

# **The current state of graphics in British newspapers and news magazines**

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**Figure 1:** Interactive information graphic mapping the taxi flow in New York, done by *The New York Times*. Scanned from *Eye Magazine* 78/10.

# 1. Introduction

Whether the printed newspaper is alive or dead is a question that often comes up in discussion. This question has been debated frequently, however as yet there does not seem to be any sudden death for the printed newspaper. Although it's no secret that printed newspapers are facing challenges as a new generation of readers now read their news online, and technological inventions have introduced portable equipment like smart phones and touch pads allowing people to read on the go. The printed newspaper, however, still has some advantages that online newspapers can never have: depth, selected opinion sections, pleasing design and the feeling of holding paper in your hands. So rather than continue discussing the life or death of the printed newspaper, we will introduce the topic of this dissertation.

Mark Porter, principal of *Mark Porter Associates*, opens his article *Hail the cab map* in *Eye 78/10*, a special issue of the *Eye magazine* dedicated to information design, with these words:

'As newspapers try harder to engage with time-pressed readers, visual journalism is increasingly important. Modern newspapers care more than ever about photography and design, information graphics are back in the spotlight.' (Porter M, 2011, *Eye 78/10*, p. 38)

Porter's article is one in a series, where a variety of writers and designers were asked to select great moments in information design. The information graphic Porter has chosen as his special moment is an interactive information graphic mapping the taxi flow in New York, done by *The New York Times* [Figure 1<sup>1</sup>]. The reason why he has chosen this graphic is because it is informative, visually intriguing, fun and goes beyond the traditions of text and image.

Graphics in British newspapers in the form we know them today are part of a tradition that started in the 1960s. A desire to give the newspaper a more magazine-like feel led to a new take on news-

<sup>1</sup> In this dissertation, figures refer to graphics, graphs and photography. Tables refer to tables.



paper design. As a result of this new thinking the design became more planned, and explanatory graphics secured a place in their daily design.

Peter Sullivan, one of the pioneers of graphics in newspaper design, says such graphics ‘create meaning by exploiting a combination of drawing, words and photographic images to visually aid the reader to develop a fuller understanding of the article.’ (Sullivan, 1987, p.8)

Before the 1960s the majority of graphics in newspapers were simple statistical graphs or maps locating an event. The history of graphics in British newspapers is described in more detail in chapter 2. History, p. 17.

Graphics in newspapers serve many purposes. One way of categorising them is by dividing these graphics into two broad fields: ‘flavour’ graphics and informational graphics. The purpose of ‘flavour’ graphics is to inspire the reader to read the story, and they do not serve any particular purpose to inform or help the reader understand the story more fully. ‘Flavour’ graphics are often illustrations, and serve the same purpose as a photography. They are used when relevant photography is not available or cannot illustrate the story in the way the editor intended.

Informational graphics on the other hand cover ‘a hinterland between photography and illustration’ (Richards, 2000, p. 89), and are used when a story cannot be properly told by words accompanied only by photography or illustration. An informational graphic has the advantage of being able to ‘visually explain spatial relationships and so simplify and give the reader a fuller understanding of a story.’ (Evans, 1978, p. 287)

This dissertation aims to give a status report on the use of presentation models for informational graphics in British newspapers and news magazines today, and to compare the use of informational graphics in these media.

Information graphics can be divided into two broad categories: statistical and illustrative graphics. Statistical graphics can then be divided into 13 different presentation models as defined in *The British Standard. 1992. BS 7581: Guide to presentation of tables and*



*graphs*, and the illustrative presentation models can also be divided into three models as defined by Theresa Carter's dissertation *The use and presentation of graphic information in newspapers* (1990). The different presentation models are explained in detail in chapter 3. Definitions, section 3.3 Presentation models for graphics p. 37.

Another aim for this dissertation is to explore the relationship between the content of a story and the choice of presentation model. A set of data to register information about each graphic has therefore been created for this purpose. The data collected were related to the graphic medium, story content, purpose and occasion. The data registration and criteria are further explained in the chapter 4 Methodology, section 4.1 Criteria, page 53. The results from the data analysis can be found in chapter 5, Evaluation and analysis page 59.

Graphics in newspapers have a long tradition in Britain, and are often seen as role models for graphics in newspapers abroad. The way British newspaper make and present graphics have been through many changes as technology advances and views develop concerning newspaper design. The research in this dissertation was conducted on a collection of five British newspapers and two British news magazines from the period 11 July 2011 until 22 July 2011. The selection of newspapers and news magazines was limited to the British market to increase comparability and show the trends within Britain. While not a complete record of the available formats, this selection is intended to be a representative sample of what is currently available in Britain today. Only the weekday issues of the newspaper are considered.

A description of the selected newspapers and news magazines can be found in chapter 3 Definitions, section 3.2 Newspapers and news magazines page 33. The research in this dissertation intends to consider only graphics that serve an informational purpose related to the story they are contained within or adjacent to. Judging whether the presentation models chosen are appropriate, and of sufficient quality, is beyond the scope of this investigation, as is analysis of graphics such as arrows, icons and section headings. Factual boxes



and tables that function as listings, such as sports results or stocks and shares are also not taken into account in this investigation.

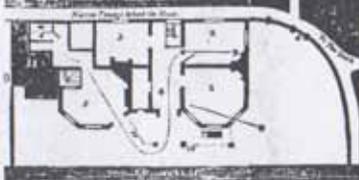
All illustrations in this dissertation are from the newspapers and news magazines used for the research, except when it is stated otherwise. Scanned and photographed material does not represent the original size of the graphic.

AMBERGHEIM HOUSE, AMBERGHEIM, FRANCE.

The general had been ordered for the service of...



Ground Plan of Mr. Blight's House



The actual description, approved by the general...

Mr. Blight's house was situated in the grounds...

only in the night-time... The general had been ordered...

Figure 2: The first informational graphics in a newspaper, The Times, London, April 7 1806, showing a diagram of a murder scene. Scan from Finberg/Itule, 1990, p. 122.

## 2. History

The first known information graphic in a newspaper was published in 1806 in *The Times*, a London-based newspaper [Figure 2].

The graphic was a diagram of a murder scene, displayed for the purpose of explaining the order of events in relation to the location<sup>2</sup> (Finberg/Itule, 1990, p. 121).

For many years the use of informational graphics in newspapers was limited, mainly due to time-consuming production techniques and limited printing technology. The only graphics seen in newspapers until the outbreak of World War I were simple maps or diagrams displaying statistical data (Finberg/Itule, 1990, p. 125).

During World War I informational graphics became a common element in newspapers in Europe. The graphics were used to communicate major and minor events in the war, and a typical graphic presentation model included a roughly drawn map with hand lettering (Finberg/Itule, 1990, p. 125).

Then, when World War II began in the late 1930s, detailed and complex informational graphics became a common element of daily newspaper design. The presentation models often contained both maps and graphics, combined to explain and summarise events of the war. Many of these graphics are still regarded as sophisticated examples of their kind; graphics designed especially for the newspaper medium (Finberg/Itule, 1990, p. 125).

A new era of graphics in British newspapers began in the 1960s when Ray Hawkey was employed as design editor at the newspaper *The Daily Express*. Ray Hawkey was given the task of introducing a magazine-like flavour to the newspaper, with the expected result that the newspaper should become a more polished and sophisticated paper<sup>3</sup> (Collins, 1975, p. 39).

The economic and technological changes of the 1960s also lent themselves towards a change in attitude to British newspaper design. A more organized and planned approach to newspaper design was required, and editors agreed that newspaper design needed a more focused approach than the essentially intuitive methods that had been employed in earlier times. The editors wanted design, with

<sup>2</sup>J.H Lambert (1728–1777) and William Playfair (1759–1823) are known to be the inventors of modern graphics, displaying data visually through time-series. (Tufte, 2001, p. 32)

<sup>3</sup> This development is also echoed in American newspapers in the 1970s. Influential American newspapers were the *St. Petersburg Times*, *The Christian Science Monitor*, *The Chicago Tribune* and *The New York Times*. (Finberg/Itule, 1990, p. 127)



a significant focus on typography and layout, to be the key to presenting journalism (Hutt, 1973, p.168). As a result of this thinking, a closer relationship between journalists and graphic designers developed, paving the way for informational graphics to become a daily element of newspaper design (Carter, 1990, p. 10).

Other British newspapers soon followed the visual trend established by Ray Hawkey in *The Daily Express*. *The Observer*, *The Sunday Times* and *The Daily Mail* are all counted among the pioneers of informational graphics in British newspapers. Influential designers like Robert Harding, Peter Sullivan, Michael Rand and Edwin Taylor (all working for *The Sunday Times*) made their mark with informational graphics in newspapers in the 1960s (Hutt, 1973, p.168).

Not only did the relationship between journalists and graphic designers develop, but a new profession arose from their collaboration: the visual journalist. A visual journalist was a graphic designer with the skill to report and make sense of news visually. His task was to facilitate co-operation between designers and journalists and improve the way ink and paper were used to communicate. Peter Sullivan describes the visual journalist as a person who needs ‘the creativity of an artist, the visual discrimination of a designer and the ability to think like a journalist.’ (P. Sullivan, 1987, p. 27)

Sweeping changes always lead to a conflict, and the changing attitudes towards newspaper design in British newspaper in the 1960s were no exception. Designers and journalist argued over giving graphics the space they needed in the newspaper. Journalists found it difficult to exchange words for graphics, especially as these required valuable column space and development time to add value and understanding (Hawkey, 1973, p. 116). A work routine where journalists and designers worked closely from the beginning to gain understanding and mutual respect for each other was the solution proposed by Harold Evans (Evans, 1971, p. 81). This enabled the designer to respond better to editorial content, and the journalist to see the editorial value of graphics (Collins, 1975, p. 40).



The 1960s are seen as the golden age of informational graphics in British newspapers, but the use of graphics continued into the 1970s. Newspaper editors continued to be open-minded and willing to give space to informational graphics. Names like Edward Pickering and Harold Keeble at *The Daily Express*, Harold Evans, Peter Sullivan and Edwin Taylor at *The Sunday Times* and Tony Hogget at *The Observer* were highly influential in the field of informational graphics in this decade (Carter, 1990, p. 14).

However, despite a good start in the 1970s, it seems that the use of informational graphics in the British newspaper declined towards the end of the decade. A fierce debate about the use of information graphics arose. Harold Evans said that graphics is ‘a communication form appreciated by few.’ (Evans, 1978, p. 287) Peter Sullivan agreed with him, saying ‘information graphics are still an untapped resource on most newspapers’, which could be interpreted as meaning that while there are many examples of informational graphics to be found, the lack of consistency when it comes to how, when and where they should be applied makes them less effective than they could be (Sullivan, 1987, p. 51).

The debate not only discussed the amount of graphics used, but also their value. Sullivan says there was a general ‘lack of appreciation of their intrinsic value or straight forward dislike.’ He suspected this lack of appreciation was connected with expectations from the educational environment at the time, when graphics as communication were regarded as belonging to less able intellects, and therefore an immature form of communication (Sullivan, 1987, p. 51).

Michal Twyman does not share Sullivan’s and Evans’ point of view, arguing that informational graphics were more and more frequently left out of the newspapers as a result of the technological changes which facilitated the use of continual text. He supports the view that pre-fabricated modular printing characters increased the distance between verbal and graphical communication (Twyman, 1979, p. 143).



Michal Twyman's explanation can be supported by the economic and technological developments in the newspaper business at the time. As the circulation of national newspapers decreased, and economic crises in the newspapers led to a real need for more cost effective daily newspaper production, newspapers wanted to invest in new technology so that they could reduce their labour costs (Martin, 1981, p. 33). Electronic production systems led to less people working in the papers, and hence less people working in the graphics department (Crozier, 1988, p. 88). Less resources to produce informational graphics for newspapers, and a need for graphic artists to absorb new skills with the arrival of the Apple Macintosh computer and desktop publishing, led to a decline in the use of informational graphics in the 1980s (Carter, 1990, p. 15).

<sup>4</sup>While not a subject for further study in this dissertation, this is relevant to the choice of focusing on the printed version of the newspaper. The relationship between graphics in the online and printed version of the newspaper is an area open for further investigation.

Today most newspapers exist both in print and online, with the online version updated continuously, while the printed version is limited to a morning only or morning and evening edition. Graphics are designed for both versions, however the same graphic is seldom seen in the printed version as in the online version. A quick search in an online newspaper for a story whose printed version contains graphics, quickly demonstrates that a lighter version is often published online, without the graphics<sup>4</sup>.

Even though many of the graphics are not published in parallel in print and online, online version of the newspapers have opened the door for a new kind of interactive graphic. This graphic allows the reader to take part and interpret data displayed on their own terms, as alluded to in the introduction by Mark Porter's example, see graphic 1, page 8.

<sup>5</sup> Best Use of New Media, Newspaper Awards, 2011 (Datablog, 2011).

*The Guardian's* award-winning blog<sup>5</sup>, 'The Data blog' is an example of the use of interactive graphics in online newspapers. Edited by Simon Rogers, the aim of the blog is to visualize and interpret huge datasets, and let the reader take part and see the development of the data presented (Datablog, 2011).



### **3. Definitions**

In this section of this dissertation the terminology used to describe graphics, the selection of newspapers and newsmagazines and the different presentation models are presented.

#### **3.1 Terminology**

Before starting this analysis of presentation models of graphics in newspapers and news magazines, it is important to define the terms that will be used in this dissertation. Based on literature research on visual language in newspapers and news magazines, there seems to be no complete and established vocabulary for this topic.

