Introducing a new knowledge base to students to challenge typographic conventions of organisation and navigation in book design.

Anne Colwell

Introduction

To produce effective typography - we must produce effective communication.

Book design in general is heavily steeped in tradition books have typographic conventions that we expect them to have. As one of the most reserved of design disciplines, book design has closely followed tradition and convention. Stanley Morison (Heller and Meggs 2001:170) wrote seventy three years ago in his ‘First Principles of Typography’:

‘It follows that in the printing of books meant to be read there is little room for 'bright' typography. ... ... The typography of books requires an obedience to convention which is almost absolute.’

And Robert Bringhurst (1992:25) wrote:

‘Once the demands of legibility and logical order are satisfied, evenness of color is the typographer’s normal aim.’

But are these conventions as effective as they could be? - in today's world?

We are more and more surrounded by magazines and newspapers, design on the internet etc. - should these design areas influence the way we read and access information in books?

Do these words of Zuzana Licko (Hendel:1998:39) apply to the design of our books today?

‘Readers read best what they read the most.’

It has been noted that the volume of printed matter in contemporary life is increasing. Gerstner said that copy writers and typographers would have to consider the way in which they might make such printed material easier to read (1964:34). And thirty five years before this, Tschichold had recognised the problem (1987:64), emphasising the lack of control that the individual has over the material that is presented to him, through the letter box or in the environment beyond the front door. He considered that the ‘form of
printing must adapt itself to the conditions of modern life’ to enable the consumer to absorb quickly enough the relevant information. He also noted changes in the patterns by which we read, with less emphasis on reading ‘quietly line by line’ and more on quick scanning to determine if the item is of interest. Only at this point, when the topic or content has been recognised as of interest, does the reader engage fully with the detail of the text.

These perspectives could be taken to suggest that there is an opportunity, or even a need, for book design to be more engaging typographically. The object would not be to confuse or distract the reader, but to clarify the information that is presented, enabling it to become more accessible and memorable.

The bottom line is that we will always read what we want to read however it is presented to us but of course the typographic design can visually help us and make the act of reading much more inviting and easier on our eyes. Paul Rand (1985:159) wrote: ‘In ordering the space and in distributing his typographic material and symbols, the designer is able to predetermine, to a certain degree, the eye movements of the spectator.’ Also Josef Muller-Brockman (1981:13) clearly stated: ‘Information presented with clear and logically set out titles, subtitles, texts, illustrations, and captions will not only be read more quickly and easily but the information will also be better understood and retained in the memory’. Muller-Brockmann asserted that this is a ‘scientific fact’ and considered that designers should keep the logic of the organisation uppermost in their mind whilst working on typographical arrangements.

This notion of organisation is fundamental to communicate the contents of a book to a reader to help them to navigate around it and ultimately to find out what they, as an individual, are looking for. The designer needs to evaluate a visual hierarchy of information and communicate this clearly to the reader.

How do we move typography on so that it is easier on the eye and yet remains faithful to the communication of its text?

What can we teach young people today - to produce not just good typography - but typography that pushes the boundaries of the discipline? Might it be possible to do this? Do we do this by extending the knowledge base for our students? It has been said that: ‘The practice of typography is not only a matter of intuition and flair, but is essentially a discipline and combination of skills and functions capable of analysis.’ (Jury 2001:241)

These proposals were voiced over thirty years ago:- The UK Working Party of Typographic Teaching in its interim report back in 1968 (Jury 2001:267) stated that: ‘The typographer has much to learn from the new discipline of linguistics,
which is concerned with the function and structure of language in general. Typography can legitimately be seen as visual linguistics and should be studied in relation to the wider use of language.

And Wolfgang Weingart stated over thirty years ago in an article for Octavo in 1972 (Jury 2001:267) that:

‘Certainly in the future, a study of typography must include a study of the meaning of text... we will need new input from fields such as sociology, communications theory, semantics, semiotics, computers and planning methods.’

This paper gives a background to typographic conventions in book design and then reports on introducing a new knowledge base to graphic design degree students, that of semiotics. The students were then set a book design project - to design a book for the future. There then follows an evaluation of the effect of their design results.

