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# *Punctuating the home page: image as language in an online newspaper*



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> ABSTRACT Between February 2002 and April 2006, the Sydney Morning Herald online [www.smh.com.au], an influential Australian newspaper which went online in 1995, showed a remarkable degree of change in the design of its home page. However, over the same time period, the use of images in hard-news stories on its home page was remarkably consistent, both diachronically and synchronically. These hard-news images are small 'thumbnails', and are most typically close crops of faces. Their small size, their consistent and limited subject matter, and their positioning in news stories represent a new practice in hard-news reporting, and raise questions about the role they play in the multimodal story-telling practices of the newspaper, and about the discursive practices of online newspapers more generally. This article presents an analysis of these thumbnails using tools from systemic functional semiotics, and an investigation from three socio-historical perspectives (news photography, typography, and punctuation). On this basis, I argue that in the specific discursive context of the home page of the Sydney Morning Herald online during the time period studied, thumbnails function less as images and more as an expression of the expanding system of language in computer-mediated communication.

KEY WORDS: emoticons, images, multimodality, news design, news discourse, newsbites

## Introduction

Since the mid-19th century, images of news events, whether hand-drawn, photographed, or 'composed' through photographic manipulation, have come to play a central role in the discursive practices of newspapers. There is a significant body of literature on the use of images in newspapers which examines, for example, the status of news images in relation to verbal texts (e.g. Barthes, 1977; Hall, 1981), the use of photographs in emerging newspaper genres (e.g. Caple, 2007a), and historical perspectives on the evolution of the social practices of photojournalism and newspapers (e.g. Bicket and Packer, 2004; Caple, forthcoming a; Hartley and Rennie, 2004; Huxford, 2001; Sontag, 1979, 2003).

The literature on the use of images in *online* newspapers is, however, much more limited. A number of studies have examined the content of online newspapers from a quantitative perspective, and found, variously, that of the newspapers in their respective samples, more than half use exactly the same photos as in the print edition (Arant and Anderson, 2001); the majority use a dominant photograph on their home page (Utt and Pasternack, 2003); and there are in general few images (far fewer than in the same newspapers' print editions), and those that are run are smaller (Barnhurst, 2002).

Other more qualitative studies have found that newspapers change photographs more commonly than anything else in migrating content from print to the Web in order to make them suitable for the screen and/or graphics template (Martin, 1998), and have recommended 'using fewer and smaller art images (especially photos and continuous tone images), and making greater use of typography as a design element' (Lowrey, 1999: 24).

In a more reflective paper, Perlmutter (2003) looks at the instantaneous and 'instantly impermanent' (p. 5) nature of online newspapers, and considers the impact of the Internet on the production of news icons, photographs which achieve 'worldwide recognition across peoples, cultures, and generations' (p. 2). The situation as described by Perlmutter is complex and in flux: while the Internet provides more avenues to publish and view such images, the World Wide Web has not yet produced one, publication is ephemeral and impermanent, and the control over what is and is not valued remains, for the moment, in the hands of the traditional gatekeepers.

In all this research, the small thumbnail images which commonly appear on online newspaper home pages have evaded critical scrutiny. This is not to say their use is not recognized at all. The third Standford-Poynter eye-track study (Outing and Ruel, 2004) compares the effectiveness of images of different sizes on home pages, as measured by the eye fixations of readers of mock Web pages (and finds larger images more effective by this measure). And the prevalence of thumbnail images on webpages belonging to different institutions and serving different institutional, commercial, and individual purposes shows that Web designers (professional and amateur) see value in including thumbnail images on their pages (see De Vries, 2008). However, the kinds of meanings these images construe on online newspaper home pages, the ways in which they do so in their discursive context, and the implications of this for our understanding of semiosis and its evolution in new media have largely escaped attention thus far (see Machin and Niblock, 2006).

According to the design principles and practices (including page templates) employed by various news institutions, thumbnail images are used to varying degrees on online newspaper home pages: sometimes extensively, sometimes sparingly, sometimes not at all. In this article, the home page of an online newspaper which has come to use these images extensively – the *Sydney Morning Herald online* (henceforth *smh online*) – is examined, and the ways that thumbnails

function both on the home page as a whole, and in individual news stories are discussed, with particular reference to their relationship to the verbal text.

The aim of the article is to show the ways in which thumbnail images contribute to the meaning-making processes of the discourse of the *smh online*. Further, it aims to show how the use of thumbnail images in one newspaper combines with developments in typography and punctuation, and how together, these historical and cultural trajectories create a semiotic environment where the traditional commonsense and theoretical division between language and image is fundamentally challenged. That is, rather than words and image combining to produce a multimodal text which co-ordinates different semiotic systems (i.e. language and image) to make meaning, this specific context sees thumbnail images subsumed into the system of language, as the affordances and the emerging conventions of the online medium expand the possibilities available for the expression of linguistic meaning in written texts.

In the following section, research on image–verbiage relations is reviewed, after which the data of this study are discussed. Following that, the data are reconsidered from the perspective of three socio-historical trajectories in turn, namely:

- the historical development of photojournalism;
- the rise of 'the new typography';
- the development of punctuation in writing on different timescales.

The final section revisits the nature of the relationship between verbiage and image on the *smh online* home page, and the implications of this for the description of language in new media.

## Image-verbiage relations

Theories of language and communication are increasingly taking into account the reality of multimodality – that is, that any act of communication is carried by more than one medium: 'the fact that all signifiers are material phenomena means that their signifying potential cannot be exhausted by any one system of contrasting features for making and analyzing meaning' (Lemke, 2002: 302). Important in multimodality is the interaction between different modalities (e.g. language and image) in making meaning. Lemke (2002) has described this multimodal interaction as making 'multiplicative meanings'. That is, in texts where the two are combined, language is not simply added to image, nor image added to language, but the two interact to produce meaning in a way not possible in a single modality.

In research into newspapers, the importance of looking at the relationship between language and other modalities (such as image, layout, typography) has been evident at least from Barthes's (1977) discussion of anchorage, illustration, and relay. More recent work includes Kress and Van Leeuwen's (1996, 1998) investigation of the layout of newspaper front pages, Barnhurst and Nerone's (2001) work on the form of news (also De Vries, 2008; Machin and Niblock, 2006), and also studies of the design of online newspaper home pages (e.g. Bateman, 2008; Bateman et al., 2006; Knox, 2007).

