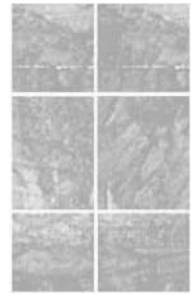# Design follows politics? The visualization of political orientation in newspaper page layout

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ABSTRACT

This article explores how the political orientation of newspapers is reflected in their page layout. The authors compare the layouts of five German national quality newspapers exemplarily and exploratively in a combination of quantitative and qualitative analyses. Dimensions of comparison are typography, size, colouration, quantity and arrangement of elements. Results show systematic differences between the page layouts of left-wing and right-wing newspapers. These differences are reflected in the contrast of traditional and contemporary styles and also in the use of ideologically charged typography and colours. In addition, the size of headlines seems to be dependent on political extremity. Graphic design seems to work as an ideological symbol system with different layout styles quite consistently representing partisan positions. If media users could come to learn and recognize such visual patterns, layout could function as a visual frame for political messages.

KEYWORDS

graphic design • layout • newspaper • political extremity • political orientation • visual framing

Research has outlined the importance of visual framing in the context of political communication (e.g. Barnhurst and Steele, 1997; Grabe and Bucy, 2009). So far, studies have mainly considered images in terms of photographs

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or videos (Barnhurst and Quinn, 2012). Meanwhile, the relationship between politics and graphic design has yet to be examined in the same depth. The present article tackles this route by focusing on newspaper page layout, i.e. the employment, arrangement and variation of different design parameters such as images, typography and colouration. It is assumed that newspapers' different political positions could be reflected in different layout styles.

We test this assumption by comparing the print layouts of the five key German quality newspapers. Differences between newspapers of different political orientations and commonalities between similar ones could have far-reaching consequences for political communication processes and for the research in this field. Recipients might learn that certain layout features are intertwined with political views. Political layout schemata could thus lead the processing of political messages from unknown sources, such as, for example, websites and weblogs with political content, or political advertising. That way, political connotations of graphic design could also interfere with the perception of media stimuli in experimental political communication research.

In the following, we give a brief overview of important influences on newspaper layout and continue to discuss political orientation as another factor associated with layout style. Subsequently, we will summarize potential consequences and forms of the visualization of political direction and political extremity in newspaper layout. Based on these theoretical considerations, we conduct a quantitative and qualitative analysis of the layout style of five German print newspapers. Finally, we discuss the implications of our findings for political communication research.

INFLUENCES ON NEWSPAPER LAYOUT STYLE

The literature on newspaper design outlines several structural and cultural factors that are shaping the visual form of newspapers. Most apparently, a newspaper's layout style goes along with (1) the *journalistic style of the newspaper*, such as, for example, tabloid (as defined by the journalistic style rather than the page format) or quality press (Schönbach, 2000: 66). Quality and tabloid newspapers differ considerably in terms of their visual style (Barnhurst, 1995: 22; Franklin, 2008: 637). From an historical perspective, newspaper design also depends on (2) *technological development* and the resulting possibilities and limitations for creating page layout (Cooke, 2005; Pasternack and Utt, 1995). Furthermore, newspaper layout is driven by (3) *the level of competition* with other media (Barnhurst and Nerone, 1991: 801–802) as well as with other newspapers (Barnhurst, 1995: 22; Franklin, 2008; Lo et al., 2000). A highly competitive market situation might, for example, lead to a more aggressive layout of the front page. Another factor is (4) the *structure of newspaper organizations*, for example, the significance of street sales, the size of the newspaper organization, the importance of the graphic department and the workflow (De Vries, 2008; Lowrey, 2003; Stone et al., 1978). Moreover, increasing (5)

professionalization results in more reader-friendly and better structured newspaper layout (Barnhurst and Nerone, 1991; Pasternack and Utt, 1995; Utt and Pasternack, 2003: 49). Beyond these organizational and structural factors, layout is also always an expression of taste. That means that (6) *historical aesthetic drifts* (Barnhurst and Nerone, 1991) as well as (7) *intercultural differences in aesthetics* (Barnhurst, 1995: 35; Ganje, 1998; Kong, 2013) have an impact on the look of newspapers. Many of these factors are interrelated – for example, competition is driving professionalization and vice versa.

As a result, newspapers have generally been developing towards a more contemporary design style during the last centuries. This so-called 'modern' style includes more colours, photographs and graphical elements, simplified headline typography, smaller formats and a rather horizontal, modular layout (Barnhurst and Nerone, 1991; Franklin, 2008: 637; Pasternack and Utt, 1995; Stone et al., 1978; Utt and Pasternack, 2003: 49). These general trends can be observed not only in the United States but also in other parts of the world (Lo et al., 2000; Nerone and Barnhurst, 2001). In addition, it has also been observed that newspapers strive for visual distinction from their competitors which leads some of them to use rather traditional design components (Utt and Pasternack, 2003).