**Typographic Conventions in Book Design**

Before considering specific conventions and a general structure for them let us define some general considerations within book design.

Books function in four dimensions: their page designs can be viewed as two-dimensional, yet obviously the book itself is of three dimensions. The fourth dimension being the way in which the reader accesses and reads information within the book. Does the reader read from page one to the end or perhaps flick through to whatever catches his or her eye and reads from there - every book is different and so every reader will be too.

Jost Hochuli (1996:35) wrote:

‘The axis of symmetry is the first important ‘given’, to which the book designer has to pay attention. The second is the kinetic element that is typical of books: the sense of movement and development, which comes with the turning of the pages.’

Within a successful book design the designer will have carefully thought about what these movements should be and have catered beautifully for them.

Following on from this it is perhaps important to mention the essential general considerations in professional book design: those of perfect registration (so each similar element on different pages align perfectly), typographical design consistencies and attention to all details. As Mies Van Der Rohe said of architecture, ‘God is in the details’.

The book designs of Jost Hochuli* (cover, title page and inside spreads - Hochuli anmd Kinross 1996:148-149) demonstrate his ability to create clear typographic anchors to his pages that yet have a variety of appearance and interest to them. Karl Gerstner (1964:34) wrote:

‘There must be a variety in the material but there also must be a strict constant.’
As an architect is consistent in the place he positions his light switches and electric sockets within rooms of a house - so the book designer is consistent with the design of his typographical archetypes so the reader can recognise them with ease and he creates a variety and interest to his pages as an architect creates a variety of rooms, yet one knows one is in the same house.

Beauty has to be another requirement of successful book design and perhaps is sometimes missing? Derek Birdsall said on page 14 of volume eleven of TypoGraphic in 1977:

“One of the most original things today is to produce work beautifully. Most people seem to have forgotten how to do it.”

In considering a structure to classify different typographical conventions in books one might categorise them into these three areas:

**Text conventions**
General considerations within this category would include the overall typographic colour of the text - is there generally one colour to the text - ‘an evenness of color’ as stated by Bringhurst* (Bringhurst 1992:18-19) - a sample spread from Bringhurst’s book, hailed by Hermann Zapf to be called ‘The Typographer’s Bible’ or are there different textures to give variety to the page?* (Morison and Day 1963:plate 46) - a sixteenth century masterpiece of Spanish typographic design of a book in multiple languages.

More detailed conventions here would include: styles for the main text of a book, indications for the start of a new paragraph within the text and at the start of a piece of writing, designs for extracts, quotations, poetry, lists - numbered and unnumbered, footnotes, dialogue*, (all to be illustrated by examples from Bringhurst?’ book - demonstrating traditional book typography). New archetypes and conventions could be created where one would want to further distinguish within the text. For example perhaps even different styles for thought, action and speech - or different tones of voice* (Slides of a student, Heather King’s interpretation of the voice of the queen in ‘Alice in Wonderland’.

**Hierarchical conventions**
These include the headings that represent and display the visual hierarchy of the information: part titles, chapter titles and headings* (examples from Bringhurst’s book) within the main text. Herb Lubalin was a master of designing a hierarchy of text on a page.* (Gottschall 1989:125).

Is there ‘grace, pace and space’ - a generous balance of white space to the pages to give emphasis to the information structure? Or is everything rather squashed together - for example comparing, respectively a Jaguar with a Mini!

**Navigational conventions**
The design of the contents, page numbers, running heads or running feet, cross references etc. and quotes* (again examples from Bringhurst’s book) could also be designed to be a navigational feature so that when flicking
through a book one’s attention can be caught by them. These conventions lend themselves to be influenced by web design.

This structure allows one to categorise archetypes and conventions and compare historical, contemporary and experimental examples. Historical conventions, sometimes forgotten, can often be the inspiration for new forms as Wolfgang Weingart (Graphics International February 2001:16) wrote: ‘You must go and spend a few days in the library and look through books that were made hundreds of years ago. These contain many more interesting results for solving problems on the typographic page.’