In systemic functional semiotic (SFS) theory, image–verbiage relations have been studied in a variety of contexts, including print advertisements (Cheong, 2004); websites (Baldry and Thibault, 2006; Lemke, 2002); art works (Macken-Horarik, 2004); teaching materials (Jones, 2006; Unsworth, 2001); magazines (Kress and van Leeuwen, 1996; Machin and Thornborrow, 2006; Machin and Van Leeuwen, 2003); and children's picture books (Martin, 2008a; Painter, 2008).

Specifically in the area of newspaper discourse, a number of studies have examined image–verbiage relations using SFS. Macken-Horarik examines a news 'event' in which refugees on a crowded boat bound for Australia were falsely accused of throwing their children overboard by the Australian government of the day. News stories used visual and verbal strategies to represent refugees ne-gatively, despite the absence of any evidence of the government's claims. These strategies included 'homogenization' and 'negative portrayal' of refugees in text and image (2003a), and the use of selective 'framing' of images and 'voicing' in the verbal text (2003b). Working together, text and image constituted 'proof' of an event that never took place.

Economou (2006) examines the evaluative meanings in headlines and their accompanying images in news features in an Australian and a Greek newspaper. In a subsequent article (Economou, 2008), she extends this work, and examines the way that press photographs instantiate different evaluative 'voices' or 'keys' (according to whether they are recording or interpreting events), in addition to describing the interplay in news features between large images, and headlines which reference culturally salient objects, events, or issues intertextually.

Caple identifies a relatively new news genre – the image-nuclear news story. These stories consist of a large, aesthetically engaging image, with a playful headline and a caption which may include both playful language, and story details. She argues that this genre functions to build a committed readership (forthcoming), in part by providing a more engaging path for the reader from the front page to the editorial pages (2008).

Studies such as these, work, with obvious justification, from the assumption that the verbiage in the news is language, and the images are not. That is, images and words have been viewed as interacting meaning-making phenomena which instantiate different semiotic systems (i.e. image and language) in a single, combined act of meaning-making. But this is not the only way that meaning can be made multimodally. To explain, some context must first be provided.

News texts on home pages have become, without exception, verbally short, and many stories are typically included on a single home page. This necessitates giving less information in each individual story on the home page, while at the same time engaging the potential reader and encouraging them to follow links to longer (or modally different) versions of these stories on pages 'deeper' in the website's hierarchy.<sup>1</sup> Just as a shorter verbal news story tells us less of 'what happened' than a longer story, thumbnail images are 'brief' by nature, and

represent less of the human experience of a given news event than is possible with a larger image. Similarly, thumbnails can construe a relatively small range of the interpersonal values larger images can signify (see following section).

These limitations in the potential of thumbnails to mean limit the possibilities for home pages and newsbites (the short headline-plus-lead-plus-hyperlink stories typical on online newspaper home pages – Knox, 2007) to combine image and verbiage in the ways described by the studies discussed above. In the multimodal texts (i.e. both online newspaper home pages and the newsbites appearing on them) in the corpus described here, a number of the discursive functions of news texts which are typically performed by language are being expressed by thumbnails. In this way, they are not making multiplicative meanings in the sense discussed by Lemke above. Rather, thumbnail images are functioning as a kind of expanded graphology, extending the potential of language rather than interacting with it as a separate semiotic.

How this operates is explored in subsequent sections.

## Thumbnails on the smh online home page

The corpus used in this study was collected using a version of the constructed week methodology, working on a five-day week (Bell, 1991; Riffe et al., 1993). Five days' worth of home pages were collected over three separate periods: February–April 2002; September–November 2005; and January–April 2006 (a total of 15 home pages). These three collection periods spanned four home page designs (Figure 1).

As Figure 1 illustrates, the use of thumbnail images on the *smh online* home page increased over time. In this corpus of home pages, there are 250 images in total, 94 of which appear in the widest, most salient column on the page which carries the most important news on the page (Knox, 2007). All of these 94 images are thumbnails, and it is these images, and their role in newsbites, that this article examines.

The thumbnail images in the newsbites under discussion typically (i.e. in 93.5% of cases) depict a social actor identified in the verbiage of the story.<sup>3</sup> In many cases, this is a human actor (Figure 2). In other stories, other social actors are depicted visually. These include social groups or classes (e.g. workers); corporations (e.g. Google, Telstra); elements in the urban environment (e.g. housing, water); elements in the natural environment (e.g. cyclones, bushfires); animals (e.g. sharks, jellyfish); and social institutions (e.g. stock exchanges, churches – Figure 3).

These images were analysed using tools developed in systemic functional theory. As discussed above, Figures 2 and 3 demonstrate that thumbnails visually represent an actor from the verbal story. In Martinec and Salway's (2005) terms, there is a relationship of componential cohesion – 'which relates participants, processes, and circumstances, or "components" in images and texts' (p. 347; see Royce, 2002) – between headline and image (86 of 94 newsbites, or 91.5%) and/or between lead and image (93 of 94 newsbites, or 99%).





GUN CRIME

### Brogden to give police killers mandatory life sentence



Mandatory life sentences for people who murdered police officers would become law under the coalition, NSW Opposition Leader John Brogden pledged today. Full report

#### London bomber video: 'I am a soldier'



[7:47am] One of the four London suicide bombers, in a posthumous message, said his actions were in response to the "atrocities" committed against Muslims. <u>more</u>

#### Not Aussie enough: why John Laws is out



[Sue Javes] John Laws is set to lose over a third of his regional network to *60 Minutes* presenter Charles Wooley, who is to become a talkback presenter. <u>more</u>

## Falconio and Lees spotted at diner, court told



[1:58pm] Peter Falconio was with Joanne Lees at an outback roadhouse hours before he disappeared, a court heard today, contradicting evidence she gave last week. <u>more</u>

- NT judge demands apology over Darwin article
- Insday Murdoch: Latest evidence

#### Hussey gets call, MacGill hopes rise

[Trevor Marshallsea] It seems the best way to Mike Hussey's heart is not through the stomach but through a neatly broken rib. <u>more</u>

- India's Dhoni blasts Sri Lanka away
- Trescothick's century lifts England

#### Reese carries off Cash



Reese Witherspoon is named best actress for portraying Johnny Cash's wife.

