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Visual rhetoric in information design

Designing for credibility and engagement

Jeanne-Louise Moys

Genre plays a central role in defining the visual conventions designers draw upon for presenting information and influencing the ways in which users, in turn, experience and interpret information. Drawing on evidence from user research, this chapter examines the rhetorical associations of some of the typographic and layout conventions associated with good practice in information design.

In 2013, Lippincott redesigned UK energy provider npower's customer energy bill (Figures 1a–d). npower's press release declared that the redesign aimed to 'cut out the clutter', enable different kinds of reading strategies (particularly skimming and checking), and 'prioritise' the information that 'customers want to know' (npower, 2013). It also stated that the redesign was intended to build relationships and *trust* 'through the provision of clear, simple and easy to understand information'.

Figures 1a–d

Lippincott's redesigned npower energy bill (Reproduced with permission from npower and Lippincott)

These statements highlight how information design can facilitate particular kinds of engagement and contribute to ethos – the way in which the provider of the information is perceived. They also reveal some principles of information design such as: clarity, simplicity and functionality. Applied to the presentation of information, these principles evidence particular typographic and layout conventions. Using good practice guidelines to highlight visual characteristics of information design, this chapter explores how these conventions convey particular rhetorical impressions

Genre and visual rhetoric

Building on Bonsiepe's 1965 (reprinted in Bonsiepe, 1999a) paper on visual-verbal rhetoric, a number of writers within communication and design disciplines have framed design as visual rhetoric¹. Drawing on a definition of 'rhetoric as persuasion',

¹ Examples include: Buchanan (1985), Kinross (1989), Trummel (1988), Kostelnick (1990; 1996), Kostelnick and Hassett (2003), Bennett (2006), and De Almeida (2009).

analyses of visual rhetoric are often used to explain and critique design's powers of persuasion for advertising, marketing and social campaigns (Margolin, 1979; Blake, 1981; Forlizzi and Lebbon, 2006; Tyler, 2006). Visual rhetoric has also been applied to a wider range of design artefacts, including: manuscripts (Connors, 1983), posters (Ehse, 1984), and railway timetables (Kinross, 1989).

Kostelnick and Hassett (2003) explore visual rhetoric within a framework that focuses on the conventional nature of visual communication. They contend that genres provide ways of identifying shared meaning, suggesting that 'visual language clings to a genre like a magnet' (Kostelnick and Hassett, 2003, 97). Graphic conventions acquire rhetorical meaning through their association with the visual characteristics of document genres (Waller and Delin, 2010).

Genre associations also help users decide how to engage with information. Waller (2012, 242) emphasizes how the graphic presentation and layout of everyday genres, such as magazines and user guides, imply particular engagement strategies:

When readers see them, they know what they are, and what to do with them. The graphic layout of such genres effectively contains the rules or affordances for their use: Engaging layouts and large headings invite the magazine reader to browse; the orderly layout of a user guide invites systematic reading, referencing a task outside of the text through diagrams, and providing large numerals as a visual target to the returning reader.

Waller (2012) discusses the creation of graphic argument across a range of print and digital examples. He demonstrates how changes in layout, for example in redesigned functional documents or between a printed and digital newspaper article, enable users to adopt particular reading strategies and may clarify or obscure relationships between information². Similarly, improving the layout of charts and diagrams (see Figures 2a and 2b) can also help to visually articulate relationships between information and make information more accessible at a glance.

Figure 2a and 2b

CIDR's redesign of the Dementia flow chart shows how spatial organisation supports graphic argument and ease of reading

² Waller's work builds on and contributes to a body of cross-disciplinary work that demonstrates how the presentation of text suggests particular kinds of reading strategies and articulates graphic argument across a range of genres and artefacts. This body of work incorporates research from within linguistics, psychology, typography, and technical communication. Examples include: Bernhardt (1985), Hartley (1980; 1985), Hartley and Burnhill (1977), Kostelnick (1990; 1996), Twyman (1982; 1985; 1986), Walker (1982; 2001), Waller, (1982; 1985; 2012), and Waller and Whalley (1987).

In this respect, definitions of visual rhetoric as ‘the art of directed communication’ (Kinross, 1989, 376) are more readily applicable to information design than definitions emphasizing persuasion. From this perspective, visual rhetoric is used to explore how the presentation and organization of information creates meaning. Similar to Bonsiepe’s (1999b, 66) description of ‘semantic typography’, some rhetorical approaches consider how ‘the differentiation of the text supports the interpretation’.

Kostelnick (1990, 1996) describes two sets of rhetorical functions in text design: structural and stylistic. These are summarized in Table 1. *[please typeset table in two columns]*

Table 1 Rhetorical functions in text design

Structural functions
• Reveal document structure
• Develop cohesion
• Enable expansion or contraction
Stylistic functions
• Create interest
• Convey tone
• Establish credibility
• Signal emphasis
• Indicate usability

(After Kostelnick 1990; 1996)

Kostelnick’s distinction between structural and stylistic rhetorical functions shows how visual rhetoric can be analysed both at the level of graphic argument and in relation to users’ affective impressions of visual presentation:

Since seeing precedes reading, the reader’s first glance influences the information processing that follows. The balanced arrangement of visual elements on the page, the contrast among these elements, the efficient use of space – together these create a unified visual display that predisposes the reader to respond [strategically] to the information in the document. Such responses are often dismissed as subjective and impressionistic ... but they must be regarded as intrinsic to the rhetoric of the document (Kostelnick 1990, 200).

Getting the right ‘look and feel’ for a project is usually considered a central concern in branding discourse. In contrast, information design tends to prioritise functionality and accessibility. Typographic decisions are focused primarily on legibility and functionality rather than typeface personality – the emphasis is on clarity not identity³.

³ Information designers often work within a different range of parameters to their branding colleagues. Many information design projects, such as consumer bills and public sector forms, are for clients with

Thus, information design's focus on usability means that information design is often assumed to have a 'look and feel' that is visually neutral in comparison to other genres.

Kinross and the 'rhetoric of neutrality'

At the first Information Design conference in 1984, Robin Kinross queried whether the presentation of information can be neutral. His paper was subsequently published in *Design Issues* as 'The rhetoric of neutrality' (1985 reprinted 1989). Building on Bonsiepe, and considering differing definitions of 'rhetoric', Kinross argued that information-focused genres such as railway timetables are not devoid of visual rhetoric. Kinross (1989, 374) proposed that 'by the simple fact that they organize and articulate and give visual presence to information' genres such as timetables 'use rhetorical means'. In order to communicate with 'eloquence' (Kinross 1989, 375), timetables and other information design genres use structural devices such as tabular arrangements (see Figure 3).

Figure 3a and 3b

Tabular arrangement in railway timetables (Reproduced with permission from the Department of Typography & Graphic Communication)

Kinross extended his discussion of visual rhetoric beyond the typographic and structural articulation of information. Kinross (1989, 385) criticised information designers who 'deny any idea of rhetorical persuasion'. His argument traced the roots and values of information design to the ideological underpinnings of Modernism. He suggested that the seeming neutrality of the 'efficiency, sobriety and seriousness' (Kinross 1989, 384) of the HFG Ulm-associated style that emerged in the 1950s, in particular, was in itself rhetorical.

Information design continues to uphold principles of clarity, functionality, and simplicity. Current redesigns (see Figures 2a and b) feature increased use of typographic and spatial differentiation as designers endeavour to enhance the clarity of communication, facilitate different reading strategies for users with different literacies and information needs, establish the appropriate ethos and tone for commercial and public sector clients, and design for digital channels with new affordances. Moving away from Kinross's focus on the ideological roots of information design principles, the remainder of this chapter examines how visual conventions currently associated with good practice in information design carry rhetorical associations for users.

an established house style. Historically, the technology used to automate consumer bills, for example, has also constrained the visual design of functional documents.

The rhetoric of ‘good’ design

Although Kostelnick (1990) suggests that users’ at-a-glance impressions are often undervalued, an increasing number of studies suggest that ‘good’ design has benefits for both usability and rhetoric. These studies encompass both digital and printed genres. For example:

- Larson and colleagues (Larson and Picard 2005; Larson, Hazlett et al. 2006; Hazlett, Larson et al. 2008; Larson 2010) explore whether conventions associated with ‘good’ typography influence users’ perception of documents and a reader’s ability to perform cognitive tasks. Their research suggests that: ‘A well designed page is more likely to be impactful and cause the reader to act on the message’ (Larson, 2010).
- Townsend and Shu (2010, 453; 458) examine users’ judgments of credibility from annual reports and conclude that ‘good design increases a company’s perceived value’
- Black and Stanbridge (2012) found evidence to support the premise that users’ impressions of visual design influenced their assumptions about how easy information was to understand in a range of everyday documents received by mail. This study reveals the ‘combined aesthetic and functional impact of document design and its capacity either to facilitate interaction between the initiating organization and the user or, conversely, to deliver a negative experience’ (Black and Stanbridge, 2012, 265).
- Studies of user interfaces suggest that participants’ judgments of visual appeal are related to their impressions of usability (Kurosu and Kashimura, 1995; Tractinsky, 1997) and that this effect translates into their experience of ease of use (Tractinsky, Katz et al, 2000) and performance (Sauer and Sonderegger, 2009; Sonderegger and Sauer, 2010).
- Li and Yeh (2010) show that design aesthetics can improve users’ judgments of trust and usefulness in mobile commerce.

However, the criteria used to claim ‘good design’ are not always explicit in these studies. So, what is ‘good’ design?

An effective design solution will be appropriate to its particular set of parameters defined in relation to audience, channel, content, client, context of use and purpose. However, it is possible to generalise about good practice. Evaluations of information design often focus on reader engagement and clarity of communication. For example:

Good typography helps readers plan their reading strategy, tells them where they are and helps them to find their way about; good graphic design allows one to say in words and illustrations what could not be said in either form alone (MacDonald-Ross and Waller, 2000, 182).

In addition to language, relationship, and content criteria for document evaluation, the Simplification Centre's document benchmarking research identifies four areas of design criteria for assessing 'the visual impact of the document and the way its design influences usability' (Waller, 2011, 15). These are:

- 1 Legibility – incorporating both the use of legible fonts and layout attributes (such as text alignment and adopting an appropriate column measure for the text size) to improve ease of reading
- 2 Graphic elements – the use of bulleted or numbered lists, charts, diagrams, graphs, tables and other graphic devices
- 3 Structure – how the organisation of the document supports its purpose
- 4 Impression – 'the attractiveness and approachability of the document's overall appearance' (Waller, 2011, 18).

Comparing two versions of a fictitious pharmaceutical leaflet (see Figures 4a and b), Dickinson et al (2010) describe their recommendations for good practice [*Paul please insert appropriate cross-reference to Dickinson chapter*]. These include:

- Using space to improve the clarity of the document structure and maintain a logical text flow
- Increasing the visibility of typographic differentiation of headings and bulleted information
- Introducing emphasis through combining different type weights
- Using colour and graphic elements to support the document structure and draw attention to particular kinds of information.

Figures 4a and 4b

Consumation's redesign of a fictitious pharmaceutical leaflet used in their 2010 study (Reproduced with permission of David Dickinson)

To understand the interplay between document structure and overall impression, it is useful to examine typographic presentation in more detail.

Designing for credibility and engagement

Typeface personality

Establishing credibility and communicating tone are frequently explained in relation to the congeniality of type – choosing a typeface with an appropriate personality for the information, genre and audience. A substantial body of cross-disciplinary research supports the role of typeface personality. Recent studies indicate that the appropriateness of the typeface personality in relation to content and genre influences users' impressions of document rhetoric (Brumberger, 2001; 2003; 2004) and 'ethos' (Shaikh, 2007a; 2007b; Shaikh and Fox, 2008; Shaikh, Fox, and Chaparro, 2007).

Shaikh's research is important to this discussion for two reasons. Firstly, because she tested users' impressions of typeface personality across a range of on-screen documents rather than using artificial specimens that bear little resemblance to the presentation of information in everyday documents or interfaces. Secondly, her research shows that users make judgments about the credibility of the author or provenance of a document in relation to the legibility and appropriate use of typefaces in relation to genre (Shaikh, 2007a; 2007b). Using an appropriate⁴ and legible typeface is essential to conveying a sense of ethos and increasing the users' inclination to read the text.

Nevertheless, the congeniality of type tends to be a given in information design practice. Information designers tend to use primarily 'neutral' typefaces, selected for their legibility and functionality (in terms of the availability of a range of weights and styles for typographic differentiation) rather than selecting typefaces with strong personality attributes.

Moreover, it is easy to shift the associations of a typeface by changing other typographic attributes. For example, in Figure 5, the same typeface is used for the body text and the warning stamp. However, by changing the colour and texture of the

⁴ For printed communications, serif typefaces have conventionally been associated with more traditional and authoritative uses than sans serif typefaces. However, these associations are likely to be shifting as users are increasingly becoming accustomed to seeing legible sans serif typefaces used for a range of purposes in both printed and digital genres. Given the suitability of sans serif for legibility on screen and, particularly, small screen devices, it is likely that the rhetorical associations for serif and sans serif faces is shifting and onscreen, sans serif information may increasingly seem more credible (through its association with reputable and well-designed websites) and more professional (if it is seen to be more authentic and in line with current trends rather than old-fashioned or 'difficult' information).

typeface for the stamp information and rotating it and putting a frame around it, its voice becomes more authoritative than when it is typeset as continuous text.

Figure 5

Variations in colour, texture and placement to suggest authority in an HMRC tax reminder letter (INSERT PERMISSIONS) [*Paul please crop as appropriate*]

Typographic differentiation provides a more integrated framework for describing how variations in typographic presentation influence visual rhetoric.

Typographic differentiation

Typographic differentiation refers to the way in which different kinds of information (headings, subheadings, introductory summaries, captions, sidebars, pull-out quotes, etc.) are articulated within a document. This differentiation is created through both stylistic changes – such as a change in typeface, size and weight – and structural changes – such as including additional space before a heading or placing information in a shoulder box.

Information design borrows the concept of the difference threshold or minimum visible difference from psychology. The typographic specification of two text elements may differ, but this does not necessarily mean that the difference is discernible at a glance. To ensure that the hierarchy and structure of a document is clear, subheadings, for example, should be sufficiently differentiated from the body text so that the difference is noticeable to the average reader.

The level of typographic differentiation used influences visual rhetoric. Comparing tabloid and broadsheet newspapers may suggest that communicating credibility and seriousness is simply a case of reducing the level of stylistic differentiation and avoiding drop shadows, reversed text and other typographic effects. To explore how typographic differentiation influences visual rhetoric, I conducted a series of three participant studies (see Moys 2011; 2014a; 2014b)⁵. The aims were to

⁵ The participant interviews drew on methods such as repertory grid analysis (Moys 2014a) and multiple sort tasks (Moys 2011) derived from George Kelly's (1955) personal construct approach. These methods require participants to articulate in their own words their impressions of the similarities and differences between a set of stimuli (in my research the typographic test material). In this way, I could explore what kind of judgments users form in relation to typographic presentation, without relying on a set of predetermined descriptors that may or may not be meaningful to participants. A selection of the adjectives that reoccurred across participants were subsequently tested in a paired comparison study (Moys 2014b) to assess the generalizability of the findings. These studies used a combination of real documents and controlled test material to identify and test realistic combinations of typographic attributes in document design.

determine what kinds of judgments users make from typographic presentation and whether these judgments are affected by the kind of typographic differentiation applied to information.

Qualitative data from across the three studies confirmed that participants' personal experience of genres provides a framework for their interpretation of documents. Throughout the interviews, participants made explicit and unprompted references to a range of document genres and examples in order to explain their judgments and how users could be expected to engage with specific examples. For example, one participant described two examples as: 'the dentist-waiting room group: [the] sort of thing people are going to pick up, casually browse through, [and] not read all that seriously'.

In addition to assumptions about genre and readership, participants made a number of rhetorical judgments in relation to typographic presentation. These included assumptions about:

- **Accessibility:** whether the content would be easy or difficult to read and understand
- **Content:** whether the information was serious or light-hearted and its complexity, readability and tone
- **Credibility:** whether the information and its author was objective, reliable and reputable
- **Engagement:** the imagined audience and whether and how users would engage with information
- **Intention:** whether the information was commercial, factual, journalistic or professional in origins
- **Style:** whether the information was likely to be conveyed in a particular mode of address ranging from matter-of-fact and straightforward to friendly and interesting to patronising
- **Value:** whether the information was factual, important, informative, interesting and useful.

The typographic differentiation studies compared users' judgments of test material to which three kinds of typographic differentiation (high, moderate, and low) were applied. Unsurprisingly, documents with a high or exaggerated level of stylistic differentiation were seen as the most sensationalist, superficial and patronising. The studies also indicated that prominent headings suggest importance. However, if the display type is substantially differentiated from the body text, users are likely to consider the information to be less credible or serious. Participants often described

documents with exaggerated differentiation as ‘patronising’, ‘in your face’ and ‘shouting’ at users to grab their attention, rather than ‘quietly stating’ useful information that would speak for itself.

Generally, documents with a low or very subtle level of stylistic differentiation were not necessarily the least sensationalist but tended to be seen as highbrow and difficult to understand. Instead, information that moderately exceeds the difference threshold is likely to be judged to be accessible, credible, objective, and informative (Moys 2014a; 2014b). The most credible documents exemplify the characteristics of a moderate pattern of typographic differentiation. These:

... use a more restricted set of stylistic variations to differentiate information. They are most likely to use bold weights for display text but seldom apply effects such as shadows or outlines. The layout is characterized by a high degree of orderliness, with regularly spaced columns and graphic objects. This sense of orderliness is reinforced by the use of rules and boxes and the even distribution of space throughout the layout (Moys, 2014a, 49).

In addition the typographic differentiation studies indicate that the way in which text is typeset also influences their judgments of the accessibility and style of information. For example, participants considered:

- The use of uppercase lettering in headings to be ‘shouting’ at and ‘patronising’ readers rather than simply an indication of importance
- Justified text to be particularly formal and serious
- Loose leading to reduce the formality and seriousness of information
- Text set in wide columns to require closer, more leisurely reading whereas text in moderately sized columns was considered informative and text set in short, narrow columns to be of less value.

The orderliness and complexity of layouts is also considered to influence visual rhetoric. For example, Kinross (1989) referred to Bonsiepe’s (1968) work on measures of orderliness in his discussion of ‘neutrality’ in information design. Barton and Barton (1987, 12–13) note that ‘semantic simplicity’ is related to both the number of visual elements and the ‘compatibility’ of visual elements. However, the articulation of particular kinds of information may require varying degrees of visual complexity (Waller, 1980) and users may have different simplicity/complexity preferences for different applications. Comber and Maltby (1997) apply Bonsiepe’s techniques for

measuring orderliness in compositions to studies of ‘layout complexity’ for graphical user interfaces. Their results indicate that online users prefer more complex layouts⁶.

The typographic differentiation studies showed that layout complexity does have rhetorical effects. For example:

- Multicolumn layouts using very wide columns and symmetrical designs were seen as particularly formal and pretentious
- Multicolumn layouts using irregular column widths and incorporating very narrow columns were seen as less credible than documents with a clear and proportionate grid
- Layouts in which graphic objects were not aligned to the grid or positioned in ways that interrupted the text flow were seen as less credible and user-friendly
- Layouts that incorporated irregular shapes and prominent graphic objects were considered more sensational than those which incorporate more subtle and rectilinear boxes or rules that emphasise the underlying grid structure
- Both very cluttered designs and those featuring prominent areas of white space and loose leading (interline spacing) were considered less credible than those that were more regular and moderate in their use of space.

Furthermore, research that compares users’ impressions of horizontal and vertical layouts of both hard and soft newspaper articles indicate that orientation has a rhetorical influence on users’ evaluations of tone. Middlestadt and Barnhurst (1999, 272) found that articles presented in horizontal format were perceived as more ‘tranquil’ than when presented in a vertical layout. Similarly, Dickinson et al (2010, 239) suggest that text presented in tall, thin columns ‘appears daunting’ to readers in comparison to shorter columns in a landscape module.

Dickinson et al (2010, 239) also describe the role of text density in information design:

A document with narrow margins and limited white space between sections can appear daunting to readers, offering no entry points, and little alternative to reading the whole document from the beginning, which few readers want. Density can affect readers’

⁶ Thus, it is important to consider how the conventions and associations of printed genres may not necessarily translate into digital genres. Hand-held devices afford further opportunities for expanding, contracting and layering information – attributes that we have already seen evolve in web design. The effects of the interactive and fluid organization of information on visual rhetoric requires further research (Askehave and Nielsen 2005).

assessment of the size of the body text (it looks like small print) and ultimately their confidence to read. Clear section structure and consistent white space, like the space between rungs on a ladder, offers a series of safe footholds by which leaflet users can descend into detail at their own rate.

The typographic texture of information seemingly influences users' at-a-glance judgments of the difficulty and seriousness of information. In two of the typographic differentiation studies (Moys 2014a; 2014b), the content of the test material was rendered as a third order approximation of English (see Figure 8). This meant that the text had a reasonably realistic texture but was free of linguistic meaning. Interestingly, even though the meaning of the text was not discernible, some participants made judgments about the style of writing and the difficulty of the information in relation to typographic texture. In particular, where the computer-generated third order approximations had created very long sentences and words, participants considered the examples to be particularly academic, serious and hard to read. This finding suggests that information design principles for content such as using plain language and writing in short sentences improves users' impressions of accessibility even before they begin to read a text more closely.

Figure 6

Examples of typographic test material set using a third order approximation of English to minimise the influence of linguistic attributes on the results (Reproduced with permission of the author)

Graphic devices

In the first typographic differentiation study (Moys, 2011), participants seemed to make a number of assumptions about documents that incorporate graphic devices such as bulleted or numbered lists; tables; graphs, charts or diagrams; and step-by-step panels. For example, regardless of the subject matter or target audience of the magazines, articles using these graphic devices were considered to be:

- Easier to understand
- More important, informative and factual
- More useful (particularly for examples including step-by-step panels).

It would seem that these graphic devices carry meaning beyond simply indicating a rhetorical structure, as they influenced participants' assumptions about the kind of information, its value, complexity and accessibility contained in a document. This may be particularly important for information design genres dealing with financial, legal or health-related information that is likely to be considered difficult or stressful.

Other graphic devices, such as rules and boxes that reinforce the underlying organisation of information, also carry rhetorical meaning. In the typographic differentiation studies (Moys 2014a; 2014b), participants judged documents that feature horizontal and vertical rules and boxed elements to be more serious and factual than documents that did not contain many rules or boxes. Emphasising the visual structure of information through rules and boxes, rather than accentuating or reducing the white space between elements, seemed to reinforce participants' assumptions that information was well thought out and useful. However, increasing the weight of graphic rules, the use of colour and decorative effects applied to graphic elements, angling or rotating boxes, introducing irregularly shaped elements or using reversed text reduced this effect. Examples including these characteristics were considered to be sensationalist, patronising or desperate to attract attention.

User research conducted by the National Archives in the UK for legislation.gov indicates that the presence of official symbols, such as the crest in the top left-hand corner of their website, increase users' assumptions about the reliability and authority of legal information. However, this effect is not limited to official symbols. Particular graphic devices used in information design also carry rhetorical associations.

Rather than relying solely on continuous text, the use of graphic devices – such as tables, lists and diagrams – is favoured in information design because these devices are considered to make information more accessible. In his discussion of the Simplification Centre's design criteria for document benchmarking, Waller (2011, 16) highlights that:

... graphic alternatives to prose such as a tables, lists and flowcharts [are] particularly relevant to financial documents, as it has been shown than conditional information is easier to understand when choices are shown graphically, or diagrammatically.

Waller (2011; Waller and Whalley, 1987) also explains how visualising arguments or diagramming different viewpoints can help users make comparisons and establish relationships. As MacDonald-Ross and Waller (2000, 182) argue good information design 'allows one to say in words and illustrations what could not be said in either form alone'. However, it would seem that particular graphic devices also carry rhetorical connotations and using them may encourage users to engage with information from the outset.

Conclusion

This chapter has focused on users' rhetorical impressions of visual conventions in information design. The chapter has explored how graphic conventions associated with promoting clarity and usability also influence users' judgments of information.

Visual rhetoric isn't simply about creating something that looks professional for corporate or public sector service clients. It's also about making complex information seem accessible and credible. The kind of typographic articulation applied can encourage users to ignore or engage with information based on their initial impressions of genre, credibility, difficulty and usefulness. Appropriate typographic differentiation can promote accessibility and clarity as well as setting the correct tone. In some situations, users may be stressed or feeling overwhelmed by their particular circumstances. Examples include information relating to finance, health or legal issues. In these instances, good information design needs to be personable, empathetic and reassuring for users, as well as communicating the ethos of the information provider.

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