeder's sole responsibility is to see that the sheets are delivered to the guides properly, and he also watches the sheets as they are printed so that the inking is correct and that the form is in good condition so that work-ups do not occur. Pressfeeders feed the sheets to both platen and cylinder presses when they are not equipped with automatic feeding devices.

Working conditions. The work may be tiring and monotonous. Light lifting of forms is required.

Personal qualities needed. The feeder must be willing to take orders from the pressman, and be vigilant so that work is not spoiled.

Preparation needed. Very little preparation is required other than the skill of feeding a press.

Opportunities for advancement. The press feeder may be promoted to assistant pressman on cylinders and pressman on platens.

Advantages and disadvantages. Feeding a printing press is considered by many to be an unimaginative occupation and quite monotonous. There is little responsibility involved. Most presses today are of the automatic

type and require no feeders.

### 3. CYLINDER PRESSMAN

The cylinder pressman is the one who sees that sheets are properly printed on this type of machine. Most of the printing done today is the product of cylinder presses of various sizes and makes, from the small job cylinders to the large two-color machines.

Working conditions. Much of the pressman's time is spent in preparing the press for the job at hand, and on large presses he has an assistant to help him. He should be an expert on makeready, especially on halftone work. He may be required to do four-color process work. He is directly responsible for the quality of the work, and production. When long press runs are in process, his work is relatively light.

Personal qualities needed. The pressman must be able to mix and match colors to the artist's sample. He must be mechanic enough to see that his press is in good condition, and he must work with others in complete agreement and co-operation.

Preparation needed. An apprenticeship in a pressroom of sufficient size to enable him to get a well-rounded

experience is needed.

Opportunities for advancement. He may be promoted to pressroom foreman or plant superintendent.

Advantages and disadvantages. The pressman has considerable responsibility to see that his press operates on schedule and that good work results. If the pressroom is not air-conditioned, it is usually warmer than other work rooms in the printing establishment. Heavy lifting of forms, with help, is required. He derives great satisfaction from his work.

#### 4. ROTARY PRESSMAN

Rotary presses turn out, at great speeds, our newspapers and magazines and some books. The press runs total into the millions. The machines are quite unlike those operated by the platen and cylinder pressmen. Rotary presses are often two stories tall and a block long, and require many pressmen to operate them.

Working conditions. The rotary pressman adjusts the rollers, controls the ink, threads the web of paper, places the half-cylindrical stereotypes or electrotypes in the correct position, and watches the many things that must be done to turn out the work. His press may be a simple small



press, or it may be a mammoth that prints on both sides of the paper roll in five colors. In some smaller shops his job may be that of stereotyper as well as pressman.

Personal qualities needed. The rotary pressman must be able to work in close so-operation with others, and be physically able to lift the plates.

Preparation needed. An apprenticeship in a rotary pressroom and a few schools give one the preparation needed for such work.

Opportunities for advancement. Promotion to foreman of the pressroom in newspaper or commercial printing plants are future opportunities of this job.

Advantages and disadvantages. The rotary pressman has direct responsibility for the particular job assigned. The work may be dirty. Work is often done at night and on special shifts, but when the presses are "rolling", his work is relaxed, although he must watch the run. His job is interesting.

### III. BINDERY JOBS

Bindery jobs consist of a multiplicity of special operators on many different kinds of machines. Some work is simple and quite repetitious as well as low-paid. Other



jobs are varied, complicated, and fairly well paid.

### 1. CUTTER

The paper cutter works in commercial letterpress and offset lithographic houses. His duties are to receive the paper stock in large sheets, cut them down to sizes suitable for the jobs at hand, and finally trim the completely printed and folded work.

Working conditions. In small printing shops, the cutter has a variety of duties other than cutting. He pads, stitches, drills, and punches various kinds of jobs. In larger shops, his duties consist of cutting paper alone.

Personal qualities needed. The cutter should have reasonable strength to handle paper. He should be able to figure stock accurately, and take extreme care that he spoils no work that has already been through the various departments of the plant.

Preparation needed. A bindery apprenticeship is all the preparation needed for this job.

Opportunities for advancement. Promotion to bindery foreman is the advancement for this job.

Advantages and disadvantages. The work is often tiring, and one must stand throughout the day. The work

is, however, cleaner than most work in printing establishments.

## 2. BOOKBINDER

Bookbinders in various specialized capacities do the work of folding the paper, sewing the books, and affixing bindings to them. Large-editions binderies have many bookbinders operating the machines which do the work. Small hand binderies exist where rebinding magazines and repairing books is done. The operations in such plants are usually done by hand.