+ Looks can kill Oscars

→ The Oscars of porn

FIGURE 2. Newsbites with thumbnails depicting a human social actor identified in the verbiage

To exemplify, the image in the first newsbite in Figure 2 is related to the grammatical participant *Brogden* in the headline, and the grammatical participant *NSW Opposition Leader John Brogden* in the lead. Similarly, in the second newsbite in Figure 2, the image is related to the grammatical participants *London Bomber*, *I*, and *a soldier* in the headline, and *One of the four London suicide bombers*, *his*, and *Muslims* in the verbiage.<sup>4</sup> Thus, the thumbnails do not function to convey information that is not provided in the verbal story, but rather to visually represent a central element and bring it to the 'front' of the story, as a way of orienting readers to the newsbite (see Martin, 2002).

News images represent aspects of human experience. They do so by construing participants (human and non-human), the processes and relations in which Union poll shows workers fear new IR laws



11:57AM | An ACTU poll shows almost two-thirds of workers believe the federal government's new industrial relations laws are a threat to working families. NSW business urged to reject WorkChoices

- Day one in a brave new world

#### Google to start \$US4bn stock sale



[11:09am] The internet search engine is set to begin a follow-on stock sale that could net more than \$US4 billion. more

#### Government receives all clear to sell stake in Telstra



- sell its majority stake in Telstra after all five sale bills were passed by both houses of Federal Parliament. more
- Nationals MP crosses the floor
- Notebook: Whipped and gagged: pleasures of Senate debate
- For or against?
- Stephen Bartholomeusz: Telstra needs to be convincing

SUBURBIA ON STEROIDS

#### 'Brick venereal' homes killing town character



The unique characters of NSW towns are at risk from the spread of Sydney's ubiquitous "brick venereal" project homes, a conference has been told. Full report

#### Pay for private water even if dams are full

[Wendy Frew and Mathew Moore] Sydneysiders may be forced to buy privately produced water even when the city's dams are full, under one plan for the new desalination plant. more

- Scully dips a toe into the water with Kurnell test plants
- Graphic: Solution from the sea

#### Flood fears as Clare hits WA



9:12AM | Gusts of up to 185kmh continue to lash WA's Pilbara coast this morning as Cyclone Clare moves inland.

+ Video: Cyclone in WA

#### Crews battle bushfire in western NSW



1:31PM | Almost 200 firefighters are battling to contain a bushfire in a central western NSW national park.

#### NEGATIVE WAVE

#### Shark attack device turns off great whites

An electronic device that has reportedly repelled attacking sharks - including feared great white sharks - in 5000 tests, was launched today by Foreign Minister Alexander Downer. <u>Full report</u> Teenager loses foot in shark attack

#### Girl's agonising death 'preventable'



THE death of a seven-year-old girl who was stung on the legs and chest by a box jellyfish near Bamaga on Cape York Peninsula was swift.

#### ASX to merge with futures exchange 10:18AM | The Australian Stock Exchange and Sydney



Futures Exchange plan to marry in a move which will create the world's ninth biggest listed exchange.

#### MIDDLE EAST | Full coverage

#### Palestinian shot as fire sweeps besieged church

A Palestinian fighter was killed by Israeli gunfire early today as he attempted to put out a fire which broke out in a building adjoining the besieged Church of the Nativity in Bethlehem, Palestinian sources said. Full report

- Israel defies Bush with new strikes
- Israel plays for time as toll grows
- We'll finish what we started: Sharon defies US call to withdraw
- → In Gaza, they are still sure that resistance is the only way

FIGURE 3. Newsbites with thumbnails depicting non-human social actors

they play a role, and the circumstances in which these processes and relations are situated (see Kress and Van Leeuwen, 1996). The thumbnails in this corpus typically construe a single social actor. They do not have vectors (which construe actions, events, or processes of change) nor do they represent participants in terms of their class membership, their analytic structure, or their symbolic attributes (see Kress and Van Leeuwen, 1996). They are in almost every case completely decontextualized, which gives them a generic quality (see Machin, 2004), allowing the same thumbnail image to be used in different stories, which sometimes occurs.<sup>5</sup> In short, they do not tell *what happened*; nor do they tell *where, when, why,* or *how* it happened (with few exceptions). Their focus in all but six of the 94 images (6.5%) is on a social actor in the story, on *who*. Thus, these thumbnails are less a visual medium for telling (some aspect of) a story than they are a participant in the verbal text (see Hall, 1981).

In addition to portraying human experience, photographs construe a range of interpersonal meanings. For example, extreme close-up shots construe a level of intimacy between the viewer and the object in the image (analogous to the relationship between the dominance of an object in one's field of vision, and physical distance), whereas long shots construe a more public relationship (Kress and Van Leeuwen, 1996). In almost every case, the thumbnails on the *smh online* home page, due in part to their small size, are close-up shots. Even the images of a bushfire and a stock exchange (Figure 3) fill the viewer's field of vision (as construed by the boundaries of the image) signifying an intimate relationship between viewer and object depicted.

The small size and extreme 'intimacy' of these thumbnails reduce the effectiveness of other choices in construing interpersonal meanings visually. For example, manipulation of the vertical angle of photographs (high shots looking down on the object construe power on the part of the viewer; low shots looking up construe power on the part of the object viewed – Kress and Van Leeuwen, 1996) has less effect in intimate shots (Figure 4). Theoretically, intimacy (distance of shot) and power (vertical axis) are independent variables, but in practice they are related, and the intimacy signified in an extreme close-up 'spills' into other interpersonal meanings. Therefore, the overwhelming choice to construe social actors at an intimate distance (80 of 94 images, or 85%) limits the impact of other choices typically available, and typically manipulated for meaningful effect in newspaper images.

As well as representing experience and construing interpersonal meanings, press photographs make textual meanings in their compositional choices. Highly valued newspaper photographs tend to 'vacate the centre of the frame' where possible, and align key participants in images around so-called 'hot spots' in the photographic frame (Caple, 2007b). Of the 94 thumbnails under discussion here, 78 (83%) are centre-frame. A small number (five of 94, or 5.5%) have two faces serialized or balanced; a small number have the object placed slightly off-centre; but it is generally not possible to 'vacate the centre', nor to compose thumbnails around hot spots. Thumbnails are too small to exploit the semiotic potential of photographs to place actors in relation to one another (or to their surroundings)

#### New plea to save Australian from hangman

[3:12pm] The Australian Government says it will make another appeal to save a 25-year-old drug trafficker on death row in

Singapore, more

- Condemned Australian 'is valuable drug witness'
- Mother's desperate plea to save son

#### Alvarez compensation hearing begins



12:10PM | Vivian Alvarez, the Australian woman wrongly deported to the Philippines, says she's grateful for compensation.