Now let us consider the variations one can find considering just one archetypal example - that of paragraph openings, considering historical, contemporary and experimental examples* (slides for all examples below):

No indents in Gutenberg’s 42 line bible (Morison and Day 1963: plate 1)

Traditional style indents in Bringhurst’s book (Brighurst 1992:36)

‘Outdents’ of Jenson (Morison and Day 1963: plate 19) Outdents is a new term - perhaps we can make new terms to cover the different typographical variations and archetypes?

And other historical examples...

Kesler’s indented and large and bold first lines of the fifteenth century (Morison and Day 1963: plate 23) and a sixteenth century example from Venice (plate 37).

The use of ornaments in Gill’s essay on typography (plate 360).

Classical style dropped cap in a design by Bruce Rogers and John Johnson in 1935 (plate 377).

Simplicity of following a shape in a Vince Frost design for Kingfisher books.

Bite-sized and more experimental paragraphs of Weingart (Gottschall 1989:129).

And another example of Weingart, experimenting with a numerical arrangement to order paragraphs (Gottschall 1989:6).

This structure of an analysis of typographic conventions also allows us to compare across design disciplines - for example those of magazine or web design. Different paragraph openings in magazines for example often have a variety of tone of voice. (*Slide examples here from contemporary magazines).

By exploring and analysing different typographic archetypes and conventions in books one can compare, analyse and challenge them.

Should there be a greater emphasis on visualising typographic hierarchy as in our magazines and newspapers? Should design of our contents be on our book covers to be more accessible? Considering other design disciplines, like web design, can throw light on and question our typographical decisions in books.

The psychologist, Arnold Wilkins (Colors magazine 26:76), talks about the self similarity of text and the resulting stress this imposes on our eyes.
while reading. Like stripes, lines of text on a page can dazzle our eyes. He says:

‘Reading is not natural to us, we’re more used to using our eyes to grasp tools or to view scenery. Humans are more accustomed to scenery - a tree say, or a view of the horizon - that contains plenty of natural clues to guide the brain around it.’

When we view scenery it is easier on the eye as we relate a branch to a tree to a field, etc. ... spatial differentiation is so important to us. How can we allot certain parts of a page for specific functions to allow a reader to naturally find what they are looking for? Do we need to emphasise a greater visual hierarchy of type? Do we need more of a variety of textures on a page to create more of a visual interest to our eyes? Can we re-organise the traditional layout of our conventions to be more efficient more directly communicative?

In a world of ever-changing modes of communication - more signs and symbols within our language and signage, text-messaging etc. where speed, time and efficiency are all important. This changing visual environment - does it impact in any meaningful way on the expectations of book typography?

**Description of project**

The students I gave this project to had previously completed a book design project in their second year of their degree, so they already possessed knowledge of the fundamental issues they needed to address when designing a book. Now at the start of their third year, I gave them this new project - to design a typographical book for the future.

I gave the students the project brief (so they knew what they were aiming for), followed by a presentation with slides to remind them of important points to take into account when designing a book, considering historical, contemporary and experimental examples and to consider influences from magazines and the web. Having previously been given the brief they could take from my talk whatever they thought appropriate to them. Then I continued to give them an introduction to this relatively new knowledge base of semiotics - to try and give students a deeper understanding of this huge topic, so they could then apply their understanding of this subject to their design decisions.

Important design attributes to this project would be: typographic effectiveness in organisation and navigation, practicality and functionality and yet an attractiveness and variety of interest to the pages to keep the reader engaged and attentive, making the material more memorable and easy to find one's way around.

Semiotics and semiology can be seen as ‘the study of human communication’ and therefore is directly linked to our area of visual communication. It has
also been defined, by Saussure as, ‘a science that studies the life of signs in society’. In our busy world, as we are surrounded by much information, signs and symbols prove to be very efficient means of attracting our attention and convey meaning to us in an instant. More and more text-messaging is an acceptable and popular way of communicating - we abbreviate and are understood again in an instant, and these abbreviations in themselves have their own familiar and friendly tone of voice, often including facial expressions made out of punctuation symbols and numbers - an informal manner of communicating. Is our language becoming more abbreviated so we can communicate more effectively?

Introducing students to semiotics we discussed the a number of the huge amount of areas involved: from pictographs to road signs, from morse code to chemical formulae, from the 1300 signs of the Trappist monks to social codes of dress and polite behaviour. In fact how almost any subject can fall under the umbrella heading of semiotics. We discussed logical and expressive signs, how signs are always marked by communicating something meaningful. We discussed systems with and without syntax and how book design is homologous. By understanding semiotics and applying this to typography one is ever aware of making a design as simple as possible - to communicate as effectively as possible. Thus echoing design principles such as ‘Less is more’ of the architect, Ludwig Mies Van Der Rohe. How do we make our typographic communication as simple as possible?

The discipline of semiotics is very applicable here to teaching design students a new knowledge base as Kress and Van Leeuwen (2001:1) wrote in comparing different subject areas defining multimodality: ‘The desire for crossing boundaries inspired twentieth-century semiotics. The main schools of semiotics all sought to develop a theoretical framework applicable to all semiotic modes, from folk costume to poetry, from traffic signs to classical music, from fashion to theatre.’ They expressed that the same meanings could often be expressed in different semiotic modes. This very much has parallels in typography. For example the word, ‘anger’, can be expressed by the colour red or by the angry shape of the letters. Learning about new knowledge bases and applying their principles to typography has to move our discipline on.

Different subject bases can be compared with typography to give us new perspectives of thought to our discipline. For example, relating web design principles to the typographic archetypes of books has been shown to produce innovative typography in the student’s work that I will show shortly. Navigation will prove an more and more important element in our books of the future as we rarely read line by line and cover to cover.

Within Shneiderman’s (1998:74-75) eight ‘golden rules’ for the design of user-system interfaces (Connolly and Phillips 2002:121), four apply to the design of typographic conventions in books:
‘1  The maintenance of consistency of the interface.’
(Consistency - an important attribute in book design as mentioned earlier.)

‘2 The availability of shortcuts for the benefit of the frequent user.’
(Cross-referencing for example, or the use of colour coding to find something, or quotes to lead one into the text - all aids to navigation to help the reader find what they are looking for.)

‘3 The fostering in the user of the sensation of being in ultimate control of the interaction.’
(Designing typographic archetypes that the reader understands, finds easy to use, to allow the content to shine through.)

‘4 The avoidance of overloading the user’s short-term memory.’
(Not creating too many archetypes to confuse the reader - or if there has to many providing a ready reference of a clear key at hand.)

Connolly and Phillips (2002:121) go on to write:
‘Shneiderman’s advice on the presentation of output is in fact, divided into two parts:
’a The organisation of the system’s display
b The focussing of the user’s attention.’

How true these statements are of book design - the designer needing to create a clear hierarchy and the design of the archetypes provide gateways for the user.

This paper goes on to discuss how certain considerations aid efficiency of communication between the user and the system, for example:
‘consistency reduces the scope for confusion’
‘shortcuts have the potential to save time’
‘taking into account user’s psychological propensities, such as the desire to feel in control of events’

The design devices must communicate clearly. The above can all be seen as qualities to help us to evaluate typographic effectiveness.

Connolly and Phillips (2002:127) further illustrate how semiotics may cast a light on user system interface design principles. They give an example to show how this can be fitted into the organisational semiotic framework proposed by Ronald Stamper.* (Connolly 2002:5).

For example,
‘Consistency at the level of empirics relates to physical patterns, such as character shapes. For instance, a higgledy-piggledy mixture of fonts would reveal inconsistency at the empiric level. At the level of syntactics, consistency can be attained in matters such as structural regularity. For instance, whenever a set of buttons for ‘Play’, ‘Record’, ‘Stop’ etc. are displayed, these should be laid out in the same sequence. At the semantic level, consistency demands the avoidance of contradictory statements.’

Can semiotics cast a light also on typographic archetypes in books - can these also be fitted into this organisational semiotic framework of Stamper? Should further research be made in this area?
Student responses

Within the project brief I gave the students four subject areas that they could choose from for their books but also allowed the brief to be open to their own personal suggestions. Obviously if a student has an interest, previous knowledge in a particular area - it is good for them to pursue this - thus saving them time to learn about a new subject - as they can immediately apply their known knowledge to design issues. This is obviously a very relevant issue in their third and final year of their course, as they are building their own personal and unique portfolios to be able to individually apply for interviews and jobs.

During the project two group crit days were scheduled - where groups of five or six students discussed their work with each other and two tutors. These proved very beneficial to all students. The discussion of issues within their design process moved their work on.

At the end of the project I interviewed each student, asking them the same three questions and taped and transcribed them in order to inform me in a more formal way of their thoughts during this project. I attempted to be as objective as I could, the questions were devised so that they were not leading ones.

Now let us look at some of their design results and I'll give some references to the students thoughts as we view their work:

Caroline Barley, chose ‘Poems and selected letters by John Keats’, as the title of her book. This was an author she had enjoyed studying at A level and she identified the need in this book to include lots of cross-referencing to aid the reader whilst studying.

She placed the contents clearly on the cover* for immediate clarity and the traditional typographic style echoes that this is classic poetry. She designed an inside flap to the cover containing a key to the design devices she employed within the book*. This key can be torn away from the cover to produce a bookmark for easy reference as one is working through the book. Her key includes colour* to reflect the running themes in Keat’s work. Clearly by flicking through the book one can access subject areas.

Her symbols for cross-referencing have much of an influence from web design - back to* and forward to* include clear page and line references. Each page is designed with subtle line numbers* that do not shout for more attention than they deserve. There is also a symbol to ‘go home’* to the bibliography. Her footnotes* are handled in a more traditional manner, though the narrow columns of text make it easy to read bite-sized pieces of information. She has developed the notion of having progress bars* in her book to indicate where one is in a poem, near the beginning or near the end? In her introduction* to the book poem titles are in a larger typeface so that at a glance one can read the referenced poems.
Caroline in this project seems to have answered her objectives for designing this book: those of wanting the design to be a way of navigating through an old traditional book and bring in some ideas and influences from web design. She agreed that semiotics was of a great interest to designers as ‘people don’t have time to read.’

Hannah Meur chose to redesign a book one of her university friends was reading for another course, entitled, ‘Human Error’. It is about a series of stories of errors within the medical profession. Hannah and her friend found the design of the original book* very uninviting to read. Her prime concerns in designing this book were to make it easy to read and simple to navigate ones way around. She wanted her design to appeal to the people who were going to read this book, people studying, she wanted it to look like a light-hearted text book. Hannah wanted her book to not just look nice but for it to be functional too. She said, ‘I really like book design - to be able to chuck out the rubbish and simplify - to not make the design too fussy - it is really interesting.’

She used a very simple but highly effective idea on her book cover to convey ‘error’*, mirrored also on her title page*. Then the book itself is set out in a very clean and simple design* - a brief synopsis of each story appears on left hand pages*, stories begin on right hand pages*, quotations* appear in the margins to help draw the reader into the text but also as aid to their memory. Her page numbers* are always together on the right hand page alongside clear running feet - she has tried to allow for there to be as much uncluttered space as possible on the design of her pages. She has also used colour to aid the navigation of different stories in the book - as you can see in this contents page*. She has generally achieved a very welcoming layout that makes you want to read the contents. The rules* that change their position on different pages show an influence of web design.

Simon Gamble was keen to design a book about the psychology of communication regarding designers - how do they design? how do they create ideas? - This is his cover* - with a quote by him - that he would employ an illustrator! His pages are designed in very different ways* to suit their diverse subject matter but the large distinctive page numbers give the consistency and structure to remind you what book you are looking at and help navigation.

Komal Shah chose to design a joke book, entitled ‘Laugh Lines’, echoed in the design of her cover* - she wanted to make the book ‘really loud’ and to make it look lively and interesting. From the contents page* you can see she has used colour as a navigational device – ‘Irish’ is placed upside down. She has tried to keep a strong design identity throughout the book. The jokes are themselves placed on the page in such a way to reflect ‘laughing’. She has not included page numbers within her design as for navigation she relies on the colour coding of the sections.

Gareth Jones wanted to make use of symbols in his little book of text-messaging - he wanted to design with recognisable symbols* rather than
having lots of words in his design that had to be read. For Gareth, this project emphasised the need to look at the reader and not the designer and to carefully consider the information architecture within his work.

Christopher Jones also chose to design a text-messaging book but his is aimed at children* - easy to find ones way around with clear colour-coding.

Sarah Hyder chose measurements as the subject matter for her design. She first looked at the traditional book and questioned how she could interpret design conventions for the future. She said, ‘In the future how to navigate through books will be important’.*

Marsden Momanyi wanted to create a visually attractive and stimulating text book for learning about the chemistry periodic table. He said he wanted ‘to make the material more accessible, reduce fear, and make the material more exciting and memorable’.*

Rebecca Sinden chose ‘indecision’ as her chosen topic as she wanted to have some fun and experiment with different ideas. Her pages display variety* and her contents page* indicates a rotational navigational device, reflecting indecision and where one really is!

Klaire Webster, in her project, was keen to make the topic of heraldry interesting and relevant to today. Her design has a stylish tone of voice.* She said within this project she has enjoyed looking at ways of organising information in different ways; maps, train timetables etc.

Let us look at one more example of student work, that of Rachel Penn - in her re-design of the highway code she tried to make her pages simple, clear and above all memorable.

In general, the evidence of the project suggests that the most innovative design outcomes in creating new typographic conventions, notably those of Caroline, Hannah, Sarah, Rebecca and Klaire were related to an understanding of specific concepts or frameworks provided by the introduction to semiotics. The least successful projects, though still effective solutions, did not so much challenge the knowledge of this new area on their design thinking but gave more literal applications of this subject to their designs. For example replacing words with symbols or relying on basic colour as a navigational device.

**Conclusion**

In an attempt to answer the challenges posed by The Working Party of Typographic Teaching and Wolfgang Weingart’s comments on teaching typographers related knowledge bases of linguistics etc. alongside their design studies, my initial investigations would seem to indicate that new and relevant subject areas do have a marked effect on encouraging innovative
student work. A conclusion to my study would be that there does appear to be potential for a deeper understanding of the rationale behind typographic conventions to be more explicitly explored through undergraduate training.

I believe that by exploring and challenging our typographic conventions with our students today, alongside studying related subject areas to visual communication such as linguistics, sociology, communications theory, psychology, semantics, semiotics, computers and planning methods will invariably have an impact on the design of our typography. We need to strive towards making letters and words easier on our eyes and yet remaining faithful to the communication of their text. The next stage of my research will have to include an assessment of the extent to which designing using an understanding of a new knowledge base generates typography that improves access to our understanding of content. Also testing variations in typographical archetypes of the same material on an audience to try and evaluate their effectiveness - from conventional to more innovative solutions - will prove a valuable and informative exercise.

It is perhaps appropriate to end with these words from Herbert Spencer who said when considering tradition in a speech at The Type Director’s Club Silvermine Seminar (1958):

“To the artist, the architect, the writer or composer, I believe tradition is vital to creative activity. But excessive respect for tradition becomes traditionalism. And traditionalism kills tradition. Tradition is a living, active and vital force in creative activity. It consists not of a code of rigid conventions, but of principles based on accumulated experience. But it is vitally important that we should clearly distinguish between tradition, which may exercise a healthy restraint upon our innovations, and traditionalism, which is indeed a prison, or perhaps more accurately a cemetery - a graveyard of dead ideas and decaying conventions.”

So in order to keep our discipline alive we should ever strive to explore and question ways to design our typographic conventions in books to make them effective from both visual and practical points of view.
Bibliography


Jury, David, ed. 2001. TypoGraphic Writing, selected writing from thirty years of TypoGraphic.


Author:
Anne Colwell
Lecturer in Graphic Design
Loughborough University
Loughborough, UK