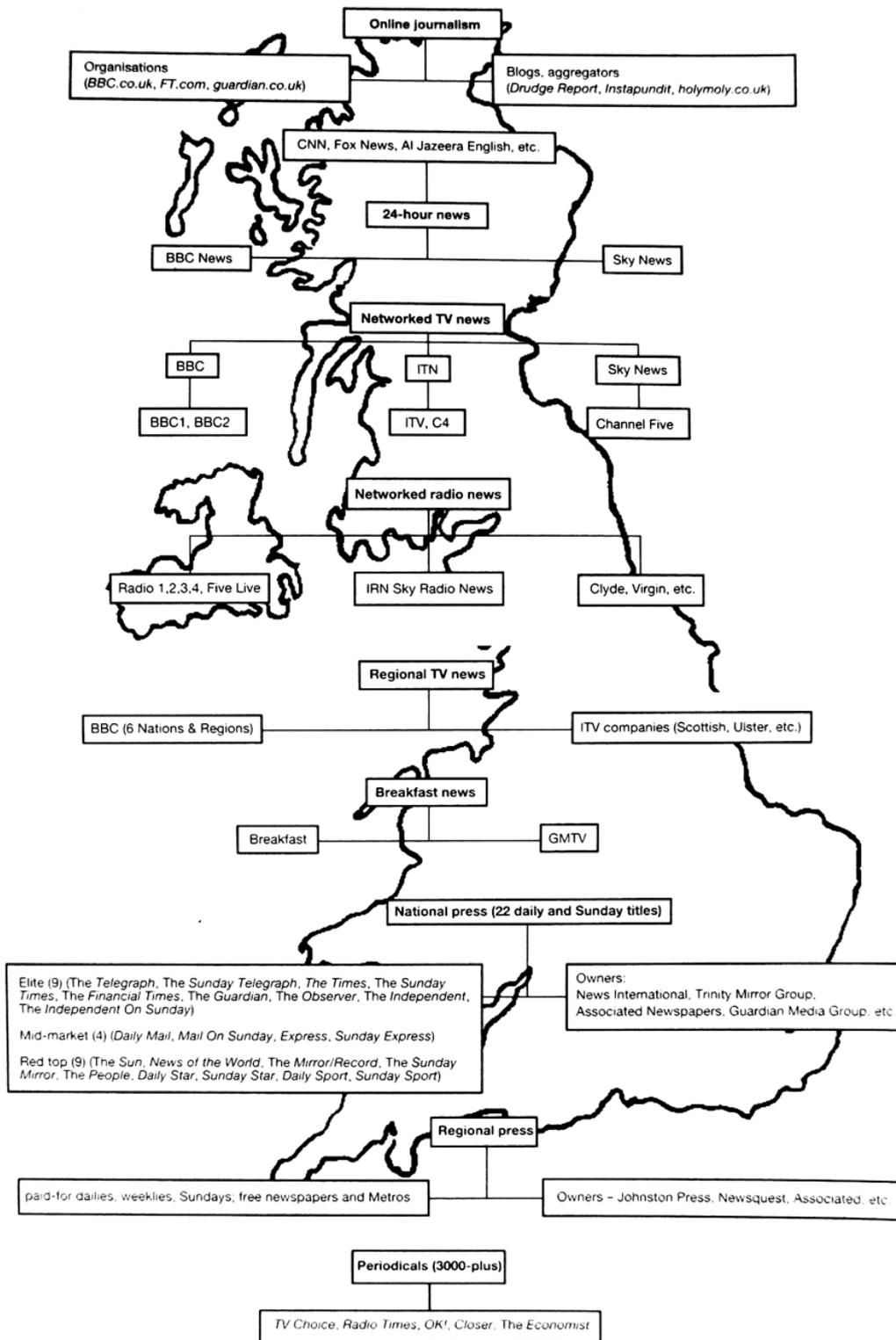
Firstly, there is a need to define the media, newspapers and a news magazines, before beginning to discuss the terminology used for the visual language employed by those media.

A newspaper is a printed publication issued daily or weekly, consisting of folded, unstapled sheets. They contain news, feature articles, advertisements, and correspondence (Oxford English dictionary, 2005 p. 683–684). This broad definition of a newspaper serves as a general description of both a newspapers and news magazines.

However, in this dissertation, the more specific term broadsheet newspaper is a more suitable description of the selection of newspapers chosen for analysis.

A broadsheet newspaper is traditionally a large format newspaper. The content is regarded as more serious and less sensationalist than the tabloid format (Oxford English dictionary, 2005 p. 118).

Tabloid newspapers are traditionally half the size of the broadsheet newspapers. They have popular appeal, and the layout of the newspaper is dominated by headlines, photography and sensational stories (Oxford English dictionary, 2005 p. 1052).



**Figure 3:** Brian MacNair's news map for the Britain. Scan from News and Journalism in the UK, (McNair, 2003)

Brian McNair uses the terms broadsheet and tabloid newspaper in his book *News and Journalism* (2003), where he categorizes and maps British newspapers [Figure 3].

However, due to changes in technology and society, for example increases in the number of commuters and journey lengths by public transport, most of the broadsheet newspapers have left the large format behind for smaller and easier to hold formats. The content and layout remain the same, and the term broadsheet is still commonly used for these papers despite them no longer being produced in broadsheet format. They are published daily. Therefore for the purposes of this dissertation, the term serious-minded newspaper shall be used.

A news magazine is defined as a periodical, usually published weekly and containing reports and comments on current events (Oxford English dictionary, 2005 p. 683). News magazines differ from newspapers because they are published in a smaller format and on finer quality paper, featuring more in-depth articles and less news in brief.

Graphics in newspapers and news magazines are often referred to as information graphics or with the short term infographics. This reflects the terms used by serious design magazines such as *Eye*, *Information Design Journal*, *Baseline* and *AIGA*. Information graphics are defined for the purpose of this dissertation as graphics such as statistical graphics, explanatory graphics, maps, tables, lists, matrices, cut-aways and timelines – regardless of what media they are represented in. This means that every visual object that cannot be seen as simply an illustration, photography, or comic can be classed as an information graphic (Lamberg, 2007).

However, the generic term information graphics is not without its drawbacks, as many graphics in newspapers and news magazines are not so much aimed at informing people but are used instead to illustrate, create a mood, or entertain. Another issue with the term information graphics is that to some the meaning is limited to diagrams, leaving out the more illustrative forms often found in news graphics (Lamberg, 2007).

Newspaper graphics is another term used to describe information graphics in newspapers. This is a more specific term as it refers to both the medium of the newspaper and visual objects, yet this



terminology is also not without drawbacks. In this dissertation the term newspaper graphics does not cover a wide enough area, since news magazines are a different medium. Another problem with the term newspaper graphics is that it relates more to print. While this does not pose any particular barriers for the topic of this dissertation, it should be noted that almost all newspapers and news magazines today exist in both printed and online forms, and both variants use graphics as a part of their visual language.

News graphics is another term used to describe graphics in newspapers and news magazines. This terminology has a broader approach than the term newspaper graphics as it does not limit itself only to graphics in newspapers, but includes graphics used in addition to journalistic content in different media. It is also a more useful term in the sense that the same types of graphic are often used in different news media, including print, web and television. However, not all graphics used in newspapers and news magazines are directly related to news, and are often used in human interest or feature stories (Lamberg, 2007).

Altogether, while the three terms of information, newspaper and news graphics cover most of the visual objects used in newspapers and news magazines, none of them fully describe the full range employed by those media. Since the three terms all have major disadvantages, for the purpose of this dissertation the standalone term graphic will be used to sum up all three terminologies.

Graphics is the term used in the translation of Jacques Bertin's *Semiology of Graphics* (Bertin, 1983 (1967)) to describe all graphic objects in general. Rob Waller describes the adjective graphic as the most commonly used word to describe two dimensional, spatial or visual things (Waller, 1987, p. 4). Waller also states that the most accurate term for any individual picture, diagram, or symbol is a graphic device. For the purpose of describing the term graphic device he says many simply use the word graphics.

Graphics in newspapers and news magazines can be divided into two major subcategories: statistical graphics and illustrative graphics.

However, not all graphics can be defined as purely statistical or illustrative graphics. Graphics that combine elements from statistical



and illustrative graphics will in this dissertation be defined as combined graphics. Waller refers to combined graphics as ‘hybrid forms.’ (Waller, 1987, p. 27)

Statistical graphics present quantitative data. For this dissertation, *The British Standard. 1992. BS 7581: Guide to presentation of tables and graphs* is used to define the different presentation models for statistical graphics.

As defined by the *BS 7581* a graph is a visual presentation model for a chosen set of statistical data. The purpose of using a graph as a presentation model is to facilitate comparison of trends or values in a visual form. When the data is visually presented it is easier to understand and recall than numbers and words alone.

There are many different models of graph, including bar graphs, line graphs and pie charts. The choice of graph should be determined by its purpose and the needs of the reader (British Standard, 1992, p. 11).

Due to the many different terms used to describe graphics that have the purpose of interpreting and explaining, the term illustrative graphics will be employed here to include presentation models such as explanatory graphics, maps, lists, matrices, cut-aways and timelines.

What is defined as illustrative graphics in this dissertation is also described as information graphics by Evans in *Editing and designing* (1978). He defines information graphics as explaining a spatial relationship that cannot be understood by photography or illustration alone, for example when describing how the London Underground works, indicating distance, or the scale of a flooding river by using a combination of symbols and art (Evans, 1978 p. 287–289).

Bertin confirms this description of illustrative graphics, but describes them using a different term: explanatory graphics. He states that explanatory graphics are used to emphasise the spatial and visual relationships between events and ideas (Bertin, 1981, p. 176). Carter also uses the term explanatory graphics. She defines explanatory graphics as graphic material that together with a news story can help interpret and explain events (Carter, 1990).

Subcategories of presentation models for statistical and illustrative graphics are presented in chapter 3 Definitions, section 3.3 Presentation models page 37.



### 3.2 Newspapers and news magazines

A selection of six British daily newspapers and two weekly news magazines were selected for analysis of the status of informational graphics in British newspapers and news magazines. The newspapers and news magazines were observed over a period of two weeks from the 11 July 2011 to 22 July 2011. Only the weekday issues of the selected newspapers were observed. The selection of newspapers and news magazines was as follows:

#### **The Daily Telegraph**

*The Daily Telegraph* is a daily broadsheet paper, established by Arthur B. Sleight in 1855 as the *The Daily Telegraph and Courier* (BBC, 18.01.2004). With a daily circulation of 651,184<sup>6</sup> papers sold in February 2011, *The Daily Telegraph* is the best-selling serious-minded newspaper in Britain. Politically in modern times *The Daily Telegraph* has supported the Conservative government. Tony Gallagher is the current editor, and the newspaper is owned by David and Frederick Barclay (BBC, 19.01.2004).

#### **The Financial Times**

The *Financial Times* is a UK-based international broadsheet newspaper, printed in 26 cities around the world. With a daily circulation of 383,067<sup>6</sup> papers in the Britain, The *Financial Times* is the third largest serious-minded newspaper in Britain. The *Financial Times* specialises in international business and financial news, and politically supports the Conservative party. The newspaper was first published in 1888 by James Sheridan under the name The London Financial Guide. The current editor of The *Financial Times* is Lionel Barber, and the newspaper is owned by Pearson PLC (FT, 2011).

#### **The Guardian**

*The Guardian* is a daily British newspaper published in Berliner format since September 2005, and established in 1821 in Manchester by John Edward Taylor as *The Manchester Guardian* (The Guardian, 2011). With a circulation of 279,308<sup>6</sup> (February 2011), *The Guardian* is the fourth

<sup>6</sup> Circulation numbers from Audit Bureau of Circulations, 11 February 2011, (Luft, 2011)



largest serious-minded newspaper in Britain. *The Guardian* started as a local newspaper and grew into a national concern, taking the name *The Guardian* in 1959 and moving to London in 1964. The newspaper is politically liberal and left-of-centre, and is influential in newspaper design and publishing. The current editor of *The Guardian* is Alan Rusbridger and the newspaper is owned by The Scott Trust.

### **The Independent**

*The Independent* is a daily serious-minded newspaper in tabloid format. *The Independent* is a young newspaper, established in 1987 by Andreas Witham Smith, Stephen Glover and Matthew Symonds, all former journalists from the *Daily Telegraph*. *The Independent* is a newspaper with no declared political agenda, but is known to be centre-left politically, identifying with the Liberal Democratic party. *The Independent* has a daily circulation of 185,035<sup>6</sup> (February 2011), and is the fifth largest serious-minded newspaper in the Britain. The current editor of *The Independent* is John Mullin and the newspaper is owned by Alexander Land Evgeny Lebedev (Luft, 2008).

### **The Times**

*The Times* is a daily newspaper currently published in tabloid format (since 2004). *The Times* was established in 1785 by John Walter, under the name The Daily Universal Register. *The Times* is known to stand centre-right politically, supporting the Conservative party. *The Times* has a daily circulation of 457,250<sup>6</sup> (February 2011), and is the second largest serious-minded newspaper in Britain, after the Daily Telegraph. The Times is owned by Rupert Murdoch's *News International* and the current editor is James Harding (Jenkins, 2006).

### **The New Statesman**

The *New Statesman* is a British weekly news magazine with a focus on politics and culture, established in 1913 by Sidney and Beatrice Webb and members of the Fabian Society. The *New Statesman* stands towards the left politically. The current editor of the *New Statesman* is Jason Cowley, and the magazine is owned by Mike Danson. (New Statesman, 2011).



### **The Economist**

*The Economist* is a weekly news magazine with a focus on news and international affairs. The magazine was established in 1843 by James Wilson. *The Economist* is targeted at highly educated readers, and has historically supported both the political left and the political right, supporting the Conservative Party during the last British election. John Micklethwait is the current editor of *The Economist* and the magazine is owned by the *Financial Times*. (Economist Group, 2011)

### **3.3 Presentation models for graphics**

Data are presented through graphics in various ways.

‘Data are not information. However, carefully organised and invitingly presented data may give rise to productive action, thus becoming information.

The design of such information resources as diagrams include not only their visual appearance, but also the manner which users bring them into their visual field – “getting the picture” in a literal sense’

(Clive Richards, *Getting the Picture: Diagram design and the information revolution*, *Information design journal* 9/2&3 2000 p. 89)

In order to facilitate the collection of data about different presentation models for this dissertation, specific presentational models of graphics are defined below.