Working conditions. If employed in a large bindery, the bookbinder may perform only a few operations. In small plants he will perform all of them. The work is clean and light.

Personal qualities needed. The ability to work alone and accept the responsibility of the job, or with others in repetitive work, is needed.

Preparation needed. An apprenticeship in a bindery is the training needed.

Advantages and disadvantages. This is clean work, although doing the same operations day after day might become monotonous.

#### IV. LITHOGRAPHIC JOBS

Offset-lithography employs a variety of talent in many different fields of endeavor. Most of the work is highly specialized. For example, there are many kinds of lithographic artists: the dot etcher who corrects the tone by reducing the size of halftone dots without losing the density of printing; those who specialize on submarine, stipple, Ben Day, poster, Tusche in black and in color. Other artists are the opaquer and the spotter.

Other offset-lithographic jobs are those of the engravers, provers, black and white color separator-photographers, strippers, platemakers, transferers, and pressmen.

Lithographic pressmen do a job similar to that explained for the letter pressmen. However, although there is some transfer of training between the two occupations, the processes are so different that a man working at one trade cannot transfer to the other without some retraining.

Nature of the work. Workers in offset-lithographic houses are specialists, and the nature of the work varies according to the duties performed.

Working conditions. Some workers are employed in darkrooms, others in well-lighted areas. Conditions in



general are comparable to those jobs in letterpress printing work.

Personal qualities needed. Artists, of course, need steady hands and an artistic talent, whereas pressmen need to be good mechanics. Some workers are highly skilled and others are not.

Preparation needed. An apprenticeship in the respective operation is the preparation needed.

Opportunities for advancement. The good worker may be promoted to foreman of his particular department.

Advantages and disadvantages. Darkroom work is confining, and the artists have meticulous work to do. Some plants are air-conditioned. Presswork is comparable to that of letterpress work in many respects, although the processes differ.

## V. PROFESSIONAL POSITIONS

### 1. FOREMAN

Certain professional positions have been collected under one heading because, although the work differs greatly, the work is quite similar to the work of the journeymen already discussed. Foremanship assumes several



prerequisites: the foreman must have a greater knowledge than the men who work under him; he analyzes work and organizes his men to perform the necessary tasks; he acts in a supervisory capacity; he sees that economy is practiced; he instructs his men in their duties; and he operates his department in a proper manner.

Working conditions. The foreman of any department must adapt his men and machines for best production, and check often to see that progress is made on the work in the plant. He is the intermediary between the men and the management. He keeps the peace on wage scale adjustments and on working conditions. He hires, fires, promotes and demotes. He does not have to be tough, but he must be firm in his dealings with his employees.

Personal qualities needed. The foreman must be a leader, and command the respect of his men. This makes mastery of the technical manipulations a prime necessity. He should be able to do anything that his men can do, and do it better. He should be able to get work done without being a "driver".

Preparation needed. Years of experience in the work being supervised are required, as well as the ability to accept new processes and methods, and to keep up with technical changes.

Opportunities for advancement. He may be promoted to the position of plant superintendent.

Advantages and disadvantages. The success of the entire department rests with the foreman, who carries the responsibility for the work that is being performed. His wages are usually at least five dollars weekly over journeyman scale, and often higher.

## 2. OWNER-OPERATOR

The owner-operator is usually one who has become proficient as a plant superintendent or foreman, and who has established his own business. If his plant is small, he may do some or all of the work himself; if large, he will hire others to take on some of the responsibility. It should be remembered that a printer, as such, need not be actually a journeyman workman. Many good businesses are operated by men who are not skilled in the actual work of the shop, but are good businessmen.

## 3. PRODUCTION SUPERINTENDENT

Plant superintendents and production managers are the overseers of the foremen of the various departments of the printing or publishing business. They have usually risen from the positions of foremen. In addition to knowing the

business from all angles, they keep up with trends in production methods, and often deal with unions. Much responsibility rests on their shoulders in correlating and integrating each department. Such men are valuable and can earn from \$7,000 to \$25,000 a year.

#### 4. GRAPHIC ARTS TEACHER

The graphic arts teacher is usually one who teaches in high schools and colleges, in either industrial arts or vocational education courses. He may be a specialist in either composing room or pressroom, for example, or he may be an all-round man who can teach all operations.

Working conditions. Teachers spend about six hours per day conducting classes in either shop work or related subjects. The better ones spend an additional two hours per day preparing work, grading papers, and keeping the shop in good order. In addition, they are often called upon to sponsor journalism clubs, to coach teams and plays, and to do other school work. Working conditions are generally good, in clean and well-lighted shops and classrooms. Their association with youth is invigorating and interesting. They can make friends.

