Of what consequence, design?

an evaluation of how the Initial Teaching Alphabet was designed

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Contents

What is the Initial Teaching Alphabet?

The Initial Teaching Alphabet comprises 24 of the letters in our traditional lower-case alphabet—*x* and *q* are omitted—and 20 new ones **[1]**. When first published in 1959, it was called Ehrhardt Augmented Roman Alphabet, or Pitman's Augmented Roman after its inventor, Sir James Pitman. In 1963 its current name was adopted, and is typically shortened to i.t.a.

[1]
Chart of the Initial Teaching Alphabet, with the additional characters denoted by ∗ . scale: 65 (Chart and digital font by Lars Törnqvist, www.thesauruslex.com/typo/ita.htm)

Character sets for i.t.a. varied during its history. The modified *d* was not part of the alphabet first published in 1959, which had only 19 new characters. Slightly different character sets were also created for regional variations in vowel pronunciation.

The *g* is a substitution of the infant character for the standard roman. The *æ* ligature was already part of the standard character set.

	Character	Name	Example
	æ	ain	æbl
	b	bee	but
	c	kee	cat
∗	d	did	dog
∗	ɛɛ	een	ɛɛch
	f	ef	fun
	g	gay	gæt
	h	hay	hay
∗	ie	ide	ies
	j	jay	jam
	k	kay	kiŋ
	l	el	lip
	m	em	man
	n	en	not
∗	œ	ode	œpen
	p	pee	pæ
	r	ray	rat
	s	ess	sit
	t	tee	top
∗	ue	une	uex
	v	vee	vois
	w	way	wet

	Character	Name	Example
	y	yay	yelœ
	z	zed	zω
∗	ɤ	zess	aɤ
∗	wh	whee	whie
∗	ch	chay	church
∗	th	ith	thin
∗	ð	thee	ðen
∗	ʃh	ish	ʃhip
∗	ʒ	zhee	meʒuer
∗	ŋ	ing	siŋ
∗	ɾ	er	heɾ
∗	ɑ	ahd	fɑðheɾ
	a	at	at
∗	au	aud	autum
	e	et	egg
	i	it	it
	o	og	on
	u	ug	up
∗	ω	oot	bωk
∗	ʊ	ood	mʊn
∗	ou	oun	out
∗	oi	oin	oil

The basic concept of i.t.a. is simple: a one-to-one correspondence of phoneme to grapheme. Each sound-unit in English is represented by an exclusive letter-unit. Orthographic inconsistencies, such as the sound of *s* in *salt*, and the sound of *c* in *nice*, are eliminated. This correspondence is achieved in i.t.a. by the augmentation of the alphabet. Many of the new characters are ligatures which replace traditional digraphs such as *sh, ch, th, ng*. The original purpose of i.t.a. was to provide a tool for teaching children to read. Its consistent orthography was intended to eliminate the variables which make learning to read and write English more difficult than, for instance, Spanish. The new characters were designed to retain a resemblance to their original letter components in order to facilitate a child's transition to traditional orthography (t.o.). This quality made i.t.a relatively easy for already-literate readers to decode without prior instruction **[2]**.

[2]
i.t.a. transliteration. (Pitman and St. John, *Alphabets & Reading*, 1969, 117) scale: 90

ðe iniʃhial teeching alfabet hax been dexiend with ðe siŋgl purpos ov simplifieiŋ ðe task ov leɾniŋ two reed iŋgliʃh. ax soon ax flωensy in reediŋ with ðe nue alfabet hax been acheevd, a transiʃhon is mæd two reediŋ with ðe orthodoks rœman alfabet(s). i.t.a. dux not pretend two bee a nue **method** ov teeching; it is meerly a nue **meedium** ðat can mæk aull ðe egzistiŋ methods ov teeching mor effectiv. . . .

From 1961–66 and 1963–67, two field experiments using i.t.a. were conducted by the University of London Institute of Education in selected primary schools throughout the United Kingdom. The preliminary results from these experiments indicated that children learning to read with i.t.a. advanced more quickly than those learning with t.o. By 1964, hundreds of additional school districts in Britain, the United States, Canada and Australia had jumped on the i.t.a. bandwagon. The i.t.a. Foundation stated in 1965 that over 100,000 children in Great Britain alone were using i.t.a. (Mazurkiewicz 1966, vii), and a survey in 1966 showed that nearly 1,800 schools in Britain were involved (Downing 1967, 132 note 7).

Who designed i.t.a.?