#### **Statistical graphics**

As mentioned in the chapter 3 Definitions, section 3.1 Terminology page 25, *The British Standard. 1992. BS 7581: Guide to presentation of tables and graphs* was chosen to define presentation models for statistical graphics in newspapers and news magazines for this dissertation. As alluded above, *BS 7581* was developed to help those engaged in data presentation find a suitable form to present data visually for a general audience. The choice of visual form used to

**Selection issue** Would legends triumph over modern heroes?

Boycott's team		1		ICC team	
<b>Jack Hobbs</b> England 1908-30	MATCHES 81 BATTING AVE 36.54	1	MATCHES 87 BATTING AVE 53.43	<b>Virender Sehwag</b> India 2001-	
<b>Len Hutton</b> England 1937-53	MATCHES 70 BATTING AVE 36.07	2	MATCHES 125 BATTING AVE 51.12	<b>Saied Gavaskar</b> India 1971-87	
<b>Donald Bradman</b> Australia 1928-48	MATCHES 52 BATTING AVE 99.94	3	MATCHES 52 BATTING AVE 99.94	<b>Donald Bradman</b> Australia 1928-48	<b>KEY FIGURE</b> Bradman's Test average is the highest ever by a batsman
<b>George Headley</b> West Indies 1920-51	MATCHES 22 BATTING AVE 42.83	4	MATCHES 177 BATTING AVE 36.96	<b>Sachin Tendulkar</b> India 1989-	
<b>Viv Richards</b> West Indies 1974-91	MATCHES 121 BATTING AVE 50	5	MATCHES 131 BATTING AVE 32.28	<b>Brian Lara</b> West Indies 1990-2006	
<b>Garry Sobers</b> West Indies 1954-74	MATCHES 93 BATTING AVE 37.76 BOWLING AVE 34.01	6	MATCHES 111 BATTING AVE 31.05 BOWLING AVE 25.94	<b>Kapil Dev</b> India 1975-94	
<b>Alan Knott</b> England 1967-81	MATCHES 95 BATTING AVE 32.75 BOWLING AVE 28.0	7	MATCHES 96 BATTING AVE 47.60 BOWLING AVE 4.16	<b>Adam Gilchrist</b> Australia 1999-2008	
<b>Sydney Barnes</b> England 1901-11	MATCHES 27 BATTING AVE 16.43 WICKETS 189	8	MATCHES 104 BOWLING AVE 13.62 WICKETS 414	<b>Wasim Akram</b> Pakistan 1985-2002	
<b>Malcolm Marshall</b> West Indies 1978-91	MATCHES 81 BOWLING AVE 33.04 WICKETS 378	9	MATCHES 96 BOWLING AVE 22.39 WICKETS 405	<b>Curtly Ambrose</b> West Indies 1988-2000	
<b>Shane Warne</b> Australia 1992-2007	MATCHES 145 BOWLING AVE 26.41 WICKETS 706	10	MATCHES 145 BOWLING AVE 26.41 WICKETS 706	<b>Shane Warne</b> Australia 1992-2007	<b>KEY FIGURE</b> Warne was the fastest to reach 700 Test wickets
<b>Donald Lillee</b> Australia 1971-84	MATCHES 70 BOWLING AVE 21.00 WICKETS 356	11	MATCHES 105 BOWLING AVE 21.54 WICKETS 383	<b>Cleopatra McGrath</b> Australia 1993-2007	

Figure 4: Table from *The Daily Telegraph*, 20 July 2011 comparing cricket legends with today's heroes.

**Deaths in the Arab awakening**  
Recorded deaths during protests/clashes between civilians and government security forces to date (Libyan figures were unavailable)

Country	Population m*	Number killed, minimum	Period of unrest
Syria	20.4	1,300†	Mar 2011 - present
Egypt	81.1	846‡	Jan - Feb 2011
Tunisia	10.5	219†	Dec 2010 - Jan 2011
Yemen	24.1	200‡	Feb 2011 - present
Bahrain	1.3	29**	Feb - Jun 2011

\* 2010 estimates † Excluding security force members ‡ Of which 72 reported linked to the unrest or in custody  
‡ Excluding deaths resulting from clashes between security forces and other armed groups  
\*\* Of which 16 reported linked to the unrest or in custody  
Sources: Amnesty International; Egyptian Ministry of Health; OHCHR; UN Population Division; press reports

Figure 5: Table from *The Economist* 16 July showing a trend in deaths recorded in clashes between civilian protestors and government security forces in the Middle East

present data is dependent on what the designer wishes to communicate, and what the reader needs to understand.

Technology has been through huge changes since the *BS 7581* were introduced in 1992, and the increasing capacity of computers, software and printing technology continues to give designers still greater freedoms visual expression. However, the *BS 7581* still serves its purpose as a tool and guideline for those involved in visual data presentation to help them choose the best model of presentation for data so that the reader can extract information quickly and easily.

*The British Standard. 1992. BS 7581: Guide to presentation of tables and graphs* will be used as the criteria for defining different models of data presentation in this analysis of British newspapers and news magazines. A brief description of tables and the 12 different graph models in the *BS 7581* will therefore be given before analysis begins.

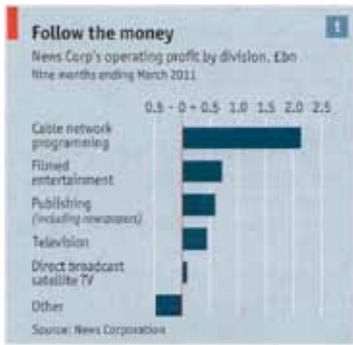
### **Tables**

Tables can be used to supplement and clarify text to avoid repetition, or to facilitate comparison in order to see differences or similarities between datasets [Figure 4–5]. A table can be used on its own, as a reference, or to support text. The data presented in a table is organised into rows and columns. The purpose of presenting data in a table should be simple to determine, for instance if the table is used to present a trend, it should be easy to tell what that trend is at a glance. Tables are convenient when a wide range of data is presented (British Standard, 1992, p. 11).

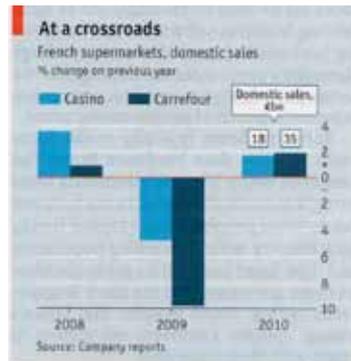
The advantage of the table is that: it has many cells and can therefore present a wide range of data, numeric data can be extracted easily and accurately, and cells can be compared effectively when a localized comparison is required. The disadvantages of a table are that trends are not always easy to spot, and tables that are complicated or contain large amounts of data can put the reader off.

### **Bar graphs**

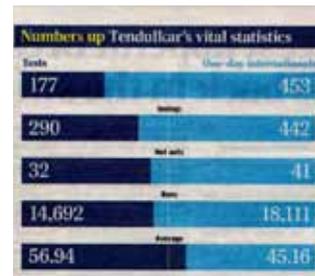
Bar graphs present data visually as a distribution frequency, where each bar is proportional to the value it represents. Bar graphs are divided into three subcategories in the *BS 7581*: single bar graph, multiple dataset bar graph and stacked bar graph.



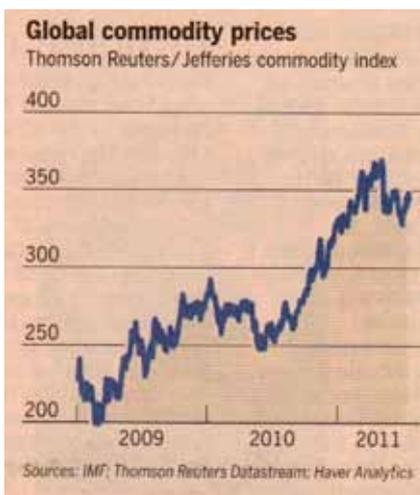
**Figure 6:** Single bar graph from *The Economist* 16 July 2011 displaying News Corps' operating profit by division. The data are displayed horizontally. Both positive and negative values are displayed.



**Figure 7:** Multiple dataset bar graph from *The Economist* 16 July 2011 showing domestic sales in French supermarkets. The data is displayed vertically. Both positive and negative values are displayed.



**Figure 8:** Stacked bar graph from *The Daily Telegraph* 16 July 2011 showing statistical data from cricket matches in player Tendulkar's career.



**Figure 9:** Single line graph from the *Financial Times* 19 July 2011 showing global commodity prices.



**Figure 10:** Line graph from *The Independent* 13 July 2011, showing two data series to facilitate comparison of inflation over the last 12 months.

A single bar graph displays a single data series. The bars and the distance between the bars can be any width, and both positive and negative values can be displayed [Figure 6] (Harris, 1999, p. 37).

The advantages of the single bar graph are that it can easily be understood by non-experts because it facilitates easy comparison of the bar lengths and the data can be displayed horizontally or vertically depending on what suits the data best. The disadvantage of the single bar graph is that it can be hard to make valid assumptions or draw accurate conclusions from the plotted data.

A multiple dataset bar differs from a single bar graph because two or more data series are plotted side by side on the same bar graph. The datasets are grouped by category, and each segment within those categories has its own colour, pattern, or shade. The segments should be repeated in the same order to help the reader stay focused. In a multiple dataset bar graph there is spacing between the groups of bars, not between individual bars [Figure 7] (Harris, 1999, p. 38).

The disadvantage of the multiple bar graph is that it can confuse the reader when it comes to the purpose of the graph. Should he or she focus on the overall pattern, or attempt to compare the different sets of data?

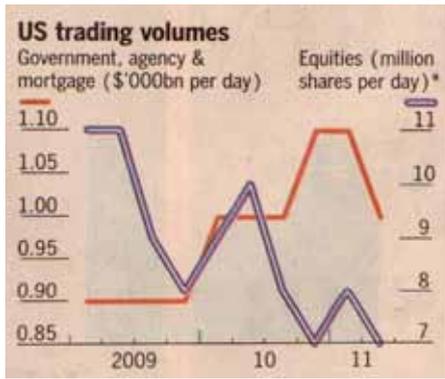
A stacked bar graph presents multiple datasets stacked in one bar. The different segments in a bar have their own colour, pattern, or shade. All segments in a bar represent the total value of the bar [Figure 8] (Harris, 1999, p. 39).

The disadvantages of the stacked bar graph are that it makes small differences in data hard to compare, and when segments do not start at the same point on the bar it is hard to compare them.

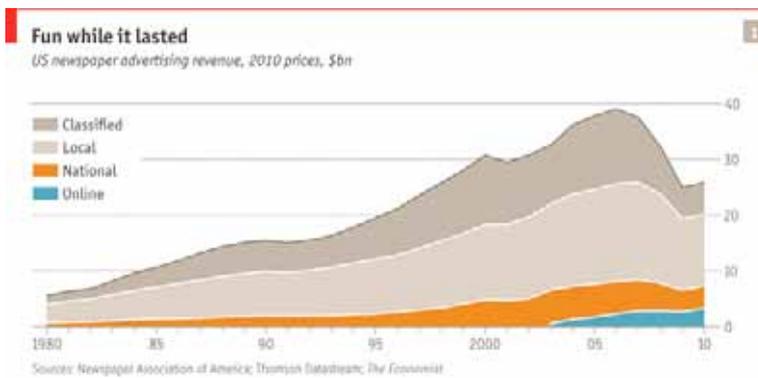
### **Line graphs**

A line graph is a series of data points connected by a line. Line graphs usually display a trend in data as intervals over time. A line graph can represent a single data series or more [Figure 9–10] (Harris, 1999, p. 207).

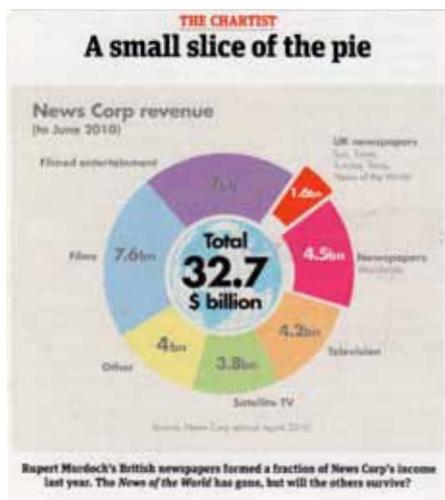
The advantages of the line graph are that it enables the reader to draw conclusions easily and to make realistic assumptions from the plotted data points. It is a good model if the aim is to show the



**Figure 11:** Area graph from the *Financial Times* 17 July 2011, showing two data series to facilitate comparison of US trading volumes. The data series are distinguished by stroke pattern and stroke colour.



**Figure 12:** Area graph from *The Economist* 9 July 2011, showing trends in circulation numbers for US newspapers. The data series are distinguished by fill colour.



**Figure 13:** Pie chart from *The New Statesman* 18 July 2011, showing how Rupert Murdoch's British newspapers influenced News Corps' income last year. Segments are differentiated by colour and newspapers are extracted to emphasise the meaning.



**Figure 14:** Pie charts from *The Times* 11 July 2011, mapping how the percentage of women in British boards has changed since 1999. The pie chart is not depicted as slices but as circles within circles.

relationship between two or more datasets as it can show relationships between several sets of data, facilitate comparison between parallel lines and display many data points in a confined space. The disadvantages of the line graph are that it can easily lead the reader to draw erroneous conclusions from the data when different categories are presented along the x-axis, and meaning can also be obscured where data points overlap.

### **Area graph**

An area graph is a line graph with multiple datasets, where each dataset is added on to the one below. The top line represents the total amount of data plotted. The datasets are represented by filling in the spaces between the lines with different colours, shades, or patterns [Figure 11–12].

The disadvantages are that it is difficult to extract and compare data, and challenging to get an effective overview when the dataset has different starting points on the x-axis.

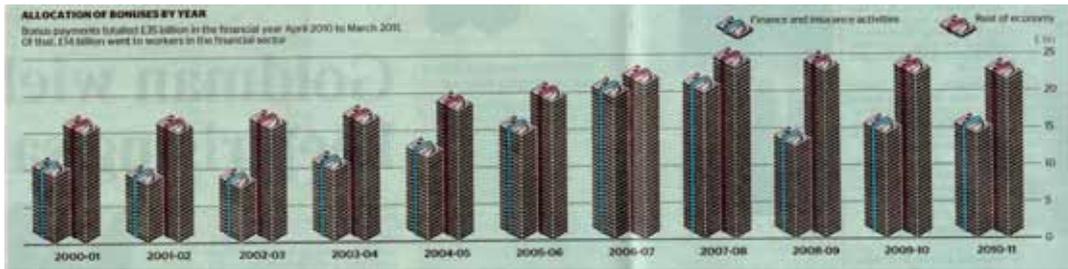
### **Pie charts**

A pie chart can only be used when it represents one hundred per cent of the dataset. The pie chart is a circle divided into wedges or slices. The wedges or slices are proportional to the percentage they represent. If the segments are arranged in size order, it helps reader comprehension [Figure 13–14] (Harris, 1999, p. 281).

