

The logical hierarchy of the front-page layouts of the earliest Sinhala newspapers published in Sri Lanka.

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Abstract – In this paper, we present a logical analysis of the graphical elements used to structure the earliest Sinhala newspaper front page layouts. Furthermore, a hierarchical structure is proposed logically to represent the structure of the front page layout of the earliest Sinhala newspapers. In addition, to improve the aesthetics of the entire design, hierarchy makes it easier to convey both primary and secondary information printed on a structured document that is composed of elements. A hierarchical level represents the structure of a newspaper's front page. Graphical elements help to develop the visual structure of a newspaper front page. Identification and analysis of graphical elements are performed by visual analysis. The approach is a top-down method, and based on domain knowledge, the front pages of the earliest Sinhala newspapers were analysed. The researcher tries to find the answer to the statement, whether the earliest Sinhala newspaper front pages also follow the same logical hierarchical structure as presented for the printed forms.

Keywords: Logical hierarchy, front page layouts, sinhala newspapers

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I. Importance of the newspaper front page

Sinhala newspapers are still one of the most commonly used mediums for transferring information. The newspaper became the only medium that was more familiar and heavily influenced the public during the second half of the 19th century in Sri Lanka. There was a growing interest in the use of the Sinhala language in newspapers after the first regular Sinhala newspapers were published in the 1860s. The Sinhala newspapers started with the influence of the English newspapers that circulated in Sri Lanka during the British era. Therefore, the graphical elements used to create the front pages of English and Sinhala newspapers are similar. In this paper, the author analyses whether the logical hierarchical structure presented for printed forms could apply to the front pages of Sinhala newspapers.

The front-page layout design makes extensive use of visual communication. Since most readers initially see the front page, the design attempts to persuade people to purchase and read the newspaper more spectacularly than the internal pages. According to Kim & Chung (2017) the front page is the most important place to look for such depictions of society's most meaningful events. Similarly, Denis Mc Quail (2010) and Singer (2001) mentioned that the front page catches a reader's eye. The fundamental reason why the compositors created ideal front page layouts was to manage a proper readership island-wide.

In the 19th century, the Sinhala newspaper industry saw considerable development. The vertical layout with symmetry but no hierarchy, marked by long, narrow columns crammed with big uppercase headings, gave way to a straightforward, primary, and hierarchically functional modular design in the second half of the twentieth century.

II. Logical hierarchy of a newspaper page

The purpose of making a printed document according to a hierarchy is to improve the structure and aesthetic appeal of a layout to attract customers. The segmentation and classification of blocks into sections is a crucial step in examining printed documents. There are two approaches to the segmentation of newspapers: the bottom-up approach (merging foreground objects) and the top-down approach (cutting along separators). The top-down approach is mainly based on background knowledge to influence perception and is also a theory-driven approach. The visual analysis of this paper is based on the same domain knowledge. Therefore, the top-down approach is used for this research.

Within the components of a newspaper page, there is a logical and geometrical structure. This structure is depicted hierarchically in Fig.1. The chart describes how the visual appearance of a printed form is structured, placing the graphical elements according to the most reasonable hierarchy. The segmentations are incorporated here as 'levels' and 'graphical elements' are considered the components used to segment the printed form.