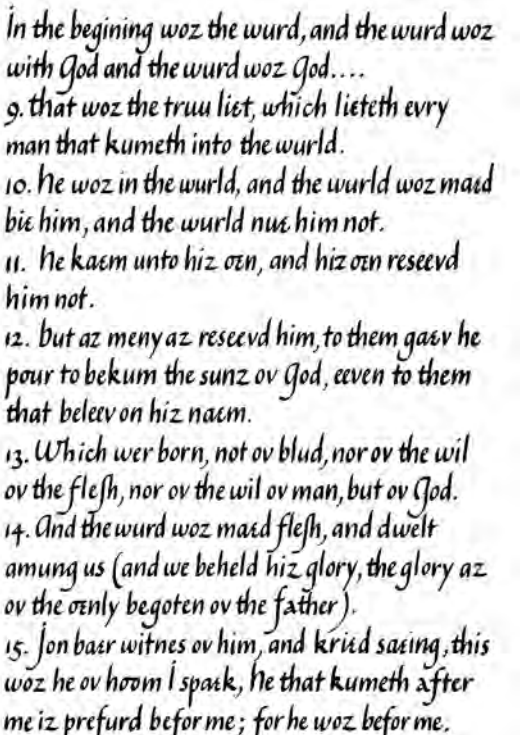
The appearance of i.t.a. on the printed page violates enough conventions of good typography to have piqued the curiosity of this writer at first sight. Before its first appearance in print in 1959, few people had heard of the alphabet. How did such an anomalous typeface get designed and then selected for widespread educational use?

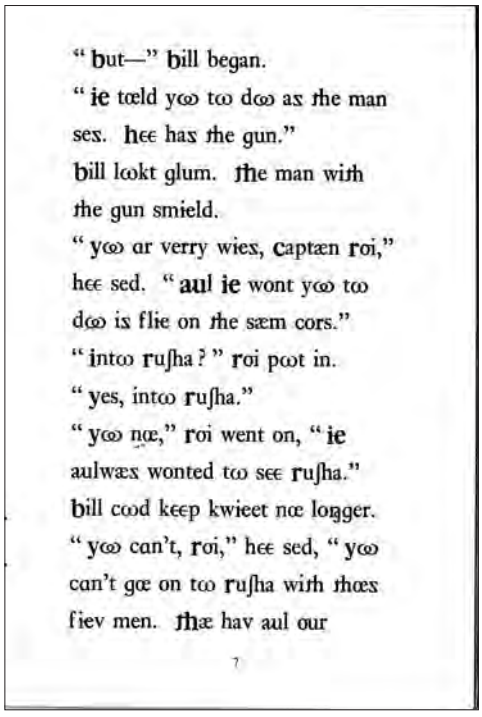
Its inventor, Sir James Pitman, originally enlisted a famous English calligrapher, Alfred Fairbank, to design the characters for his augmented alphabet. But a comparison of Fairbank's design with a page from an i.t.a. reader reveals no visual commonality **[3]**. Fairbank gave the i.t.a. its original form, but he had no influence on the typeface design. In the process of translation to metal type, a medium for printing instead of writing, the augmented alphabet was redesigned by Monotype to meet its own engineering requirements and commercial considerations. Its exclusive selection for use in this large-scale experiment followed years of "indefatigable" crusading by Pitman (Downing 1967, 64).

This essay is about the roles of these participants—the crusader, the calligrapher and the corporation—in designing i.t.a. and what consequences their decisions had.

[3]
Detail from i.t.a. transliteration of *The Gospel According to St. John*. Calligraphy by Alfred Fairbank, dated 6 April 1953 (Pitman Archive, file E.1) scale: 50

Sample page from *The Adventures of Captain Roi, Book Two*. (i.t.a. edition, 1962, Sir Isaac Pitman & Sons, Ltd.) scale: 50


In the begining woz the wurd, and the wurd woz
with God and the wurd woz God....
9. that woz the truu liet, which lieteth evry
man that kumeth into the wurld.
10. He woz in the wurld, and the wurld woz maed
bie him, and the wurld nue him not.
11. He kaem unto hiz oen, and hiz oen reseevd
him not.
12. but az meny az reseevd him, to them gaev he
pour to bekum the sunz ov God, eeven to them
that beleev on hiz naem.
13. Which wer born, not ov blud, nor ov the wil
ov the fleſh, nor ov the wil ov man, but ov God.
14. And the wurd woz maed fleſh, and dwelt
amung us (and we beheld hiz glory, the glory az
ov the oenly begoten ov the father).
15. Jon baer witnes ov him, and kried saeing, this
woz he ov hoom I spaek, He that kumeth after
me iz prefurd before me; for he woz before me.