Personal qualities needed. Teachers must like to work with boys and girls, and be able to cope with disciplinary



problems. They must be able to keep their heads in any trying conditions. They should be able to keep up with the march of the graphic arts.

Preparation needed. Graphic arts teachers must know two professions: (1) that of teaching, which they learn in teacher-training colleges and universities, and (2) the subject they teach. If they are vocational teachers preparing young men and women for jobs, they are usually required to have completed at least seven years of experience in the actual trade taught.

Opportunities for advancement. The teacher may be promoted to schools where the pay is greater, and to vice-principal, principal, or associate superintendent. Some enter industry as special trainers.

Advantages and disadvantages. He will have relatively short hours in some instances, and all school holidays. As generally supposed, teachers are not paid for summer and other holidays, but are paid for a year of working consisting of certain number of days teaching. They have a refreshing contact with youth, which compensates in part for a general and comparable low wage scale. Often they are required to do job printing for the schools, which may get out of hand to the extent that they find themselves printers rather than printing teachers. They may be



required to work for extra college degrees in order to get an increase in pay. Higher salaries are usually based on years of service, and these increments are usually slow in progress. Teachers of printing usually have the benefit of a pension.

## VI. ALLIED POSITIONS

### 1. PLATEMAKERS

Photoengraver, electrotyper, and stereotyper are classed as platemakers. The photoengraver and the electrotyper are in a specialized printers' supply business, providing original and duplicate plates, respectively. Photoengravers' wage scales are usually higher than other graphic arts workers. Photoengraving work is relatively clean, while electrotyping may be dirty.

The stereotyper usually works in newspaper plants, where he makes flat or cylindrical casts of type matter, photoengravings, or electrotypes. His work is comparable to that of other newspaper plant workers, although usually the pay is not as great.

### Reference

Karch, R. Randolph, Graphic Arts Procedures, American Technical Society, Chicago, Illinois, pp. 319-332.

## CHAPTER IV

### ADVANCEMENT TO EXECUTIVE POSITIONS

For the student who is aggressive, willing to accept responsibilities, and has leadership qualities, the printing industry offers an almost unlimited field in which he may, with additional training and diligent application of the fundamental principles learned while an apprentice, advance to executive positions in the company for which he works.

Management is constantly on the lookout for young persons who are qualified for supervisory positions and in many instances spend a great deal of money in the training of workers for these positions.

By studying the duties of the various executives of a large company, it is possible for the worker to find what training is needed in order to qualify for the position for which he is striving. Not all printing companies will have all of the executive positions to be listed, but the work of several may be combined under one head.

Training for these positions may be had at any one of a number of technical schools and colleges throughout the country. "The time is fast approaching when there should be big name printing schools in the country", says Charles

E. Kennedy. He said these schools should be on the "collegiate technical level", advocating groups of such schools, each school embracing six states, and to be tax supported.<sup>8</sup>

The following is a list of executive positions in the printing industry. The lists of duties for each job are reduced to composite lists in order to give a comprehensive picture of the duties of the average official holding that position:<sup>9</sup>

#### PRESIDENT

1. Determines the general policy of the firm.
2. Reads mail and dictates business letters.
3. Looks over incoming checks and orders. Refers them to treasurer and clerks respectively.
4. Countersigns all checks.
5. Gives instructions and advice to the purchasing agent regarding his activities.

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<sup>8</sup> Charles E. Kennedy, Publishers Auxiliary, Vol. 85, No. 44.

<sup>9</sup> Craig R. Spicher, The Practice of Presswork, Published by the Author, Chicago, 1929. Pp. 298-318.

6. Approves leases made with the tenants in the building.
7. Approves contracts made with customers.
8. Keeps posted on trade conditions through association meetings, conventions, salesmen and literature.
9. Approves estimates on large jobs.
10. Makes plans for the extension of the business.
11. Holds regular conferences with other executives in the firm.
12. Directs the creation of plans for new work.
13. Meets some salesmen from supply houses, factories and mills.
14. Gives final O.K. on purchase of new equipment.
15. Keeps in close contact with the paper supply houses.
16. Criticizes all photographs, drawings, proofs of type and engravings, press sheets and the general product of the firm.
17. Meets certain customers.
18. Approves all contracts and agreements for



insurance, accident and compensation.