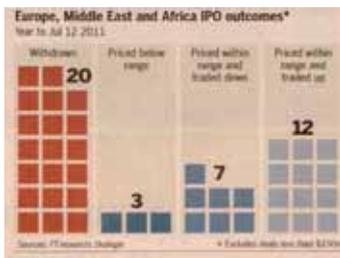
The advantages of a pie chart are that it presents a simple message that can be easily understood by non specialists, that it shows how a few components contribute to the whole picture, and that one segment can be emphasised by detaching it from the group. The disadvantage of the pie chart is that it is hard to compare the data because the size of some of the wedges or slices can be very small. They also need more space than a bar graph because the segments need to be big enough to label.

### **Isotype graphs**

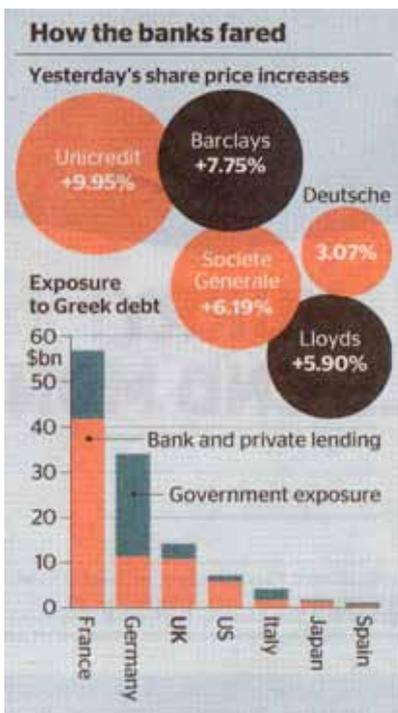
An Isotype graph compares sets of data using pictorial symbols with a specific value, repeated to represent higher or lower values. The



**Figure 15:** Isotype graph from *The Times* 20 July 2011, comparing bonuses in the financial sector with the rest of the economy. Notes with a blue tag represents the financial sector, while notes with a red tag represents the rest of the economy.



**Figure 16:** Isotype graph from *The Financial Times* 20 July 2011, comparing trades in the IPO's market.



**Figure 17:** Scatter graph on top of bar graph from *The Times* 22 July 2011, plotting how share prices increased after a meeting in Brussel about the Euro.

symbols look like what they represent, or are easily associated with it. The symbols are organized in groups so that they are easy to count. An Isotype graph is essentially an illustrated bar graph [Figure 15–16].

The advantages of the Isotype graph are that it can present complex messages using several data sets, it is easy to define the subject and context of the graph, it can easily be understood by non-experts because it facilitates comparison of the bar lengths, and the data can be displayed horizontally or vertically to suit labelling the data.

The disadvantages of the Isotype graph are that it needs more space than a conventional bar graph, and it can be hard to make realistic assumptions or draw accurate conclusions from the plotted data.

### **Scatter graphs**

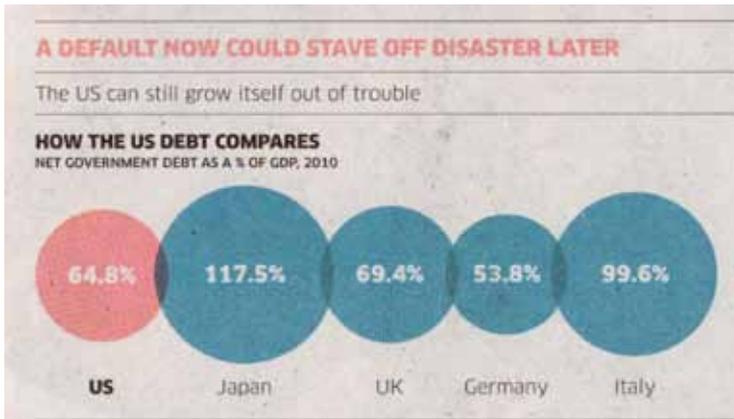
Scatter graphs show the spread or grouping of data points and how they are related by representing datasets as, for example, dots, circles or squares. A scatter graph explores the relationship between data sets [Figure 17] (Harris, 1999, p. 343).

The advantages of a scatter graph are that it easily demonstrates variability in the data, and each point in the dataset can be examined independently. The disadvantages of the scatter graph are that it is easy to overestimate the importance of outlying values and it does not facilitate comparisons between datasets.

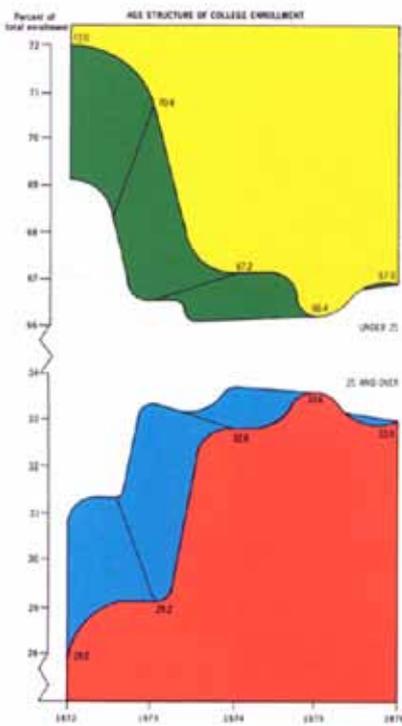
### **Histograms and cumulative frequency**

A histogram looks like a bar graph where the bars are connected. The histogram shows the frequency of specific values within one or more datasets [Figure 18, p. 46] (Harris, 1999, p. 187).

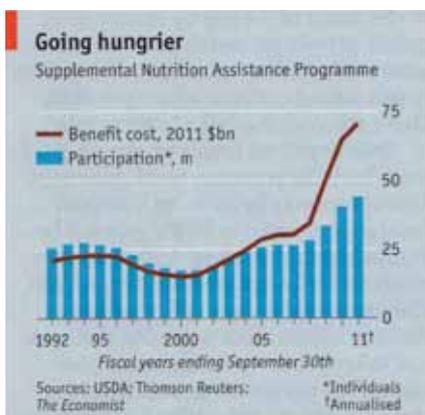
The advantages of histograms and cumulative frequencies is that a common baseline facilitates comparison between datasets of different values, and a cumulative frequency plotted as a histogram facilitates comparison of variability. The disadvantages of histograms and cumulative frequencies are that the difference between datasets can seem too pervasive because the plotted points are not independent, the categorization of data remove some of the information a scatter graph gives and early differences in data may make the reader overlook later similarities in the data.



**Figure 18:** Histogram where circles is used instead of bars *The Times* 21 July 2011, comparing US debts to other countries in the world.



**Figure 19:** Three dimensional graph scanned from *The Visual Display of Quantitative Information* (Tuft, 2001), p. 118.



**Figure 20:** Superimposed graph from *The Economist* 16 July 2011, showing the relationship between participation and benefit cost in the Supplemental Nutrition Assistance Programme.

### **Three-dimensional graphs**

A three dimensional graph is a graph that has three axes, either for technical or cosmetic purposes. Three-dimensional graphs illustrate general patterns and are not generally used for displaying precise data. Three-dimensional graphs often need a caption telling the reader how to extract the data [Figure 19] (Harris, 1999, p. 401).

The advantages of a three-dimensional graph are that it demonstrates the relationship between three variables strongly and simply. The disadvantages are that different people could interpret and understand those variables differently, the visual message is complicated, it is hard to understand the image at first glance and it is difficult to find a suitable starting point for reading.

### **Superimposed graphs**

A superimposed graph is multiple set of data layers on top of each other, represented through different graphic presentation models. [Figure 20, p. 48] (Harris, 1999, p. 374).

The advantage of the superimposed graph is that the relationship between two different variables is easily distinguished by the presentation model. The disadvantage is that it can lead the reader to read data from the wrong axis.

### **Thematic Map**

A thematic map is data recorded for a specific area and presented on a map through colour, pattern, shades, or small graphs. A thematic map can represent one or more themes, ideas, characteristics, types, and more in a given geographical area [Figure 21] (Harris, 1999, p. 400).

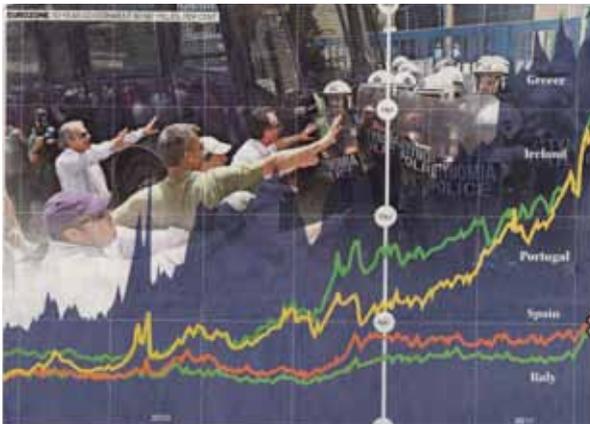
The advantages of the thematic map are that it allows the designer to map values to a specific position, and present clear information related to an area. The disadvantage is that it can cause confusion when multiple datasets are represented.

### **Illustrated graphs**

Illustrated graphs use picture as an accessory to some other graph, for example a bar graph. [Figure 22, p. 48].



**Figure 21:** Thematic map from *The Daily Telegraph* 13 July 2011, showing which nations have won major golf championships.



**Figure 22:** Illustrated graph from *The Daily Telegraph* 21 July 2011, depicting how the value of the Euro is influenced by nations in the EU.



**Figure 23:** Pictorial graph from *The Daily Times* 19 July 2011, showing British energy suppliers by size.

The advantages of the illustrated graph is that it helps identify the subject and attracts attention. The disadvantage is that it disturb data that otherwise would easily understood by the reader.

### **Pictorial graphs**

A pictorial graph use pictures to carry data, and communicats the amount of that data with a proportionally sized picture [Figure 23].

The disadvantage of the pictorial graph is that it can be a confusing presentation of the message. Should the reader focus on height, surface, area or volume?

### **Illustrative graphics**

There exist no framework in the British Standard for defining presentation models for illustrative graphics. This dissertation will employ the three broad categories from Theresa Carter's dissertation *The use and presentation of graphic information in Newspapers* (1990) to define presentation models for illustrative graphics;

### **Explanation**

Explanation graphics are graphic material used to explain important news events. They are typically used to support disaster stories (Carter, 1990, p. 20). Explanatory graphics is a complementary way of telling a story (Stone, 1990). Bertin also describes this type of explanation graphic, saying 'the aim of the graphic is to make the relationship among previously defined sets appear.' [Figure 24, p. 50] (Bertin, 1983, p. 176)

Timelines, graphics that explain roles in a team or a business are a typical examples of explanation graphics. For this dissertation graphics that show how an object looks, with or without labels, and step-by-step guides are included in the presentation model of explanation graphics. Graphical metaphors are often used in explanation graphics.

### **Location**

Location graphics are maps plotting a location, sequence or an event that helps the reader place that event on a map. Newspapers and news magazines often develop templates for location graphics in a



Figure 24: Explanation graphic from *The Guardian* 14 July 2011, explaining human and economic relations in the Murdoch hacking scandal.



Figure 25: Location graphic from *The Guardian* 19 July 2011, locating war events in Libya.



Figure 26: Articulation graphic from *The Guardian* 13 July 2011, where arrows are used to indicate ups and downs in the financial market, and pound, euro and dollar symbols to indicate exchange rates.

corporate style, as location maps often appear as part of a series, for example in war situations or for sporting events. Location maps differ from the presentation model of thematic maps because they do not present any statistical data [Figure 25] (Carter, 1990, p. 21).

### **Articulation**

Articulation graphics are more decorative than informational, they articulate the text and break up long texts for the reader. As a consequence of this, articulation graphics can make text more legible (Carter, 1990, p. 22). Hodgson describe that an articulation graphic is typically a symbol that embellishes the text and helps the reader find their way around the text (Hodgson, 1987, p. 76) [Figure 26].

In this dissertation, graphics that use photography or illustration in combination with statistical graphics to draw the reader in are seen as articulation graphics, and symbols used to place a thematic graphic are seen as articulation graphics.



## 4. Methodology

The scope of the research in this dissertation was limited to a selection of five British newspapers, and two weekly news magazines followed over a period of two weeks. The aim was to map the different presentation models of graphics and their relationship to the article content. Tabloid newspapers were not featured as they rarely use information graphics. The way they present their news in a less in-depth manner than serious-minded newspapers and news magazines may prevent their frequent use.

The selection of newspapers and news magazines was limited to the British market to increase comparability and illustrate whether any trends are developing in Britain. The selection is intended to be representative of what is currently available among newspapers and news magazines in Britain today.

### 4.1 Criteria

The five newspapers and two news magazines were searched through and data about the graphics contained within them were collected according to a limited set of crucial data.

Every graphic and article with a graphic in the newspapers and news magazines were recorded according to the following categories:

#### **General**

- Date
- Newspaper / news magazine
- News section

*As newspapers and news magazines all call different sections by different names, six generally named news sections were defined: news, business and economy, culture, comment, sports and magazine.*



- Page
- Size

*The number of columns occupied by the graphic in the spread.*

*The height of the graphic was not measured.*

### **Content**

- Title
- Content tag

*The content of the articles were summarised with one or more keywords, to help relate articles in a series or articles with similar content in other newspapers and news magazines.*

### **Statistical models**

- Bar graph
- Single bar graph, multiple data set, stacked bar graph
- Line graph
- Area graph
- Pie chart
- Isotype graph
- Scatter graph
- Histogram
- Three-dimensional graph
- Superimposed graph
- Thematic map
- Illustrated graph
- Pictorial graph

*The statistical presentation models are all described according to BS 7581 in chapter 3 Definitions, section 3.3 Presentation models for graphics, page 37.*

*One graphic can consist of more than one statistical presentation model and can contain illustrative elements.*



**Illustrative model**

- Explanation
- Location
- Articulation

*The illustrative presentation models are all described in the chapter 3 Definitions, section 3.3 Presentation models for graphics, page 37.*

*An illustrative graphic can also contain one or more statistical presentation models.*

**Purpose**

Graphics in newspapers and news magazines are used for different purposes:

- Telling a story  
*A story can be read through the graphic.*
- Story support  
*Graphics are used to support a point of view.*
- An overview  
*Graphics which aim to paint a broad picture of the situation.*
- Decorative

**They can be designed as:**

- A story  
*The graphic is designed for this story only. It can be branded or unbranded.*
- To be part of a series  
*Graphics which can be viewed together or separately to illustrate an event. They can be branded or unbranded.*
- Page element  
*A regular page feature, for example a daily stock market report or location map<sup>7</sup>.*

<sup>7</sup> Location maps are seen as page elements because they are used and designed the same way for every story they are used with. The only difference is the location of the crop.