"but—" bill began.
"ie tœld yœ tœ dœ as the man
sez. hee has the gun."
bill lœkt glum. the man with
the gun smield.
"yœ ar verry wiez, captæn roi,"
hee sed. "aul ie wont yœ tœ
dœ is flie on the sæm cors."
"intœ ruſha?" roi pœt in.
"yes, intœ ruſha."
"yœ nœ," roi went on, "ie
aulwæz wonted tœ see ruſha."
bill cœd keep kwieet nœ logger.
"yœ can't, roi," hee sed, "yœ
can't gœ on tœ ruſha with thœz
fiev men. thæ hav aul our
7

The crusader

Sir James Pitman's augmented alphabet was not an original invention. In the introduction to his definitive work on i.t.a., *Alphabets and Reading*, Pitman stated that "far from being an isolated invention, [i.t.a.] comes with a long pedigree of earlier reformed and teaching alphabets behind it" (Pitman and St. John 1969, v). The issue of *Monotype Recorder* (42:3) containing a report on Pitman's augmented alphabet juxtaposes it with an article on four centuries of experiments aimed at reforming English orthography (Abercrombie 1962). Pitman was part of the contemporary manifestation of this reform movement. His family history had prepared him well for his role in it.


SPECIMENS OF PRINTING TYPES. 9

Romanic Founts for Children's Books, Charts, etc.

Great Primer.

The Writing and Printing Reform consists in the introduction of a complete al-

ABCDEFGHIJKLMNOPQRSTU

Double Pica.

The Writing and Printing Reform consists in the intro-

ABCDEFGHIJKLMNOP

Canon.

The Writing

Phonetic Founts for Children's Books, Charts, etc.

Grat Primer.

ðε Rįtiŋ and Printiŋ Reform consists in ðε introduʃun ov a complet alfabet ov forti

Dub'l Pįca.

ðε Rįtiŋ and Printiŋ Reform consists in ðε introduʃun ov a

Canon.

ðε Rįtiŋ and

Also various large founts for Shop Bills, Posters, etc.

Phonetic Institution, Bath.]

[4]
Phonotypy specimen from The Pitman Press, 1850.
(University of Reading Library, Great Exhibition Archive)
scale: 50

Pitman was the grandson of Isaac James Pitman, his namesake who, in 1837, invented the shorthand called *phonography*. In 1850 Sir Isaac published a small specimen booklet for The Pitman Press in which he displayed a page of "Phonetic Founts for Children's Books, Charts, etc." **[4]**. These "founts" were for his system of phonetic spelling called *phonotypy*. It was this latter, lesser known invention of his grandfather's that Pitman built upon for his augmented alphabet. Unlike shorthand, phonotypy employed a roman typeface. It was judged to be easy for readers of traditional orthography to interpret—a distinguishing attribute of i.t.a. as well—and was employed in educational experiments in America in the mid-19th century. (Downing 1964, 11).

Sir James Pitman had his finger on the pulse of the orthographic reform movement in his own time. As a Member of Parliament and the proprietor of a publishing house and printing establishment long associated with the movement, he was sufficiently well known to be placed in charge of the Shaw Competition. Established in 1950 by a provision in George Bernard Shaw's will, the Competition called for a new alphabet to be designed with completely consistent orthography. The design submissions were in Pitman's possession and are part of the Pitman Archive at the University of Bath Library.[1]

Pitman's acquaintance with Alfred Fairbank was occasioned by his supervision of the Shaw Competition. In a letter dated 27 July, 1951 (E.1), he expressed delight that Fairbank would "have a try," and recommended that he start by designing sixteen new characters which ("from my knowledge of the subject") he predicted would be the "precise commission to all would-be designers" entering the Shaw Competition. In the event, Pitman was mistaken. The Shaw competition was interpreted by the public trustee of the Shaw Will to be for designs to replace the alphabet, not augment it. However, Pitman had another use in mind for the new characters he had erroneously recommended. In Parliament he was working to bring about an orthographic experiment in British schools; he hoped to provide the medium for the experiment.

Pitman summed up his chief influences this way in *Alphabets and Reading*: "I decided therefore to try to devise an alphabet based on my grandfather's principles but which took account of all that had been learned since his day. It would eliminate digraphs and provide an unambiguous 'invariable' relationship between the characters and the phonemes required to speak English…" (Pitman and St. John 1969, 114).

