Research in Brief: Subjective Preference and Retrieval of Information from Reference Materials

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There has been in recent years a considerable increase in the amount of reference material available, and consequently it has become important to ask what typographical conventions make for ease and efficiency in terms of information retrieval from such literature (catalogues, directories, tables, etc.), and whether or not the methods of layout now adopted by printers and typographers can be improved.

The investigation reported here explored the relationships between subjectively preferred layouts and their use in information retrieval. The enquiry was divided into two stages: first we determined the rank order in terms of preference for eight versions of a page of information from an imaginary Good Food Guide; and second we tested the two most preferred versions against the two least preferred versions in terms of efficiency of information retrieval.

The subjects (10 men and 10 women) were each given the eight versions of the page from the Good Food Guide and its use explained. They were then asked to indicate their order of preference for the different versions and to do this by the method of paired comparisons; i.e., each passage was to be compared in turn with every other passage, and the preference noted on a specially prepared answer grid. The overall preference pattern was built up by summing the times each version was preferred to another version: the version with the most preferences being "the most preferred." See Table I.

TABLE I. Preference rankings for eight versions of a page from a Good Food Guide (low rank = high preference).

	Version							
	d	e	f	b	c	g	a	h
Sum of rankings	45	59.5	69	80.5	84.5	120	127	134.5
Preference ranking	1	2	3	4	5	6	7	8

Berkshire

Abingdon, Queen's Arms	Pangbourne, Swan Hotel
Bracknell, Thatched House Grill	Reading, Taj Mahal
■ Bray-on-Thames, Hinds Head Hotel	Reading, The Lion
Bray-on-Thames, Monkey Island Hotel	Remenham, The Angel
Cookham, Bel and The Dragon	Stanford Dingley, Boot Inn
Cookham, King's Arms	□ Streatley, Bull Hotel
Hurley, East Arms	Swallowfield, Mill House Restaurant
Hurley, The Old Bell	□ Wargrave, St George and Dragon
Kintbury, Dundas Arms	Windsor, Royal Oak
Knowl Hill, Bird in Hand	Winkfield, Jolly Gardener
Long Wittenham, Plough Inn	■ Winkfield, White Hart
Longworth, Lamb and Flag	Yattendon, Royal Oak
Old Windsor, Bells of Ouzeley	

Dorset

Blandford Forum, Crown Hotel	□ Ferndown, The Green Parrot
■ Chideock, Chideock House	Grimstone, Royal Yeoman
Chideock, ⌐lock House Hotel	Lulworth, ⌐ ⁺le Inn
Ferndo⸱ ⸱my Hotel	Spywa⸱⸱ ⸱orseshoes

Version d (the most preferred), set in Monotype Univers, 9d on 10-point, medium and bold.

Version e (the next most preferred), set in Monotype Imprint, 10-point on 11, roman, bold, italic and small caps.

specially recommended
provisionally accepted

HAMPSHIRE

ASHURST	..	..	Happy Cheese Restaurant
BASINGSTOKE	..	..	The Venture Restaurant
BOTLEY	..	..	Botleigh Grange
BOURNEMOUTH	..	..	Le Bistro
			The Continental
			Czech Restaurant
			Fortes
			Royal Bath Hotel
			San Marco Steak House
			South Western Hotel
BROCKENHURST	..	..	Rose and Crown
BROOK	..	..	.. *Bell Inn*
CRAWLEY	..	..	.. Fox and Hounds
DROXFORD	..	..	.. **White Horse Inn**
HAMBLE	..	..	.. Bugle Inn
ITCHEN ABBAS	..	..	.. Plough Inn
LEE-ON-SOLEN⸱⸱	..	..	The Swordfish
LYMINGT⸱⸱	..	..	Au Bon Plaisir
OWEP	.		ꟻorest Motel

BERKSHIRE

ABINGDON	..	,.	.. Queens Arms
BRACKNELL	..	..	Thatched House Grill
BRAY-ON-THAMES	.	..	.. **Hind's Head Hotel**
			Monkey Island Hotel
COOKHAM	..	..	.. Bel and The Dragon
			King's Arms
HURLEY	..	..	.. .. East Arms
	·		Old Bell
KINTBURY	..	..	.. Dundas Arms
KNOWL HILL	..	..	.. Bird in Hand
LONG WITTENHAM	..	..	.. Plough Inn
LONGWORTH	..	..	.. Lamb and Flag
OLD WINDSOR	..	..	.. Bells of Ouzeley
PANGBOURNE	..	..	.. Swan Hotel
READING	..	..	.. The Lion
	·		Taj Mahal
REMENHAM	..	..	.. The Angel
STANFOP⸱	..	..	Boot Inn
STRF⸱			⸱⸱ *Hotel*

Berkshire

Abingdon, Queens Arms
Bracknell, Thatched House Grill
Bray-on-Thames, **Hinds Head Hotel**
Bray-on-Thames, Monkey Island Hotel
Cookham, Bel and the Dragon
Cookham, Kings Arms
Hurley, East Arms
Hurley, The Old Bell
Kintbury, Dundas Arms
Knowl Hill, Bird in Hand
Long Wittenham, Plough Inn
Longworth, Lamb and Flag
Old Windsor, Bells of Ouzeley
Pangbourne, Swan Hotel
Reading, The Lion
Reading, Taj Mahal
Remenha~ ~he Angel
Stanfor'   ~. Boot Inn
Strea~   ~l
Sv~   ~use Restaurar~

Oxford

Banbury, **Whateley Hall Hotel**
Banbury, White Lion
Burcote-on-Thames, Riverside Hotel
Burford, Bay Tree Inn
Burford, The Bull Hotel
Burford, The Cotswold Gateway
Burford, The Lamb Inn
Charlbury, The Bell
Dorchester, The George Inn
Horton, Studley Priory Hotel
Nettlebed, Bull Inn
Nettlebed, White Hart
Newbury, La Riviera
Oxford, Capri Restaurant
Oxford, Fox Inn
Oxford, Restaurant Elizabeth
Oxford, **Tudor Cottage**
Roke, Hom~ Sweet Home Inn
Stonor   Arms
Te~

Version a (the next least preferred), set in Monotype Univers, 9d on 10-point, light, medium and extra bold.

Version h (the least preferred), set in Monotype Imprint, 10-point set solid, roman.

AREA 8 see MAP 3

HAMPSHIRE
Ashurst, Happy Cheese Restaurant
Basingstoke, The Venture Restaurant
Botley, Botleigh Grange
Bournemouth, Le Bistro
Bournemouth, Czech Restaurant
Bournemouth, The Continental
Bournemouth, Royal Bath Hotel
Bournemouth, San Marco Steak House
Bournemouth, South Western Hotel
*Bournemouth, Fortes
Brockenhurst, Rose and Crown
*Brook, Bell Inn
Crawley, Fox and Hounds
Droxford, The White Horse Inn
Hamble, Bugle Inn
Itchen Abbas, Plough Inn
Lee-on-Solent, The Swordfish
Lymingto~ ~u Bon Plaisir
Ower, ~   ~t Motel
Ports~   ~ of Technology Restau~
Po~   ~ Restaurant

BERKSHIRE
Abingdon, Queens Arms
Bracknell, Thatched House Grill
§Bray-on-Thames, Hinds Head Hotel
Bray-on-Thames, Monkey Island Hotel
Cookham, Bel and the Dragon
Cookham, Kings Arms
Hurley, East Arms
Hurley, The Old Bell
Kintbury, Dundas Arms
Knowl Hill, Bird in Hand
Long Wittenham, Plough Inn
Longworth, Lamb and Flag
Old Windsor, Bells of Ouzeley
Pangbourne, Swan Hotel
Reading, Taj Mahal
Reading, The Lion
Remenham, The Angel
Stanford Dingley, Boot Inn
*Streatley ~ ~i Hotel
Swall~   ~ill House Restaurant
*W~   ~ge and Dragon

The next stage in the investigation was to examine the efficiency—in terms of information retrieval—of the various versions, and to compare this with the rankings obtained. Because of limited resources, in this study only the efficiency of the two most preferred and the two least preferred versions were studied (i.e., versions *d* and *e*, *a* and *h*).

To investigate efficiency, subjects were asked to locate the restaurants which were "provisionally accepted" or "specially recommended" by the Good Food Guide in certain of the English counties, and the time taken to turn over the page, to locate the restaurant, and to read out it's name and the village or town in which it was situated, was recorded. Thirty-two subjects (16 men and 16 women) did this task four times, using each of the four versions once, the order of presentation being counterbalanced. See Table II.

Statistical analysis showed that version *a* took significantly longer for information retrieval than all three other versions, and version *e* took significantly longer than version *h*. A simple overall comparison of the preference rankings and the efficiency rankings is shown in Table II. These results indicated that there was no significant correlation between the preference for and the efficiency of the different versions of the printed page (Spearman's rho = +0.20).

In this investigation, therefore, there was no significant relationship between subjective preference for the appearance of a particular page of information and the efficiency of information retrieval from it. It did appear, however, upon further examination of the different versions, that the use of asterisks and similar markers aided information retrieval compared with typeface changes which a typographer may recognize but which the reader may not notice.
(Unfortunately it is not possible to present a detailed analysis of the typographic variables in this short report: these are available from the authors for interested readers.)

TABLE II. Subjective preference and retrieval time (in seconds).

	Version			
	d	e	a	h
Preference ranking (N = 20)	1	2	7	8
Mean retrieval time (N = 32)	16.2	18.3	29.3	15.6
Standard deviation	7.6	6.5	31.9	6.4
Retrieval ranking	1.5	3	4	1.5