**Table 1:**  
**Number of graphics registered in newspapers and news magazines 11–22 July 2011**

Newspaper	11.07	12.07	13.07	14.07	15.07	18.07	19.07	20.07	21.07	22.07
The daily telegraph	12	18	13	14	15	14	11	13	15	12
Financial Times	18	19	22	18	22	14	20	17	19	17
The Guardian	7	3	8	7	9	5	7	12	8	6
The Independent	8	9	14	13	10	8	10	10	8	7
The Times	11	10	14	15	15	10	11	11	15	12
<b>Daily total</b>	<b>56</b>	<b>59</b>	<b>71</b>	<b>67</b>	<b>71</b>	<b>51</b>	<b>59</b>	<b>63</b>	<b>65</b>	<b>54</b>

**Total number of graphics registered in newspapers 11–22 July 2011: 616**

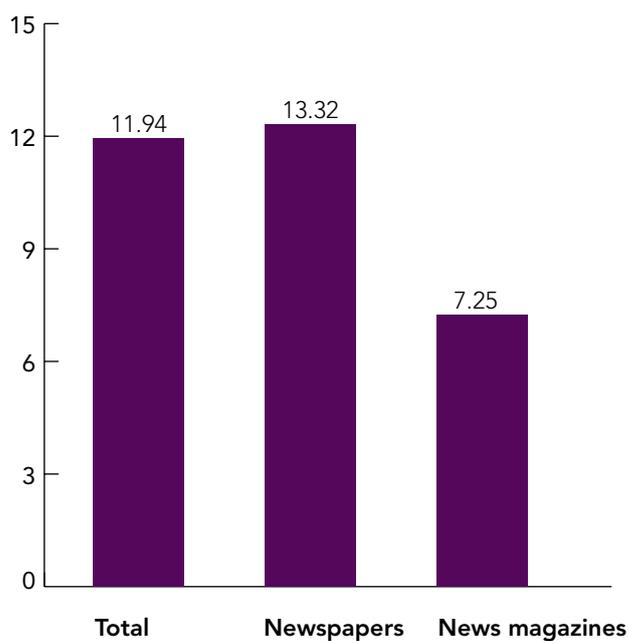
Newsmagazine	11.07	12.07	13.07	14.07	15.07	18.07	19.07	20.07	21.07	22.07
New Statesman	0					2				
The Economist	18*					9**				
<b>Weekly total</b>	<b>18</b>					<b>11</b>				

**Total number of graphics registered in news magazines 11– 22 July 2011: 29**

\* The Economist 11 July 2011, was published on 9 July 2011.

\*\* The Economist 18 July 2011, was published on 16 July 2011.

**Figure 27:** Average number of graphics per issue



## 5. Evaluation and analysis

In this section the data collected about graphics in newspapers and news magazines are presented, discussed and evaluated.

The first part is a presentation of statistics gathered in the study of British newspapers and news magazines in the two week period from 11 July 2011 to 22 July 2011. These statistics set out to sketch the general trends in the use of graphics in British newspapers and news magazines today.

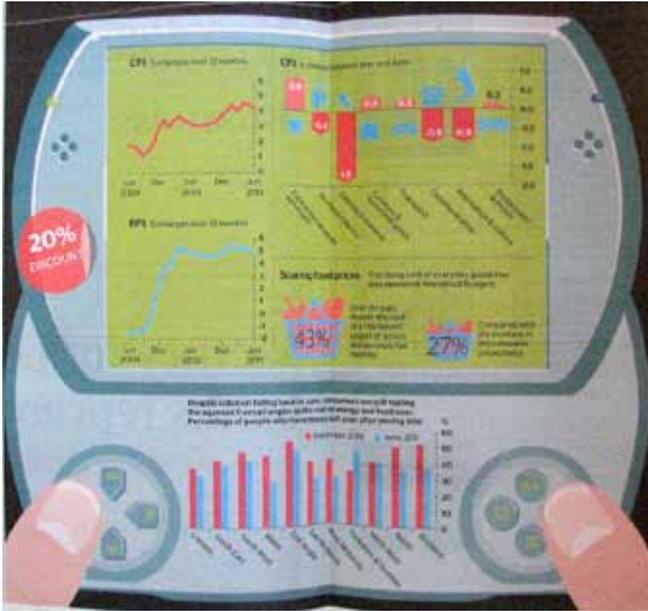
The second part takes a look at three storylines which featured a high number of graphics. It analyses trends in the choice of presentation model when related to the content of the story, and the section of the newspaper or news magazine.

### 5.1 General observations

Although the main focus for this dissertation is on comparing the use of graphics in newspapers and news magazines and linking the content of the news stories with the use of particular graphic presentation models, the research has provided a few general observations on the use of graphics in newspapers and news magazines which need to be discussed.

Fifty weekday issues of the British newspapers *The Daily Telegraph*, *The Financial Times*, *The Guardian*, *The Independent* and *The Times*, and four issues of the British news magazines the *New Statesman* and *The Economist* were considered in this research. Combined, these contained 645 stories with graphics. The graphics were either used as part of a story, or as a standalone graphic. This gives an overall average of 11.94 stories featuring graphics per issue [Figure 27].

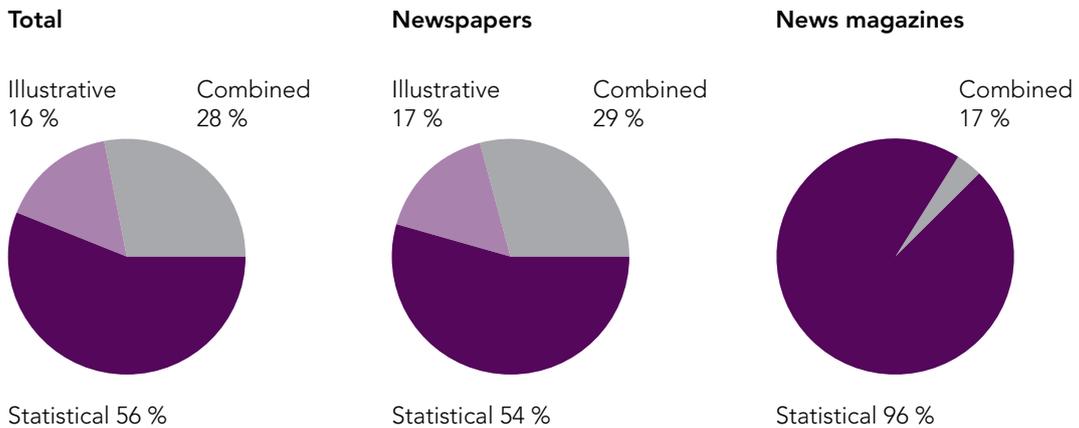
In the newspapers, 616 stories were recorded giving an average of 12.34 stories containing graphics per issue, higher than the total average [Figure 27].



**Figure 28:** Combined graphics from *The Times* 13 July 2011, combining elements from statistical presentation models with elements from illustrative presentation models to support data presented in the story *Surprise fall in the cost of living – but food goes up and up.*

**Figure 29:**

Presentation models divided into statistical, illustrative and combined presentation models 11–22 July 2011



**Presentation models divided into statistical, illustrative and combined presentation model**

Presentation model	Total	Newspaper	News magazine
Statistical presentation model	363	336	27
Illustrative presentation model	102	102	0
Combined presentation model	180	179	1

In the news magazines, 29 stories with graphics were registered, giving an average of 7.25 stories with graphics per issue. Only the 11 July 2011 issue of the news magazine *The New Statesman* was found not to employ any graphics, see Table 1, page 58. Whether this is typical behavior or a singular occurrence for this one issue is hard to say. Combined with the lower average, this potentially indicates that news magazines use fewer graphics than newspapers.

However, it is important to bear in mind that only two news magazines in four issues were investigated in this research, in contrast to five newspapers and 50 issues. The small number of news magazines related to the large number of newspaper may not justify the average number of stories found to contain graphics in news magazines.

### **Statistical or illustrative presentation model**

Before the specific presentation models are discussed, the two broader categories of statistical and illustrative graphics will be examined. It is not possible to distinguish simply between statistical and illustrative graphics, as many graphics in newspapers and news magazines combine elements from the two categories. A third category must be employed, described as combined graphics [Figure 28].

Of the 645 registered stories with graphics in newspapers and news magazines, 56 per cent of the graphics fall into the category of statistical graphics. This makes statistical graphics the biggest category. 28 per cent of the graphics fall into the category of combined graphics and only 16 per cent represent the category of illustrative graphics [Figure 29].

Taking into consideration that the combined presentation models include statistical presentation models, the total percentage of stories with a statistical presentation models is 84 per cent.

Two publications in this research could influence why statistical presentation models dominate the field. The newspaper *The Financial Times* and the news magazine *The Economist* focus on business and economical matters and are therefore more likely to present quantitative data through statistical models.

**Table 2:**  
**Statistical presentation models in newspapers and news magazines 11–22 July 2011**

Statistical presentation model according to <i>BS 7581</i>	Articles with one or more of the statistical presentation models	Total number of statistical presentation model seen
Area graph	191	281
Table	141	254
Bar graph	133	197
Thematic map	84	325*
Line graph	58	67
Superimposed graph	25	50
Illustrated graph	24	24
Pie graph	23	46
Histogram	10	13
Isotype graph	7	10
Pictorial graph	5	11
Scatter graph	4	4
3d graph	1	1
<b>Total</b>	<b>706</b>	<b>1283</b>

\* High number due to the use of 5–7 thematic maps in the weather forecast in the newspapers, every day.

The category of statistical graphics in newspapers represents 54 per cent of the recorded stories in the newspapers, combined graphics represent 29 per cent and illustrative graphics 17 per cent [Figure 29].

Interestingly, news magazines show a different ratio to the overall total and the total for newspapers alone. The category of statistical graphics represents 96 per cent of the recorded stories with graphics, and only four per cent are recorded as combined graphics. No graphics were recorded as falling under the category of illustrative graphics, see figure 29, page 60.

Illustrative graphics were almost absent in the news magazines investigated in this research, and only one combined graphic was recorded, see figure 29, page 60. But as alluded to above, only four issues were examined, so whether this is typical for news magazines is hard to determine.

## 5.2 Statistical presentation model

Statistical presentation models dominate in the British newspapers and news magazines investigated by this research [Figure 29, page 60]. Statistical presentation models are also present as an element in combination with illustrative graphics in the category of combined graphics.

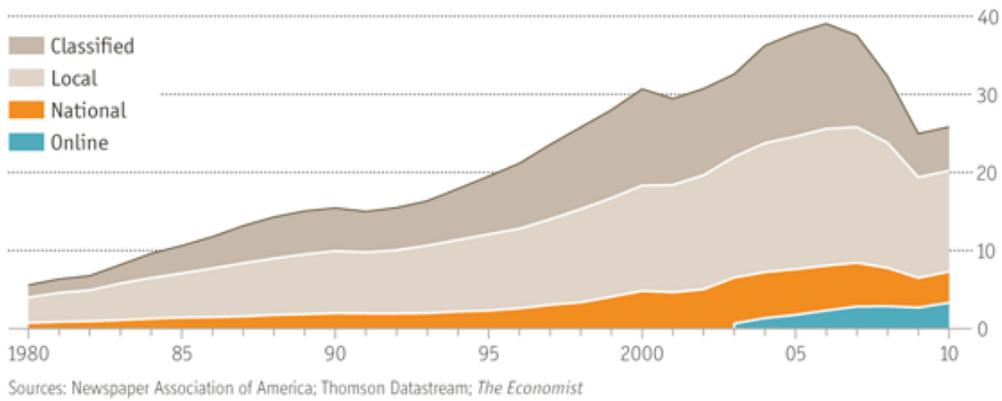
In total 363 of the 645 recorded stories with graphics were represented by purely statistical presentation models, and 180 more stories with graphics had elements of statistical presentation models in combination with illustrative models. This makes the total number of stories recorded as containing statistical presentation models 543, and the total number of statistical presentation models discovered by this study was 706 [Table 2].

Graphics often employed more than one presentation model to present different data to support or tell a story, for example one story was supported by two bar graphs and a table. Stories like this one were registered as containing a bar graph and a table as their statistical presentation model, and the number of each type of graph

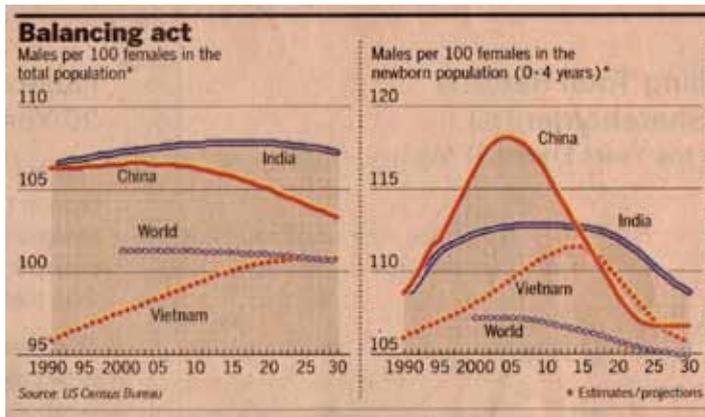
## Fun while it lasted

1

US newspaper advertising revenue, 2010 prices, \$bn



**Figure 30:** Area from *The Economist* 16 July 2011, showing data series differentiated by colour. The graph gives an overview of the situation for US newspapers between 1980-2010.