1 Correspondence from the Pitman Archive is cited throughout by the date of the letter, followed by the file number.

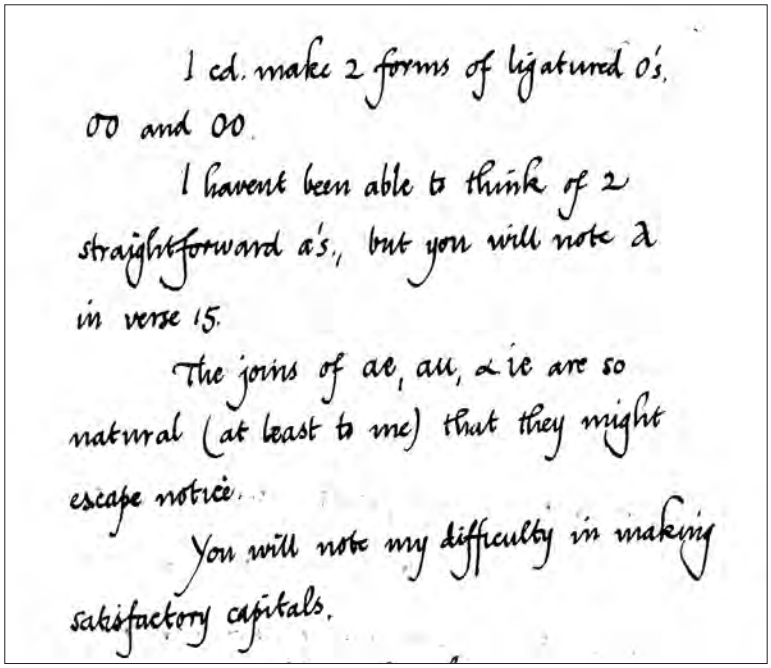
The calligrapher

At the time of this collaboration, Alfred Fairbank was in his late fifties, a long-time employee of the Admiralty who was nearing retirement. He was already famous as a calligraphy artist, a teacher and an author of books on handwriting and historical scripts. He had also designed a typeface—known as Bembo Condensed Italic or Bembo Narrow—based on a 16th century chancery cursive by Arrighi. Referring to the design of this typeface, Stanley Morison called Fairbank "the most accomplished living English scribe available for this purpose" (Morison 1973, 51). Fairbank's connection with Pitman's augmented alphabet must have conferred credibility and prestige on the project in its early stages, especially when Pitman approached the Monotype Corporation to design type matrices for it.

In a letter with the lengthy title, "A memorandum on a specimen of English written in a spelling so simplified as to furnish children with the full value of alphabetic representation," Pitman instructed Fairbank to proceed with a specimen sheet of the augmented alphabet using a transliteration of *The Gospel According to St. John* as his subject text (11 March 1953, E.1). Fairbank was a modest man. In the handwritten note attached to his rough draft he penned the plea, "Severe criticism, please!" (15 March 1953, E.1). At this early stage, the collaboration between Pitman and Fairbank was an open exchange of ideas. Fairbank did not like the *uu* ligature in *huum* (whom), which resembled a *w* too closely. He showed two different *oo* ligatures, and two variables of *ee*. For the long vowel in *make*, a variation of the roman *a* and an *ei* ligature were both considered.

