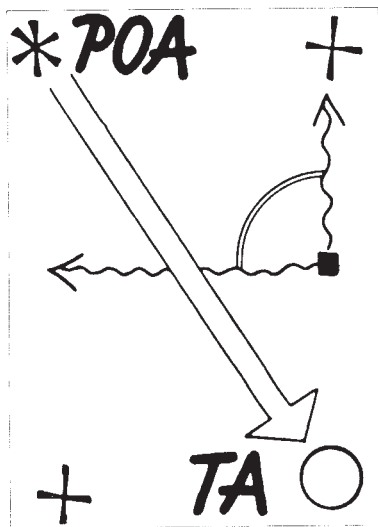


Wheildon, Colin

Communicating or just making pretty shapes

Newspaper Advertising Bureau of Australia, Sydney, 1990

Figure 5



GUTENBERG DIAGRAM charts basic reading eye movement from the Primary Optical Area (POA) to the Terminal Anchor (TA). Crosses indicate fallow corners and arc of wavy lines shows "backward" movement that reading eye resists.

When we're taught to read, we're told to start at the top left corner of the reading matter and work our way across and down, going from left to right and back again, until we reach the bottom right corner.

Arnold has devised what he calls the Gutenberg Diagram, illustrated in **Figure 5**, the principles of which, he says, all design should respect.

He says the eyes fall naturally to the top left corner, which he calls the Primary Optical Area (POA). Then, the eyes move across and down the page, obeying reading gravity, and returning after each left-to-right sweep to an axis of orientation.

Any design which forces the reader to work against reading gravity, or fails to return him or her to a logical axis of orientation, tends to destroy reading rhythm and should, he asserts, be outlawed.

But the question is: is Arnold right? Where is the research that quantifies his assertions? And what of all the other maxims, axioms, and unwritten laws of printing and design that are handed down from printer to apprentice, from editor to cadet, from creative or art director to advertising trainee, like tablets of stone?

Where's the research that quantifies the supposed supremacy of serif body type over sans; of lower case headlines over capitals? And are headlines in spot colour really counter-productive, and to what extent?

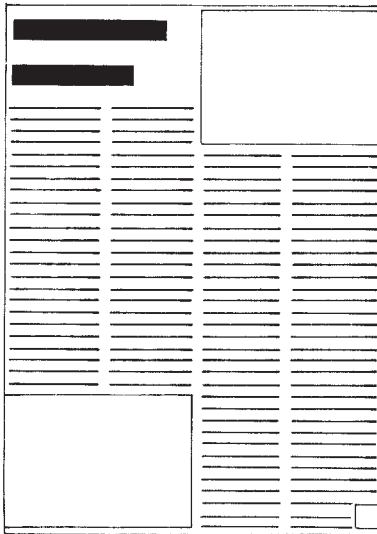
Much work has been done on research into the legibility of type faces, particularly in the early part of this century. But very little appears to have been done outside the laboratory, and more importantly, among those who buy and consume the printed word.

After a fruitless six-month search for detailed research material, I determined to conduct my own research programme into the comprehensibility of reading matter, in an attempt to isolate and measure those type elements which, when used in apparently ill-considered ways, could deter, disenchant, or even antagonise the reader.

Before doing so, I sought the advice of research consultants and academics in the United States, Britain, and in Australia, and submitted my proposed methodology, and later the results, to them for reservation, comment or dissent. The consensus: that the study was both valid and valuable for students and practitioners of typography and graphic design.

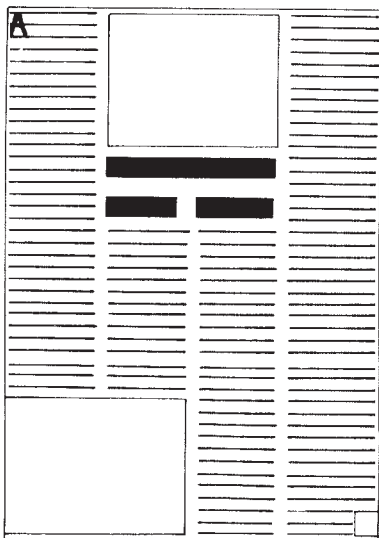
1. The perils of ignoring gravity

Figure 6



A layout which acknowledges reading gravity.

Figure 7



A layout which ignores reading gravity.

The first precept examined was the positional relationship of headlines to body matter: whether the irregular placement of headlines could cause a break in reading rhythm strong enough to affect the reader's concentration.

The layout in **Figure 6** complies with Arnold's Gutenberg Diagram. It was contrasted with a layout, shown as **Figure 7**, which defies the principles he has enunciated.

On any page where there is writing or printing, the starting point is the upper left corner. Here the eye, trained from babyhood, enters a page, and here it must be caught by an attention compeller. When the eye reaches the lower right corner, after scanning across and down progressively, the reading task is finished. Reading gravity doesn't follow a straight line; it moves to right and left, and has to be lured to what are called the fallow corners by optical magnets, usually illustrations.

The eye does not willingly go against reading gravity, with the obvious exception that, having read a line of type or writing, it returns to the beginning of that line to begin the succeeding line.

The point to which the eye returns, automatically, is the point at which the preceding line began. Any variation from this causes an interruption to reading rhythm. Arnold calls the point to which the eye returns the Axis of Orientation. He maintains that if this axis is altered by typographical means, the eye is likely to rebel, and a reader may become an ex-reader.

In **Figure 6**, it will be seen that the eye falls naturally to the headline, and, the principle of the axis of orientation being obeyed, would fall to the introduction, then follow naturally the flow of the body type. The two pieces of half-tone illustration act as magnets to the fallow corners, and the sign-off logotype acts as the Terminal Anchor.

In **Figure 7**, instead of being attracted by the headline to the top left corner, the eyes are attracted by the headline to a point below the upper illustration. Having read the headline, the eyes want to observe the principles of reading gravity and the axis of orientation, and fall to the small leg of type in the second column. This obviously will make little or no sense.

The eye then is forced to make the journey against reading gravity to the primary optical area to begin the article. The reading rhythm has been destroyed, and, as the research programme shows, considerable damage may have been done to the reader's comprehension of the article.

In the research programme, the readers were subjected to an equal mix of both types of layout. Headlines in each instance were 42 point Helvetica bold lower case, two decks, set over 27 picas; body type was eight on nine point Corona lower case over 12.5 picas; illustrations and captions were of identical size on each layout. Layouts were four columns, 12.5 picas wide and 30 centimetres deep — a total body type area, pictures excluded, of about 65 centimetres.

The types chosen were selected because of their potentially high legibility. The criteria for this were optical rather than geometric design; easily discernible differences between letters; and greater x-heights than available alternatives.

The layout in **Figure 7** contained one design element not used in **Figure 6**. In an attempt to induce readers to make the jump against reading gravity from the second deck of the headline to the introduction paragraph, a drop initial was used. In **Figure 6**, a drop initial was not used because of the likelihood that it would clash with the headline.

The figures presented in **Table 1** are expressed as percentages of readers achieving the comprehension levels shown, as an average of all tests.*

Table 1	Comprehension level		
	Good	Fair	Poor
Layout complying with principles of reading gravity	67	19	14
Layout disregarding reading gravity	32	30	38

**The levels of comprehension of articles of direct interest were within five percentage points above the average, and those of specific or limited interest, within five percentage points below the average. This, with one statistically insignificant variation, was the norm for all tests in the entire programme.*

Following the formal questions readers were invited to comment on what they had read, and on the way it was presented.

None of those who registered high comprehension commented on the design. However, many who scored poorly with **Figure 7** layouts said they found they were conscious of having to find their way to the beginning of the story — the eyes fell naturally to the leg of type in column two, instead of making the journey back to the top of column one. Yet those same people scored well in comprehension when reading similar articles in the **Figure 6** layouts.

Of those who scored “poor”, a high proportion answered correctly the questions linked to the early part of the articles, then failed to score again. Similarly, those who scored “fair” generally achieved their correct answers among the four to six questions relating to the early part of articles, then apparently failed to read on, or did so in a cursory manner.

This supports the contention that readers who are faced with a journey against reading gravity unconsciously find the effort demanding, and do not read an article with the same easy concentration as do those whose reading rhythm has not been disturbed.

At the conclusion of these tests using formal layouts such as might be used in newspapers, a supplementary test was made using free layouts, as might be used in magazines.

The body matter was set in nine on 10 Corona Roman over 15 picas, and a more leisurely headline type, 72 point Bauhaus Bold lower case with a kicker line of 24 point Bauhaus Medium lower case, was used.

The layouts are shown as **Figure 8**, a design complying with the principles of reading gravity, and **Figure 9**, a design ignoring those principles. In **Figure 9**, a drop initial was again used in an attempt to draw the readers’ attention from the headline to the introductory paragraph.

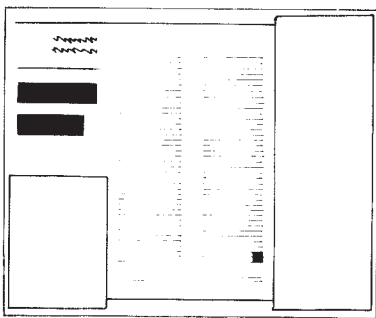
Only one type of article was used in this test, as opposed to the two in the major test. The articles were similar in content, and had the common theme of domestic tourism, a topic shown in magazine reader attitude surveys to have wide appeal.

The results showed a marked similarity to the results achieved in that part of the major test employing articles of direct interest.

In the test using **Figure 8**, 73 per cent of readers showed good comprehension, 21 per cent showed fair comprehension and 6 per cent poor comprehension.

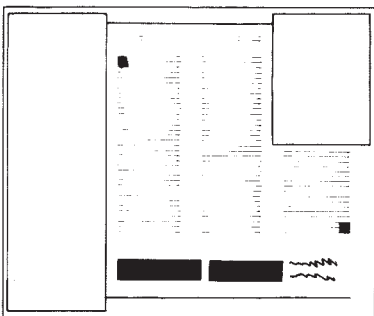
In the test using **Figure 9**, 37 per cent showed good comprehension, 31 per cent showed fair comprehension and 32 per cent poor comprehension.

Figure 8



A magazine layout which acknowledges reading gravity.

Figure 9



A magazine layout which ignores reading gravity.

2. Serif versus sans serif body type

Figure 12



Serifs, with thick and thin strokes.

Figure 13



No serifs, with monotonal strokes.

On this question — which is easier to read: serif or sans serif body type — there appears to be complete polarization of thought.

There are few major newspapers today which use sans serif type for the body text. Conversely, many major magazines choose sans serif.

Serif faces have long been regarded as highly readable. One theory was that the serifs acted as tramlines, keeping the eyes on target. Another was that the modulated thick and thin strokes of serif types provided greater opportunity for individual letters, and hence words, to be distinguished and read.

Figure 12 shows a serif type, with its thick and thin strokes and terminal serifs; **Figure 13** shows a sans serif face with its almost uniform strokes and absence of serifs.

It must be understood that not all serif faces, nor all sans serif faces, share similar characteristics. Fat Face, for example, is vastly different from Times New Roman; Univers, an optically-designed face, with considerable variation in the stroke thickness of individual letters, is vastly different from the geometric, theoretical Futura, with its identical strokes and bowls. But Fat Face and Futura are unlikely — one hopes — to be chosen as body types, and so the terms serif and sans serif are taken to refer to those types generally used in text by newspapers, magazines and advertising agencies.

In research collated by the British Medical Council in 1926, it was asserted that the absence of serifs in sans serif body type permitted what the council referred to as irradiation, an optical effect in which space between lines of type intruded into the letters, setting up a form of light vibration, which militated against comfortable reading. Serifs, the research said, prevented this irradiation; thus serif types were easier to read.

Magazine editors and art directors argue that sans serif body type is clean, uncluttered and attractive.

And so it is.

But they also argue that any difficulties with comprehensibility — should they exist — will pass, as people become more and more used to seeing and reading sans serif.

People will grow to live with it, and it will soon become comprehensible to all, and all will eventually love it, they say.

This is nonsense. It's analogous to saying that instead of feeding your children wheatie pops, you should feed them wood shavings. They'll get used to them and in time will learn to love them.

In the tests on the comprehensibility of serif body matter versus sans serif, the same procedure was used as for the previous series of tests. Body type was eight point Corona on a nine point body for the serif layouts, and eight point Helvetica on a nine point body for the sans serif layouts.

Comprehension levels are shown in **Table 3**.

Table 3

	Comprehension level		
	Good	Fair	Poor
Layout with serif body type	67	19	14
Layout with sans serif body type	12	23	65

Comments made by readers who showed poor comprehension of articles set in sans serif had a common theme — the difficulty in holding concentration.

An analysis of the comments offered by one group of 112 readers who read an article of direct interest follows:

Of the 112 readers, 67 showed poor comprehension, and of these —

- 53 complained strongly about the difficulty of reading the type.
- 11 said the task caused them physical discomfort (eye tiredness).
- 32 said the type was merely hard to read.
- 10 said they found they had to backtrack continually to try to maintain concentration.
- 5 said when they had to backtrack to recall points made in the article they gave up trying to concentrate.
- 22 said they had difficulty in focussing on the type after having read a dozen or so lines.

Some readers made two or more of the above comments.

Yet when this same group was asked immediately afterwards to read another article with a domestic theme, but set in Corona, they reported no physical difficulties, and no necessity to recapitulate to maintain concentration.

The conclusion must be that body type must be set in serif type if the designer intends it to be read and understood.

3. Headline type

David Ogilvy asserts that headlines are the most important part of an advertisement, because the headline can tell the reader whether he or she is a “prospect” for the topic. The same could be said with equal validity about editorial matter.

Therefore, putting the right headline on an advertisement or article in the right words, the right shape, the right style, and in the right type, demands consideration.

The right words are, patently, dependent on the context. The right style and shape are, to a degree, dependent on the agency’s, newspaper’s, or magazine’s style, or on design considerations. The right type, whether it be sans serif or serif, Roman or italic, old face or modern, sans or gothic, capitals or lower case, set natural or kerned, should be the choice of the designer.

There seems little to debate about the relative value of sans serif and serif type in headlines.

In US research cited by Arnold, sans serif has been claimed as marginally more legible than serif, but the difference was too small to be considered statistically significant.

The choice generally lies with whichever style best suits the publication or the tenor of the advertisement or article.

There is, however, much to debate about the relative value of capitals and lower case in headlines.

From the early days of newspapers until the 1950s, capital letter headlines were almost an institution. Now, 40 years on, more than 75 per cent of newspapers in the western world use lower case headlines.

Editors who favour capitals claim they give greater emphasis; those who prefer lower case claim their preference gives greater legibility.

The latter argument is easy to accept, as the facility with which this paragraph can be read should testify.

HOWEVER, READING THIS PARAGRAPH IS A MUCH HARDER TASK. THE EYES HAVE TO GROPE FOR THE IDENTITY OF LETTERS, THENCE WORDS, TO COMPREHEND THE SENSE.

Yet, despite an apparent consensus, the practice is far from general, as a browse through almost any publication will quickly show.

Those who argue for lower case because of its apparently greater legibility have the physiology of reading on their side. When a person reads a line of type, the eye recognises letters by the shape of their upper half. With lower case this is simple, because the top halves of lower case letters are generally distinctive, and importantly, framed by the white space that surrounds them, permitting easy recognition.

Put the headline in capitals, and the eye is presented with a solid rectangle, and recognising the words becomes a task instead of a natural process.

There are two factors to be considered:

- (a) Which headline faces and styles have greater legibility?
- (b) Do capital letter headlines have greater impact than lower case headlines, and if so, is this sufficient to counter-balance any supposed loss of legibility?

The methods used in previous tests did not lend themselves to testing the legibility of headlines, and a different method was used.

The programme's 224 readers were asked during the course of the study to look at a collection of headlines, set in a variety of type styles, and were asked: "Do you find this easy to read - yes or no?"

Care was taken that surrounding type elements did not distract from the headlines. In most instances, rectangles of stick-on screen, representing illustrations, and "greek" stick-on body type were used to support the headline.

The analysis, which follows as **Table 4**, is expressed as percentages of the 224 readers who found the nominated headline type easy to read. Each reader was asked to pass judgment on several samples of each style. It is significant that each reader, having once declared a type easy or not easy to read, repeated that view when the same type, in a different context, was shown later in the programme. Equal numbers of each style of heading were shown to the readers.

Headlines were all set 27 picas wide, in 36 point, over two decks, and in medium or bold face, depending on availability.

Table 4: Legibility of headline styles.

1.	Roman old style lower case	92
2.	Sans serif lower case	90
3.	Roman modern lower case	89
4.	Roman old style italic lower case	86
5.	Roman modern italic lower case	86
6.	Sans serif italic lower case	86
7.	Optima lower case	85
8.	Optima italic lower case	80
9.	Roman modern capitals	71
10.	Roman old style capitals	69
11.	Square serif lower case	64
12.	Roman modern italic capitals	63
13.	Roman old style italic capitals	62
14.	Sans serif italic capitals	59
15.	Optima italic capitals	57
16.	Sans serif capitals	57
17.	Optima capitals	56

4. Any colour as long as it's black

Consider this page. It looks very much like any other page, with its ordinary black type printed on ordinary white paper.

Colour the type blue, and imagine how much more attractive the page might become to the reader's eye. If you were to show potential readers the two pages together, the chances are that eight out of 10 would find the blue printed page more attractive than the black one, and that nine out of 10 would probably describe the black page as boring.

But ask those people now to read the two pages, and we're in a different ball game.

The chances now are that seven out of ten who read the black text would display comprehension sound enough to enable them to digest the text and act on any message it contains, but of those who attempted to read the visually more attractive coloured text, only one out of 10 would display good comprehension.

Not a very attractive result, you may agree, particularly if the aim of the text is to sell something.

Spot colour can do wonders for advertising revenue. This is unassailable. US research tells us about one advertiser who paid a loading of 70 per cent for spot colour and drew nearly 400 per cent more sales. Spot colour generally adds to the cost of an advertisement by 20 per cent or more, but the advertisement is noted by 63 per cent more people and results in 64 per cent more sales.

What the research doesn't tell us is how the colour was used. One can understand a positive impact when spot colour is used on logotypes and ideograms such as BP, Shell, Ford, the Mitsubishi diamonds, "Coke" and so on, but what about headlines? Or the text?

What's the effect on the reader if the colour is used as part or all of the message, instead of as an ancillary?

Colour imparts a feeling of excitement, and most certainly is a magnet for the eyes.

The purpose of these tests was to determine if at the same time colour used in headlines or text might impede comprehension — if that magnet might impart a negative influence.

Coloured headlines

Most frequent use of colour in headlines is high chroma colour, such as the process colours, cyan and magenta.

Other high chroma colours, such as hot red, bright green and orange are becoming more and more common in newspaper and magazines as run of press colour availability increases.

Tests were made of both high chroma and low chroma colours.

In the first tests, colours used were magenta (process red), cyan (process blue), hot red (100 parts magenta, 100 yellow), hot orange (100 yellow, 40 magenta), and lime green (100 yellow, 40 cyan).

Results applying to each individual colour were so similar as to enable a general conclusion to be drawn about high chroma colour.

The test procedure was identical to previous ones, with the obvious exception that colour headlines were substituted for black headlines.

This aspect of the programme attracted considerable comment from readers.

Sixty-one per cent of all readers said they found high chroma colours most attractive, drawing their attention quickly to the text.

- 47 per cent said they then found the headings hard to read.
- 64 per cent said they found the colour intruding while they were trying to read the text.
- 12 per cent said they felt the same effect as an obtrusive light, or an over-bright colour television picture, distracting the eyes.
- 10 per cent found the high chroma colours intense and tending to cause eye-tiredness.

The stock used for this series of tests was, as with all tests, non-reflective.

A small number of readers (two per cent) indicated afterwards that, anxious to continue the test to the best of their ability, they folded the pages over to mask the coloured headlines and to enable them to concentrate better. An inspection of retrieved papers showed this to be the case.

The tests for low chroma colours were done in an identical manner.

The low chroma colours chosen were deep blue (100 parts cyan, 50 black), dark emerald (100 yellow, 100 cyan, 40 black); purple (100 cyan, 100 magenta); and plum red (100 magenta, 60 black). Comments made on these tests implied that the coloured headlines didn't have the same magnetic quality that the high chroma colours had.

However, there was a degree of attraction, in both positive and negative aspects. The good comprehension levels in this test were three times as high as those for high chroma colours, but less than 80 per cent of those for black headings. Results follow as **Table 6**.

Table 6	Comprehension level		
	Good	Fair	Poor
Layout with black headlines	67	19	14
Layout using high chroma colour headlines	17	18	65
Layout using low chroma colour headlines	52	28	20

Obviously, there's a paradox. To be valuable as an eye catching device, a coloured headline needs to be in a vibrant colour, which tends to disqualify it as a means of communication.

The study showed that the darker the headline, the greater the comprehension level. This poses the question: why not black? Ink doesn't come any darker!

Comments made by readers show that the use of process colours in headlines is dangerous. Although the results indicated greater comprehension levels than, say, layouts set in sans serif body type, the spot colour headlines in high chroma showed a greater potential to antagonise some readers.

This is not a recommendation that a 'black' ban be placed on heading spot colour. Used judiciously and sparingly, it can be a most compelling and useful heading feature. But great care should be taken that the colour doesn't get in the way of the message.

Coloured text

In the past five years, the use of coloured text, and text printed on coloured tints, has proliferated, without, as it were, benefit of clergy.

Little or no research exists, either to support or condemn the practice.

Miles Tinker, with his *Legibility of Print* (Iowa State University Press, 1963), stands almost in isolation. His view is that there should be at least 70 per cent differential between text and background — that is, if the text is printed solid, then the background should be no more than 30 per cent tint.

Obviously, this might be held to apply for black, or dark colours such as deep purple, navy blue, dark brown. But what about cyan, or magenta, which are much lighter to start with? What effect does printing text in cyan on a 30 per cent cyan tint have on the reader?

Results of the comprehension tests are shown in **Table 7**.

Table 7	Comprehension level		
	Good	Fair	Poor
Text printed in black	70	19	11
Low intensity colour (PMS 259) deep purple	51	13	36
Medium intensity colour (PMS 286) French blue	29	22	49
Muted colour (PMS 399) olive green	10	13	77
High intensity colour cyan or warm red	10	9	81

Text on tinted grounds

A second series of tests was conducted, using identical methodology, into the comprehensibility of text printed on tinted backgrounds.

Six separate series of tests were conducted, using black on process blue tints; PMS 259 on its tints; PMS 286 on its tints; process blue on its tints; black on tints of olive green (PMS 399) and PMS 399 on its tints.

Readers were given samples with text printed on tints of 10 per cent of the base colour, and increased in strength in increments of 10 per cent.

Again, readers were invited to comment on the presentation of the text. More than half of those who responded to the invitation made a comment with an interesting marketing application: at low strength tint, the tint seemed to soften the harshness of the white paper (this supposed harshness had not been mentioned before, nor was afterwards). The softening effect of the tinted background, they said, made reading easier. At high strength, the tint intruded, and made reading more difficult.

However, while results of the test supported the latter view, they did not confirm the former.

Results of the tint tests:

Table 8		Comprehension level		
		Good	Fair	Poor
	%			
Black on cyan tint	10	68	24	8
	20	56	21	23
	30	38	19	43
	40	22	12	66

This test was discontinued when the combined results for good and fair comprehension failed to reach 50 per cent of the total.

There is a school of thought which agrees that reversing can be fraught with danger, but only if serif type is used. The argument is that the fine strokes and serifs disappear when the material is reversed.

To test this, similar articles were prepared set in 10 point Univers, with all other dimensions being identical to the remainder of the test papers.

With the text printed black, comprehension levels were comparable with those recorded in the tests of sans serif versus serif body matter.

Good comprehension was 14 per cent; fair comprehension 25 per cent and poor comprehension 61 per cent.

With the text reversed, comprehensibility dropped considerably.

Good comprehension dropped to 4 per cent, and fair comprehension to 13 per cent. Poor comprehension rose to 83 per cent.

It could be said that the depreciation in comprehensibility appears to be proportionately less when the type is set in sans serif — but this argument only holds water if a level of good comprehension of less than five per cent is considered acceptable.

Bold and bad

A final series of tests was conducted with text printed in bold type. This generally is used as a means of separating a subsidiary article from a major one, or to break up the monotony of an article.

It certainly has those effects: it also has the effect of ensuring that the subsidiary article is harder to read. Readers in this test complained of fatigue, similar to that experienced when text was printed in high or medium intensity colours.

The bold text, occupying more of the letter space allocated to it than normal Roman type, seemed to some readers to be cramped.

To others it seemed to set up a halo effect, carrying the outline of letters into adjoining letters and on to the lines above and below.

Results were:

Table 17	Comprehension level		
	Good	Fair	Poor
Text printed in Times Roman	70	19	11
Text printed in Times Bold	30	20	50

5. Is italic body type as black as it's painted?

Editors throughout the western world have clung to the proposition that italic body type is illegible as though it were Holy Writ. There is, however, no reason why it should be true: italic letters do not offend by lack of any distinction that their Roman counterparts have (sans body types have been discarded).

Serif italics have the same thick and thin strokes, the same x-height of their vertical fellows, and, possibly a virtue, they slope in the direction of reading and of normal handwriting.

True, some italic faces have elaborate swashes on some letters; this study was confined to those faces with minimal elaboration to the italic version of the face.

What then, has brought italic body type into such disrepute? It is difficult to see.

It is not the intention to advocate widespread use of italic type as body matter — merely to act as devil's advocate for a style of type which this analysis shows to be wrongly castigated.

The procedure was identical to that for other tests; the body types used were Corona Light Roman and Corona Light italic, eight on nine point.

Readers' comments indicated that while italic type caused an initial reaction, because it was unusual in such volume, it caused no difficulty for the reader.

Table 18 shows the comprehension level of italic body type.

Table 18	Comprehension level		
	Good	Fair	Poor
Layout using Corona Roman text	67	19	14
Layout using Corona Italic text	65	19	16

6. Ragged right or left, or justified?

Figure 16

Caring for babies' needs has always been one of our favourite tasks. That's obvious by the friendly staff and happy atmosphere in our Babywear Department. Here we show just some from our summer collection for birth to 12 months...many are exclusive imports. All comfortable and easy care in cool cotton blends, Swiss cottons and summer weight acrylics. Come in and discover it costs no more at David Jones.

Reduces hunger

Once you start on Fibryax, you'll notice how it creates a pleasant feeling of fullness, reducing your hunger so you're satisfied with less food. It also helps prevent a proportion of your calorie-intake from being absorbed.

Helps keep weight off

Fibryax contains no added chemicals of any kind, so you can stay with it as long as you like. And because you lose weight gradually, you'll be more likely to keep it off.

Ragged left setting: no axis of orientation.

Figure 17

By the time the music was over the supermarket was a considerable distance behind me (no longer visible in either of the electric rear mirrors you're so fond of playing with) and I was completely lost. What could I do? Time and distance fled by and...alright I was enjoying our Astra. You should never have loaned it to me. Anyway, here I am, and if you want your Astra back, you'll have to come and get it (airline ticket enclosed)

Ragged right setting: reading rhythm is interrupted.

Ragged setting on the right was popularised by the designer Eric Gill in 1930 to eliminate the need — in book setting — for uneven spacings to fill out lines. There's some logic in this, even though the impact on the reader of the unaesthetic spacing may be questionable.

But there's very little logic in ragged right's sinister offspring, ragged left setting, as shown in **Figure 16**.

There are those who argue that for legibility all body type must be justified completely.

Some accept type which is unjustified or ragged at the right, as shown in **Figure 17**, and some magazine and advertising designers who strive for effect rather than communication occasionally set body matter ragged left.

Many type practitioners will allow ragged right setting yet steadfastly oppose ragged left. Those who accept ragged left setting usually accept both forms.

To test this element, papers were presented with totally justified setting, ragged right and ragged left. It should be mentioned that setting had to be modified slightly to cater for the additional space required to accommodate ragged setting, and that the results apply to complete pages set ragged. The findings may not be appropriate to small amounts of ragged setting, as are shown in **Figure 16 and 17**.

Type used was Corona Roman eight point on 8½ point body, and the layout was identical to those used in tests on page design (**Figure 6**).

Comprehension levels are shown in **Table 19**.

Table 19

	Comprehension level		
	Good	Fair	Poor
Layout with totally justified setting	67	19	14
Layout with ragged right setting	38	22	40
Layout with ragged left setting	10	18	72

The conclusion must be that ragged setting should be avoided if comprehensibility is to be maintained.

The comprehension level — or lack thereof — or ragged left setting was similar to that for sans serif body type, yet paradoxically many designers who would never use ragged left setting have no qualms about ordering considerable volumes of setting in sans serif type.

It would be interesting if a future researcher were to quantify the comprehensibility of sans serif type set ragged left, as is seen frequently in some magazines and in display advertising.

8. Out, damned spot!

Many advertising typographers place a full stop at the end of their headings. No newspaper typographers do. (See the sample advertisement in **Figure 18**).

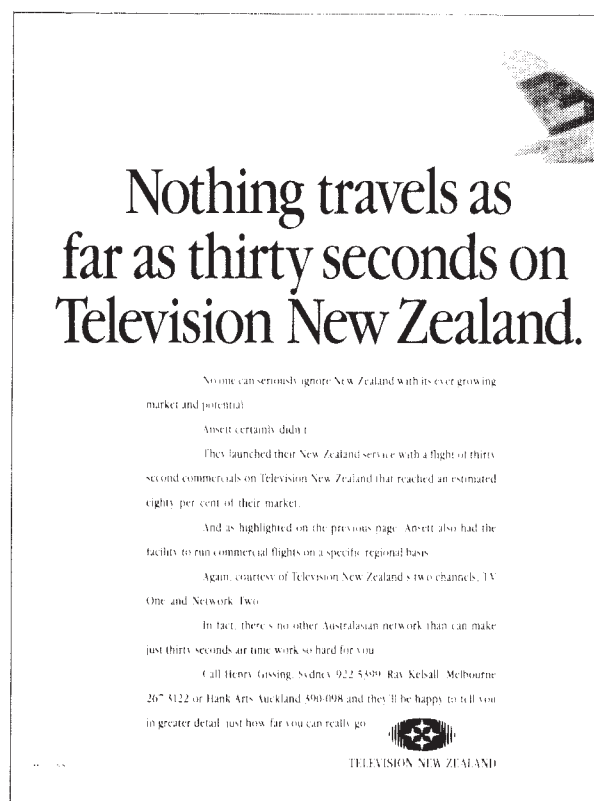
The thinking is that editorial headlines in newspapers and magazines rarely form sentences, and therefore don't need full stops, but advertising headlines frequently form sentences, and therefore require full stops.

To find whether the full stop has an effect on readers' comprehension, and if that effect is significant, a project was conducted in Sydney between December 1986 and March, 1987, at the request of Mr David Ogilvy.

Magazine pages were created in the Ayer No. 1 format — slightly less than half page horizontal illustration, with a headline below it, and the text below again. (See **Figure 1** for format). Four different pages were printed, with each design being in two formats — one with the headline full-stopped, the other without.

The content of two of the designs was editorial, with a tourism theme, and of the other two advertising, with a motoring theme. One was an adaption of the Ogilvy Rolls-Royce advertisement.

Figure 18



**Nothing travels as
far as thirty seconds on
Television New Zealand.**

No one can seriously ignore New Zealand with its ever growing market and potential.

Ansett certainly didn't.


They launched their New Zealand service with a flight of thirty second commercials on Television New Zealand that reached an estimated eighty per cent of their market.

And as highlighted on the previous page, Ansett also had the facility to run commercial flights on a specific regional basis.

Again, courtesy of Television New Zealand's two channels, TV One and Network Two.

In fact, there's no other Australasian network that can make just thirty seconds air time work so hard for you.

Call Henry Gissing, Sydney 922 5489, Ray Kelsall, Melbourne 267 8122 or Hank Arts, Auckland 490 0908 and they'll be happy to tell you in greater detail just how far you can really go.


TELEVISION NEW ZEALAND

Full stop at the end of a head in a reader ad could bring the reader to a full stop.

There were no significant differences between the individual designs in levels of comprehension. There were, however, differences in comprehension between the full-stopped headlines and those in editorial style.

Table 20	Comprehension level		
	Good	Fair	Poor
Headline without full stop	71	19	10
Headline with full stop	58	22	20

After the project was completed, the members of the sample were questioned on their reactions to the material. Those who read the headlines with full stops were conscious of the punctuation mark, and commented on it.

Twenty-two per cent of the total sample said they realised they were reading an advertisement when they came to the full stop, even though they were not at that point aware of the content.

Ten per cent of the sample indicated this discovery diminished their intention to concentrate on reading the material.

Twelve per cent of the sample indicated that they found the use of the full stops unnatural, and wondered why they had been used. Six per cent of the sample said the full stop indicated to them that there was no need to read any more of the message. All that needed to be said had been said.

The conclusion is that the use of full stops at the end of headlines in advertisements with a considerable amount (50%) of reading matter may have a detrimental effect on readers' comprehension. In the project, 13 per cent fewer readers displayed good comprehension when full stops were used.

Reasons for this were:

- The full stop tends to pull some readers up with a jerk, and indicate to them there is no need to read on.
- The full stop is, to some readers, an indication that what follows is advertising material, and, in **their** minds, not as consequential as if it were editorial.

Only two per cent of the sample were aware of the subtle distinction that editorial headlines rarely include verbs, and that advertising headlines frequently do.

Footnote: The method used did not permit testing of advertisements which relied only on a headline without supporting text. Logically, the full stop in these circumstances would have little or no effect on comprehension.

9. Widows, jumps and bastard measure

Throughout the programme, readers were asked to express opinions on minor typographical elements, such as whether widows (lines of type of less than full length at the head of a column) annoyed them; their reactions when asked to jump from one page to another to continue an article; whether they found extremely narrow or extremely wide measure body type easy to read; whether reversed body type was acceptable; and the value of cross headings.

The results were calculated, and are expressed here as percentages.

Current newspapers and magazines were used to exemplify the elements being discussed.

Design

- 61 per cent of readers said that jumps, where an article is continued on a later page, or on several later pages in successive jumps, were annoying.
- 66 per cent said they disliked pages which had large headlines with two or three paragraphs of copy, followed by an exhortation to jump to a later page. This was particularly disliked when the article was found to be inconsequential, such as an injury to a jockey's armpit, or merely a newspaper promotion stunt.
- 83 per cent said they usually disobeyed jumps.

This may not concern advertising people — but what if their advertisement is on a jump page? It will need to be brilliant to be read!

- 39 per cent said that if they were convinced to jump to continue reading an article, they frequently discovered they had not returned to where they were originally reading.
- 67 per cent said they preferred illustrations to carry a description, such as a caption. The practice of some publications of describing an illustration in an accompanying article was frequently criticised.
- 81 per cent said they found special screening effects on illustrations such as mezzo, circular line, horizontal line, to be annoying. Some said they thought the screens a device intended to disguise a poor illustration — or a printer's mistake!
- 77 per cent said articles in which body type jumped over an illustration or cut-off heading, contrary to the natural flow of reading, annoyed them. The natural expectation was that once a barrier such as an illustration or cut-off was reached, the article would be continued at the head of the next leg of type.

The moral is clear: it's not difficult to annoy a reader, either by commission or omission. And the message is also clear: before the editor or designer inserts a typographical element, he or she should think hard about the effect it may have on the reader.

Headlines

- 57 per cent said they disliked “screamer” headlines, such as are used on the front pages of some popular tabloid newspapers, and in some large display advertisements, because they had to hold the newspaper or magazine further than usual from the eyes to be able to read the type. The criterion for annoyance was the need to focus twice to read the entire content. (See **Figure 19**).
- Multi-deck headlines were generally disliked. 56 per cent indicated they found headlines of more than four decks difficult to comprehend.
- 68 per cent said they became bored with long, wordy headlines. The comment was made frequently that there seemed to be nothing left to read after the headline. This, admittedly, is subjective — but the warning is there.

Figure 19



A double page magazine spread with head type big enough to announce the second coming, and which forces the reader to focus twice — on the head and on the text.

Body Type

- 38 per cent of readers found body type set wider than 60 characters hard to read. A further 22 per cent indicated they probably wouldn't read wide measure body type even though they didn't find any difficulty reading it.
- 87 per cent said they found extremely narrow measure, such as less than 20 characters, hard to read.
- 78 per cent indicated they found cross headings useful, particularly in long articles. None said they found cross headings unattractive or intrusive.
- None said they were offended by — or even were aware of — widows (As the definition of a widow varies, we are considering here a short line which ends a paragraph, and which is turned to the top of the adjoining column. In practice, the widow has the effect of forcing the reader to continue to the next column). Apparently only printers and editors are offended!
- Only 7 per cent of readers said they found body matter set in capitals easy to read. Readers were shown text set in nine point Univers over 13 picas to a depth of 20 centimetres. A central section five centimetres deep was set in capitals, and readers were asked to indicate if they found this section easy to read. An overwhelming 93 per cent said 'no'. They were then shown similar material set to the same dimensions in Corona light, a serif face. The results were identical. When similar material was presented entirely in Univers lower case, 22 per cent said they found it easy to read. With Corona lower case 100 per cent said they found it easy to read.

8. Is the type size important, and if it is, what's the optimum size or range of sizes for leaflets?

Four thousand members of the research study sample took part in a further test to determine preferred type sizes for discretionary reading.

Three-quarters of those sampled found type within the range of 10 point on an 11 point body to 12 point on a 14 point body easy to read.

The type sizes perceived as the optimum for comfortable reading were 11 point on a 13 point body, preferred by 25 per cent of the sample; 10 point on a 12 point body preferred by 19 per cent, and 12 point on a 13 point body preferred by 18 per cent. (See **Table 21**).

Table 21			
Percentage responses to the question: which type size or sizes do you find easy to read as continuous text?			
8 point	14	12	72
8/9	21	12/13	90
8/10	26	12/14	82
9	63	13	66
9/10	66	13/14	70
9/11	71	13/15	68
10	69	14	59
10/11	86	14/15	61
10/12	92	14/16	63
11	77	15	21
11/12	93	15/16	25
11/13	98	15/17	28