19. Plans advertising campaign for the firm.

20. Gives orders and directions to the firm's salesmen regarding the soliciting of business.

21. Decides upon the qualifications of applicants for positions.

22. Determines the terms of credit to be extended to customers.

23. Keeps constant check on the financial condition of the firm.

24. Gets information about substitutes, when and where they can be used and secured.

25. Makes rough sketches in pencil or color when creating plans for new work.

26. Takes advantage of trade discounts.

27. Submits estimates to customers by letter.

28. Listens to complaints of employees and adjusts grievances.

29. Employs expert accountants to audit the firm's books once a year.

30. Fixes salaries and determines increases in pay.

VICE-PRESIDENT and GENERAL MANAGER

1. Has general supervision with the secretary over the entire organization; keeps in touch with the work in progress and production methods.
2. Plans, in conference with other executives, for the extension and expansion of the business.
3. Cooperates with the sales force.
4. Keeps posted on conditions in the trade.
  - (a) By means of interviews with salesmen.
  - (b) Inspection of other plants.
  - (c) Through various organizations and associations.
  - (d) Trade literature.
5. Helps to determine, with other executives, the various policies of the concern.
6. Plans, in conference, for advertising of own concern.
7. Meets the larger customers.
8. Plans, in conference, for promotion and employing of new executives such as foremen.
9. Orders new equipment.

10. Reads mail and dictates replies.
11. Directs preparation of creative work--dummies and sketches.
12. Makes and supervises the making of typographic layouts.
13. Executes the details of the plans of the president.
14. Keeps in contact with writers and artists--places work with them as needed.
15. Writes booklets and advertisements.
16. Makes drawings and illustrations.
17. Approves the work of the art, design, photographic and engraving departments.
18. Arranges vacation schedules for all employees.
19. Listens to complaints from employees and adjusts grievances.
20. Conducts the factory and fire inspectors through the plant, receives their reports and carries out their suggestions.
21. Checks all bills at the end of the month for materials and supplies purchased.



22. Gets information about the ability of firms to furnish materials and equipment.
23. Tests submitted samples; receives reports of tests.
24. Sometimes writes specifications for materials and equipment.
25. Interviews salesmen from various supply houses.
26. Devises a complete system of forms and blanks for handling information such as time tickets, shop orders, job envelopes, estimate blanks and permanent records.
27. Employs and discharges office help. Decides on qualifications of applicants for positions.
28. Supervises the taking of the inventory.
29. Gathers shop statistics.
30. During president's absence fixes price of work produced in the shop.
31. Handles correspondence relating to shipment of goods, arrangements with customers, arrangements with railroads, claim adjustments, delayed and lost shipments.
32. Responsible for plant working conditions, protective devices, arrangement of machinery, proper air and

light, sanitation, health, safety, etc.

SECRETARY - TREASURER

1. Attends stockholders' and directors' meetings.
2. Signs and countersigns checks.
3. O.K.'s all orders for credit.
4. Supervises the work of the bookkeeping department.
5. Buys insurance.
6. Supervises the making up of the payroll.
7. Gives instructions to the firm's collector.
8. Determines the terms of credit to be extended to customers.
9. Keeps in touch with conditions in the printing industry by means of interviews, visits to other plants, organizations meetings and conventions, and trade literature.
10. O.K.'s all bills for payment when signing checks.
11. Arranges layouts of books for make-up of signatures.
12. Keeps corporation records.

13. Buys equipment and makes layouts for plant arrangement.
14. Prepares income tax reports.
15. Prepares reports to be forwarded to the local secretary of the United Typothetae of America.
16. Makes out accident reports to be submitted to the Bureau of Statistics and Information of the State of \_\_\_\_\_.
17. Issues general instructions in timekeeping.
18. Controls methods of accounting.

#### OFFICE MANAGER

1. Looks over incoming orders and writes out instruction sheets.
2. Has proper records made in the office concerning the job and the customer.
3. Refers the order to the secretary for instructions concerning credit.
4. Writes out specifications for the job and requisitions halftones, electros and other special items needed.

5. Receives and answers mail concerning details of his own work.
6. Opens business mail and dictates a summary for the mail record.
7. Distributes the mail to the proper recipients.
8. Meets customers coming to the office.
9. Arranges details of special jobs with customers; makes suggestions and plans work.
10. Attends conferences with other executives to determine the policies of the concern.
11. Keeps in touch with the progress of the work in the shop so that delivery can be made when promised.
12. Keeps file of all details of work in progress.
13. Keeps record of all promised delivery dates.
14. Employs and discharges all help in his department. Looks up references.
15. Outlines duties to clerk and assistants under him, instructing them in the details of their work.
16. Supervises the work of the order clerks, file clerks, bookkeepers, cost clerks and stenographers.