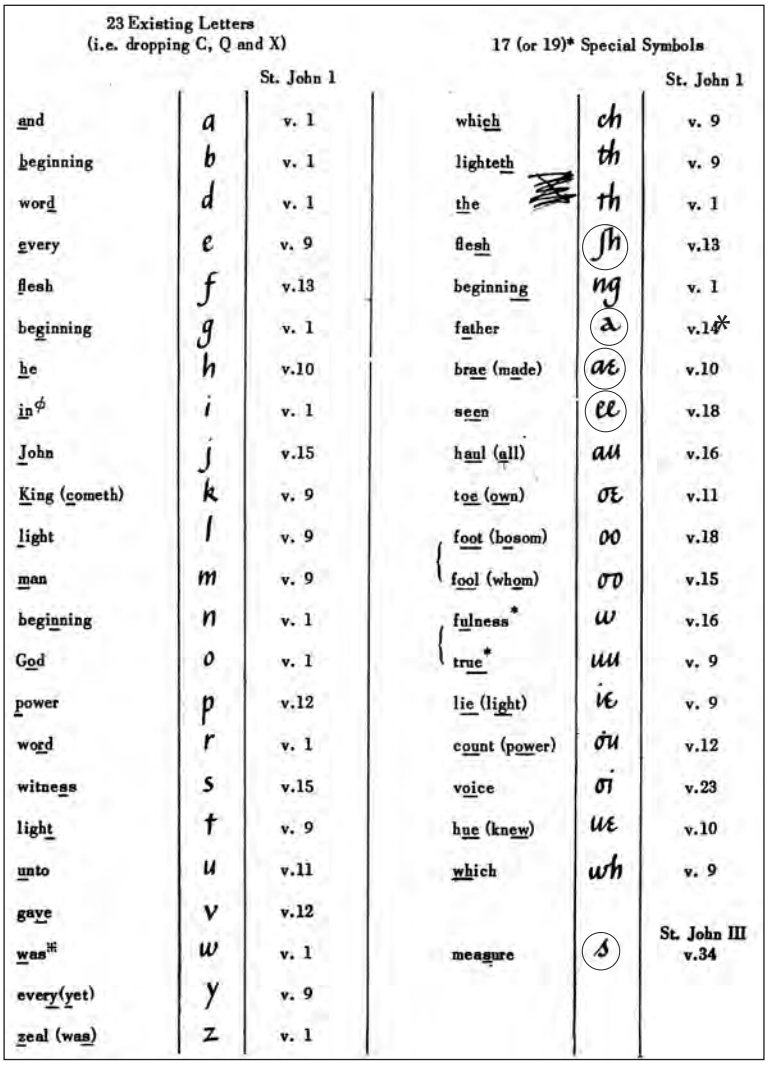
In order to maintain a one-to-one grapheme-phoneme correspondence, Pitman wanted majuscules, enlargements of the lower case characters, instead of capitals, but Fairbank was not pleased with the results. He pointed to his "difficulty in making satisfactory capitals" **[5]**. Pitman agreed that "the capitals will need a bit of consideration" (18 March 1953, E.1). An alternate plan to simply add extra spacing before words requiring a capital was suggested by Fairbank and greeted at first with approbation by Pitman, but this plan was never tried (25 April 1954; 30 April 1954, E.2). The deleterious effect on the Monotype i.t.a. typeface of the solution eventually implemented is discussed later.

[5]
Detail from Fairbank's note to Pitman, 15 March 1953. (Pitman Archive, E.1) scale: 90


I cd. make 2 forms of ligatured o's,
oo and oo.
I havent been able to think of 2
straightforward a's, but you will note a
in verse 15.
The joins of ae, au, & ie are so
natural (at least to me) that they might
escape notice.
You will note my difficulty in making
satisfactory capitals.

It is clear from his manuscript specimen and the character chart appended to it that Fairbank's approach was to use a slightly sloped, simplified italic handwriting as his basic style, and to connect the new ligatures with traditional cursive joins. The single characters were not joined. He did not otherwise distort the letters or invent unconventional shapes. His aim was to preserve visual unity on the page rather than to call attention to the new characters. This is the most striking difference between his calligraphy and the execution of the typeface. Where a character required an alternate form to represent a distinct phoneme, he resorted to traditional variants such as the single-story *s*, the antiquated long *s*, the single and double-story *a* and the Greek *epsilon* **[6]**. Fairbank expressed a qualm about his ligatures looking too natural to be noticed (15 March 1953, E.1), but Pitman brushed this aside as being the teacher's duty to solve by calling attention to them (16 March 1953, E.1).

[6]
Character chart for the augmented alphabet with letter variants circled (reverse of the manuscript displayed in figure 3, page 4). (Pitman Archive, E.1) scale: 65

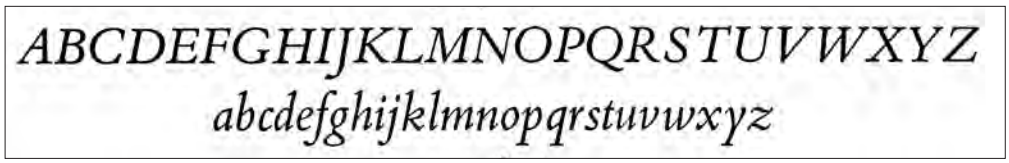


Fairbank's approach is notable for a common precedent in phonetic alphabets that it avoided: the reversal and rotation of letters to generate new graphemes. His calligraphic principles would not have permitted such a device. Fairbank's correspondence reveals that he was taking care to employ only letter forms which could be easily written by children (22 March 1953, E.1). This reflected an abiding concern of his career; he went on from the i.t.a. project to complete work on the *Beacon Writing Books* for teaching italic handwriting to children **[7]**. Early on, Pitman agreed with Fairbank's "basic idea of the primariness of writing over reading in the design of lettering for early reading practice" (11 March 1953, E.1). Later he went along with Monotype in sacrificing this principle to practical exigencies. As will be shown, this about-face eventually caused a permanent rift between Fairbank and Pitman.