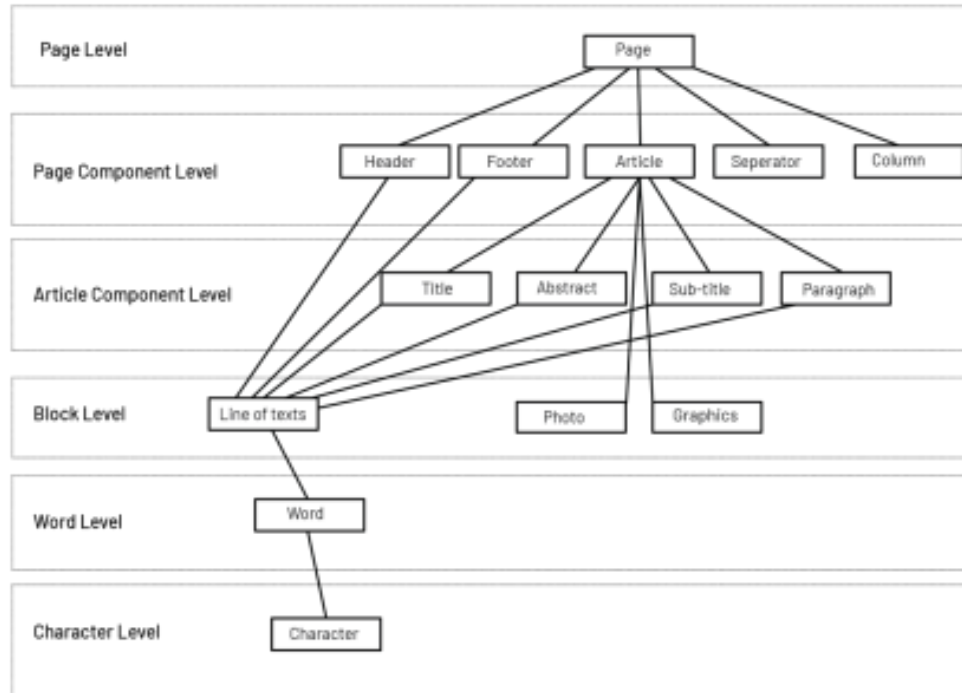
A "level" is a rectangular area on the front page that is surrounded by the longest horizontal and vertical lines. A level surrounded by horizontal and vertical lines that are the same length as the borders of a page is defined as the horizontal separator lines. Vertical reference lines are the lines that are orthogonal to the horizontal separator lines that start at any horizontal separator line and end at another horizontal separator line.

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Figure 1
Hierarchy of a Newspaper Page



Note. The figure is sourced from Wieser & Pinz (2002) and recreated by author

First, the definitions for the graphical elements are given, and then we resume the approach.

A. Columns and grids of a newspaper

Every newspaper page is designed with consideration of a simple grid—a simple set of regulated lines that govern the positioning of elements like images and text boxes.

B. The Title of a newspaper

The newspaper's title is referred to as "Masthead" in British English and "Nameplate" in American English, but according to industry slang, this is called the "Flag" of the newspaper. The flag must create a sense of tradition, trust, and sobriety, and most old English flags appear to be religious. The other category is the trendy flags, which are corporate with logos and seem fresh, original, and graphically sophisticated. Make the flag stand out; some newspapers place it in a white space. Some add text or graphical elements in the corners beside the flags, slogans, moving features, and teasers. group

C. The byline of a newspaper

A byline is used to publish the name of the journalist who wrote the news article.

D. The headline of a newspaper

The headline is the large text that labels each article. Most of the headlines were composed of a random assortment of typefaces, both upper and lower case for the top of the front page, centred horizontally, and layered stacks of narrow decks obstructing one another with rules in between. Furthermore, traditional newspapers used a different formula for headlines. There is an anticipated number of lines with the number of columns that the headline is spread across.

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Table 1
Text Lines for a Heading

How many lines does a headline need?						
Is the headline this wide? (In columns)	1	2	3	4	5	6
Then make it this deep (inline)	3-4	2-3	1-2	1	1	1

E. Folio of a newspaper

A folio line is considered a line summarising the publication, including the name, date, page number, section, and edition (Mitchell, 2015). The date is contained in a line, which could be referred to as the newspaper's dateline. Generally, folios are separated by a vertical separator.

F. Text of a newspaper

A newspaper's most important feature is its text. Text is adaptable, and one can use it in various ways while writing stories when the text is placed on legs thinner than 10 picas (Harrower, 2008). It's also difficult to read if the font is larger than 20 picas. Text can flow in both vertical and horizontal directions.

G. Sidebars of a newspaper

A slide bar is a brief element that goes along with a lengthier story and is also a design element apart from the primary story.

H. Tables of a newspaper

Numbers, money, debts, crime data, budget percentages, and election outcomes abound in news articles. These numbers created a jumble with the text, which confused the readers (Harrower, 2008). They required a systematic approach, so they employed tables and graphs. Tables are frequently used to clarify information.

I. Graphics and Editorial Illustrations of a newspaper

The essence of newspaper design is deciding how to display the news, which varies every day, but every newspaper's graphic vocabulary remains consistent (Esterson 2004, p.4). As a result, the method by which newspaper graphics are produced has a significant impact on their appearance. Personal, interpretive imagery on the opinion page is called "editorial illustration" or "editorial cartoon." It's possible to put it in a vertical or horizontal position.

III. Approach

The research adopts a qualitative approach. The Visual Analysis method applied in this study is a variant of Content Analysis. According to the year of their first publication, 79 Sinhala newspapers can be identified from the 1860s to 1900s. The author selected and examined 13 micro-filmed scanned copies of 79 Sinhala newspapers collected by a personal collector, Dr. Samarawikrama. The visual analysis begins by summarising the variables of the front-page design. Furthermore, this study depends on self-observation and the probability sampling method. The dependent variable is the visual analysis of Sinhala newspaper front-page layout patterns from the 1860s to the 1900s. The independent variables are the visual elements that incorporate the development of the front-page layout. Visual elements include various components like headlines, bylines, flags, and texts and illustrations that alter the clean layout and influence the independent variables. Among the 13 newspapers examined, 'The *Kawata kathikaya* Sinhala newspaper contains all the independent variables, therefore as an example, the visual analysis is only done for 'The *Kawata Kathikaya* newspaper.

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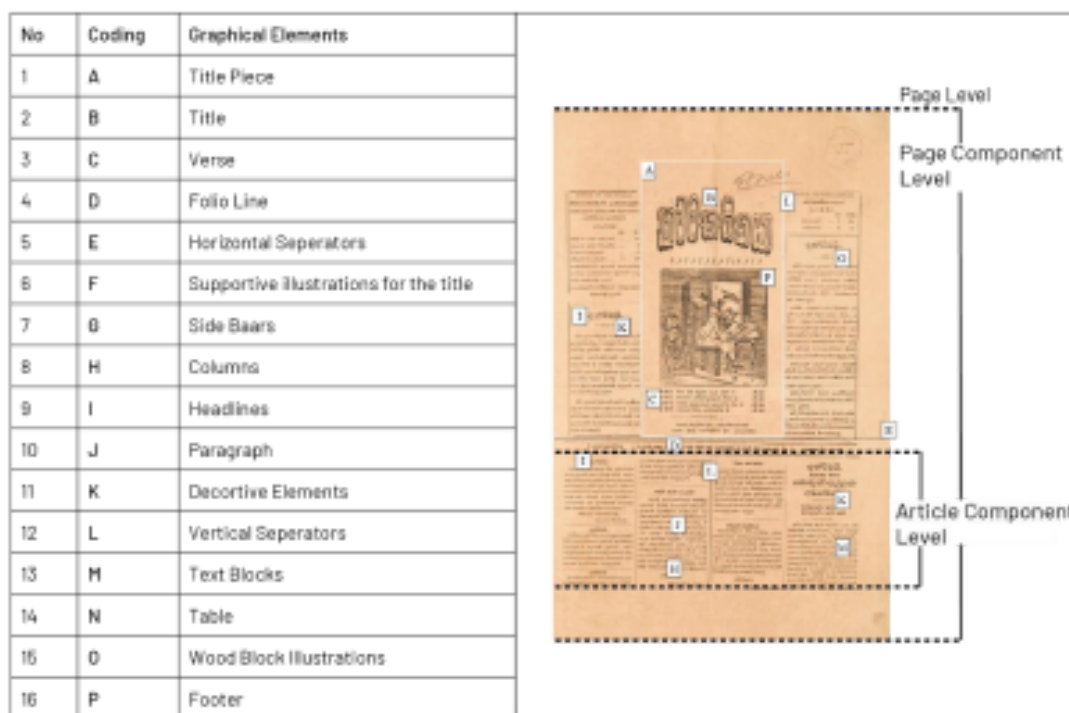
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III. Visual analysis of Sinhala newspapers

The "Page Level" is the initial level of a Sinhala newspaper's front-page hierarchy. Page-Level is a term that refers to the comprehensive examination of a page. The biggest 'level' of a structured document is the page itself. The second main block or the 'level' of a newspaper front page is the page component level. Every graphical element depicted in Fig.2 is included in this 'level'. The article level is the other main level and this can be considered as the body of the newspaper front page. The following Fig.2 provides a proper understanding of the graphical elements, which have been used in the earliest Sinhala newspapers. Considering the ease of the reader all the graphical elements are expected to be discussed further using the example newspaper 'Kawata Kathikaya'.

Decorative components and illustrations were not used in the first Sinhala newspaper, but newspapers gradually used decorative elements for the front pages. However, certain newspapers combine various decorative aspects into their layout to make them more visually appealing. Word "Art" is used in the newspaper industry as industrial slang to imply the usage of illustrations and decorative on newspaper pages. After observing the earliest Sinhala newspapers, the front pages of Sinhala newspapers can be identified as two variations: those with art and those without art. Therefore, there are two categories of earliest Sinhala newspapers 'with art' newspapers and 'without art' newspapers.

Figure 2
Graphical elements of a Newspaper Page ('Kawata Kathikaya' Sinhala newspaper)



Note. The figure was created by the author.

Illustrations and other art forms could be found on the front pages of most Sinhala newspapers after 1873. Newspapers such as 'Kawata Kathikaya' can be classified as 'with art' because, as depicted in Fig.3, the most famous and identical character, the 'Kawata kathika muththa' illustration, was incorporated over every publication of the 'Kawata Kathikaya' Sinhala newspaper. These graphics may assist the consumer in identifying the Sinhala newspaper, regardless of whether they are literate enough to read the title. These are mainly handcrafted

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and pressed on the layout.

Figure 3
'Kawata Kathika Muththa' illustration and bi-lingual title of the 'Kawata Kathikaya' newspaper

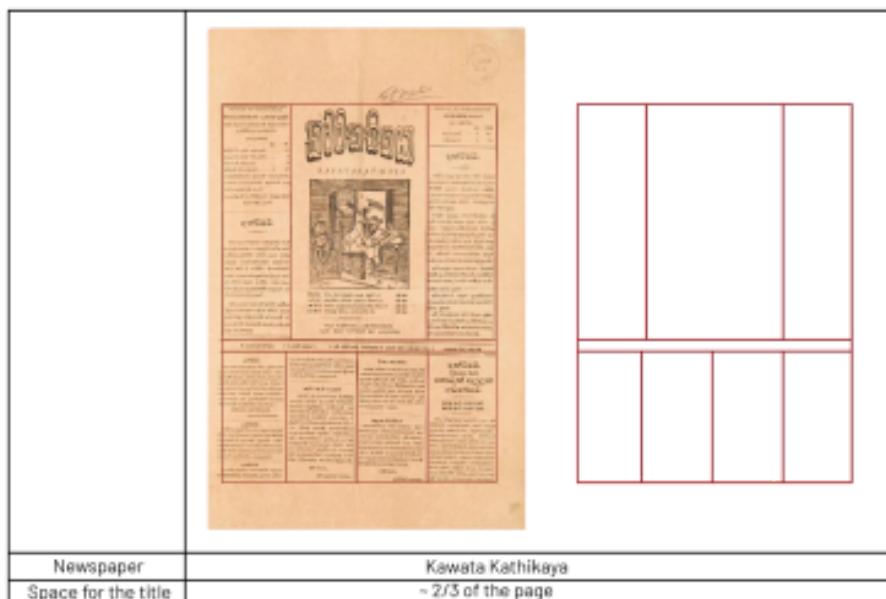


Note. The figure is sourced from the personal collection of Dr. Samarawikrama.

Many of the illustrations support the title and the newspaper genre. Sinhala newspapers were printed in black and white from the 1860s to the 1900s, with no usage of colour. Only black ink was used for the illustrations, and white space was used with its maximum potential.

The title piece always consists of a decorative typeface even though the front page is under the "with art" or "without art" category. The title is mainly bold and large, printed in two languages because Sinhala and English were the most used languages in the 19th century. However, all the pages have distinctive typefaces, which are particularly used for the titles and flags of these Sinhala newspapers. The title is always in the centre of the page, with the content scattered broadly over the split columns. Pleasant and effective illustrations support the title piece. Every illustration is related to the title, and it represents what the newspaper stands for. The upper section has not been divided into columns to allow for the inclusion of images.

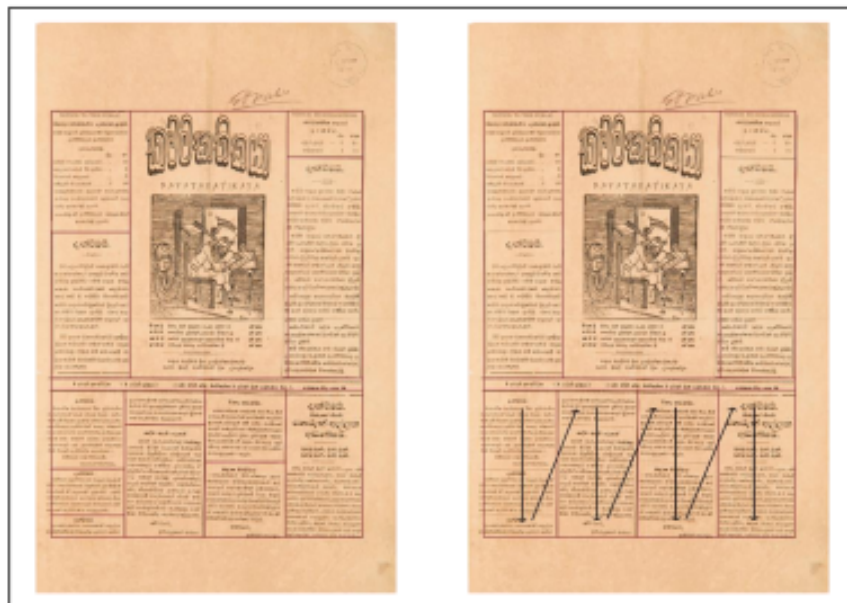
Figure 4
Split of columns and the space for the title of the 'Kawata Kathikaya' newspaper.



The title pieces, which have three columns divided as depicted in Fig.4, are made up of unequal column widths but equal size sidebars, from the left and right sides, with the title appearing in the centre of the middle section. The columns of the upper section are not in equal width to the columns of the bottom section. The front pages of Sinhala newspapers are primarily separated into two parts, divided horizontally as the title component level and the article component level (Fig.2).

Columns can be seen on every front page, and they are easily visible. Some columns are divided by drawn lines, while others are not divided by lines and merely have a small space between two neighbouring columns. From the 1860s through the 1900s, the majority of Sinhala newspapers had 3 or 4 columns. The front pages with the upper section are separated into three columns; the width of the two sidebars is equal and less than the column width left for the title piece. The title is distributed across the width of 3 or 4 columns at the bottom section of the page. However, the majority probably, the sidebars are the same width. The upper section of some newspapers is not divided into columns; instead, only the bottom is divided into columns. When the title piece is printed with a woodblock, it is possible to see these variations. The title and the woodblock illustration occupy the entire upper portion of the page. As a result, there are no divided columns visible in the upper section, only in the body of the article. The height of the bottom part of the newspaper is greater than the height of the upper section for the most part. Some newspapers do the alternative because the height of the upper section is greater than the height of the bottom section on some front pages.

Figure 5
Columns and the text placement of the 'Kawata Kathikaya' newspaper.



Another identified factor is that the article section of some newspapers is split into 3 columns that are unevenly spaced apart. The centre column has been combined with the two equal-sized columns on the right and left sides of the arrangement in the front-page layout. The compositor may implement this layout tactic to create a clear 'table' in the middle. After dividing the columns, the text was placed. The text placement is mainly done with the proper consideration of the readers. Text placement is a significant consideration in the layout of the front page. The proper placement of text attracts more readers to the newspaper. Most Sinhala newspapers adopt the safest mode to arrange text blocks and create a layout with sufficient

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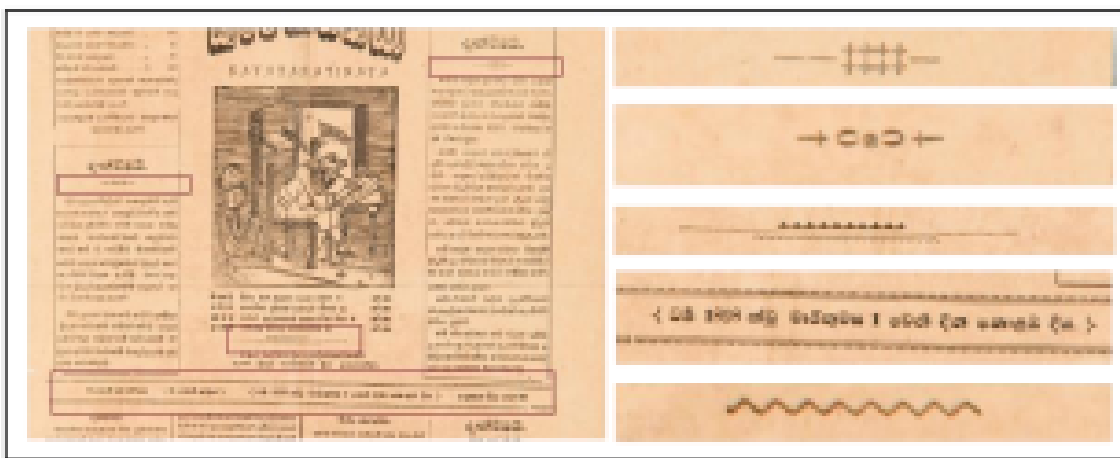
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breathing spaces.

The pages are mainly symmetrically balanced, and all the sections are split using separators; the space left between the blocks needs to be separated to make the layout visually pleasing. However, compositors were able to develop layouts that included art after the 1860s and before that simply relying on separators to compose the text. Sinhala newspaper's front pages consist of several blocks. There we can observe both horizontal separators and vertical separators. Most of the time, vertical separators are "Column separators," and they are straight lines from the folio line to the end of the columns. The accompanying Fig.5 demonstrates how vertical separators are applied on the front pages of Sinhala newspapers. There are linear horizontal and vertical separators on each of the front pages to split the sections, making the layout easier for the readers when there is no art on the newspaper's front page.

Figure 6
Vertical decorative separators used in the 'Kawata Kathikaya newspaper



Sinhala newspapers like 'Kawata Kathikaya' used decorative horizontal separators with different traditional motifs and decorations. Some Sinhala newspapers maintained a considerable amount of space between two columns of text. The spacing creates a separation. Horizontal separators are the most used and regularly used separators than vertical separators. The upper section of the newspaper front page is frequently separated horizontally into 3 or 4 rows. Horizontal dividers can be seen beneath the title to separate the title and the verse, under the verse to separate the verse and the folio line, and under the folio line, to separate the folio line from the article component level, which can be considered as the separator that divides upper section and bottom section of the Sinhala newspaper front pages. Separators in the upper regions are typically linearly spread from right to left. At the end of paragraphs and text blocks, the decorative separator is used to suggest "nothing more to present" on the relevant heading. Most Sinhala newspapers have a four-line verse. A folio line appears immediately after the stanza as depicted in Fig.6. The folio line contains the date of issue, initial publication date, batch number, price, and other relevant information. All these graphical elements are composed in one block, and the block which has the title can be considered as another 'level' because of the attention that was given by the ancient compositors when designing the title and surrounding graphical elements.

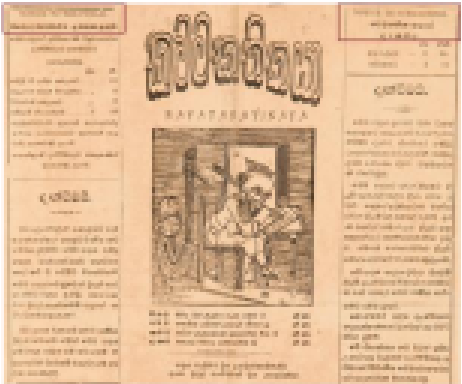
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Figure 7

Content of the sample sidebars and placement of a sidebar in the 'Kawata Kathikaya newspaper.

<p>Sidebars</p>	
<p>Newspaper</p>	<p>Kawata Kathikaya</p>
<p>Content of sample sidebars</p>	<p>Left sidebar ; Notice to the Public (සඳු ඇතා සිසිසි දැනට පලවේ)</p> <p>Right Sidebar ; Notice to Subscribers (සඳු ඇතා සිසිසි දැනට පලවේ)</p>

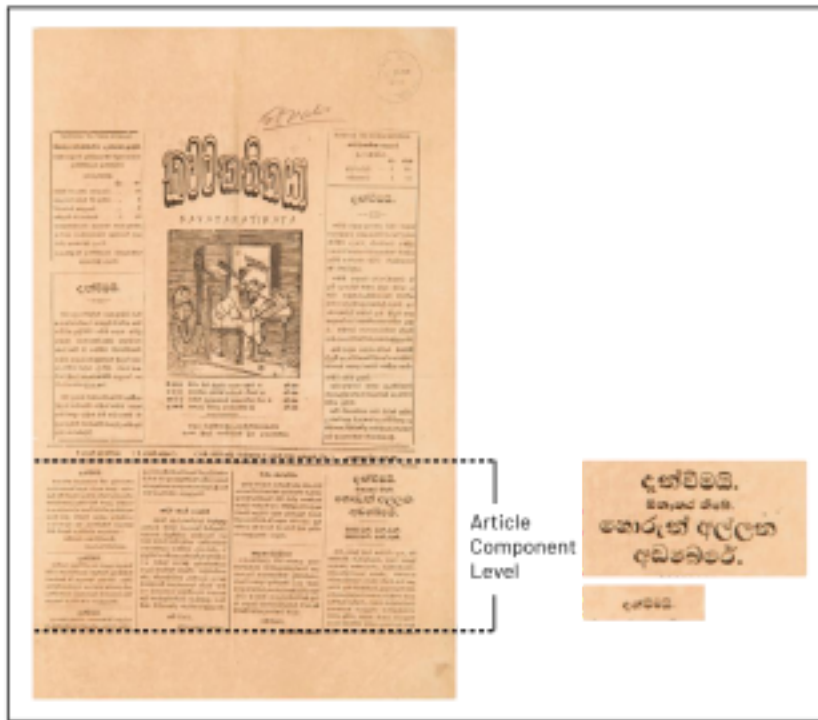
Sidebars are usually included in the front-page layout beside the title of a Sinhala newspaper. Sidebars generally margin the title piece and the title piece level. Sidebars were a regular practice in Sinhala newspapers before the title piece was printed with massive woodblock illustrations. However, although the first edition of the 'Lakminipahana' newspaper did not include sidebars, subsequent editions did. Sidebars give a steady feeling to every front-page layout. If the title piece is considered a decorative door for a Sinhala newspaper, the sidebars are the massive beams that steady it. Sidebars are often used to place notices from the newspaper management to communicate to a particular group of people. The heading of the sidebars is usually bi-lingual. These sidebars are a little narrower than the average column widths found in certain Sinhala newspapers, but the two sidebars are the same width. The sidebars are narrower than the column in which the title is placed. The headline is the exact point size as the other news blocks' headlines, and the body text of the sidebars is the same size as the body text of the articles.

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Figure 8
Headings only with Sinhala types' used in the 'Kawata Kathikaya newspaper



Headlines are a key graphical element used at the component level of an article. The use of bold and larger point sizes in the headlines helps draw the reader's attention to the content. Two different font sizes can be seen on most front-page articles used as the primary heading and subheading when observing the headlines in Sinhala newspapers. However, most newspapers continued a sentence as a subheading with a smaller point size than the main heading. There were different practices for using headlines in Sinhala newspaper articles. The headings can be differentiated from the body text because of the placement of the headings and the use of bold type. Earliest Sinhala newspaper headings have two categories: headings only with Sinhala types and bi-lingual headings. Another key feature is that the alignments of the headings are mostly done as centre alignment as in Fig.7 and in some newspapers the headings are justified. Headings are mainly in the category of slammers because there are two parts in a heading and this two-part head has a bold word or phrase that leads into a contrasting main head. Therefore, the subheadings are mostly equal in point size to the body text.

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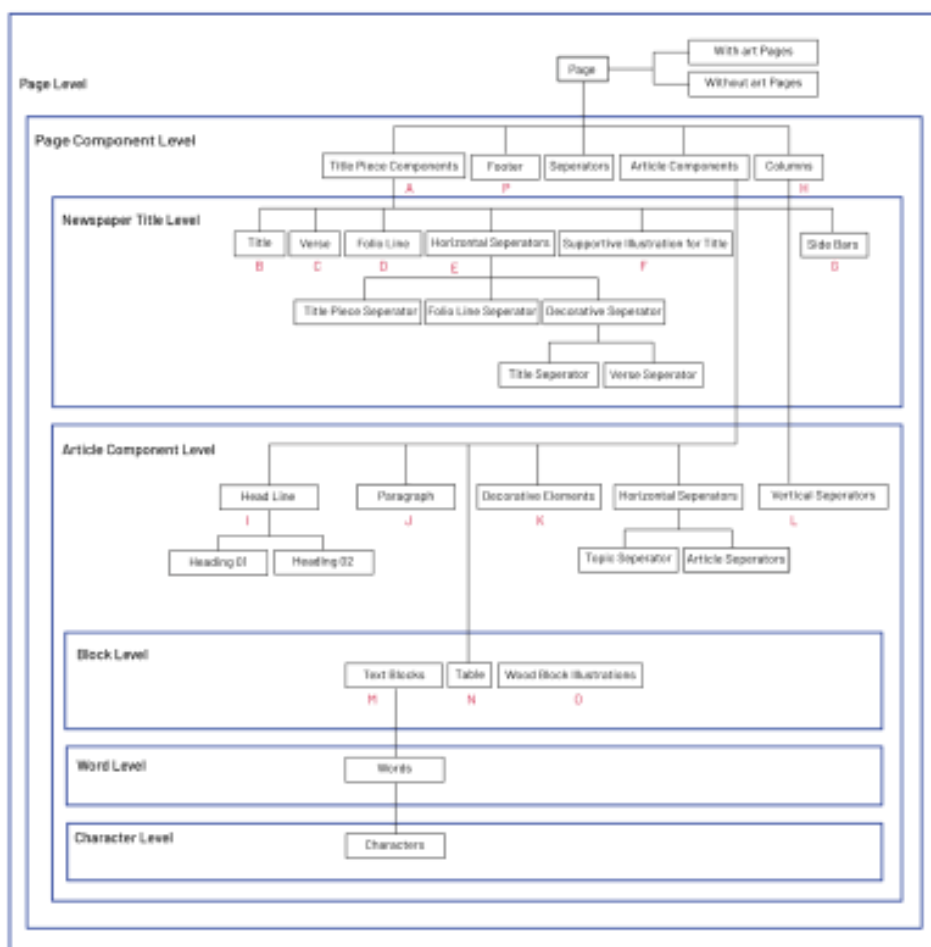
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Findings and Conclusion

Wieser & Pinz (2002) constructed a logical hierarchical level chart that discusses six levels of a structured document as depicted in Fig.1. The logical hierarchical level of Sinhala newspaper front pages deviates from the domain knowledge because when designing Sinhala newspapers, the ancient compositors divided the page into two main sections; upper block and bottom block. The title piece is designed very uniquely and identically for Sinhala newspapers. Therefore, a new logical hierarchical level can be implemented as 'Title Level'. When observing the block with the title thoroughly, the title block incorporates several graphical elements; for the selected period, this was a practice in most newspapers.

Figure 9
Logical hierarchical level chart implemented for earliest Sinhala newspapers



Nevertheless, using horizontal separators, the "Title Level" is more arranged as an individual level which is the only practice seen on Sinhala newspaper front pages. The title level is developed with the bi-lingual title of the newspaper, the 4-stanza verse, folio line, separators, and most newspapers have sidebars. Sidebars are a practice of newspapers that have been dividing the upper section into 3 columns. The newspapers that have the upper section divided into 3 columns incorporate the sidebars as a practice. Sinhala newspapers incorporating supportive decoration for the title and the 4-stanza verse are another graphical element found in the title level. Fig.8 developed after observing the Sinhala newspapers, summarises all the graphical elements found in Sinhala newspapers as included in the graphical hierarchical levels.

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Contribution

This research would benefit the Sinhala newspaper industry in Sri Lanka and the researchers interested in this field to understand the layout patterns of ancient Sinhala newspaper front pages to develop layout patterns and accompany the knowledge in the future. Apart from this, plenty of research opportunities exist within the past, present, and future Sinhala newspaper industry.

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