17. Supervises the keeping of figures and data for use in the preparation of estimates and the planning of work.

18. Reads trade literature to keep posted on the progress of the industry.

19. Assists in taking of the inventory.

20. Dictates daily report concerning condition of work in all departments.

21. Follows up binderies to maintain deliveries.

22. Requisitions needed supplies for department.

23. Handles all plant correspondence except sales and shipping.

24. Receives agents or anyone seeking information.

#### HEAD of COST DEPARTMENT

1. Supervises cost records in the mechanical departments.

2. Studies records with relation to the production of particular jobs.

3. Compares monthly cost with previous periods and averages.

4. Checks cost against estimates made in advance.
5. Checks estimates upon request.
6. Supervises record clerks.
7. Prepares monthly statement of cost for the United Typothetae of America.
8. Compares cost and production with national and local averages and with figures from other plants when available.
9. Consults with department heads concerning unusually high or low production.
10. Consults with heads of departments concerning unusual methods or processes.
11. Reports on all elements of work to president and secretary.
12. Consults with local Typothetae representative to keep his system standard.
13. Apportions selling prices on contract jobs to departments producing them.
14. Supervises work of stenographers.
15. Employs and discharges all help in his department.

16. Supervises the keeping of figures and data which he can readily obtain in the preparation of estimates and in planning work.

17. Requisitions needed supplies for department.

18. Responsible for preparing and sending to the proper officials the following reports:

- (a) Daily labor cost distribution.
  - 1. Unit of work.
  - 2. Hours spent on each unit.
  - 3. Labor cost per item.
- (b) Daily material report.
  - 1. Amount of material used.
  - 2. Amount used per unit of work.
  - 3. Materials received.
- (c) Weekly labor cost.
- (d) Weekly payroll report.
- (e) Monthly equipment report.
- (f) Monthly expense sheet.
- (g) Monthly material cost distribution.
- (h) Final cost summary on the completion of the contract.

19. When costs are greatly excessive, asks for an analyzed report and makes a thorough investigation.

#### SALES MANAGER

- 1. Employs and discharges all help in his department.
- 2. Trains, and directs the sales force; encouraging, enthusing, driving, or restraining, according to the needs of the individual.
- 3. Apportions territory to salesmen.

4. Maintains social and professional connections of value to himself and to the firm.

5. Familiarizes himself with the conditions of each industry of business concern with which he comes in contact.

6. Familiarizes himself with all kinds of printing-shop processes.

7. Keeps customer informed of the progress of the job, if desired.

8. Reads proof if the job is intrusted personally.

9. Confers with customers about doubtful details and difficulties.

10. Keeps a list of all calls made by salesmen.

11. Fixes salaries and commissions.

12. Closes contracts with customers after all estimates are made.

13. Writes specifications that cover customers' requirements.

14. Estimates type and quality of work that will appeal to a customer's taste.



15. Studies the needs of the individual customer that the facilities of the house may be used to obtain the best results.

16. Keeps in touch with the conditions of the trade in a general way.

17. Reads trade journals and sales magazines in search of new ideas.

18. Handles editorial details.

19. Studies the facilities of the plant to determine its capabilities, weak spots and limitations.

20. Surveys the potential market to determine:  
(a) The sales zone in which he can operate successfully.  
(b) The character of printed matter which his plant can successfully and profitably produce in the face of existing competition.  
(c) To identify potential customers.

21. Studies the market to develop new, non-competitive business to replace less profitable business; and to obtain new work to fill in dull periods.

22. Studies the methods, facilities and characteristics of his competitors.

23. Develops or supervises the advertising campaign

which is intended:

- (a) To implant a favorable knowledge of his house and its facilities in the minds of potential customers.
- (b) To develop leads for his sales force.

24. Studies and watches general market conditions as well as specific market tendencies as regards cost and supply of raw materials and labor so as to protect both the house and the customer.

25. Adjusts mistakes and misunderstandings between the house and customers.

26. Substitutes for or reinforces any member of his sales force when necessary.

27. Requisitions needed supplies for department.

28. Handles all sales correspondence relating to orders, inquiries, acknowledgments and claims.

#### ESTIMATOR

1. Prepares estimates from reports of salesmen.
2. Prepares dummies.
3. Plans the production of work on an economical basis.
4. Cooperates with salesmen.

5. Determines the adaptability of materials to the job.
6. Uses standard forms in estimates.
7. Submits blanket estimates to the customer by letter.
8. Keeps record of all estimates.
9. Keeps in touch with department heads with reference to shop conditions.
10. Keeps informed on market conditions on all material used on jobs, such as paper, ink and electrotypes.
11. Keeps informed on all services required by customer and not performed in own plant, such as cloth binding and die stamping.
12. Selects the machine or process to do the work most economically, and makes sure that it will be available to produce the work within the time specified.
13. Uses cost records as a basis in determining the time and materials required on jobs.
14. Supervises the keeping of figures and data which he can readily obtain in the preparation of estimates and in planning work.



15. Requisitions needed supplies for department.

#### LAYOUT MAN AND ART DIRECTOR

1. Directs staff of artists, retouchers, and work of photographic studio.
2. Directs planning of all typographic and decorative design.
3. Makes more important drawings himself.
4. Selects the materials going into a book from the standpoint of design.
5. Lays out type pages and passes proof.
6. Designates size and style of type.
7. Designates width of margins.
8. Indicates size and weight of paper.
9. Indicates break-up for color.
10. Makes working dummy.
11. Considers possibilities of folding machine in laying out work.
12. Employs and discharges all help in his department.
13. Requisitions needed supplies for department.



## PURCHASING AGENT

1. Meets salesmen from supply and equipment houses.
2. Studies market conditions as they affect the printing industry.
3. Places orders for all materials and equipment.
4. Standardizes supplies and materials used in various departments of the firm.
5. O.K.'s all bills for materials and equipment.
6. Handles requisitions from all departments.
7. Gets information from supply firms as to their ability to furnish materials and equipment.
8. Keeps complete record of all orders placed over the telephone or by letter.
9. Writes specifications for equipment.
10. Tests and passes judgment upon samples submitted.
11. Gets information about substitutes; when and where they can be secured and used.
12. Submits substitutes to customers for approval.
13. Keeps perpetual inventory.

14. Places orders for special process work.
15. Employs and discharges all help in his department.
16. Draws up specifications for machinery bought outside.

#### PLANT SUPERINTENDENT

1. Reads the instructions and plans methods of handling work in the shop.
2. Distributes instruction slips and copy to the various foremen.
3. Puts final O.K. on press proof.
4. Meets salesmen from various supply houses.
5. Keeps record of progress of jobs through the plant.
6. Requisitions supplies for the department.
7. Familiarizes himself with print-shop process and equipment.
8. Supervises the handling of work for certain customers from the entry of the order to the delivery of the finished job, giving orders, routing, and following up the progress of the work.

9. Supervises the employing and discharging of all help in the shop.
10. Requisitions needed supplies, such as ink, rollers, paper.
11. Plans method of recording the amount of ink used on the jobs.
12. Confers with help in regard to grievances.
13. Plans efficient arrangement of floor space.
14. Sees that stock is properly stored and easily accessible to the stockman.
15. Supervises the shipping department.
16. Makes imposition layouts.
17. Supervises the work of the bindery.
18. Has charge of the safety and welfare work.
19. In charge of apprentice training and continuation school details.
20. Meets some customers.
21. Holds conference with shop foremen.
22. Keeps the productive processes up to standard.

23. Checks outgoing shipments.
24. Breaks in new foremen.
25. After conference with foreman, employs and discharges all help in the shop.
26. Keeps a list of the employees in each department.
27. Checks the time sheets from each department.
28. Arranges for the care and disposition of scrap paper.
29. Writes out the specifications for the jobs and requisitions, through the purchasing agent, halftones, zincs, electros and other special items needed.
30. Must know traits and abilities of each man, and plan daily jobs accordingly.

#### COMPOSING ROOM FOREMAN

1. Recommends the employing and discharging of men in his department.
2. Interprets the job instructions.
3. Lays out the job, designating size and style of type.



4. Distributes the copy with instructions as to how the job is to be set up.
5. Routes all work through the composing room.
6. Orders necessary cuts and engravings.
7. Sees that all cuts meet the requirements of the job.
8. Supervises the lock-up of forms.
9. Checks up the imposition of the form.
10. Pulls proof.
11. Reads proof and orders corrections made.
12. Supervises the work of the proofreader.
13. Confers with customers about details of jobs.
14. Keeps file of all proof.
15. Supervises the storage of jobs held for future editions.
16. Supervises the storage of all cuts and plates.
17. Plans the distribution of all type, cuts and furniture after the job is run.

18. Sees that sufficient spacing material and sorts are on hand.
19. Keeps records of the progress of the jobs.
20. Collects and checks the daily time and operation sheets.
21. Recommends the purchase of equipment.
22. Trains and supervises the training of apprentices.
23. Keeps a reference list of all the employees in the department.
24. Keeps the composing room in good order.
25. Listens to complaints of employees and adjusts grievances.
26. Meets salesmen from type supply houses.
27. Requisitions supplies needed for department.

#### PLATEN PRESS FOREMAN

1. Sees that presses are properly oiled and cared for.
2. Mixes ink.
3. Prepares the make-ready.

4. Makes a job ready on the press.
5. Operates an automatic press.
6. Plans the work that is to be run during a given period.
7. Sees that the jobs leave the pressroom on time.
8. Assigns pressmen, feeders and helpers to their tasks.
9. Sees that the presses are properly washed at night.
10. Instructs the apprentices.
11. Teaches and trains the press-feeders.
12. Sees that the forms are properly locked up.
13. Sees that the forms register correctly.
14. Considers the ability of the feeders when assigning extra good work.
15. Keeps a memorandum of needed supplies.
16. Checks up the men in order to see that the work is handled satisfactorily.

17. Sees that all the work or time is charged to the correct operation number.
18. Keeps a record of the inks.
19. Shows proof to the superintendent for his approval.
20. Requisitions needed supplies for the pressroom.
21. Keeps jobs moving.
22. Recommends the employing and discharging of employees in his department.
23. Makes an annual inventory of the ink and other pressroom supplies on hand.
24. Changes rollers.
25. Adjusts the automatic feeders. Makes minor repairs on the presses.
26. Makes corrections in standing forms.
27. Locks up the job when small alterations are necessary.
28. Checks the matching of colors when the job is run.
29. Sends one proof-sheet to the proofreader and one to the composing room foreman.



## CYLINDER PRESS FOREMAN

1. Plans and routes work coming to this department.
2. Sees that presses are properly oiled and cared for.
3. Sees that paper stock is on hand for a certain run.
4. Assigns pressmen, helpers and feeders to the several presses.
5. Sees that the pressroom is kept clean and orderly.
6. Supervises the making of overlays.
7. O.K.'s press proof.
8. Submits proof to the superintendent for final O.K.
9. Keeps a record of the ink.
10. Requisitions needed supplies for the pressroom.
11. Keeps jobs moving.
12. Trains and supervises the training of apprentices.
13. Teaches and trains press-feeders.
14. Recommends the employing and discharging of all employees in his department.
15. Makes minor repairs on automatic feeder.

16. Adjusts automatic feeder.
17. Mixes ink.
18. Sees that jobs are through the pressroom on time.
19. Sees that presses are properly washed at night.
20. Checks for register.
21. O.K.'s when matching color.
22. Checks all work of the men to see if it is satisfactory.
23. Sees that all work is charged to the proper operation number.
24. At times gives estimates on the length of time required to run a job.
25. Gives orders concerning the kind of ink to use.
26. Decides when rollers are to be changed.
27. Eliminates hazards around machinery.

WEB PRESS FOREMAN

1. Recommends the employing and discharging of all employees in his department.

2. Requisitions stock needed on the job.
3. Holds interviews with employees about grievances and adjusts the difficulties.
4. Familiarizes himself with all kinds of web presses and the adjustments that can be made on each.
5. Keeps time sheets for his department, and checks them.
6. Keeps record of the progress of the several jobs.
7. Keeps list of the employees in his department.
8. Interprets the job instructions.
9. Routes the work through his department.
10. Sees that presses are properly oiled and cared for.
11. Adjusts cylinders and feeders.
12. Makes minor repairs.
13. Sees that jobs leave the pressroom on time.
14. Assigns pressmen, feeders and helpers to their tasks.
15. Sees that presses are properly washed at night.
16. Checks the matching of colors before the job is run.

17. Keeps memorandum of needed supplies.
18. Sees that all work is charged to the right operation number.
19. Sends proof to proofreader.
20. Keeps record of the ink used.
21. Takes monthly inventory of the amounts of ink and pressroom supplies on hand.
22. Makes overlays.
23. Orders rollers.

#### BINDERY FOREMAN

1. Recommends the employing and discharging of all employees in his department.
2. Interprets job ticket and other instructions prepared by office.
3. Lays out, or plans work such as the sewing of blank books, forwarding (making of cases), finishing and stamping.
4. Keeps record of the progress of jobs.
5. Hustles up work in delayed orders.



6. Requisitions all needed supplies through the office such as wire for stitchers, thread for sewing machines, glue, gold leaf and new parts for machines.

7. Adjusts all bindery machines and makes minor repairs.

8. Trains operators to feed small bindery machines.

9. Gives instructions to the forelady as to the work to be done by the girls, such as folding, gathering and numbering by hand.

10. Sees that sufficient amounts of materials are on hand for the job, such as bindery cloth, boards, leather and miscellaneous supplies.

11. Sees that work is sent to the shipper for wrapping and delivery when it is finished.

12. When requested, estimates on time and materials to produce a job.

13. Operates any machine on the floor when necessary.

14. Performs any bindery operation when help is needed, or when an apprentice is to be trained.

15. Operates cutters.

16. Arranges for the storage of materials in stock.
17. Recommends additional equipment.
18. Confers with forelady, superintendent and president concerning raises for bindery workers.
19. Confers with help in regard to grievances.
20. Meets salesmen from supply houses.
21. Takes the inventory.
22. Meets customers at times.
23. Gives folding machine layouts to the composing room foreman.
24. Eliminates hazards around machinery.

#### MECHANICAL SUPERINTENDENT

1. Attends to the upkeep of all plant equipment.
2. Employs workmen (elevator men, watchmen, carpenter and electrical).
3. Arranges for the services of outside mechanics when needed.
4. Superintends needed repairs on the building.
5. Superintends the storage of paper.

6. Arranges for the care and disposal of scrap paper.
7. Meets some equipment salesmen.
8. Plans a method for recording the amount of ink needed on jobs.
9. Requisitions needed supplies and tools.

#### SHIPPING MANAGER

1. Has general charge of the shipping department.
2. Keeps in touch with railroad rates.
3. Plans and keeps shipping forms and records.
4. Receives store-room records.
5. Receives production records.
6. Makes weekly reports to superintendent showing:
  - (a) Orders shipped.
  - (b) Orders held because of transportation difficulties.
  - (c) Orders held up by customers.
  - (d) Orders awaiting additional production.
7. Makes out bill of lading. Sends one copy to:
  - (a) Customer.
  - (b) Planning department files.
  - (c) Railroads or truck lines.
8. Answers inquiries as to delayed shipments.
9. Supervises work of truck drivers.

10. Follows up all claims of customers of overcharging.
11. Keeps index of customer's railroad locations.
12. Employs, discharges and supervises office boys, and manages service of boys and light delivery truck on collection and delivery of copy and proof; delivery of small orders, and miscellaneous errands as required by office.
13. Requisitions needed supplies.

#### STOCK ROOM FOREMAN

1. Recommends the employing and discharging of all employees in his department.
2. Supervises work of men.
3. Keeps perpetual inventory.
4. Notifies purchasing department when stock is low.
5. Receives, unloads, checks and delivers all freight, express, truck and parcel post shipments into the plant.
6. Responsible for the checking, writing up, obtaining disposition of and final distribution of, all returned materials.
7. Keeps in touch with market conditions as affecting the prices, both present and future, of staple stock.



8. Plans practical and economical methods of unloading, storing and delivering all materials and equipment under his control.

9. Disposes of all obsolete and inactive stock after proper authority has been granted.

10. Sees that stock is properly stored and easily accessible to stockman.

11. Confers with help in regard to grievances.

## CHAPTER V

### SUMMARY AND CONCLUSION

There are so many occupations from which the student may choose that it is important that he have enough information about them so that he may choose wisely and plan his career carefully. He should also seek the advice of his parents and his guidance counselor in making up his mind about the choice of occupation. Here are some of the questions he ought to think about:

1. Should I learn a skilled occupation?
2. What skilled occupation should it be?
3. Will I find the work interesting?
4. Are there good job opportunities for me?
5. How long will it take me to reach a position with a good income and what are my chances of advancement?
6. Would I like a job in the office instead of in the plant?
7. Does the industry seek new ideas and better ways of doing things? Is it progressive?
8. Are the working conditions healthful and safe?
9. Can I ever expect to become an employer myself?
10. What if I change my mind? Will the time I have spent learning my occupation prove helpful if I go into another field or move to another community?

11. What special abilities should I have to qualify for the field?
12. How do I get started?
13. What will I study in school?
14. How important is the industry to my community?

The industry needs trained, educated people for all kinds of positions in the shop and in the office. There is plenty of room at the top, and your chances for advancement depend upon your ability and your willingness to learn and apply yourself. Many persons prominent in advertising, publishing, and in the advertising departments of big companies, as well as top executives in the printing industry, got their start either as skilled workers in printing plants, or as estimators, production men or other specialized workers in printing offices.

You can decide later, after you have learned more and had some experience, which branch of the industry you want to specialize in, and whether you prefer to stick to a skilled printing occupation or try for an executive job. The important thing to do right now is to get started.

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