[7]
Sample pages from *Beacon Writing Books,* supplements one (left) and two. (Ginn and Co, Ltd 1961) scale: 35

At the end of March, 1953, barely a month after his instructions to Fairbank, Pitman had lunch with Beatrice Warde, Publicity Manager of the Monotype Corporation. At this meeting, Warde nominated Bembo Italic as a suitable typeface for augmentation (1 April 1953, E.1). This suggestion showed some sensitivity to Fairbank's intentions. Bembo Italic was very moderately sloped and not too condensed for an italic **[8]**. Its main drawback, other than the lower case *g* character, was the possession of serifs, which of course could not be emulated in children's handwriting.

An understanding reached with Pitman at this meeting, that he would print books in the manuscript hand for a year before ordering type matrices, betrayed a degree of skepticism on Warde's part. There was as yet no commercial demand to justify the expense of designing and manufacturing matrices for the reformed alphabet. Had i.t.a. thus been first introduced to the public as Fairbank's manuscript hand, its subsequent design evolution may well have followed a completely different path. At this critical juncture, though, the design process was interrupted for several years while politics took center stage in the history of i.t.a.



[8]
Monotype Bembo Italic specimen. *(The Encyclopedia of Typefaces*, 1983) scale: 93

Interlude: the politics of spelling reform

Pitman was a Member of Parliament for Bath from 1945 until his voluntary retirement in 1964. He became a public advocate of orthographic reform early in his tenure when he seconded Mont Follick's Private Members' Spelling Reform Bill in 1949. The bill was defeated by just 3 votes. In 1952 Follick presented a revised Simplified Spelling Bill and Pitman again was its seconder. The new bill called for the government to:

> …make provision for the determination of a suitable system of simplified spelling and for the investigation of the improvements in the reading ability of children likely to result from the introduction of this system and to facilitate the subsequent introduction of the system in certain schools. *Journal of the House of Commons* (Downing 1967, 65)

Pitman thus took up the campaign for an education experiment based on an as yet unspecified system of simplified spelling. He had as ammunition a 1950 government pamphlet (*Reading Ability*) with statistics showing that approximately one-quarter of the 400,000–500,000 five-year olds who entered primary school each year in Britain emerged as poor readers (Downing 1967, 65). Despite opposition from the Minister of Education, the new bill carried by a vote of 65 to 53 and was approved in Committee. It was the "investigation" described in this bill that informed Pitman's first meeting with Beatrice Warde, where it was suggested that he print books with the manuscript hand for the first year of the experiment.

Pitman's actions at this critical juncture revealed the political acumen of a seasoned crusader. On the one hand, he elicited public support for the education experiment by writing to journals for educationalists such as *Teacher's World* and *The Schoolmaster* (Downing 1967, 66). On the other, he prevailed upon Follick to withdraw his bill before a third reading. This maneuver allowed the Minister of Education to issue a face-saving statement of moral support for the education experiment and rescued the bill, Pitman believed, from certain defeat in the House of Lords (13 May 1953, E.1). Pitman boasted about his role in bringing about this strategic hiatus—actually a change in strategy—referring to "a good deal of 'horse-trading' by me behind the scenes" (Pitman and St. John 1969, 100). The bill was withdrawn in May, 1953, the month following Pitman's meeting with Warde. The momentum was now in the public arena, where Pitman campaigned for acceptance of his augmented alphabet as the medium for the projected investigation. The embodiment of his alphabet was still Fairbank's italic manuscript of April, 1953.

By April, 1954 the University of London Institute of Education had shown interest in conducting the research envisioned by Follick and Pitman and a debate on which reformed alphabet to employ was taking place in the Simplified Spelling Society, of which both Pitman and Follick were members. John Downing, who administered the experiments conducted by the University of London, has tried, with only partial success, to reconstruct the debate that led to the selection of Pitman's system exclusively. He describes the competition as being between the systems of Follick and Pitman. Pitman cast Follick's system as serving the purpose of teaching English to foreigners[2] and therefore, by implication, being inappropriate for teaching reading to English-speaking children (Downing 1967, 71–72; Pitman and St. John 1969, 99). This specious argument does Pitman no credit, but Downing argues that Pitman's system had the greater orthographic consistency in any case and promised to transition to traditional spelling more easily (Downing 1967, 72).