Such graphical distinctions between different newspapers are of particular interest for the present study. Professional graphic design is not just about uniformly adopting current style conventions but about creating visual environments tailored to a *certain audience* (De Vries, 2008: 24) which 'reflect the culture and world view of the reader' (Ganje, 1998: 33). This visual adaption to the expected audience of an individual publication might also apply to readers' *political* world views. The following quote from a US newspaper editor points in this direction: 'Smaller papers usually cater to a conservative, less open-minded audience. People in smaller towns do not welcome change. Our paper is in the latter category, so any layout design we do mustn't be a jaw-dropper' (Pasternack and Utt, 1995: 8). Newspapers might adhere to a particular look in order to visually express their political identity and to correspond to aesthetic notions presumably appreciated by their target audience.

NEWSPAPER LAYOUT AS A VISUALIZATION OF POLITICAL ORIENTATION

Existing research suggests that the layout style of newspapers might be associated with their political orientation. Studies show that layout is used to highlight, understate, or connect pieces of content, and, therefore, to create certain interpretations (e.g. Barnhurst, 1994; Peled-Elhanan, 2009). There is also evidence for graphic design as a form of ideological expression through the use of particular styles and symbols: visual symbols such as flags play an important role for political and national identities of various kinds (e.g. Elgenius, 2011; Sviličić and Madlini, 2013). This seems to apply to graphic design as well. It has

been shown that French as well as Dutch election posters of major parties and niche/populist right-wing parties are designed differently, for example regarding their usage of candidate visuals and logos (Dumitrescu, 2010; Vliegenthart, 2012). Chan (2011) has demonstrated that the Singaporean government uses graphic design as an ideological tool for nation building. Colours, in particular (e.g. Gross, 2013; Schüler, 2006) and typefaces (e.g. Beck, 2006; Campbell, 2013) – which are essential design parameters in newspaper layout – can have political connotations. Taken together, this supports the notion that graphic design can function as a visual indicator of political meaning.

CONSEQUENCES OF A VISUALIZATION OF POLITICAL ORIENTATION IN NEWSPAPER LAYOUT

Researching the relationship of newspapers' graphic design and political orientation seems particularly relevant when we take into account that political connotations of newspaper layout could have considerable consequences. Studies yield support for various layout effects, for example, on readability (Kingery and Furuta, 1997) and on readers' design preferences (Bain and Weaver, 1979; Siskind, 1979). Moreover, it has been shown that the same newspaper content is evaluated differently depending on arrangement (Middlestadt and Barnhurst, 1999), contemporary or traditional design (Barnhurst and Ellis, 1992) and tabloid or quality paper design (Fichter and Jonas, 2008).

If newspaper layout reflected political orientation, continuous exposure over time might lead audience members to develop political layout schemata. As visual characteristics of media content are processed faster and remembered better than text (Hockley and Bancroft, 2011; Nelson et al., 1976), layout features could work as visual cues (Petty and Cacioppo, 1986; Posner et al., 1976) for presumed political tendencies. Layout could thus evoke visual framing effects (Entman, 1993; Grabe and Bucy, 2009) in the context of political communication. Layout cues could suggest a certain political leaning of an information source and – consciously or unconsciously – influence readers' interpretation of political messages. Moreover, political layout effects might also be consequential for experimental political communication research. Stimulus layout could induce political meaning against the original intention of the researcher and thus intervene with an experimental message variation. It therefore seems necessary to investigate whether newspapers' political orientations are visualized in their design.

FORMS OF VISUALIZATION OF POLITICAL ORIENTATION IN NEWSPAPER LAYOUT

When aiming to detect different forms of visualization of newspapers' political orientation in their layout, we have to recall that many other factors contribute to newspapers' graphic design. These factors interact with possible visualizations of political orientation. Political symbols such as colours

(e.g. Gross, 2013; Schüler, 2006) vary between different cultures and historical contexts. In the US party system, for instance, the colour blue was attached to the Republicans and red to the Democrats until the 1980s. Then the political colours were inverted so that red refers to Republicans and blue to Democrats today (Gross, 2013: 10).

This is why, in order to minimize competing explanations for observed layout patterns, it is necessary to analyse newspapers from one country and one period of time for a first exploration of political connotations within newspaper layout. This approach helps to keep the influence of the cultural and historical contexts constant. It thus increases the probability that observed layout commonalities and differences between newspapers can indeed be attributed to political orientation. On the downside, it is beyond the scope of such a study to identify universal layout characteristics of certain political orientations, which apply to different countries or historical periods. As a first fundamental step, however, it is the intention of the present research to explore whether politically charged layout characteristics can be observed at all.

Germany qualifies for this pioneer study for at least three reasons: (1) Germany has a sufficiently heterogeneous party and media landscape, most notably, its five nationwide quality newspapers cover a wide range of the political left–right spectrum; (2) whereas, for example, British and US newspapers have always been more market-oriented and varied in their political endorsements over time, newspapers in Germany were traditionally funded by the political parties and thus have strong and seemingly indissoluble political affiliations (Esser, 1999); (3) the German press landscape experienced a reorganization after the end of World War II. Most of the newspapers that exist today were founded under the Allies' supervision at about the same time in the late 1940s. This enhances comparability of their layouts since they all have a similarly long tradition.

Representations of political direction

Visualizations of political notions might particularly exist for the political left–right axis which serves as a universal and effective aid for communicating and processing political information across cultures (see, e.g., Jou, 2010: 366–370). The left–right dichotomy has also been shown to function on a very basic visual level: Austin (1977) compared the preference of left-wing and right-wing oriented Americans and Japanese for visual symbols of opposing values (e.g. order vs disorder or uniform vs variant). In addition to culture-specific visual preferences, he identified various symbolic contrasts associated with left-wing and right-wing attitudes which could be observed across both cultures. He concludes that 'aesthetic and political style are related' (p. 323). We, thus, ask *whether there are systematic differences in the page layouts of left-wing and right-wing oriented newspapers in Germany* (RQ1).

Political direction is often associated with modernism (left-wing) or traditionalism and conservatism (right-wing) (Thorisdottir et al., 2007).

Furthermore, supporters of left-wing parties tend to be younger than those of right-wing parties (Jung et al., 2013). Left-wing newspapers might therefore display a rather contemporary layout style and right-wing newspapers a more traditional one. This could especially be visualized through typography: serif typefaces date back to the renaissance epoch (15th/16th century), when they were developed in the tradition of the Romans. In contrast, sans serif typefaces emerged in the 19th century during industrialization and were idealized as modern typography (Hammer, 2008: 256). Today, digital media outlets mostly use sans serif typefaces since they are regarded as more easily readable on screens (Bernard et al., 2003). Taken together, it can be assumed that serif typefaces give a rather traditional impression while sans serif typefaces seem rather contemporary in appearance.

In Germany, blackletter has a specific historical and political background. Until the 20th century, there were fights about whether to use the cosmopolitan Antiqua or the 'German national script', which was a symbol for national identity and therefore strongly endorsed by conservative politicians. Later, blackletter was intensely promoted by the Nazi regime and suddenly banned in 1941 (Beck, 2006). Since then, it has never been used regularly in Germany, but can still be found on some newspaper titles. Hutt (1946) describes a similar connection between traditional blackletter logos and political conservatism for English newspapers. Typography can of course carry meaning in many more respects than a traditional or contemporary appearance (see, e.g. Van Leeuwen, 2005). In the present study, however, we concentrate on the traditional–contemporary dimension which seems to be strongly related to political direction. Moreover, through typography, a contemporary newspaper style can also be characterized by more colours and photographs, smaller page formats and a rather horizontal, modular layout (Barnhurst and Nerone, 1991; Franklin, 2008: 637; Pasternack and Utt, 1995; Stone et al., 1978; Utt and Pasternack, 2003: 49). In light of these differences, we ask *whether the page layouts of left-wing oriented newspapers reflect a more contemporary design style than those of right-wing oriented newspapers* (RQ1a).

The application of colours exceeds the traditional/contemporary distinction. Specific colours bear quite distinct political meanings that vary between cultures. For example, the red/blue dichotomy works as an heuristic for states and individuals supporting the Republican Party (red) or the Democratic Party (blue) in the US (Gross, 2013). In contrast, in Germany, as well as in many other countries, the colour red is strongly linked to left-wing politics (Schüler, 2006). The colour green has in recent times also become a symbol for a certain kind of left-wing politics in the context of the ecofriendly movement of the 1980s. In many countries, there is even a left-wing party named after the colour green (*Die Grünen* in Germany). On the other hand, the large conservative party CDU is colloquially called 'black', which dates back to its clerical origins. In the light of these connotations, we ask *whether*

there are differences in the application of specific colours between left-wing and right-wing oriented newspapers (RQ1b).

So far, it has been argued that many design differences between left-wing and right-wing oriented newspapers should probably be related to the use of a more contemporary or more traditional design (RQ1a) or might be related to the political connotations of specific colours (RQ1b). In addition, there could be other layout features that vary in line with newspapers' political direction. Since the present study is the first to investigate political patterns of newspaper layout, it necessarily follows an explorative approach. This demands a general openness for the empirical detection of layout variations which have not been conceptualized a priori. Therefore, we ask *whether there are further differences of newspapers' page layouts between left-wing and right-wing oriented newspapers* (RQ1c).

Representations of political extremity

Political orientation can be regarded not just in terms of political direction, but also regarding political extremity, i.e. the degree of deviation from the political centre (Jost et al., 2007). While political direction could be represented through traditional or contemporary layout, political extremity could be associated with a more obtrusive design (see Toner et al., 2013), for example with larger images or headlines. Both dimensions of political orientation should be regarded separately when it comes to their possible representation in newspaper layout. We therefore also ask *whether there are features of newspapers' page layouts that differ in accordance with the political extremity of newspapers independently of political orientation* (RQ2).

METHOD

Sample

As well as a large number of regional newspapers, there is also a smaller number of prestigious and influential nationwide quality newspapers in Germany (Pürer and Raabe, 2007). The five most important ones are included in the present study, namely *die tageszeitung (taz), Frankfurter Rundschau (FR), Süddeutsche Zeitung (SZ), Frankfurter Allgemeine Zeitung (FAZ)* and *Die Welt*. At the time of the study, far more Germans were regularly using print newspapers (64%) as a source of political information than, for example, online news portals (32%), making them the second most important source after television (Bernhard et al., 2014).

As explained above, a sample from one country and one period of time was chosen for this pilot study in order to prevent results from being confused with possible historical and cultural influences. In this context, it is important to note that the selected newspapers were all established in the 1940s with *taz* (founded 1979) being the only exception (Stöber, 2005). At the time of the study, all newspapers had conducted their most recent layout relaunch within

a period of 5 years (*taz*: 2009; *FR*: 2007; *SZ*: 2012; *FAZ*: 2007; *Die Welt*: 2010). For the sake of comparability, we refrained from adding 'tabloid' newspapers such as *Bild* to the sample as their obtrusive design is hardly comparable to quality newspapers (Barnhurst, 1995: 22; Franklin, 2008: 637).

Unlike tabloid and local newspapers, the few nationwide quality newspapers in Germany can be clearly located on a left–right axis: Lüter (2008) coded the political propositions of 11,024 quality newspaper commentaries and calculated mean scores of the newspapers' political positions on the basis of these results. The applied scale reaches from 1 (strongly left wing) to 3 (strongly right wing) with $M = 1.54$ for *taz, M = 1.58* for *FR, M = 1.81* for *SZ, M = 2.32* for *FAZ* and $M = 2.40$ for *Die Welt* (p. 140). With these position values in mind, it is possible to interpret findings on differences in news design features between newspapers.

The body of material in our quantitative analysis is composed of the five selected newspapers' politics sections for one constructed week (Riffe et al., 1993) from the first quarter of 2014. In order to retain comparability, we omitted weekend editions from the sample because they often apply a more magazine-like layout style. We also only considered politics section content. At first sight, it seems counterintuitive not to include front pages in the quantitative analyses. But contrary to other pages, front pages are mainly designed to attract attention and to achieve recognition at the point of sale. This is why each newspaper tries to give its front page a unique look. However, our study aims to detect layout similarities between newspapers of a similar political orientation. We thus focused on the layout features inside the politics section that frame most of the political newspaper content. But we also qualitatively considered the front pages in respect of the newspapers' logos and page formats. Taken together, the sample for the quantitative analysis contains 332 articles and 256 images that are drawn from 121 different pages.

Measures

The term 'page layout' describes the composition of style and arrangement of textual, graphical and image elements on a newspaper page, including typography and colouration but also the ratio and variation of sizes and quantities. As there are no standards to analyse and compare these constructs quantitatively, we began with deriving categories from practitioners' layout literature and transformed them into measurable or countable features. These included sizes (e.g. of fonts), numbers (e.g. of colours), areas (e.g. of images) and the proportions of quantities and lengths (e.g. the aspect ratio of the width and height of articles).

The units of measurement vary according to the respective feature: applied units consisted of length units, area units and quantities. The measures are based on different levels of analysis. Whereas some layout features have to be considered for the page layout as a whole, e.g. coloured elements per page, others can be regarded for single articles, e.g. font size of headings. Short news

items were not considered in this context. Images were also treated as separate units of analysis because some articles contain more than one image. The following measures were examined on the different levels of analysis:

(A) Pages: in order to quantify the usage of typeface we calculated (1) the *proportion between non-serif and serif headings*. For this purpose, we counted how many non-serif and serif headings (including subheadings, cross headings and section headings) appear on each page. Then we divided the number of non-serif headings by the total number of headings. We also counted (2) the overall *number of coloured elements* per page (such as coloured headings, lines or bullet points) and the *number of elements in the particular colours* (3) *red* and (4) *green* per page.
(B) Articles: on the level of single articles we measured (5) the *font sizes of headings*, (6) *subheadings*, (7) *cross headings* and (8) *initial capitals*. Furthermore, we counted (9) the *number of initial capitals per article*. Initial capitals are larger letters at the beginning of a text or a paragraph. We also counted (10) the *number of images per article*. Finally we calculated (11) the *aspect ratio* of every article, i.e. the proportion between width and height of the article. This ratio indicates how the grid system is filled and therefore if the content is arranged vertically or horizontally.
(C) Images: we calculated (12) the *size of the image in terms of its area* (i.e. the relation between image width and height) and again (13) the *aspect ratio* of width and height for each image.

Analyses

In order to test for differences in page layout between newspapers, we calculated a series of analyses of variance (ANOVAS) with newspaper titles as the independent variable and measured layout features as dependent variables. In order to explore differences and commonalities between the different newspaper titles, we conducted post-hoc tests for all analyses of variance. Since Levene's tests indicated that an equality of variances within the groups could not be assumed for the tested layout features, we relied upon Tamhane's T2 post-hoc test procedure. Results of these tests thus help us to distinguish between layout features that vary in line with political direction, features that vary in line with political extremity, and those that do not vary in terms of political orientation.

Occasionally, newspapers had to be excluded from the analyses since certain layout features were constant for all of their pages, articles, or images. In cases of variance only between two newspapers, *t*-tests were carried out. To get the complete picture, however, we also consider the values of the parameters without variance when interpreting the results.

The results section combines these quantitative statistical analyses with qualitative observations of the different page layouts. Although preliminary explorations revealed that many layout features are quantifiable, not all differences between newspapers can be detected through quantitative analysis.

For instance, differences in newspaper logo design are hardly describable with standardized measures. The analysis also considers basic layout characteristics such as page format or the number of columns per page. These layout features are not comparable statistically as they do not vary between pages or issues.

RESULTS

Table 1 shows the means and standard deviations for the analysed layout features and newspaper titles. Some of the analysed layout features, such as the aspect ratio of articles and images, do not significantly differ between any of the five newspapers. Furthermore, all newspapers employ five or six columns with – in relation to the different formats – similar widths. In all newspapers, continuous text is justified and features serif typefaces in the same font size. Also, page margins are of similar width in all five titles, which means that the ratio of printed space and overall page format is equal. There are also layout features that do differ significantly between newspaper titles but neither can be interpreted as a variation in line with political direction nor with extremity. This is the case for the quite small differences between font sizes of subheadings as well as cross headings. Also, observable differences of image size and of the number of images per article do not follow any pattern of political orientation.

However, other layout features do vary in line with the political direction of the newspapers (RQ1). Some of them can indeed be interpreted as instances of contemporary and traditional design styles (RQ1a). Starting with typography, ANOVA results show a significant effect of newspaper title on the proportion of serif typeface headings on a newspaper page (as compared to all headings) ($F = 53.114$; $p \leq .001$; $df = 4$; $\eta^2 = .647$). The two right-wing newspapers contain significantly less sans serif headings than the left-wing newspapers according to Tamhane's T2 post-hoc test results.[1] With the exception of *SZ*, the usage of sans serif headings appears to increase gradually with left-wing orientation. *SZ* is quite a special case here: it does not vary typefaces much within one section, but, contrary to the others, between sections. While *SZ* employs non-serif headings in its politics section, its arts section features serif headings. We have only analysed the politics section. The amount of sans serif headings should thus be smaller within the entire *SZ* than our results suggest. This additionally supports the assumption that the use of sans serif headings increases with left-wing orientation. As illustrated above, serif typefaces are rather traditionally connoted and sans serif typefaces give a rather contemporary impression. The employment of more sans serif headings in left-wing newspapers can therefore be interpreted in line with our expectation that left-wing newspapers employ a more contemporary layout style.

The number of initial capitals (larger letters at the beginning of a text or paragraph) per article is also influenced by newspaper title ($F = 93.933$; $p \leq .001$; $df = 4$; $\eta^2 = .328$). The most right-wing paper *Die Welt* contains by far the

Table 1. Means and standard deviations of layout parameters between newspaper titles (arranged from left-wing to right-wing orientated).

	taz (%)	FR (%)	SZ (%)	FAZ (%)	Welt (%)
Pages					
Non-serif headings/all headings	0.85 (0.13)	0.44 (0.22)	0.75 (0.09)	0.21 (0.23)	0.17 (0.30)
Coloured elements per page	5.90 (1.08)	1.30 (2.48)	0.53 (0.51)	0.13 (0.34)	–
Red elements per page	2.79 (0.73)	1.22 (2.47)	–	0.13 (0.34)	–
Green elements per page	0.55 (0.51)	0.04 (0.19)	0.53 (0.51)	–	–
Articles					
Font size of headings (cm)	8.39 (1.51)	7.82 (1.26)	6.05 (1.26)	6.81 (1.84)	8.83 (1.75)
Font size of subheadings (cm)	3.00 (–)	3.50 (0.51)	3.00 (–)	3.36 (0.48)	4.00 (–)
Font size of crossheadings (cm)	3.00 (–)	3.00 (–)	3.00 (–)	–	4.00 (–)
Font size of initial capitals (cm)	10.00 (–)	6.00 (–)	9.00 (–)	9.14 (2.97)	13.48 (4.12)
Initial capitals per article	0.01 (0.12)	0.65 (0.48)	0.02 (0.12)	0.15 (0.58)	1.17 (1.23)
Images per article	0.64 (0.59)	0.73 (0.78)	0.62 (0.72)	0.47 (0.73)	1.28 (1.80)
Aspect ratio (width/height)	1.29 (0.68)	1.28 (0.75)	0.91 (0.81)	1.07 (1.07)	1.15 (0.95)
Images					
Area (cm^2)	81.18 (56.90)	175.46 (145.01)	150.65 (127.12)	176.99 (158.77)	121.84 (133.67)
Aspect ratio	1.24 (0.36)	1.26 (0.59)	1.26 (0.42)	1.26 (0.46)	1.30 (0.49)

most initial capitals, differing significantly from all other newspapers as the post-hoc test shows. Left-wing *FR* still features some initial capitals differing significantly from the other three newspapers. Left-wing *taz* and *SZ*, in particular, hardly contain any initial capitals. This seems rather unsystematic at first sight. However, it should be interpreted in conjunction with the font size of initial capitals. Since some newspapers featured so few initial capitals or only initial capitals with the same font size, the means could only be statistically compared for the two right-wing newspapers. A *t*-test shows that the most right-wing *Die Welt* features significantly larger initial capitals than right-wing *FAZ* ($t(9.297) = -3.460$, $p = .007$). Looking at the other values qualitatively, we see that *Die Welt* features the largest initial capitals of all newspapers and that, although left-wing *FR* contains relatively many initial capitals, they are quite small. This means that left-wing papers either use very few or rather small initial capitals. Within right-wing papers, initial capitals tend to be more visually salient in terms of their number as well as their size. Initial capitals originate from medieval scriptoriums, which is why they are very common in clerical publications (Hammer, 2008: 322). Therefore, they not only look rather antiquated, but may be more consistent with the traditions of conservatism. The more distinct usage of initial capitals in right-wing newspapers could, thus, also be interpreted as the expression of right-wing orientation through traditional layout style.

Looking at the logos qualitatively, we can see that they also reflect the type characteristics of the page layout analysed above. As shown in Figure 1, right-wing newspapers' logos are designed in rather traditional typefaces. *Die Welt* employs a classical Roman type and *FAZ* even uses blackletter typeface. In contrast, left-wing papers *SZ, FR*, and *taz* apply more individual and contemporary fonts that were designed in the 19th century and the second half of the 20th century (Hammer, 2008: 217–218).

Taking a look at the newspaper formats, we see that the two most left-wing papers employ smaller page formats. *Die Welt, FAZ* and *SZ* use the 'Nordisch' broadsheet format (570 x 400 mm) while *taz* uses the almost-tabloid 'Berliner' format (470 x 315 mm) and *FR* uses a tabloid format (430 x 280 mm), although it is a quality ('broadsheet') newspaper in terms of its journalistic content (and layout style). As mentioned above, smaller newspaper formats for quality papers can be regarded as a more recent trend (Franklin, 2008). *FR* changed from the Nordisch format to tabloid in 2007 to be more 'contemporary' after market research results showed that young readers in particular are attracted by the smaller format (*Frankfurter Rundschau*, 2007). Thus, the smaller formats of the two most left-wing papers again point to aspirations of employing a more contemporary design approach in comparison to moderate left-wing *SZ* and right-wing *FAZ* and *Die Welt*.

In the case of the quantity of coloured elements per page such as fonts or lines (excluding coloured images) which can be regarded as a further characteristic of a contemporary design style, we had to exclude most right-wing

Figure 1. Front pages of the analyzed newspapers from most left-wing (die tageszeitung) to most right-wing (Die Welt, not shown here[2]).

Die Welt from the ANOVA as it features no coloured elements at all. The most left-wing paper, *taz*, contains by far the most coloured elements ($F = 88.549$; $p \leq .001$; $df = 3$; $\eta^2 = .741$), differing significantly from the remaining three newspapers. But there are also apparent although not always significant differences among the other newspapers. Taken together, left-wing newspapers apply more as well as more vivid colours such as strong reds, greens and cyans. While the most left-wing paper, *taz*, makes extensive use of all three of them, the most right-wing paper *Die Welt* employs no coloured design elements at all within its politics section. This, again, implies that the political left–right difference between newspapers visually manifests itself in a traditional–contemporary contrast.

Moreover, the most left-wing *taz* uses red elements significantly more often than *FR* and *FAZ* ($F = 20.958$; $p \leq .001$; $df = 2$; $\eta^2 = .352$). *SZ* and *Die Welt* contained no red elements at all and were therefore excluded from the analysis. This can be interpreted not just as a contemporary layout style but

has to be seen against the background of the left-wing political connotation that traditionally accompanies the colour red (RQ1b). Left-wing *FR* uses not significantly but still considerably more red elements than the other newspapers, which hardly do so at all. Green elements could only be statistically compared for the left-wing newspapers and are significantly more frequently used by most left-wing *taz* and by left-wing *SZ* ($F = 12.361$; $p \le .001$; $df = 2$; $\eta^2 = .261$). While left-wing *FR* employs at least some green and features a green logo, the right-wing papers did not comprise green elements at all. The same is true for the logos of the other newspapers: as shown in Figure 1, left-wing papers make use of the colours red and green in or around their logos while the logos of the right-wing papers are less colourful. As explained above, in Germany, red is strongly linked with left-wing politics and green symbolizes the left-wing ecofriendly movement. The most important conservative party in Germany is on the other hand called 'black', referring to its clerical origins. Decisions as to whether to use colour and, if so, which ones to apply in the page layouts of German newspapers seem thus to reflect associations between colour and political ideology.

Regarding further layout features that differ between left- and right-wing newspapers (RQ1c) we find a difference in the use of capital and small letters in the logos: while the logo of the most right-wing paper *Die Welt* is completely written in upper case letters, the most left-wing paper *die tageszeitung* uses only lower case in its logo, which is particularly notable because, in the German language, nouns are always capitalized (therefore 'Die Tageszeitung' would be correct). This spelling is related to an ideological discourse from the past. In 2004, Springer Verlag (which issues *Die Welt*) and *FAZ* boycotted the German orthographical reform of 1996 by reverting to traditional spelling. Subsequently *taz*, which already used their lower-case logo, published one issue completely in so-called moderate lower case which was not even a part of the reform. *taz* argued that they had decided to 'move forward' beyond the reform instead of taking the side of the other newspapers which, in their opinion, were fighting a 'conservative culture war'. They considered their lower case issue to be a 'constructive contribution' to this debate which shows how spelling could be simplified in the future (taz.de, 2004). This is an example of how strong but even small layout features can be ideologically charged.

Results also show that one layout feature varies in line with political extremity (RQ2): the size of headlines. Headlines in the most right-wing paper, *Die Welt*, have a significantly larger font size than the more moderate *FR, SZ* and *FAZ* ($F = 34.596$; $p \le .001$; $df = 4$; $\eta^2 = .297$). The headlines of the most left-wing newspaper, *taz*, still differ significantly from *SZ* and *FAZ* though not the left-wing *FR*.[3] These differences take on particular significance when considering that *taz* employs larger headlines even though it uses a smaller format than *FAZ* and *SZ*. *Die Welt* exhibits a tabloid-like layout in several aspects (more images, larger headings and subheadings) even though it does not have a tabloid page format. On the other hand, *taz* has a much less

tabloid-like layout but nevertheless employs larger headlines. As argued above, larger headings may distinguish the particularly strong opinions of more extreme papers from the rather moderate papers. This makes it plausible that the size of headlines is in fact correlated with political extremity.

DISCUSSION

We have analysed whether and how the political orientation of newspapers, i.e. their political direction and political extremity, is reflected in their layout. Regarding political extremity (RQ2), we have merely identified the font size of headlines as a dependent layout feature. However, future research should try to explore the relationships between layout and political extremity more comprehensively. Such U-shaped relationships between the newspapers' positions on the left–right axis and their layout might become more apparent if politically more extreme newspapers from outside the mainstream (e.g. the leftist German newspapers *Junge Welt* and *Neues Deutschland* or the right-wing weekly *Junge Freiheit*) were included in the sample.

On the other hand, results show a large number of correlations between layout features and political direction, i.e. left- or right-wing orientation (RQ1). This most notably includes typography and colouration. The ideological left–right difference manifests itself mainly (but not only) in a visual contrast between traditional and contemporary layout (RQ1a). Right-wing newspapers adhere to a rather classic newspaper style while left-wing newspapers tend to follow recent trends and use a rather contemporary layout. Essentially, they more often employ sans-serif fonts, less or smaller initial capitals, make use of more colours and feature smaller formats. Apart from this traditional–contemporary contrast, we have also detected layout differences directly referring to politics: these are the (enhanced) application of the colours red and green within left-wing papers (RQ1b) and the use of lower case within the logo of the most left-wing *taz* (RQ1c). The employment of more and larger initial capitals in right-wing papers and the blackletter logo of *FAZ* might – in addition to its traditional appearance – also be interpreted in this manner: both are associated with clerical publications and therefore Christianity, which is related to political conservatism (Mohseni and Wilcox, 2009).

Since all examined newspapers except *taz* were established at about the same time, the correlation of their political orientation with a rather traditional or contemporary layout style cannot be attributed to the newspapers' duration of existence. As argued above, a more classic look seems to be related to a more right-wing political direction and a more contemporary style conversely to a left-wing political direction. Certainly there are also contemporary layout elements in more right-wing newspapers, but the bigger picture looks as if they were following design trends with a distinct delay. When, in 2007, left-wing *FR* shifted to the smaller tabloid page format – quite a novelty for quality papers – *FAZ* was only just abandoning blackletter headings

(*Frankfurter Allgemeine*, 2007), which had already been out of fashion for more than 50 years.

To sum up, results indicate that there are, indeed, newspaper layout features that can be regarded as characteristic for different political orientations. This conclusion supports the assumption that newspaper design or graphic design in general can function as a symbol system for ideology and political culture. It is remarkable how accurately the expressions of some layout features are associated with the newspapers' positions on the left–right axis. It seems that designers use layout as a kind of visual language. This finding leads to three different fields of study which should be explored by future research:

(1) Future studies should try to explore designers' motivations behind the selection of layout features. Designers could for example try to fulfil the needs of their target audience or even consider possible layout effects on the audience. They might also act according to the traditions and requests of their publishing house, cooperate and take inspiration from other designers, and/or try to match design and content.

(2) Our findings also raise the question of the degree to which recipients consciously identify the observable visual language of political orientation. Thus, future studies should address the effects of how specific layout patterns influence the perception and evaluation of political media content. It should first be explored whether layout is understood as conveying a political message. Then, studies should examine how such a visual framing through layout influences the processing of political messages – and what effects it could have as an intervening factor in experimental research on political media effects (for a first study see Schindler, Krämer and Müller, 2017).

(3) Finally, more research needs to be conducted on the correlations between layout elements and political orientation itself. The present study has its limitations in this regard. First of all, graphic design derives its meaning in complex and multiple ways. The mainly quantitative approach we applied allowed us to provide a systematic comparison of different newspaper layouts. Its results should however be complemented by further qualitative work that can contribute a more holistic approach to the relationship between graphic design and political orientation. In addition, the sample in this study is limited to German quality newspapers. A sample consisting of five newspapers from the same country is rather small. This was necessary to keep genre- and culture-specific layout patterns constant in a first exploratory step. Now, future analyses should engage in extending the sample. Further research should explore to what extent the political layout patterns derived from this study apply to other newspaper genres, completely different media channels, and to countries other than Germany. Moreover, future studies should also examine the development of ideological layout patterns over time. Most importantly, however, future research should investigate whether and how political orientations are visualized in digital media. Websites and smartphone apps become increasingly important as sources of political information whereas printed newspapers have already lost significant parts of their readership.

However, we are convinced that this development does not reduce the significance of the present findings. The leading information sources on the internet are websites and apps of traditional newspapers that have already existed offline. The print layout is the origin of these newspaper brands' visual identities. Its exploration therefore helps to understand political layout patterns that might be observable online. Taken together, we are confident that the present research lays the foundations for future studies and contributes to a better understanding of the relationships between political culture and layout.

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NOTES

1. The post-hoc test also indicates a difference between the three left-wing titles: *taz* and *SZ* use significantly less serif headings than *FR*.
2. *Die Welt* declined free permission for reuse.
3. *FR*, SZ and *FAZ* also differ significantly from each other in the font size of their headlines.

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