**Figure 31:** Two area graphs from *The Financial Times* 11 July 2011 showing how the Chinese population is affected by the one child policy. Data series divided by colour and pattern on stroke.



**Figure 32:** Area graph from *The Times* 14 July 2011. The four area graphs are a page element in *The Times* business section, showing the daily development in the world market.

was also recorded. Whether the type of presentation model is counted (bar graph, table) or the frequency of the model is observed (two bar graphs, one table), the most frequently used statistical presentation models remain the same [Table 2, page 62].

As specified in chapter 3 Definitions, Section 3.3 Presentation models for graphics, page 37, *The British Standard. 1992. BS 7581: Guide to presentation of tables and graphs* defines 13 different statistical presentation models. The three most frequently observed statistical presentation models in this investigation will be presented, discussed and evaluated below.

The area graph is the most frequently used statistical presentation model in British newspapers and news magazines.

The area graph has the advantage of displaying data effectively in a small space. In general they cover one to three columns out of a total of ten to sixteen columns in a spread.

Of all the newspapers and the news magazines, *The Economist* uses the area graph most frequently for story support, or to give an overview of a situation. The area graph is often used to visualise development over time, and to compare development between two or more series of data. Area graphs are only used with multiple data series in *The Economist*. The data series are differentiated in corporate colours, and have a corporate look [Figure 30].

Among the newspapers analysed, *The Financial Times* also uses area graphs very frequently, often with the purpose of giving an overview of share values, and showing the development of businesses over time. Area graphs with multiple datasets in the colour printed part of *The Financial Times* use both colour and pattern to differentiate data series. All the area graphs in this publication are made from the same template, using the same grid, colours, and patterns [Figure 31]. In the part of *The Financial Times* printed in a single colour, pattern and gradients are used to differentiate data series.

Area graphs in *The Times* often only present one data series, and are effectively a single line graph with a fill. *The Times* uses area graphs most frequently as story support in the news section or as a page element in the business and economy section. Figure 32 is an example of an area graph used as a page element in the business section of a newspaper.

FTSE 100 RISEERS				FTSE 100 FALLERS			
Price 01	Change 01	Change 02		Price 01	Change 01	Change 02	
Asda	298.00	+17.20	+7.14	BT	252.00	-99.00	-11.64
Next	2450.00	+110.00	+4.18	Barclays	243.20	-22.30	-8.80
Audyssey Co	1781.00	+8.00	+0.45	United Br Co	48.58	-4.25	-8.78
Tesco Co	1383.00	+11.00	+0.81	Royal Br Soc	87.21	2.48	2.75
Wm Morris	3807.00	+51.00	+1.36	Aviva	911.20	-18.00	-2.00
Aggreko	2000.00	+41.00	+2.14	Woodsen	1813.00	-122.00	-6.82
HSBC Plc	1811.00	+80.00	+4.54	Wm Morris	481.00	-22.00	-4.58
Quindell	1176.00	+18.00	+1.54	Carlisle	238.00	-11.00	-4.64
MediaCom	319.50	+14.00	+4.51	East-End	387.00	-18.00	-4.51
ARM Holdings	611.00	+17.00	+2.81	Aviva	744.00	-15.00	-2.00

FTSE 250 RISEERS				FTSE 250 FALLERS			
Price 01	Change 01	Change 02		Price 01	Change 01	Change 02	
Dynasty	464.00	+4.70	+1.02	Primo Finance	201.00	-45.00	-18.50
Asda	71.90	+7.40	+10.86	Barclay	682.00	-84.00	-11.41
BT	309.00	-29.00	-9.38	First-Party Digital	138.00	-14.00	-9.40
Wm Morris	348.00	+92.00	+26.44	Compass	249.20	-24.00	-9.62
Primor Food	18.00	+1.50	+8.33	Deputy	11.20	1.43	14.50
Asda	487.00	+81.00	+16.63	Next	52.00	6.75	13.15
North Shore	281.00	-71.00	-25.27	Woodsen	1805.00	-82.00	-4.54
Stax	3881.00	+88.00	+2.28	London	181.00	-18.00	-9.39
ASDA	1019.00	+81.00	+8.04	Wm Morris	581.00	-47.00	-8.10
Asda	188.00	+12.00	+6.41	Woodsen	430.00	-21.00	-4.88

AIM RISEERS				AIM FALLERS			
Price 01	Change 01	Change 02		Price 01	Change 01	Change 02	
Alphatech	0.75	+0.08	+11.43	Woodsen	17.00	-3.00	-15.00
IC Technology	0.21	+0.04	+19.05	Barclay	1.00	-0.05	-4.76
Strategic Mining	0.75	+0.21	+28.00	Ascent	2.20	-0.08	-3.64
Orion Group	1.70	+0.30	+17.65	Wm	1.62	-0.08	-4.88
Woodsen	1.50	+0.20	+13.33	Open Gate	11.00	2.00	18.18
Medical Device	0.75	+0.07	+9.38	Woodsen	1.17	-0.04	-3.38
Micro Metals	0.20	+0.05	+25.00	Wm Morris	3.80	-0.70	-18.42
Northern Link	17.00	+4.50	+26.47	Wm Morris	1.88	-0.31	-16.52
Europe Invest	0.75	+0.05	+6.67	Wm Morris	0.88	-0.08	-9.09
Wm Morris	183.00	+48.00	+26.23	Ascent	0.11	-0.01	-8.33

ECONOMIC DIARY			
<b>Today</b>	Regional PMI data		
<b>Tomorrow</b>	BRC retail sales monitor, Monthly inflation figures, RICS housing market survey, Trade data, US Federal Open Market Committee minutes released, US trade data		
<b>Wednesday</b>	Eurozone industrial production data, Unemployment figures, US monthly budget statement		
<b>Thursday</b>	Eurozone CPI, US Business inventories, US PPI, US retail sales		
<b>Friday</b>	US CPI, US University of Michigan consumer sentiment index		

Figure 31: Table from *The Independent* 11 July 2011, these six tables are a page element in *The Independent* business section, showing daily developments in the world market.

How did they do?		
<p><b>Rupert Murdoch</b></p> <p>★★★★</p> <p><b>Key quote</b> "This is the most horrible day of my life"</p>	<p><b>Verdict</b> At his worst he appeared frail, crumbling, forgetful and not in full command of the situation, yet the majority of his replies were sharper than his son's and appeared straight from the heart. Though he appeared old and frail at the start, he relaxed in a way James did not. He garnered sympathy after the foam attack as he returned to the fray, symbolically with</p>	<p>his shirt off, to continue to answer questions. Yet he didn't fully answer how a man who phones the editor of the Sunday Times every Saturday had no idea of what was going on, saying only that the News of the World represented "ivs of my business". His worst moment when James has to help him out with name of the top legal officer at News International.</p>
<p><b>James Murdoch</b></p> <p>★★★★</p> <p><b>Key quote</b> "The company acted as swiftly and transparently as possible." "Yet he blamed the police, PCC, and "outside counsel" for not acting sooner."</p>	<p><b>Verdict</b> In terms of content he was fine, he stuck to the party line and kept his temper. Yet he continued to misjudge the public mood with grim-faced responses that sounded as if they'd been learned by rote after consultation with the external legal advisers he spent much of the hearing blaming for his failure to understand what was going on within his own company. Attempts to be polite - "I'm sorry, Mr Chairman" - sounded patronising.</p>	<p>He made the word "respectfully", which he said several times, sound like an insult. He didn't like being interrupted or the fact that his father was the focus of much of attention, although he came across as protective. James also admitted contributing to Glenn Mulcaire's legal firm. The most embarrassing moment was when asked whether he knew what "wilful blindness" meant, a term used to devastate effect against Euron executives.</p>
<p><b>Rebekah Brooks</b></p> <p>★★</p> <p><b>Key quote</b> "I admit we made mistakes."</p>	<p><b>Verdict</b> All that can be said was that she didn't unwittingly admit to criminal behaviour as she did in 2003. Her rare public appearance with a solitary lawyer was talking compared with the battalions around the Murdochs. Only some of it was due to the fact that the room was cleared of all but lobby journalists after the pie</p>	<p>attack. Saying that she knew nothing and could say nothing appeared at odds with her obvious tribal loyalty to her old papers. Describing the Sun as a "clean ship", she outrageously and wrongfully put the Guardian and Observer at the top of a list of newspapers using private detectives the former wasn't even on.</p>
<p><b>John Whittingdale</b></p> <p>Committee chairman</p> <p>★★★★</p>	<p><b>Key quote</b> Demanding to know why "parliament had been misled".</p>	<p><b>Verdict</b> Low-key, started well by refusing to allow James to make an opening statement, saying: "We have a lot of questions", but then allowed him to make a statement.</p>
<p><b>Tom Watson</b></p> <p>Star committee performer</p> <p>★★★★</p>	<p><b>Key quote</b> "Don't you think it's incredible that you were chief executive of the company and had no idea what was going on?"</p>	<p><b>Verdict</b> One of the more incisive members of the committee who got to the heart of the problem at Scotland Yard.</p>

Figure 33: Table from *The Guardian*, allowing the reader to compare verdicts from the people involved in the News of the World phone hacking scandal.

Leaders' fortunes			
HOW RECENT OPEN PACESETTERS FARED			
Year	1st round leader	Finished	
2010	R McIlroy	63-9	3rd=
2009	MA Jimenez	64-6	13th=
2008	R Allenby	69-1	7th=
	G McDowell	69-1	19th=
2007	R Mediate	69-1	19th=
	S Garcia	65-6	1st=
2006	G McDowell	66-6	1st
2005	T Woods	65-6	1st

Figure 32: Results table from *The Daily Telegraph* sports section 15 July 2011.

Tables were the second-most frequently used statistical presentation model analysed in this research.

A table organises data in rows and columns, often with the purpose of comparing sets of data, or to explain and explore relationships between data. Tables appear in many different forms, and can be mixed with illustrative graphics elements. More than one table is often used to visualise presented data.

The main purpose for using a table is to provide data to the reader to support a story. Tables were observed in all sections of the newspapers and news magazines, but appear more frequently in the business and economy, and in the sports section. Tables vary in size and can fill space from one column to a whole spread.

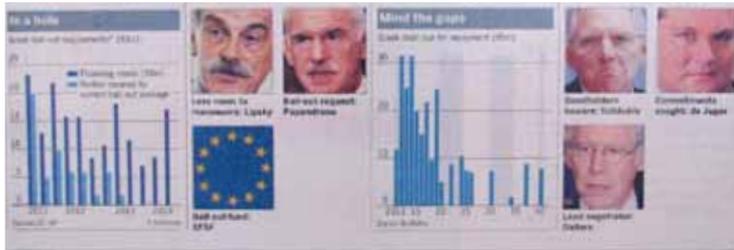
Shares and market overviews were often presented in tables, for example figure 31 from *The Independent's* business section. This table is a regular feature in *The Independent*, and presents ups and downs in the share market. Similar approaches to visualizing data from the share market can be found in all the other newspapers and in the news magazine *The Economist*.

All the newspapers investigated in this research use tables in their sports section, often to visualise results from sporting events. Figure 32 is an example from *The Daily Telegraph* where the data presented supports the story. Tables in the sports section are often distinguished from the text by applying a coloured background.

Tables can also be used to explain and explore relationships, including complex human relations. For example, figure 33 from *The Guardian's* news section arranges verdicts from a committee hearing which was part of the News of the World phone hacking scandal. The table layout allows the reader to compare verdicts from the people involved more easily than they could in the story.

Tables like figure 33 which explain complex relationships are seen less frequently than tables like figure 32 which show trends.

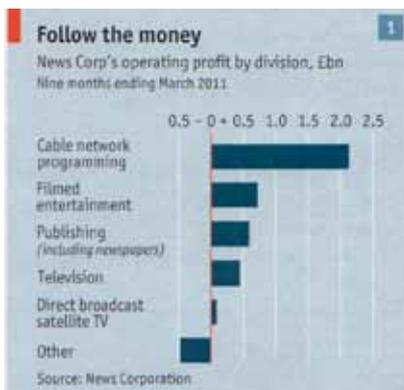
Tufte claims that tables in most cases out-perform graphics in reporting small datasets of 20 numbers or less, because a table allows the reader to extract exact numbers (Tufte, 2009, p. 56). For large tables, if the information is organised sequentially, with a reference-like quality in what is referred to by Tufte as a 'supertable' they may be more likely to engage the reader than a graphic (Tufte, 2009, p. 179).



**Figure 34:** Bar graphs from *The Financial Times* 20 July 2011, the bar graph to the left has multiple data-sets, the one to the right shows a single dataset.



**Graphic 35:** Bar graph from *The Independent* 13 July 2011, the bars have been given a circular shape and are supported by photography.



**Graphic 36:** Bar graph from *The Economist* 16 July 2011, a single dataset is shown, alongside both positive and negative values are shown.

**Table 3:** Statistical presentation models in newspapers 11–22 July 2011

Statistical presentation model according to BS 7581	Articles with one or more of the statistical presentation models	Total number of statistical presentation model seen
Area graph	190	280
Table	133	242
Bar graph	128	190
Thematic map	82	323
Line graph	49	58
Superimposed graph	24	49
Illustrated graph	23	46
Pie graph	23	23
Histogram	9	12
Isotype graph	7	10
Pictorial graph	5	11
Scatter graph	4	4
3d graph	1	1

The third most frequently observed statistical presentation model for graphics in this research was the bar graph. The bar graph is often used to compare data.

The bar graph presents data through bars proportionally sized to the value they represent. There are three main categories of bar graph: single bar graphs, multiple dataset bar graphs and stacked bar graphs. Single bar graphs and multiple dataset bar graphs are more common than stacked bar graphs.

Bar graphs appear in all newspaper and news magazine sections, but are most frequently seen in the business and economy section of newspapers. All the newspapers examined and the news magazine *The Economist* use bar graphs as a statistical presentation model.

Bar graphs are most frequently used to support data presented in stories. Figure 34 shows an example from *The Financial Times*, where two bar graphs are used in connection with a story about the financial crisis. The bar graph to the left shows multiple datasets. The two datasets are separated by colour to facilitate comparison. The bar graph to the right is a single bar graph and can be read as a series over time.

Bar graphs can also be presented in different ways. A technique used by several newspapers in this research is to represent the bars as circles, for example figure 35 from *The Independent*. The bar graph in this example also combines portrait photography with the bars (circles). The photography draws the reader in to explore the data more fully. Figure 35 is therefore defined as a combined graphic in this research.

The news magazine *The Economist* also use the bar graphs frequently as a statistical presentation model. Figure 36 is relatively similar to figure 34 in visual expression, but it exploits the advantages of presenting data horizontally, a better strategy for effectively labelling bars and for showing negative values. The is distinguished from the text by a coloured background.

Looking at newspapers separately, the most frequently observed statistical presentation models in this research are in order: the area graph, the table and the bar graph. See Table 3.

**Table 4:**  
Statistical presentation models in news magazines 11–22 July 2011

Statistical presentation model according to <i>BS 7581</i>	Articles with one or more of the statistical presentation models	Total number of statistical presentation model seen
Line graph	9	9
Table	8	12
Bar graph	5	7
Thematic map	2	2
Area graph	1	1
Histogram	1	1
Superimposed graph	1	1
Illustrated graph	1	1
Pie graph	0	0
Isotype graph	0	0
Scatter graph	0	0
3D graph	0	0
Pictorial graphic	0	0

**Table 5:**  
Illustrative presentation models in newspapers and news magazines 11–22 July 2011

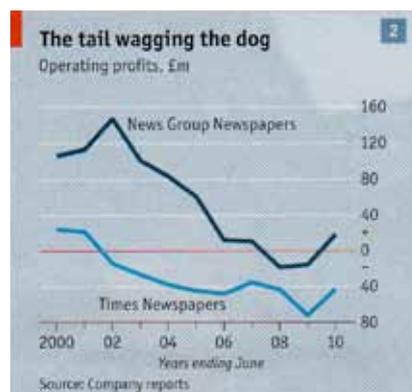
Illustrative presentation model	Articles with one or more of the illustrative presentation models	Total number of illustrative presentation model seen
Explanation graphics	92	102
Location graphics	75	136
Articulation graphics	122	438

**Table 6:**  
Illustrative presentation models in newspapers 11–22 July 2011

Illustrative presentation model	Articles with one or more of the illustrative presentation models	Total number of illustrative presentation model seen
Explanation graphics	91	101
Location graphics	73	134
Articulation graphics	122	438

**Table 7:**  
Illustrative presentation models in news magazines 11–22 July 2011

Illustrative presentation model	Articles with one or more of the illustrative presentation models	Total number of illustrative presentation model seen
Explanation graphics	2	2
Location graphics	0	0
Articulation graphics	1	1



**Figure 37:** Line graph from *The Economist* 16 July 2011 comparing profits from The Times with News Group newspapers.

In the book *The Visual Display of Quantitative Information* (2009) Tufte refers to a category of graphics called time series. By time series he means graphics that shows variability in data over time. The graphical arrangement of the natural order of time gives the time series characteristics of efficiency and interpretation not found in any other presentation model. Both area graphs and bar graphs are statistical presentation models that serve the purpose of time series graphics (Tufte, 2009, p. 28–43).

According to Tufte, time series are the most frequently used presentation model for graphics in newspapers. He refers to research conducted on 4,000 random graphics from 15 newspapers from around the world in the period 1974–1980 (Tufte, 2009, p. 83).

The three most frequently observed statistical presentation models for news magazines in this dissertation’s research are: the line graph, the table and the bar graph [Table 4].

The line graph is similar to an area graph, but without the fill. It is used for story support, or to give an overview of a situation. Figure 37 is an example from the news magazine *The Economist*, and as with the other examples from *The Economist* the graphic is distinguished from the text by background colour.

Tufte refers to small line graphs as ‘sparklines’ in his book *The Visual display of quantitative information*. Sparklines can give approximate answers, unlike tables which give exact values as alluded to above. As such, sparklines help describe, explore, present and understand huge set of data (Tufte, 2009, p. 171–174).



**Figure 38:** Articulation graphic from *The Daily Telegraph* used to illustrate thematic information.



**Figure 39:** Articulation graphic from *The Financial Times* 18 July 2011 that use photos in articulation graphics to establish a theme.



**Figure 40:** Articulation graphic from *The Daily Telegraph* 12 July 2011. The man on the bicycle gives a feeling of movement, is a representative of the participants and is used together with a map to describe the route on day ten of the Tour de France.

### 5.3 Illustrative presentation model

Illustrative presentation models for graphics are undoubtedly less represented than statistical presentation models in the British newspapers and news magazines investigated in this research [Figure 29, p. 60]. No pure illustrative graphics were observed in the news magazines investigated.

In the chapter 3 Definitions, section 3.3 Presentation models for graphics, page 37, three models for illustrative graphics were defined: explanation graphics, location graphics and articulation graphics.

Of the three defined, the presentation model of articulation graphic appears most frequently in this research [Table 5, p. 70].

The newspapers use illustrations or symbols to set a mood for the reader or to illustrate thematic information. Figure 38 is an example from *The Daily Telegraph* of an articulation graphic used to illustrate thematic information. Articulation graphics of this character are often observed as page elements in the economy section of newspapers, or as graphics of a decorative type in other sections of the paper. These graphics are often small.

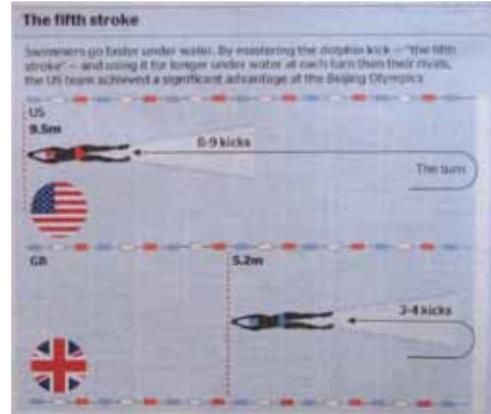
Another type of articulation graphic arises when photography is placed in connection with a graph. Photographs help establish the graph's theme for the reader. Figure 39 is an example of this kind of graphic from *The Financial Times*. All the newspapers investigated in this research use photos in articulation graphics to establish a theme and increase the visual intrigue of the piece. When photography is used in conjunction with graphics they can take up a lot of space on the page.

Symbols or pictograms are often used in combined graphics, such as figure 40, from *The Daily Telegraph*. The man on the bicycle gives a feeling of movement, is representative of the participants and is used together with a map to describe the route on day ten of the *Tour de France*. This type of graphic is often small.

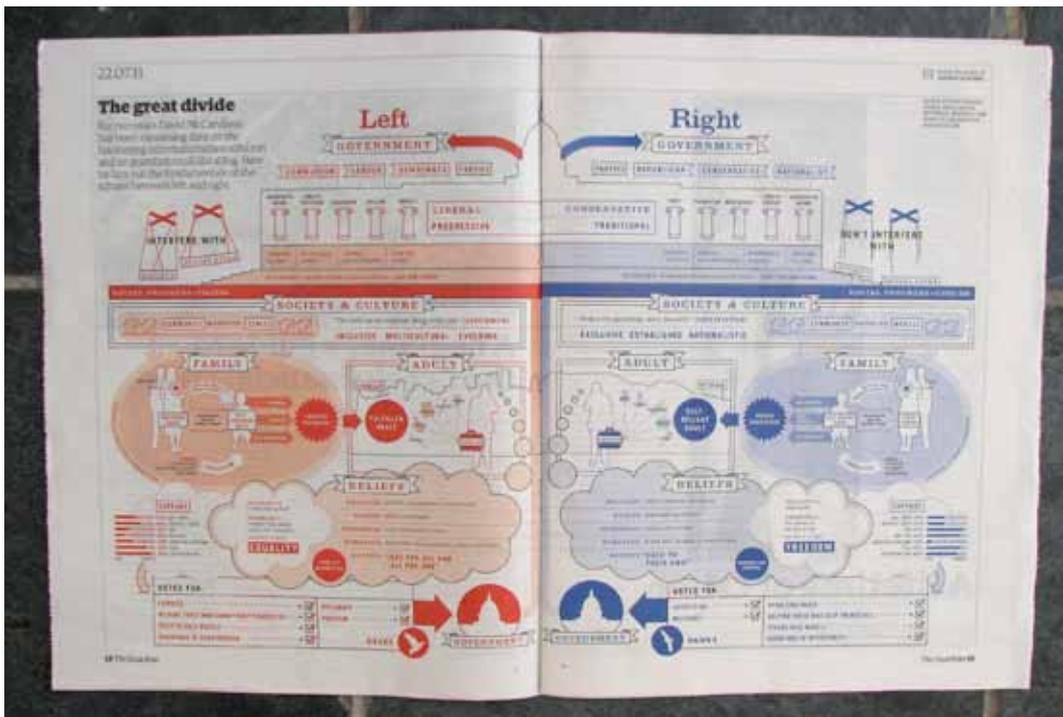
Explanatory graphics are the second largest group of illustrative graphics investigated in this research. The purpose of an explanation graphic is to establish a spatial relationship. This type of graphic can



**Figure 41:** Explanation graphic from *The Times* 19 July 2011, explaining the relationships between people in the House of Commons and Rupert Murdoch's News of the World empire.



**Figure 42:** Explanation graphic from *The Times* 21 July 2011, explaining how American swimmers go faster because they use the dolphin kick under water.



**Figure 43:** Explanation graphic from *The Guardian* 22 July 2011 to explain how people who vote for left-leaning political parties think and act differently from people who vote for right-wing political parties.

be employed to describe human relationships in a story, or to illuminate the order of events. They can also be used to tell a story.

Figure 41 from *The Times* explains the relationships between people in the House of Commons and in Rupert Murdoch's *News of the World* empire, and describes what will happen at the hearings. The graphic combines photography and illustration. Figure 41 supports the text as well as visualizing the story in a schematic way.

Explanatory graphics were also often observed in the sports section in a 'how-to' style. Figure 42 from *The Times* explains how American swimmers go faster because they use the dolphin kick under water. Other examples include how to win the cricket World Cup, or explaining who is in a particular football team.

This type of graphic can also be used on its own to tell a story, or explain a particular incident. Figure 43 from *The Guardian* is an example of this - the graphic's purpose is to explain how people who vote for left-leaning political parties think and act differently from people who vote for right-wing political parties. Graphics with a story-telling purpose can often take over a whole spread in a newspaper.

Location graphics are the smallest group of illustrative graphics found in this investigation. Location graphics are maps that show a location, route or distance. A location map is used when it is important for the reader to be able to locate a news event precisely. Location graphics often appear in news stories on foreign affairs, or in stories about smaller, more local places which may be unfamiliar to the reader. The newspapers and the news magazine *The Economist* have their own template for location maps. Location maps can be used for a series of maps, or for a series of stories related to an event abroad. Location graphics differ from thematic maps because they do not carry any statistical data [Figure 44, p. 76]. Location graphics that locate an event are most frequently seen in the news section of the newspapers studied.

Another type of location map is frequently employed in the sports section. Figure 45 (p. 76) shows a route on the golf course and figure 40 (p. 72) shows the route for a bicycle race.



Figure 44: Location map from *The Daily Telegraph* 20 July 2011.



Figure 45: Location map showing a golf course from *The Times* 13 July 2011.



Figure 46: Line graph from *The Daily Telegraph* 12 July 2011, compares Spain and Italy's debt.

## 5.4 Story and presentation model

To enable linking of the content of the story or graphic to the relevant graphic presentation model, the title of every story was recorded, and a few keywords were taken from the story to help map the content, called content tags (see chapter 4 Methodology, section Criteria p. 53). This helped illuminate which stories appeared to elicit a higher number of graphics. In the research three content tags appeared more frequently than the rest. They were: the economic crisis, the Rupert Murdoch hacking scandal and the *Tour de France*.

### Economic crisis

The economic crisis that has hit the whole world, and especially the USA, EU and Britain, was a topic that occupied a lot of story space in the newspapers and news magazines examined in this dissertation. The strength and complexity of the topic lends itself towards the use of graphics. 59 of the 645 recorded graphics were attached to a story about the economic crisis, with the purpose of telling or supporting the story. The presentation model for graphics which had the economic crisis in their content tag were mostly statistical, as economical data is most frequently quantitative data. The statistical presentation models most frequently seen were area graphs, bar graphs and line graphs, which were mainly used to support a story or give an overview.

The graphics connected to the economic crises were relatively small in size and had a simple and branded design. Most of the stories about the economic crisis were found in the newspapers and news magazines business and economy or news section. All the newspapers and the news magazine *The Economist* had graphics related to the economic crisis.

Figure 46 from *The Daily Telegraph* is a line graph with two data series that allow the reader to compare Spain and Italy's debt over the last six months. The graph gives the reader an overview of the debt situation in the two countries, and the graphic states the data presented in the written story.



**Figure 47:** Thematic map from *The Guardian* 19 July, showing how British banks are affected by the Economic crisis in the EU because they have branches in EU countries.



**Figure 48:** Two line graphs, one area graph, photography and illustration are used in this graphic from *The Independent* 22 July 2011, giving reasons why England should not feel to confident about the economic situation.



**Figure 49:** Line graph from *The Economist* 16 July 2011 showing positive economic development in the Balkans.

*The Guardian* uses a thematic map to explain how British banks are affected by the economic crises in the EU [Figure 47]. The thematic map is supported by a stacked bar graph, laid out as circles, and a single bar graph. The data in the thematic map is distinguished by colour, and photography is used to locate and present influential cities.

Figure 48 from *The Independent* presents two line graphs, one area graph and mix of illustration and photos to create thematic content. The data presented in the graphics is used to state the data in the story in an alternative way, giving the reader a clearer picture of the situation.

The news magazine *The Economist* uses a line graph to explain the positive economic situation in the Baltics [Figure 49]. The line graph shows three data series distinguished by colour.

A common feature of figure 46–49 is that they all provide extra support for data already presented in their accompanying stories. They all follow the conventions for how the specific presentation model should look, and are therefore easily recognisable for the reader, see chapter 3 Definitions, section 3.3 presentation models for graphics, page 37.



**Figure 50:** Explanatory graphic from *The Financial Times* 13 July 2011 showing the economic relationship between the companies in News Corporation. The same page also contains an area graph and a table.



**Figure 51:** Explanatory graphic from *The Times* 11 July 2011 showing a series of events over time in the News of the World phone hacking scandal.

### **Murdoch's News of The World phone hacking scandal**

The phone hacking scandal that has hit Rupert Murdoch's *News of the world* has been a highly debated topic in the media this summer, involving many people, companies, complicated human relationships and events that needed explaining. This has given rise in the main part to illustrative graphics and especially explanatory graphics.

Out of 31 recorded graphics with the content tags 'Murdoch' and 'hacking scandal', 19 were explanatory graphics. The explanatory graphics were as a general rule large, and not as branded as the graphics created for the economic crisis. There were a few models of statistical graphics connected to this topic, mainly tables, area graphs and bar graphs. Graphics relating to Murdoch and the phone hacking scandal were found in the news or the business and economy sections of all the newspapers studied, and in the news magazine *The Economist*.

Figure 50 is an explanation graphic supporting various stories about the hacking scandal under the heading *Hacking fallout* in the *Financial Times* on 13 July 2011. The purpose of this graphic is to explain the economic relationship between the different businesses in Rupert Murdoch's News Corporation. The graphic allows the reader to compare the value of the different businesses within the *News Corporation*, and to compare every business to the total value of the umbrella company.

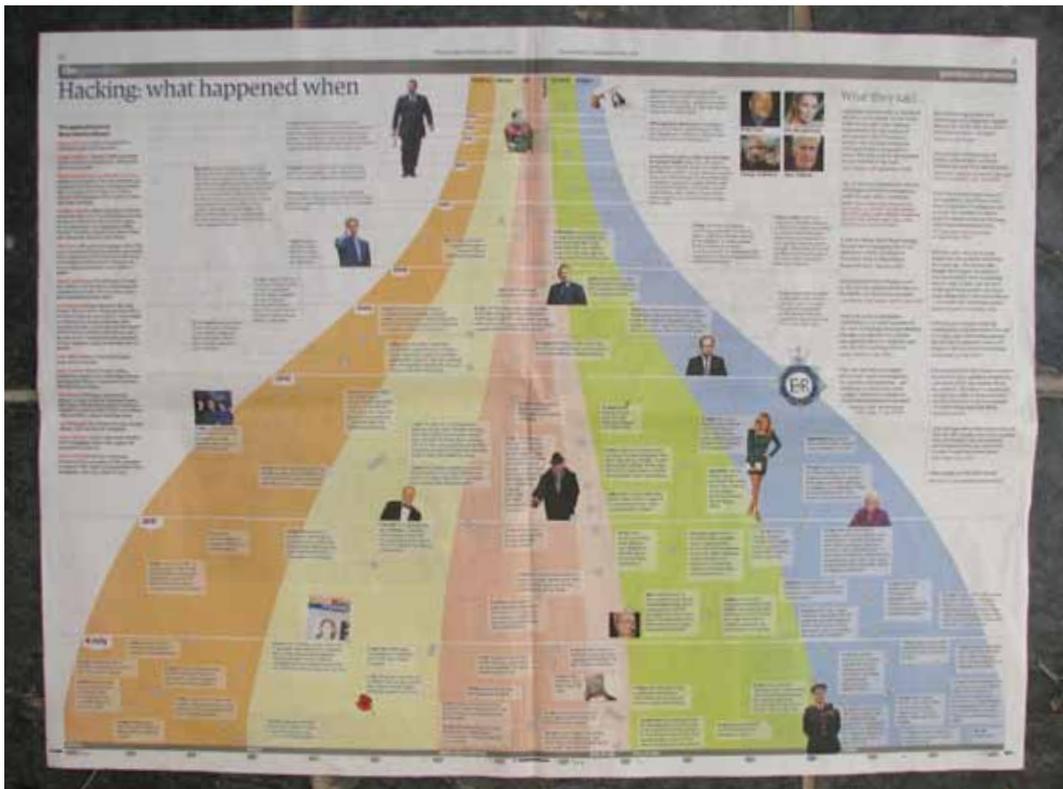
The graphic combines elements of a bar graph with those of a mind map. Logos are used to help the reader understand the different business brands associated with the *News Corporation*. The graphic covers six out of 16 columns in the spread. The story is also supported by a table and an area graph.

A timeline, figure 51, explores the human relations in the hacking scandal and shows how the case evolved from Rupert Murdoch's plan to buy *BSkyB* in November 2009 until they were prevented in January 2011. The graphic illustrates who spoke to whom, and at what time.

The graphic shows the timeline as a pathway in a board game, and uses arrows and symbols to help the reader progress through the graphic in the right direction. Road signage is used along the pathway as a graphical metaphor for the various events. The graphic covers five out of ten columns in the spread.



**Figure 52:** Explanatory graphic from *The Independent* 14 July 2011 mixing calendar elements with an area graph to show the relationship between the price of *BskyB* shares and events that took place in the phone hacking scandal.



**Figure 53:** Explanatory graphic from *The Guardian* 21 July 2011 showing how the phone hacking scandal evolved. Arranged as a table and employing the graphical metaphor of a waterfall.



**Figure 54:** Statistical graphics used to support the data given in a series of stories about the phone hacking scandal in *The Economist* 16 July 2011

A third example of explanatory graphics from the phone hacking scandal, figure 52 is a combined calendar and area graph that explores how human actions were reflected in the share price of *BSkyB*, and eventually stopped Rupert Murdoch's bid to purchase a controlling share in that company.

The calendar is used as a graphical metaphor to tell the story in combination with photography and an area graph. The graph covers six out of ten columns in the spread.

Figure 53, entitled *Hacking, what happend* shows the people involved and how the case evolved. The layout combines elements from a table, a mind map and the graphical metaphor of a waterfall. Each of the groups involved in the case has a colour code in the waterfall, and photos are used to indicate key persons and events. The graphic covers ten out of ten columns and is not directly connected to a written story.

A common feature of these graphics is that they all describe complex human relationships and / or a large, complex series of events over a period of time. These events and relationships would be complicated to describe in words alone. Graphics allow the reader to understand the relationships more easily, and achieve a fuller understanding of the story.

Figure 54, shows three statistical presentation models used to support stories about Murdoch's News of The World phone hacking scandal: a bar graph to explain the money flow in News Corporation, a line graph to explain profits, and a table to briefly explain what happened, and when.



**Figure 55:** Location map with checkpoint and area graph used to display stage ten of the *Tour de France*, *The Times*, 12 July 2011.



**Figure 57:** Location map with checkpoint and area graph used to display the previous and next stages of the *Tour de France*. At the bottom of the page an explanation graphic explains who is in the lead and the distance between competitors, *The Guardian*, 18 July 2011.



**Figure 56:** Location map and area graph used to display the previous and next stages of the *Tour de France*, *Independent*, 15 July 2011.

### **The *Tour de France***

The yearly bike race the *Tour de France* dominated the graphics in the newspaper sports sections in the two weeks over which the research for this dissertation was conducted. The graphics for the *Tour de France* were planned as a series, and had the same style in all the newspapers examined. The graphics consisted of a location map and an area graph visualizing the trail profile, location and distance of the race. These graphics are typical examples of combined graphics, with the area graph representing statistical data and the location map coming under the category of illustrative graphics. A table showing who was in the lead at various point was often added into the mix. Some of the newspapers also created explanatory graphics, explaining tactics for the race and illustrating historical victories. The graphics for the *Tour de France* were only seen in the sports section of *The Daily Telegraph*, *The Guardian*, *The Independent* and *The Times*. As *The Financial Times*, *The Economist* and *The New Statesman* have no sports section there was no coverage in those publications.

Figure 55 from *The Times* shows stage ten of the *Tour de France*. The graphic consist of a location map, locating where in the Tour is in France, a route map with check points, a symbol of a man on a bike, and and area graph showing the curvature of the landscape.

Figure 56 from *The Independent* shows yesterday's and the following day's distance on the Tour, and the graphics consist of two similar displays including a location map, a route map, the curvature of the landscape displayed as an area graph, and a results table.

*The Guardian* has a similar approach to *The Times* and *The Independent*, but also adds an explanatory graphic showing who is in the lead, and who had possession of the leading jerseys at different times [Figure 57]. The explanation graphic also shows the time difference between the competitors.



## 6. Conclusion

### General observations

All the issues of the newspapers and news magazines studied, except for one, used more than one graphic per issue. Based on these results the conclusion can be drawn that graphics are commonly used in British newspapers and news magazines. In the period between 11 July 2011 and 22 July 2011 the newspapers had 11.94 graphics per issue, where as the news magazines had 7.25 graphics per issue. As such we can conclude that British newspapers use graphics more frequently than news magazines. However, as only four news magazine issues were analysed, this result must be examined with a critical eye.

### Statistical or illustrative presentation model

Statistical presentation models dominate graphics in British newspapers and news magazines, with 56 per cent of the graphics recorded in this research falling into the category of statistical data.

Illustrative graphics are the smallest category of graphics in British newspapers and news magazines with only 16 per cent of the graphics.

However, distinguishing only between illustrative and statistical presentation models is flawed as many of the graphics use elements from both categories, as mentioned in the chapter 5, Evaluation and analysis p. 59. The second largest category is therefore combined graphics, with 28 per cent of the graphics recorded.

Taking newspapers alone, statistical presentation models are the dominant presentation model with 54 per cent of the graphics recorded, combined graphics have 29 per cent and illustrative graphics 17 per cent.

In British news magazines 96 per cent of the graphics were recorded as statistical, and four per cent combined graphics. Examining these numbers it is clear that statistical presentation models dominate in both newspapers and news magazines. The difference between newspapers and news magazines when it comes to choice of



graphic presentation model is that newspapers seem to apply all the presentation models, dominated by statistical models, whereas in news magazines the total absence of illustrative presentation models almost gives the statistical presentation model a monopoly.

### **Statistical presentation model**

The dissertation has already shown that statistical presentation models dominate British newspapers and news magazines. Of the 13 statistical presentation models presented in *British Standard. 1992. BS 7581: Guide to presentation of tables and graphs*, the area graph, table and bar-graph were most frequently observed in British newspapers and news magazines. In British newspapers alone, the area graph, table and bar-graph are most frequently used. In British news magazines the line graph, table and bar graph are the most common. The differences between newspapers and news magazines when it comes to choice of statistical presentation model are minor, as the difference between an area graph and a line graph are negligible. All four statistical presentation models commonly employed; area graph, line graph, table, and bar graph, have the advantage of being able to present more than one set of data, facilitating comparison, and of being more easily understood by or familiar to non-experts.

### **Illustrative model**

The results from the research in this dissertation have already shown that British newspapers and news magazines use remarkably few illustrative presentation models for graphics. Of the three categories of illustrative presentation models for graphics defined, the most frequently seen were articulation graphics, followed by explanatory and location graphics. As illustrative graphics were not represented at all in the news magazines studied, this represents the most frequently used order for newspapers only. The articulation graphic is most often used as a device to draw the reader in, and in many of the circumstances recorded is simply represented by a photo or an illustration combined with a statistical fact. This model is therefore easy to replicate, possibly accounting for its popularity. Explanatory graphics, however, often require a great deal of research and dedicated production time.



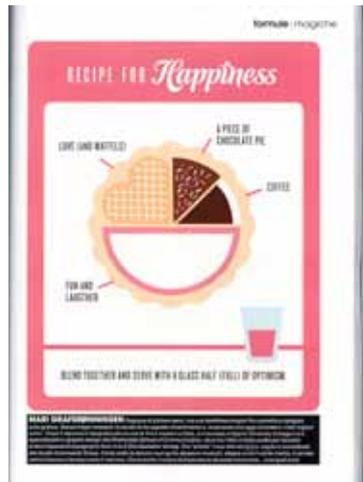
**Figure 57:** Moods of Norway uses graphics in their fabric prints, here in a 'how-to-style'. Photography from [www.moodsofnorway.com](http://www.moodsofnorway.com)



**Figure 58:** Top Shop uses graphics in their fabric prints, here in a 'pie graph-style'. Photography from [www.topshop.com](http://www.topshop.com)



**Figure 59:** Marie Clair Italy September 2011, has a series of articles on info graphics. Info graphics by Norwegian Mari Grafsrønningen. Scan of Marie Clair Italy, september 2011 issue.



### **Story and presentation model**

The three case studies of the economic crisis, Murdoch's *News of the World* hacking scandal and the *Tour de France* establish several models for visual representation of specific events. Stories that refer to economic issues are dominated by statistical presentation models. Articles about complex relationships between people or businesses use illustrative presentation models and especially explanatory graphics to explain spatial relationships and give a fuller understanding of the story. Finally, sporting events like the *Tour de France* are often represented with both statistical and illustrated graphics, the graphics are often planned to support a series of articles, and have a consistent, recognisable look for the reader.

Graphics are employed by both newspapers and news magazines in Britain today, though newspapers seems to use more graphics than the news magazines. Statistical presentation models dominate over illustrative presentation models, suggesting that the use of and reasoning behind the use of graphic presentation models are approached in a similar way by both media.

### **Graphics today**

Graphics traditionally seen in newspapers and news magazines has also found their way into other media, for example in books. David McCandless' book *Information is Beautiful* (2009) is a best-seller, popular among designers and wider audiences, and shows a series of graphics, some useful, some not so useful, using in a playful tone of voice. McCandless' graphics also frequently appear in *The Guardian* newspaper [figure 43, p 74].

Traditional printed media are not the only ones to grasp the significance of graphics. Fashion brands like *Top Shop* and *Mood of Norway* have printed similar graphical metaphors onto their fabric prints [figure 57–58].

Even fashion magazines have developed an interest in the use of graphics. *Marie Claire Italy*'s September issue has a series of articles on the information graphics trend [figure 59].



With all the data at our fingertips today, graphics can do more than just inform. Our new grasp on technology, both print and online, can draw the reader into worlds that were inaccessible before now, awaken curiosity about topics people would never have considered, and maybe help inspire solutions to some of the world's problems.

Will the widespread use of graphics continue? How will they develop in the future? Will the world-wide economic crisis lead to cuts in the use of design, as recessions have before now? Only time will tell whether this trend will develop further, or sink back into the past.



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