2 Mont Follick, in addition to serving in Parliament, was the founder and proprietor of the Regent School of Languages, London. (Pitman and St. John 1969, 99)

Follick passed away in December, 1958. The following May, Pitman published "Learning to Read, A Suggested Experiment" in *The Times Educational Supplement* (29 May 1959, 985), calling for educators to show public support for the educational investigation and offering to print suitable materials for it. His article shrewdly presented a *fait accompli* to the public: at the head of the article a demonstration of the proposed alphabet medium was typeset in "Ehrhardt Augmented (40-sound–42-character) Lower-case Roman Alphabet," and offered for sale from The Monotype Corporation, Ltd. The typeface prototype had been manufactured in 12 point in the intervening years since the withdrawal of the Simplified Spelling Bill. In 1960 the University of London announced its intention to supervise the education experiments. The study was funded by the university, local education authorities and private sources—the Minister's support remaining staunchly moral—and in 1961 the first school children opened books printed in i.t.a.[3]

The corporation

Monotype had begun designing for Pitman's matrices in 1956. His success in attracting the interest of a prestigious university was incentive enough for him to bear the initial design cost and for Monotype to undertake the manufacture of matrices. The opportunity for the public to become acquainted with Fairbank's design was lost forever.

Technological changes in the typesetting industry at this time, and their commercial implications for Monotype, played a part in the design process. From its inception in 1897, Monotype had been primarily in the business of selling machinery. The company designed new typefaces and manufactured the matrices for them only as a selling point to users of its machinery (Carter 1997, 15). The first tremor of a sea-change in the typesetting industry was felt in the 1940s when film- or photo- typesetting was first introduced on a commercial scale. In 1946, the U.S. Government Printing Office installed a phototypesetter based on the principles of a linecaster. After the war, typefaces continued to be designed for casting with traditional hot metal technology, which still dominated typesetting worldwide, but a large part of the endeavor was devoted to non-Latin scripts required by the former British colonies in Asia. (Carter 1997, 23).

Monotype adapted its machinery to the new technology of phototypesetting. The Monophoto Filmsetter was first demonstrated in 1952. As the technology matured during the next decade, a new competitive threat appeared on the horizon—the capacity of phototypesetting to almost effortlessly generate new typefaces by copying, i.e. photographing, the old metal fonts. This development made font licensing and the protection of intellectual property an important business concern. As will be seen, it was to overtly affect Monotype's policy towards the i.t.a. typeface design in the mid 1960s, at the height of its popularity.

In 1956 concern over the risk and expense of investment in research and development would have been in the forefront of the corporate consciousness when the Type Drawing Office began designing Pitman's augmented alphabet. Their first task would have been to select an existing typeface which could be augmented at minimal cost. It would have been prohibitively expensive to design a full character set for a new typeface family based on Fairbank's manuscript design.

3 Monotype only made the matrices in 12 point and the books were printed with type that was photographically enlarged.

The design process at Monotype[4]

Monotype decided to depart from Fairbank's model and proceeded with a roman, not an italic model. The first specimen produced for Pitman was set in Times New Roman (M: 21 March 1956).[5] It employed the "nue speling" endorsed by the Simplified Spelling Society but had no augmented characters as yet **[9]**. At this date, two fundamental internal design issues had already been identified:

1) the scheme of using larger lower case characters (for emphasis and in lieu of capitalization) should be abandoned;
(The Times New Roman specimen had been composed with 10 point and 12 point fonts made to align by casting separately and hand composing. To use this scheme with automatic composition would necessitate the remaking of all the characters in one of the fonts to fit on the same size body as the other, and alignment would be difficult or impossible.)

2) the matrix case arrangement (MCA) was an anticipated difficulty.
(For new characters to be added to the matrix case of a standard font, they would either have to fit into available slots or a new MCA would be designed for the entire font. The MCA could only be designed after the character set was determined.)

To address the first point, two more specimens were created for evaluation. One was typeset in Ehrhardt Roman with Semibold accents (it was supposed that a semibold companion would cause less "spotting" than a bold), and the other in Romulus with Italic accents **[10, 11]**. Monotype was trying to avoid recutting entire fonts for Pitman's project, despite the latter's willingness to see it done, on the grounds that "it is most unlikely that there will be any general sale for this equipment" (M: 23 May 1956). Pitman settled on Ehrhardt Roman and Semibold.

4 At Monotype internal documents about the design of i.t.a. circulated between the sales and the typographical offices (with no record of what designers thought), and contact with Pitman was routinely routed through the sales office. For the sake of simplicity the corporation is treated here as a monolith.

5 Citations from Monotype's i.t.a. archive file are identified by: *M: date*.

[9]
Detail of Times New Roman specimen, using 10 point for text and 12 point for emphasis.
(M: circa 21 March 1956)
scale: 100

in the begining woz the wurd, and the wurd woz with god and the wurd woz god: that woz the truu liet, which lieteth evry man that kumeth into the wurld. hee woz in the wurld, and the wurld woz mæd bie him, and the wurld nue him not. hee kæm unto hiz œn, and hiz œn reseevd him not. but az meny az reseevd him, to them gæv hee pour to bekum the sunz ov god, eeven to them that beleev on hiz næm. which wer born, not ov blud, nor ov the wil ov the flesh, nor ov the wil ov man, but ov god.

[10]
Detail of Ehrhardt specimen using Ehrhardt Semibold for emphasis.
(M: circa 15 June 1956)
scale: 100

in the begining woz the wurd, and the wurd woz with god and the wurd woz god: that woz the truu liet, which lieteth evry man that kumeth into the wurld. hee woz in the wurld, and the wurld woz mæd bie him, and the wurld nue him not. hee kæm unto hiz œn, and hiz œn reseevd him not. but az meny az reseevd him, to them gæv hee pour to bekum the sunz ov god, eeven to them that beleev on hiz næm. which wer born, not ov blud, nor ov the wil ov the flesh, nor ov the wil ov man, but ov god.

[11]
Detail of Romulus specimen using Romulus Italic for emphasis.
(M: circa 15 June 1956)
scale: 100

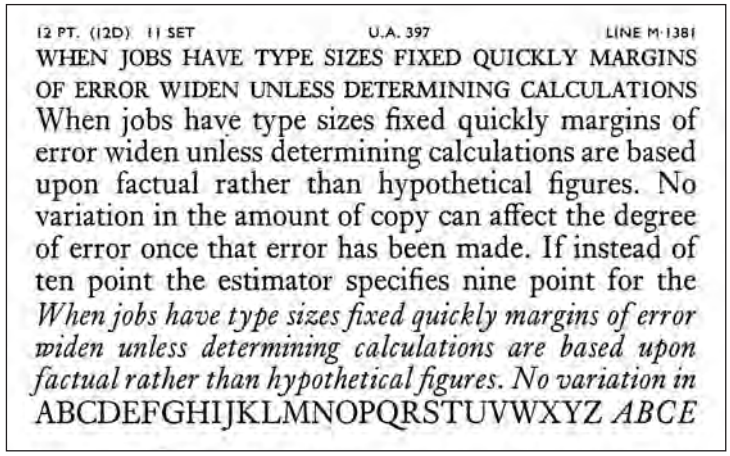
in the begining woz the wurd, and the wurd woz with god and the wurd woz *god:* that woz the truu liet, which lieteth evry man that kumeth into the wurld. *hee woz* in the wurld, and the wurld woz mæd bie him, and the wurld nue him not. *hee kæm* unto hiz œn, and hiz œn reseevd him not. *but az meny az* reseevd him, to them gæv hee pour to bekum the sunz ov *god*, eeven to them that beleev on hiz næm. *which wer born*, not ov blud, nor ov the wil ov the flesh, nor ov the wil ov man, but ov *god*.

Monotype does not record why it selected Ehrhardt for the second specimen, but some suppositions can be made. Ehrhardt was a revival carried out in the late 1930s under Stanley Morison. It was a liberal interpretation of the Dutch Janson model rather than a faithful historical revival.[6] The result was a slightly condensed face, of larger x-height and darker color than traditional book typefaces, and more economical in its use of space. Monotype Ehrhardt Series 453 **[12]** was a commercial success. It met the requirements of publishers for legibility and economy of space and had a contemporary appearance. Twenty years later, when our events take place, Monotype had recently created the Ehrhardt Semibold Series 573. Harry Carter and George Buday had published their article on the true provenance of the so-called Jansons in 1954 (*Linotype Matrix* no. 18), and this may have generated renewed interest in the design.[7] Ehrhardt Semibold was issued in 1956, the same year that Pitman's project was on the drawing board. When a roman/semibold family was called for, