UNIT II

TYPOGRAPHY

2.1 UNDERSTANDING TYPES: PARTS, MEASUREMENTS AND TYPE-FACE

Measurement of type: -

Type and printing have unique units of measurement. A system of sizing type by units of spaces, leads, slugs, rules and borders also the height of type are all measured in points.

Pica and agate are the old type names used in measurement of type. A pica is 12 points in width and height.

- 12 point = 1 pica
- 6 pica = 72 points
- 1 inch = 24.5 mm
- 12 point = 1 pica
- 1em = 2 en’s

Points and picas are the heart of the printer and communicator’s measurement system, just as inches and feet are used for other things. Sometime the word em is linear measure; it measures height, width, and depth. An em is square of an area.

- 1em = 12 point = 1 pica = pica em
- Pica and em both the terms are used in marking instructions for compositions or printers in copy fitting, dummies and layout. To reduce the confusion among them, an en is used for em. An en is half the width of an em.
  - En = 36 point high and 18 pt wide.
  - Em and en are still used quite often to indicate indentation.

Point size: -

The size of letters cannot be measured accurately by placing a line gauge or graphic arts ruler on the letter. We can do this by measuring top of the ascender to the bottom of the descender of given sample letter.

X height: -

The X height of the letterforms may be different even though the total point sizes of the type are same. For instance two typefaces may have the same point size but the body of the letters in one may be considerably larger than those of other. This is referred as big on body or small on body. The body is the actual size or true point size of the type.
Important points to remember: -

1) Type size is measured in points.
2) Line length is measured in picas.
3) The ‘pica’ is used to express overall width (or) depth as the length of a line.
4) “em” is used for indentation. Em is the square of the type size being used.
5) The “agate” line is used to measure the depth of advertising space.

\[ 1 \text{ inch} = 14 \text{ agate lines} \]

Printers rule (or) line gauge: -

This gauge can be used to measure inches, metric, point and pica. When a designer wants to indicate the type size, leading and line length following from is used example: 8/10x 24, which mean 8 pt type 2pt leading and a line length of 24 picas. The name of the typeface also included along with above information.

Type face:-

Old style: -
A style of Roman letter, most directly descended in form chisel – edge drawn models, retaining many of these design characteristics, characterized by angled and bricked serifs, biased stress, less thick and thin contrast. For example, Caslon, Garamond, Palatino, and times Roman.

Transitional: -
A style of Roman letter that exhibits design characteristics of both modern and, old style faces. For example, Baskerville, century schoolbook and Cheltenham.

Modern: -
A style of Roman letter whose form is determined by mechanical drawing tools rather than the chisel – edge pen characterized by extreme thick and thin contrast, vertical horizontal stress, and straight, Unbracketed serifs for example Bodoni, Caledonia and Tiffany.

Serifs: -
Type of serifs =Bracketed, hairline, oblique, pointed, round, square, straight and unbracted.
2.2 TYPE: SPACE AND UNITY

Unity:-

There are many ways to ensure that all the type is interrelated integrated into a whole design and not an unrelated elements. To establish unity in a typographic design consider the following:

- Choose typefaces that complement each other visually
- Use contrasting styles, faces, and weights rather than similar
- Avoid mixing 2 or more San serif typefaces in a design
- Establish harmonious size relation
- Establish color connections, harmonious. And rhythm or a flow
- Positive and negative shape relationship

Type as integral player in the communication of meaning

Space:-

Understanding positive and negative space is crucial to designing with type. The spaces between letters, between words and between lines of the type must be carefully considered if you want your design to be legible and memorable one.

There are three types of spacing you have to worry about when designing with type

1) Letter spacing
2) Word spacing
3) Line spacing or leading

Letter spacing – The spacing between letters
Word spacing - The space between words
Leading – The distance between lines of type.

Spacing should enhance legibility and reader comprehension otherwise they will lose interest. It is not a good idea to rely on automatic spacing when designing type. The designer can control the word spacing or letter spacing by tracking or kerning. We should always judge the letter spacing optically. In display type, it is feasible to adjust letter spacing of individual characters since the number of words in headings is limited. This fine-tuning of negative space is a hallmark of typographic excellence. In text setting individual letter space adjustment is impractical. Words spacing and line spacing also can be done automatically when type setting. Finally it is important to make adjustment by eye, not by measurement.
Graphic space:

**Positive & negative space:** -

The shape or figure what you create on the page is called positive space and rest of the space on the page is called negative space are interdependent and interactive. All spaces both positive and negative should be considered as active.

**Type and visual:** -

Type is usually designed with visual elements such as photographs, illustrations, graphs and graphics. The relationship between them should be synergistic. When a cooperative action between type and visuals is created, a design becomes cohesive unit.

The fundamental principals that apply to all the visual arts also apply to typographic design. When arranging typographic elements, you should consider balance, emphers, and rhythm, and unity, positive and negative space.

### 2.3 APPLICATION AND IMPORTANCE OF LEGIBILITY AND READABILITY

**Readability**

Readability and legibility are the two basic requirement of typography. Generally both these terms are used to express the same ideas. But technically there is difference between them.

**Readability**

Readability is the character which makes designs to be read and comfortably. Readability is an overall patterns without each and every letters. Readability should facilitate smooth reading without any strain. It should concern the whole word not a single letter. This type should have a pleasant texture with overall tone value. This steps of letter should be recognized for example: the letter “o” which is easily recognize. At the same time as oval shape “o” is not easily recognize. The following factors affect the readability. Typeface, Style, Size, Spacing, Length of line, Ink, Paper. The following rules are followed to bring maximum readability.

- For ordinary text one or two points leading can be used.
- As the length of matter increases the leading is also increased.

**Factors to Improve the Readability**

- Familiar type styles are more readable.
- Narrow column are better than wider column.
- The contrast between the type and paper.
- Condensed faces loose legibility.
- Large size display are better looking.
Legibility

It is the speed with which, each letters or word can be received or recognized. It is word used to define quality in type pages, lettering, posture etc. The word legible means “easily made out”. To bring legibility the designer should know the following factors.

1. What is to be read?
2. Who will read it?
3. When and there will it be read?

The most legible typeface used for reading matters are roman faces with and without serifs. When setting the words it should be faced and interline character space be noted. A number of factors influence legibility. There are,

Type, Space, Size, Boldness, Spacing, Margins, Length of drawing, Paper, Ink and Interest of the reader.

Legibility refers to how easily the shapes of letter can be distinguished. The word legible means easily made out. The most legible type faces used for reading matter are roman faces with and without serifs.

Factors enhancing legibility

• Positive and negative space relationships.
• Distinctiveness of individual letters.
• Strong value contrast between letter and background.
• Spacing between words and lines of types.
• Most decorative types, Novelty, Black letters should be set in larger sizes for letter legibility.
• 11 points type is the most legible size for constant reading.

2.4 TYPOGRAPHIC SPECIFICATIONS FOR DIFFERENT CLASSES OF WORK – BOOKWORK, MAGAZINE WORK, NEWSPAPER WORK.

Book Work Typographic

Type Face:

The selection of the type for a job requires the serious attention of the graphic designer. Common sense and good taste are the two rules for selecting typefaces. In general for book work regular type versions are more legible than variation.
Italic and bold should be used only for emphasis. Type faces which are too small, too large, too closely set too widely spaced will dull or weaken the pleasure of reading. The choice of type is depend on practical considerations as the kind of book, public (reader) its length, its size, type area, the type size and leading. Paper is another primary factor to decide the type.

**Type Size**

A common sense rule is to use sizes that are large enough to be read. The most popular type sizes are 10 pts or 12pts for text matter. Chapter heads should be little large but the same times it should over power the body. For footnotes should not use 8 pts type if the body type is 10 pts or 12 pts. According to the age reader also the type point sizes are varied. Ex.: For children book work, normally the type sizes are used above 10 pts or 12 pts.

*Following are the type faces suitable for book work:*

- Casion
- garamound
- plantin
- imprint
- Fournier
- perpetual
- times roman
- bembo
- Baskerville
- bodoni etc.

**Line Space**

Normally 1 or 2 pts for leading is used. Lines which have more than 2 pts leading may appear disjointed. Where as less than 1 pts of leading may result in an extremely black and illegible page.

**Line Length**

For line length a simple rule is applied i.e. ( for example when you choose a type face of 10 pts, then the line length should be 25 picas)

**Title Page**

Typographically title page sets the tone and artistic style for the entire book. The type size to be used must be selected with importance of the various elements. So the title should be set in larger size on the pages. The name of the author and publisher should be set in small and same size. The type selected for title should reflect the importance of the title page element.

**Heads and Subheads**

Heads may be set as much as 2 or 3 pts larger than the text type size. The also may set in bold or Italic or al caps usually subheads are set in size of text type but in upper/lower case boldface.

**Dedication**

The type should be same size used for announcement and text.
Table of Contents

The content should be displayed in a text size (10 to 12 pts). The header table content should be in the same size as the chapter opening head.

Glossary/Bibliography

Often they are set in 1 or 2 pts smaller than the body copy size.

Index

This typography is entirely depend upon the no. of pages he is going to devote.

Magazine Typography

Body Copy

It is almost similar to newspaper typography. Here serif faces should be used for text or body type. Because serif faces will generally look like hand written with a traditional nipped pen, have thin up strokes and horizontals and thicker down strokes. Serif faces provide easier reading and give certain horizontal movement which helps to tie letters of word together and helps the eye smoothly along the line. Sanserif faces are used for caption, heading of larger type. These faces have been thickness of strokes. So it looks line modern. Age of reader also plays very important role in choosing the type faces for a magazine.

Title Page

Many magazine on the title page of the page to distinguish from other magazine. The space between words in titles should never be wider than lowercase “x” height.

Never use scripts, cursive or block letters in titles. They have extremely difficult to read. Avoid using inappropriate type style according to its nature, whether it is an agricultural, politics etc. Also be careful with stylized titles, because sometimes this can be effective otherwise it can destroy the proper horizontal direction of the line as well.

For caption avoid all caps letters. Select a type for caption that should get harmonize with body type. Often Italic or effective typographic devices. They can aid the reader in bridging the gap between art, title and article. Initial letters there are two common types: 1. Raised initials, 2. Dropped initials. An initial should be never placed at the top of a column except at the beginning of an article.
Newspaper Typography

Type size
1. The text of a newspaper is set in 8 or 9 point body type. Headlines are set in display types i.e., above 14 points.
2. Sometimes however copy editor may “squeeze” the type size to generate the desired one. (OR) in order to get the headlines to fit in given space.
3. Normally 48 or 60 points size headlines are use din front page, on the inside pages 42 points size headlines are used.
4. Use normal, rather than condensed or expanded.

Type Face
Bodoni is a roman type face is most popular one for the newspaper headlines.
Times roman century are roman styles commonly used for body type.

San Serif
They play a great role in headlines, captions and some “information” materials. Sans serif typefaces are difficult to read unless it is set larger or leaded. So in most of the newspaper do not use sans serifs as the body type.

Italic
These faces are used very rarely to save the space in newspaper headlines and first word of the paragraph as they are slanted.

Text or Old English
They play only a nominal roll in newspaper. In many newspaper they are as “name plates”.

Script
They are used in headline or in body of newspaper. Occasionally, also they used on feature stories.

Decorative
They play very little role in newspaper but they are developed to reflect trends in fashion and advertising. Example: Parisian.

In general, uses of typefaces are limited in newspaper to maintain a consistent appearance. Most type faces are designed and manufactured in lightface and boldface. According to research boldfaces are more contrast with the background of the page. Boldfaces with medium are preferred. Extra bold are least legible.
Display Typography

Typefaces are divided into text type and display types (above 14 pts are called as display type). Display types draw attention through designs, sizes, shapes.

Display type faces should be proportional and should have logical relationship with other graphic elements. For example san serifs, square serif types faces may be selected for strong, stable, bold and courage purpose. Maximum readability is obtained from 18 point to 48 point. Single letter exaggerated size serves as focal point attention getter. Oversized display types creates powerful graphics. Un desired type can create feeling of dignity.

2.5 VECTOR FONTS AND BITMAPPED FONTS

Vector images( Vector fonts): -

If line art is scanned into an application, it is a bitmapped resolution dependent image. If it is created in a paint program, it is also a bitmapped image. When it is created in an illustration or a draw program, however it is an object oriented or a vector image.

Vector images are made up of mathematically described paths called vectors. Vector software does not store the lines of an image as a string of picture elements, but as drawing instructions or formulas that describe the directions of lines. The addresses of two different points define a line. Additional equations can define attributes such as thickness and color the outline of soon alphabet character s a complex mathematical expression in a vector image.

Vector art has many advantages over raster or bitmapped art. It can be rotated, enlarged, reduced, and manipulated in many other ways with out sacrificing quality. Because the image is described as a mathematical equation it requires far less computational effort to after it that a bitmapped image for which the program has to calculate the movement of numerous individual pixels. Vector formats are usually smaller than raster formats and sometimes print faster. Raster image can be brought into an object-oriented application such as Adobe, illustrator or macromedias freehand either through drag and drop or directly be opening it from the applications.

Vector application or Drawing

Application:-

Vector application (also known as drawing application) is used to create and vector graphics or object oriented graphics consist of lines and curves. Compared to bitmapped graphics (or raster graphics). Vector graphics need less memory Corel Draw, Adobe, Illustrator and AutoCAD are some examples of vector illustration applications.
**Advantage of vector application:** -

1) Vector graphics need less memory compared to bitmapped graphics.

2) A large variety of various shapes are available in vector applications.

**Disadvantages of vector application:** -

1) Vector graphics are fewer eyes catching than bitmapped graphics.

2) Good creating programs have an impressive price tag.

**Raster images (bitmapped fonts):** -

Bitmapped or raster images are created in paint type applications or by scanning (scanning is discussed later). Bitmapped line art images are represent by picture elements (pixels) that are assigned a value by the computer. Scanned line art images are assigned one bit (0 or 1) per pixel, either black or white. The quality of these images depends on input and output resolution. Resolutions refer to the number of levels that scanner or capture device makes per inch (dpi). The number of bits used to record the information for one pixel is called the bit depth of the file. When an image is output to a laser printer by the number of dots that the output device can generate in art is made up of picture elements and is produced by scanning an image into an application. As is shown the jaggedly or pixel appearance is very noticeable when these images are enlarged. The resolution at which a image is bit mapped and the resolution of the output device determine the quality of the image.

Enlarging bitmapped images requires planning. If the image is not gray to be enlarged the optimum image can be obtained if the input resolution is 1.5 to 2 times the lpi of the halftone. When a bitmapped image is enlarged, its resolution reduces. Basically, printing a bitmapped image was created at. If a 200 dpi image is printed on 2400dpi printer, a 200 dpi image will still result. A bitmap file is referred to as resolution dependent. This can result in a very large file is a high-resolution bitmapped image is created, because every pixel on the page must be defined. If the halftone lpi and the size of the final image are known in advance, the proper input resolution can be determined in an effort to avoid creating a larger file that is needed the advantage of a bitmapped image is evident in image editing programs such as Adobe photo shop, with which images can be manipulated and edited at the pixel level.
**Bitmapped image editing application:**

Bitmap image editing applications are used to edit bitmapped graphics or raster graphics. You can create bitmapped graphics from scratch using these programs Ms paint, Adobe Photoshop and coral photo paint are some examples of bitmapped image editing applications. Ms paint comes free with Windows 9X or XP, but its image editing capabilities are quite, limits compared to photo shop is covered in industry standard.

**Advantage:**

1) Bitmapped graphics look more pleasant then vector graphics.

2) Fine details can be incorporated in bitmapped graphics.

**Disadvantage:**

1) Bitmapped graphics need more memory than graphics.

2) Good applications come with an impressive price tag.

**Display type:**

Display type is typeset in a large point size typically 14-point type or larger. Uses for display type include newspaper headlines, book chapter headings and book covers. Most printed advertisements include some display type.

**Body copy:**

Copy that makes up the text of the printed piece is considered body copy is generally set in smaller size than display copy (14 pt or less)

**San serif :**

San serif means “without serifs”. San serif characters are typically formed with uniform strokes and with perfectly vertical letter stress.

**Serif :**

A serif is a flare, bump, line, or foot added to the beginning or end of a stroke in a letter.

**2.6 LOGO & MONOGRAM: -**

Monogram is a set of two or more letters combined to form one design. The letters indicate the initials of the compares name. It easily express the ideas such as origin, make product tradition.
As a design element it gives a relief space. Therefore a monogram may be called as the indication of identification of a company. It may be superimposed combined of the any other form normally the design of a monogram requires originally and a degree of balance has to be maintained the letters should belong to the some style. The letters should be prominated by position, size and strength when designing legibility is important.

In general monograms can be classified into various forms based on their design.
1) Separate monogram
2) Super imposed monogram
3) Successive monogram
4) Continuous monogram
5) Reverse monogram

Separate monogram: -
The separate monogram is the most common type. Here characters are not over lapped or joined at any point. Instead the characters are spaced out evenly (ex) spic

Super imposed monogram: -
In this monogram all the characters are imposed on one another. Normally the basic character is designed to look prominent. The other characters are imposed over it.

Continuous monogram: -
The continuous monogram has the characters continued onto one another.

Successive monogram: -
In successive monograms the end of a character is used as the starting for the next character.

Reverse monogram: -
In reverse monograms a single character is reversed like a mirror image. It may be designed to read from both sides.

LOGOTYPE: -
Logotype is one of the preliminary requirements of manufacturing or trading industry. Logotype reflects the image and identify of the company. Logotype is a kind of lettered signature without any symbolic picture. It spells companies made up name (such as TELLO etc).
Logotype made into use of some selected ready type design or hand drawn specialized lettering for the name of the product or company specially a made up name. For instance Danish united medical export is full name of the organization and its short form is DUMEX being treated as logotype. Ex: - Voltas, Raymond, Bata, etc.

**Design aspect**

- It should be unique, memorable, and recognizable at a slance.
- It should be synonymous with the product or service it represents.
- It should be used in consistent manner.
- It should express the spirit or personality of the product.
- Color can be used, but it should enhance its beauty instead of making the design weaker.

**Advantage**

1) It builds long lairing image of the company.
2) It assure the prospective buyers of genuinely and consistency in the quality of the product of the company.
3) It plays greater role in publicity campaign.
4) It is used as identification make in the house style of the manufacturing organization.
MODERN TYPESFACE:
What Typefaces Can Express

1. Type can be light or heavy
2. Type can be unassuming or graceful
3. Type can whisper or shout
4. Type can be monotonous or sparkle
5. Type can be UGLY or beautiful
6. Type can be mechanical or formal
7. Type can be social or ecclesiastical
8. Type can be FAT or THIN
9. Type can be decorative or plain
10. Type can be easy to read or hard to read

Key to the type faces listed above, left to right in order:

1. 18-point Avante Garde Extra Light and Lubalin Graph Bold
2. 18-point Baskerville and Palatino
3. 8-point B尉we Light and 18-point Gill Sans Ultra Bold
4. 18-point News Gothic and University
5. 18-point Auriol Black and Weiss
6. 18-point Lubalin Graph Medium and Cloister Open
7. 18-point Snell Roundhand Bold and Old German Bold
8. 18-point Bauhaus Bold and Century Bold Condensed
9. 18-point Nicolas Cochin Black and Caledonia
10. 18-point Century Schoolbook and 6-point Novarese Medium Italic
THE TYPE FAMILY
Variations in type style

Weight

Extralight (Thin)
Light
Semi Light (Book)
Medium (Regular)
Semitbold (Demi)
Bold
Extrabold
Ultrabold (Black)

Width

Ultra Cond. Extra Cond. Condensed
(Compressed, Elongated, Narrow, Compact)
Regular (Normal)
Extended Extra Extended Ultra Extended
(Expanded, Wide, Stretched)

Elaboration

Outline Inline Shaded Shaded
Contour Drop Shadow Incised Decorative

Angle

Italic (Oblique)
## THE TYPOGRAPHIC FONT

### Capitals

| ABCDEFGHIJKLMNOPQRSTUVWXYZ& |

### Lower Case

| abcdefghijklmnopqrstuvwxyz |

### Old Style Figures | Modern Figures (Lining, Ranging)
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1234567890</td>
<td>1234567890</td>
</tr>
</tbody>
</table>

### Small Caps

| ABCDEFGHIJKLMNOPQRSTUVWXYZ& |

### Ligatures | Diphthongs | Swash Characters
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ffl</td>
<td>æé</td>
<td>AMRry</td>
</tr>
</tbody>
</table>

### Accented and International Characters

| ÅÄÂÆÄÑÇ åååæåŋçøß«» ãi |

### Punctuation | Monetary Symbols
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>.,;!?‘“’—’“’(]</td>
<td>$£</td>
</tr>
</tbody>
</table>

### Math Signs | Fractions | Reference Marks
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>+ − ÷ × = % o</td>
<td>1/3 1/4 1 1/2 2 3/4</td>
<td>SM TM ® © □ ▢ • * † ‡ §</td>
</tr>
</tbody>
</table>

### Superior (Superscript) and Inferior (Subscript) Figures

<table>
<thead>
<tr>
<th>1234567890</th>
<th>1234567890</th>
</tr>
</thead>
</table>
LETTERFORM TERMS

AVGYE

kgffih

RMLads
CLASSIFICATIONS OF TYPE
Variations in typeface

Old Style  Transitional  Modern

Egyptian
(Slab Serif; Square Serif)

Sans Serif
(Grotesque)

Italic

Script
LOGOTYPE

Figure 6.8
Logo/Masthead, 1975
Design firm: Bombard-Fudyma Design Group, New York, NY
Designers: Craig Bombard
Client: Electrical Digest, New York, NY

Figure 6.6
Logo, 1990
Agency: The Siegel Group Company
Art director/designer: Ted Hutmull
Client: R.A. Meyers Enterprises

Figure 6.7
Logo
Designers: Sheryl Schroll, Alison Weisz
Client: McDonald’s Fast & Table Center

Figure 6.9
Logo for Kiplin’s Cookies, 1992
Designers: Scott Leder & Heather Leventhal, Albans, GA
Creative director: Matt Hiltz
Calligrapher: Andy Rosenfield
Client: Kiplin’s Gourmet
2.3 Type as Line, Shape and Textures: -

In a cover or page design type works as a design element. As a result all of principle that guide decision making in a design composition also apply to typography. How to style type what typeface to use as well as the size and color are all dictated by the over riding principle of hierarchy, proximity, contrast, balance and scale.

In a typographic composition longer letterforms or text blocks are often servers as shape. Where as single line of text forms linear element in a layout. A publication designer uses contrast. Scale and proximity in the manipulation of graphics space to create a balanced layout.

Text type the smallest type in a page layout has a textural quality that is ready apparent when you look at and compare the different size and style of text in a layout. Just as large size scales and letterforms serve as shape in a layout. Small-scale types bend textural richness. The perception of texture is largely controlled by weight or variety of weight of typeface used and the amount of negative space interjected into the text through leading or letter spacing publication designer give careful consideration to a text quality of typeface when choosing a text font.

2.4 Using Type to organize content: -

Over time designer have developed a variety of typographic techniques that create a point of entry with in a publication story or article. The point of entry is called as focal point. These techniques are used to identify secondary and subordinate information and support the hierarchy in a publication as well as provide visual interest in the absence of imagery. Sub-heads catch attention and guide a reader in their navigation of written content. Pull quotes also help to engage a reader’s attention as they browse through this content. When visual exist information that is not part of the major content of the article is set apart in a side bar. It is important to understand there terms as well as other that are commonly used in the publishing incrust to identify typographic components in a page layout.

There are infinite ways for styling type and combining type with a graphic element to add interest to breakup long passage of text in a layout. Some of the most common techniques include setting text in bold, switching to a different typeface. Adding rules or creating initial caps a technique where the first letter of a beginning of a paragraph is made larger than surrounding text.

Designer who now how to work with type use this upper unities as a chance to be creative and playful in typography in ways that add styles and personality to a publication.

Imagery

Although not a formal element of design, imagery can function as a design element in page and page layout. Imagery can take the form of a Photoshop or illustration. It can be framed in a rectangular or circular format or it can function as an outlined shape (with out background) in a layout. A designer may be given imagery too work with, be given the task of supplying an image, or be given the option to device whether or not imagery is important to meeting the design objective.
**Sources for imagery:**

Some designers generate their own imagery, shooting pictures or creating drawings, paintings, or digital art for their page layout. However, if you are not able to generate your own imagery, here are some resources commonly used.

- Royalty free collection
- Stock agencies
- Commissioned
- Found imagery
- Unaccredited illustrations and photographs found in printed materials.