#### Have you seen this woman?



[Jordan Baker] You probably have seen her, but where? By the harbour perhaps? Certainly in a very different pose... more

FIGURE 4. Newsbites with thumbnails showing a range of camera angles on the vertical axis, shot from lower angle (top image), level angle (middle image), and higher angle (bottom image)

by the use and manipulation of foregrounding and backgrounding, vectors, framing, or focus. Thus, the compositional choices available to the authors of the *smh online* home page when using thumbnails are, again, limited when compared to the choices available with larger photographs.

In summary, the argument presented in this section is that the choices available to photo editors, page editors, and page designers when using thumbnails are limited. First, almost every thumbnail portrays a social actor (human, social, environmental). An image not immediately and overtly connected to the verbiage will generally not suffice, negating the possibility of rhetorical effects such as juxtaposition and visual irony (see Caple, 2008; Economou, 2008). Further, all images are decontextualized, so the choice of visually situating actors in relation to different contexts is not available: all context is provided by the verbiage. Due to the thumbnails' extreme close-up nature, the effects of vertical positioning in relation to the camera are minimized. And compositionally, thumbnails restrict photo editors for the most part to centred, single-object images.

To explain the significance of the relative 'lack of choice' thumbnails provide news authors, systemic functional semiotic theory (SFS) can be brought into service. In SFS, typical patterns of structure (meaningful combinations of functional elements) are identified, and common structures/combinations can be grouped together and contrasted with structures which differ. In the semiotic system of language, for example, different structural/combinational patterns can occur on the syntagmatic axis (e.g. *Subject + Finite* versus *Finite + Subject* in clause structure; or at a different level of abstraction, *Orientation + Complication + Resolution* versus *Position + Arguments + Re-statement of Position* in text structure). The contrasts or oppositions which such structures realize (respectively, in this case: *declarative clause* versus *interrogative clause*, and *narrative* versus *exposition*) occur on the paradigmatic axis (De Saussure, 1959; Firth, 1968; Halliday, 1976; Martin, 1992 – see Figure 5). This approach to the semiotic system of language has been applied to other semiotic systems, including visual design (e.g. Kress and Van Leeuwen, 1996), news photography (e.g. Caple, 2007b), and to online news texts combining visual and verbal elements (e.g. Knox, forthcoming a).

By reducing the structural choices available in images (e.g. actors but not scenes, close-ups but not long-shots, centred but not juxtaposed), and also their possible combinations, thumbnails as used on the home page of the *smh online* effectively reduce the possibilities usually available in the 'grammar' of news photographs (on the syntagmatic axis), and therefore the potential meanings, or range of choices available to the authors of the *smh online* home page (on the paradigmatic axis). Martin (2008b) has explored a similar phenomenon in verbal texts, where different but similar texts take up the paradigmatic possibilities of the system of language to different degrees. He terms this *commitment*, and describes it as 'the degree to which meanings in optional systems are taken up and, within systems, the degree of delicacy selected'.

In the context of the *smh online*, the paradigmatic choices in thumbnails are so limited in comparison to other news images (see following section), that there is a question as to whether thumbnails share a 'grammar' with other news images, or whether their potential to make visual meaning has been reduced (or 'undercommitted') to the point where their signification draws on the paradigms of the verbal co-text.

To this point, the discussion has treated the thumbnails on the home page of the *smh online* as images in order to demonstrate, from a theoretical perspective, the limits in their potential to make meaning. The following three sections trace



FIGURE 5. Simple systems (read left-to-right) showing the relationship between the paradigmatic and syntagmatic axes in  $SFS^6$ 

historical trajectories which suggest that the interpretation posited immediately above – that thumbnails make meaning in the semiotic system of language – has historical as well as theoretical justification.

## Trajectory one: news images

The origins of images in newspapers have been traced to the illustrated broadsides in the late 16th century (Bicket and Packer, 2004), but it was the mid-19th century that saw a significant increase in the use of hand-drawn illustrations in newspapers, a practice which continued even as photographic technology improved and became more widespread in the second half of the 19th and early into the 20th century (Barnhurst and Nerone, 2001; Caple, forthcoming).

Throughout the first half of the 20th century, photographic images became more common in the popular tabloids of the day (Bicket and Packer, 2004; Huxford, 2001; Schwartz, 2003; Wheeler, 2002). Grudgingly, the 'high-brow' newspapers of the time used photographs more and more as they competed with the tabloids for the same audience and ideological space (Bicket and Packer, 2004). Over time, photojournalism became a valued social practice in news institutions (Bicket and Packer, 2004; Caple, forthcoming), providing 'evidence' in the form of 'objective' news photographs (Barnhurst and Nerone, 2001; Schwartz, 2003; Sontag, 1979; Zelizer, 2005). Photojournalists provided many of the iconic images of the 20th and early 21st centuries, or 'big pictures' in Perlmutter's (2003) terms (see Table 1).

Images such as these, together with the broader body of work produced by photojournalists 'documenting' newsworthy events,<sup>7</sup> had a significant social impact throughout the 20th century, and photojournalism has evolved into a central element in the economic, discursive, and ideological practices of newspapers.

Description of photograph	Location	Date	Agency	Photographer
The explosion of the Hindenburg airship	Lakehurst, NJ, USA	6 May 1937	AP	Murray Becker
American soldiers raising the United States flag	Iwo Jima, Japan	23 February 1945	AP	Joe Rosenthal
The execution of a Vietnamese man	Saigon, Vietnam	1 February 1968	AP	Eddie Adams
A solitary man holding a shopping bag and standing before a line of tanks	Tiananmen Square, Beijing, China	5 June 1989	AP	Jeff Widener
A jet airliner about to crash into the second of the World Trade Center twin towers	New York, USA	11 September 2001	Reuters	Sean Adair

TABLE 1. Examples of iconic hard-news images

In the print newspapers of the first decade of the 21st century, the evolution of photojournalism's role continues in the emergence of 'image-nuclear news stories', which 'make use of a dominant news photograph with a heading and only a short caption' (Caple, 2007a: 120). In online newspapers, it continues in the typical inclusion of a large, dominant image on the 'first-screen' of the home page of many newspapers, and in the practice on many newspaper websites of presenting photos on a single story, theme, or issue in galleries, and/or as slide shows.

These developments in the use of images in 21st-century newspapers (print and online) exploit the affordances of their respective media, and demonstrate the continuing potential of the photographic news image to expand the possibilities for story-telling (see also De Vries, 2008). But thumbnails appear to be a departure from the historical trajectory of the news illustrations of the 19th century, the news photographs from the mature photojournalism tradition of the 20th century, and these more recent developments in the use of images in print and online newspapers.

This can be illustrated by considering the discursive features and functions typically performed by press photographs, a number of which are listed in Table 2. Thumbnail images as used on the home page of the *smh online* do not perform these functions (see earlier section, 'Thumbnails on the *smh online* home page'), and can be contrasted with news images on the basis of this sociohistorical perspective.

Features and functions	References		
Carry aesthetic value	Caple (2007a, forthcoming) Hartley and Rennie (2004) Perlmutter (2003)		
Tied to a specific event, or the 'here and now' of a story	Trivundza (2004)		
Provide 'evidence' for the events reported	Barthes (1977) Griffin (2004) Hall (1981) Hartley and Rennie (2004) Huxford (2001) Machin and Niblock (2006) Schwartz (2003) Wardle (2007) Zelizer (2005)		
Provide 'evidence' that the newspaper was 'at the scene'	Barnhurst and Nerone (2001)		
Capture the 'critical moment'	Barnhurst and Nerone (2001) Caple (2007b) Perlmutter (2003)		
Tell a story	Barnhurst and Nerone (2001)		

TABLE 2. Some typical features and functions of photojournalistic images not shared bythumbnails

There is, however, one discursive function typical of press photographs which thumbnails do perform particularly well. Like the 'mug shots' which have long been used in newspapers (e.g. Barnhurst, 2002; Hall, 1981), thumbnails foreground the interpersonal aspect of a story with immediacy and impact (Knox, forthcoming b). In this way, the emergence of thumbnails on the *smh online* home page is perhaps more consistent with the verbal evolution of hard news stories in English-language newspapers, where the interpersonal 'peak' of information has come to be located at the beginning of the story in the headline and lead (Iedema et al., 1994; White, 2003; see also Knox, 2007).

To summarize this section, through the 19th and 20th centuries and into the 21st, the use of photographs in the visual presentation of news has developed in relation to prevailing social and institutional circumstances. One of the most recent developments is the use of thumbnail images on the home page of the *smh online*. Compared with the photojournalistic practices of the 20th and early 21st centuries, thumbnails on the home page of the *smh online* highlight and foreground the interpersonal aspect of news stories to the exclusion of many other typical functions of press photographs.

## Trajectory two: the new typography

Language has been written for at least 5500 years (Crystal, 1987; Halliday, 1985), and emerged from a functional need to retain a record of linguistic communication (a need not met by speech) as human groups began to settle in permanent locations (Halliday, 1985).

There was . . . a resource ready to hand: people had been making visual images for tens or hundreds of generations, so it was natural to exploit this ability and map the visual representations on to language. This enabled language to satisfy a new range of functional demands. (Halliday, 1985: 39-40)

The writing systems which emerged in different geographical and cultural locations around the world took different paths, but over millennia, each evolved from language being encoded in images, to being encoded in conventional symbols which bore increasingly less iconic resemblance to the linguistic meanings they signified (see Halliday, 1985; Lester, 2006).

Image and language had come together to produce writing, but have generally been considered separate semiotic systems. The history of decorated and illuminated manuscripts, however, provides us with evidence of the two working very closely together. Nordenfalk (1992) discusses the manuscripts of Homer and Euripides, explaining how illustrations served a textual (or organizational) function, appearing at the beginning of each section of text and therefore, in the absence of page numbers and indices, orienting readers to (each section of) the text. He continues:

The function of the first cyclic illustrations of the Bible was probably similar [to the manuscripts of Homer and Euripides]. Whether placed in the text or, beside, in the margin, the illustrations (mostly simple drawings) served as a kind of pictorial rubrics [*sic*]. That would explain why in a later stage of the development we also find

them collected, like a list of contents, at the beginning of the book, as, for example, in the oldest preserved illustrated codices of the Gospels. (Nordenfalk, 1992: 1; see also Bland, 1958; Caple, 2008; Martin, 2002)

Though they functioned in harmony, image and script were generally kept separate in Western manuscripts until the mid-seventh century. But around this time, the decorated initial emerged as a standard feature of illuminated manuscripts (Nordenfalk, 1992). The use of decorated initials – elaborately drawn initial letters integrating letter and decoration artistically – increased in the manuscripts of 11th-century Western Europe, and by the 12th century they had developed from decorated into 'historiated' initials, which incorporated illustrations in addition to decoration (Bland, 1958). 'In the historiated initial text is intimately combined with illustration and the fusion of text, illustration and decoration is complete' (Bland, 1958: 57; see Alexander, 1978).

Decorated and historiated initials continued to be used in manuscripts, until Gutenberg's printing press in the 15th century signalled the beginning of the demise of the manuscript and decorated letters (Alexander, 1978), and the birth of typography. It is worth noting though, that enlarged, decorated letters were used in the Gutenberg Bible, and that these enlarged letters survive in a more conservative form in many current English-language newspapers, where feature articles (and their sections) are often introduced with an enlarged initial (see Lester, 2006).

In contrast to the artistic values which led to the decorated letter, precision, and even 'invisibility', have been considered the hallmarks of good typography, which has been viewed as a 'vehicle' for text (Van Leeuwen, 2005a). The most well-known challenge to the status quo in typography came in the early 20th century with the Bauhaus school, which eliminated many of the variations typically found between letter forms, and earned the ire of traditional typographers (Sandusky, 2001; Van Leeuwen, 2006).

In the late 20th century, the widespread use of personal computers and developments in word processing software put the tool of typography in the hands of almost anyone with a personal computer (Van Leeuwen, 2005b). As isolated computers became increasingly networked at the turn of the 21st century and the World Wide Web continued its development, individuals and organizations used the Web to achieve their social objectives in this new semiotic environment. Existing mass media organizations found in the Web a medium well suited to many of their institutional imperatives (such as wide audience reach, and cheap, rapid delivery – see Boczkowski, 2004).

The Internet has transcended the boundaries of time and space in a way hitherto unseen, and new communities have formed and continue to develop, placing new demands on the semiotic resources of (for example) language, design, colour, image, video, sound, and music: stretching and testing their limits and the boundaries between them. These new forms of semiosis impact also upon typography.

Interactive media have introduced a new visual language, one that is no longer bound to traditional definitions of word and image, form and place. Typography, in an environment that offers such diverse riches, must redefine its goals, its purpose, its very identity. It must reinvent itself. And soon. (Helfand, 2001: 106)

In this environment, Van Leeuwen (2006) argues that typography is advancing through a process of change. He points out that traditionally, typefaces have been seen to have their own irreducible character or identity, and are described and classified either on this basis and/or in historical terms. In contrast to this approach, Van Leeuwen identifies distinctive features of typography (such as *weight, slope* and *curvature*), and organizes them into a system network of paradigmatic oppositions (see Figure 5), which 'opens up a potential for "grammar", for formulating syntagmatic rules, rules of inclusion ("both . . . and") and exclusion ("either . . . or")' (Van Leeuwen, 2006: 153; see Crystal, 1998).

The significance of Van Leeuwen's (2006) article for the argument presented here is as follows. Typography now exists in an environment where the visual potential of writing (once pushed to the edge of image in the decorated and historiated initials of illuminated manuscripts) is once again expanding. It is now possible to model typography as a mode with its own grammar (i.e. meaningful structural elements and combinations) *because* its potential to make meaning is currently developing in ways not seen since the rise of the printing press.

Together, the expansion of possibilities in new typography, and the emergence of thumbnails with their small size and limited paradigmatic choices open the possibility that, given the right discursive environment, the two may converge as letter and image once did in historiated initials. In the following section, a third trajectory is discussed which contributes to the creation of a semiotic environment suitable for the convergence of thumbnail images and written language.

## Trajectory three: punctuation

As language expanded to perform new functions in the written mode, inevitably written and spoken language came to differ. These two modes are suited to different contexts and different purposes, but despite this:

the omission of prosodic features from written language is, in some respects and under certain circumstances, a genuine deficiency. There is, on the other hand, a device that is used in order to partially overcome this deficiency; this is the device of punctuation. (Halliday, 1985: 32)

Halliday argues that over centuries, punctuation evolved (beginning with Greek alphabetic writing) to serve a number of functions (see also Robertson, 1969). In historical sequence, these began with boundary markers (initially to indicate pauses when reading texts aloud) such as the current full stop, comma, and colon. Subsequently, marks denoting pauses came also to contrast with other status markers which evolved to indicate questions, where information is demanded (the current question mark, dating to the 8th century – Parkes, 1992); and a number of speech functions all marked currently by an exclamation mark (dating to the 14th century – Parkes, 1992) including exchanges of goods and services (e.g. commands, offers), expression of attitude (exclamations), or establishing

social contact (calls and greetings – Halliday, 1985). These can all be opposed to statements where information is given (marked with a full stop – see also Crystal, 1987; Robertson, 1969; Salmon, 1992).<sup>8</sup>

As with the development of orthography, the long process of codification and standardization of English punctuation was intensified with the technology of the printing press (Parkes, 1992; Salmon, 1992). Attempts to codify punctuation in English date back at least to the 16th century (Salmon, 1992), and by the 17th or 18th century most of the conventions we recognize today in English punctuation were fairly well established (Robertson, 1969; Salmon, 1992).

But 300 years later, at 11:44 am on 19 September 1982, a new technology, a new social context, and a new form of communication had led to new demands being placed on English. In an electronic bulletin board discussion on how to designate humour in online fora, Professor Scott E. Fahlman suggested the key stroke sequence *colon* + *dash* + *close-parentheses*, i.e. :-), be used 'to denote comments meant to be taken lightly' (*Sydney Morning Herald online*, 2007).<sup>9</sup> This represents an important development in punctuation, as the emotional attitude of a writer in relation to an extended stretch of written text could be encoded, and the use of such emoticons in computer-mediated communication has now been studied from a variety of perspectives in a range of settings (e.g. Kim et al., 2007; Krohn, 2004; Nastri et al., 2006; Walther and D'Addario, 2001; Westbrook, 2007; Witmer and Katzman, 1997).

In the broader history of punctuation, the emergence of emoticons can be seen as a continuation of a long process.

Punctuation was developed by stages which coincided with changing patterns of literacy, whereby new generations of readers in different historical situations imposed new demands on the written medium itself. In order to perform new functions symbols from different systems of aids to the reader, including annotation marks as well as features of layout and display, were gradually combined into a general repertory of punctuation, which came to be accepted everywhere. (Parkes, 1992: 2)

Thus, over centuries, punctuation has evolved in the visual resources it deploys, and the meanings it can convey, from 'pointing' textual boundaries, to indicating more interpersonal meanings such as speech functions and attitude (Figure 6).



FIGURE 6. Truncated visual summary of the evolution of punctuation

On a much shorter timescale, since the introduction of the smiley emoticon, the potential to punctuate attitude and emotion has expanded, and a wide range of keystroke sequences – some language-specific and some more universal – now exist as emoticons (Nishimura, 2003). Further, the affordances of computer-mediated communication have led to the use of icons in place of keystrokes. It is now common in online communication environments (e.g. IRC, Web fora), email software packages, and word processing software packages, that keystroke sequences typically used to denote an emoticon can be automatically converted into icons such as those in Figure 7.

In fact, there are now thousands (perhaps hundreds of thousands) of icons freely available on the Internet which can be directly inserted into messages. These not only provide a greater array of possible attitudinal expression (Huffaker and Calvert, 2005), but at the same time exploit the affordances of colour, visual art, animation, and even photography to allow writers to express and/or construct aspects of identity such as gender and appearance (Figure 8), to the point where we are now witnessing an expansion in the meaning potential of punctuation (in the potential to express interpersonal meanings) unlike anything seen in the history of writing.

The trajectory for interpersonal punctuation as charted in this section begins with boundary marking, moves to punctuating speech function, and then to punctuating attitude and identity. At the same time, the prosody of punctuation spans (potentially) longer stretches of text, with the punctuation of attitude and identity through emoticons now able to spread over entire messages.

This third trajectory in many ways parallels the second, the new typography. Written communication in CMC environments is exploiting the imagic potential of writing in ways which were not technically feasible on the printed page, and were not socially necessary in the communicative contexts most readily mediated by the printed page. In using 'the new punctuation' of emoticons, writers are able to punctuate their texts in ways not formerly possible, and therefore to *mean* in ways not formerly possible. And in the process, the boundaries of image and language are fundamentally challenged.



FIGURE 7. Examples of emoticons which can be automatically generated from keystrokes



FIGURE 8. Examples of emoticons construing attitude and identity<sup>10</sup>

## Convergence and collision: image as language

Graphology is the visual aspect of written language. The argument of this article is that the three semiotic trajectories charted above – news image, typography, and punctuation – converge in the thumbnail images used in the corpus of online newspaper home pages described earlier, and that these thumbnails function not as 'reduced' news images, but as expanded graphology. According to Halliday, writing 'evolved from the coming together of two independent semiotic systems: language, on the one hand, and visual imagery on the other. Writing begins when pictures are *interpreted* in language' (1985: 14, emphasis in original). This suggests, then, that in order to sustain an argument that the thumbnails on the *smh online* home page straddle the boundaries of image and language, they must be shown to realize some aspect of the system of language, or perform some linguistic function.

There are two specific elements of the system of language that hard-news thumbnail images construe on the *smh online* home page, one at the 'level' of the home page as a whole text, and the second at the 'level' of each newsbite as an individual story. Each is explained below.

As written texts in their own right, online newspaper home pages combine visual and verbal modalities in meaningful ways (Knox, 2007; see Kress and Van Leeuwen, 1998). The extent to which the multimodal potential of online newspaper home pages is actually realized has been questioned, and these pages are often described as featuring 'lists' of stories (e.g. Barnhurst, 2002; Bateman, 2008).

On the *smh online* home page, the 'list' of hard news stories is punctuated by thumbnail images in a way similar to the punctuation of lists in more traditional, paper-based documents with bullet points, and also in a way not totally divorced from the use of decorated initial letters in illuminated manuscripts, and the use of large initial letters in contemporary print-newspaper feature stories. Figure 1 illustrates how, over a relatively short period of time, the use of thumbnails has changed from being relatively random, to being a systematic feature of the organization of verbal text on the *smh online* home page. The affordances of computer-mediated communication and the evolving practices of online news discourse are combining with evolving features of written language – typography and punctuation – to organize information on the home page.

In addition to this organizing (or textual) function, the nature of the thumbnail images and their relation to the verbiage of the news stories creates an interpersonal texture on the page, whereby the news is 'personalized' (at the same time as being organized) visually. Part of the job of the home page is to attract and retain a readership, and the interpersonal exchange between the institution of the newspaper and its readership (largely mediated by the home page) is one to which thumbnails are particularly well-suited (Knox, forthcoming b). This graphological construal of 'interpersonal texture', then, is the first linguistic function of thumbnails: they play a textual role in the visual organization of information on the *smh online* home page, while simultaneously punctuating the page interpersonally. Like home pages, individual news stories clearly function as texts in their own right, at the same time as playing a role in the entire 'newspaper-as-text'. In individual news stories, thumbnail images perform a second linguistic function: interpersonal Hyper-Theme (Martin, 1992; Martin and Rose, 2003). A Hyper-Theme is neither a lexical nor a grammatical element, but a discourse-level phenomenon (typically a sentence or paragraph) which 'gives us an orientation to what is to come: our frame of reference as it were' (Martin and Rose, 2003: 181). Hyper-Themes work at different levels in text. In a single paragraph, the so-called 'topic sentence' familiar to all English-language teachers and learners functions as a Hyper-Theme, predicting what is to come, as in Text A (with Hyper-Theme underlined).

The Second World War further encouraged the restructuring of the Australian economy towards a manufacturing basis. Between 1937 and 1945 the value of industrial production almost doubled. This increase was faster than otherwise would have occurred. The momentum was maintained in the post-war years and by 1954-5 the value of manufacturing output was three times that of 1944-5. The enlargement of Australia's steel-making capacity, and of chemicals, rubber, metal goods and motor vehicles all owed something to the demands of war. The war had acted as something of a hot-house for technological progress and economic change. *Text A (from Martin and Rose, 2003: 183)* 

In a similar way, the headlines in the short newsbites common on online newspaper home pages function as Hyper-Themes, establishing for the reader expectations about the text. Texts B and C illustrate (with Hyper-Themes underlined).

Girl's agonising death 'preventable'

The death of a seven-year-old girl who was stung on the legs and chest by a box jelly fish near Bamaga on Cape York Peninsula was swift.

Text B (smh online – 5 January 2006)

Girl's agonising death 'preventable'



THE death of a seven-year-old girl who was stung on the legs and chest by a box jellyfish near Bamaga on Cape York Peninsula was swift.

FIGURE 9. Newsbite from smh online, 10 January 2006

Falconio and Lees spotted at diner, court told

[1:58 pm] Peter Falconio was with Joanne Lees at an outback roadhouse hours before he disappeared, a court heard today, contradicting evidence she gave last week. more

NT Judge demands apology over Darwin article Lindsay Murdoch: Latest evidence

Text C (smh online – 24 October 2005)

#### Falconio and Lees spotted at diner, court told

[1:58pm] Peter Falconio was with Joanne Lees at an outback roadhouse hours before he disappeared, a court heard today, contradicting evidence she gave last week. <u>more</u>

- ♦ NT judge demands apology over Darwin article

FIGURE 10. Newsbite from smh online, 24 October 2005

These examples show how verbal texts use Hyper-Themes to orient readers to the content of the text that is to follow. Martin (2002) demonstrates how, in multimodal texts, images can function as a visual Hyper-Theme which orients readers *interpersonally* to the text. In examining the Australian government's *Bringing Them Home* report (among other texts), he looks at the use of images, and the way they evoke emotions and align readers to a set of interpersonal values that set up a preferred reading of the sections of text which they precede.

Caple (2008) and Economou (2006) draw on Martin's work, and similarly identify large press photographs as Hyper-Theme in newspaper feature stories and 'image-nuclear news stories' respectively. Like the images discussed by Caple (2008), Economou (2006), and Martin (2002), the thumbnails on the *smh online* home page function as interpersonal Hyper-Theme in their stories. Figures 9 and 10 show Texts B and C as they appeared on their respective home pages. By visually highlighting a central participant in the verbal story, the reader is oriented interpersonally to the participant and to the news story in a way not possible using words alone (see Knox, forthcoming b). The thumbnails work together with the headlines as a visually salient Hyper-Theme, with the thumbnail foregrounding the interpersonal aspect of the story in particular.

Despite the similarities discussed above, newsbites on the homepage of the *smh online* are unlike the texts discussed by Caple, Economou, and Martin in a number of important ways. First, the thumbnails in the *smh online* do not function like other images in newspapers, nor like the images in the *Bringing Them Home* report. Rather, as discussed above, they are 'under-committed' to the point where they genuinely explore the boundary of 'what counts' as an image.

A related but separate point is that the images in the report analysed by Martin and the news texts analysed by Caple and Economou are large and visually dominant on the page. In contrast, the thumbnail images on the *smh online* home page are of such a small size that they are on the same scale as the text in the headlines with which they appear. Compositionally, the thumbnails are embedded within their newsbites rather than standing separately from them or dominating them (as is the case in the texts described by Caple, Economou and Martin), suggesting that thumbnails are related to their verbal text in a way similar to the historiated initials of illuminated manuscripts and the emoticons of computer-mediated texts, and in a way that the larger images are not.

Finally, individual texts on the home page are much shorter, and the verbiage is much more fragmented than the extended discussion and argumentation in the *Bringing Them Home* report and in the news features described by Economou (see Knox, 2007). And as a webpage, the *smh online* home page uses typographic features such as font type, font size, and font colour in ways not afforded by the (predominately) black-and-white printed page of the *Bringing Them Home* report.

For all these reasons, the nature of the multimodal relation between thumbnail images and accompanying text on the *smh online* home page differs from that between the larger images and their accompanying verbal text in the genres analysed by Caple, Economou, and Martin. The former exploits the expanding boundaries of graphology and punctuation in language, and extends the possibilities for the expression of linguistic meaning in written text. The latter draw on the semiotic systems of both language and image in a way that thumbnail images do not readily afford.

## Conclusion

Historically, typography and punctuation have developed along with the semiotic environments they have come to inhabit. In CMC environments, we find typography occupying new domains of meaning, and icons and images (as emoticons) which perform linguistic functions. At the same time, in the new genre of the online newspaper, and in particular on the home page of the *smh online*, we find small images on the scale of print, which function differently from the way press images have functioned throughout their history. This raises a question: has the meaning potential of the news image contracted, or has the meaning potential of graphology expanded? The crossing of the common-sense boundary between image and text has historical precedent (e.g. in the very beginnings of writing, in the use of images as tables of contents in ancient manuscripts, in historiated initials, and more recently in the use of emoticons in CMC as discussed above). From this perspective, the thumbnails on the home page of the *smh online* appear to be a return to the future.

Thumbnails are a relatively minor element in the macro-genre of the online newspaper, but they are an increasingly ubiquitous presence on the World Wide Web. They appear in online newspapers, in the often static genres found on institutional webpages, and in texts instantiating what Martinec (2007) has called the nascent systems of new media, including social networking sites such as Facebook and MySpace. It would seem that thumbnails afford new kinds of alignment between author and reader, and therefore contribute to the development of new reader identities (see Knox, forthcoming b). Undoubtedly their roles will continue to vary according to the communicative demands of the humans enacting the multimodal genres in which they are found.

As new media continue to afford human interaction in ways not previously possible, and as new social contexts and new ways of communicating continue to emerge, it is not surprising that language (as Lévi-Strauss's semiotic system *par excellence* – Chandler, 2007) is moving with the times, just as it has always done. And in the particular context described in this article – the home page of the *smh online* – different historical trajectories have led to language finding a 'natural' way to extend its capacity for expression. In short, the Web has fostered the thumbnail, and in this instance at least, language has adopted it.

When viewed from the perspective of systemic functional theory through the lens of the practices and conventions of photojournalism, and from the viewpoint of the historical development of typography and punctuation, the thumbnail images on the home page of the *smh online* represent an expansion of graphology rather than a reduction in the potential of image. This claim is not intended to be generalizable to all online newspapers, nor to websites in general, nor to thumbnail images in general. The extent to which the functions described here

apply to thumbnails and other images in other genres is a question for empirical investigation. Rather, what is observed here is one instance of the rapid and varied evolution of semiosis in new media, a process in which new meaning-making practices will continue to challenge our understandings of language, and of multimodal semiosis more generally.

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#### NOTES

- 1. Thumbnail images on the *smh online* home page are at once a product of, and a contributor to these changes in the institutional packaging of news (Knox, forthcoming c).
- 2. From [www.smh.com.au] and used with permission. All figures are in black and white, but original webpages and the vast majority of images appearing on them are in colour.
- 3. Most of the remaining 6.5 percent of thumbnails construe a social actor which personifies an actor in the verbiage, such as an image of a chicken for *bird flu*; an image of a balaclava-clad anti-terrorism officer for *anti-terrorism bill*; and an image of a female model for *Fashion Festival*.
- 4. The kind of semantic relation between the image and each mention in the verbiage may differ see Martinec and Salway (2005) and Royce (2002). Such differences are obviously important to the way these texts function as coherent wholes, but a full consideration is beyond the scope of this article.
- 5. A convenient co-occurrence of this is that the newspaper can draw on any available image of the actor depicted, thus avoiding the necessity of sending photographers out to document stories as they occur.
- 6. There are more clause types (see Halliday and Matthiessen, 2004) and genre types (see Martin and Rose, 2008) than shown in this simplified diagram.
- 7. Caple (2007b) has described this as 'capturing the critical moment'. Others have characterized it more as the definition and construction of the critical moment (see Barthes, 1977; Hall, 1981; Sontag, 1979).
- 8. Other developments in punctuation, such as the development of the semi-colon, parentheses, and quotation marks, are not discussed here for reasons of space and relevance to the current argument.
- 9. Wikipedia (2007) traces the history of emoticons to the 19th century.
- 10. The animation of these emoticons is not possible to demonstrate in static media. All emoticons downloaded freely from: [http://www.msnhiddenemoticons.com/].

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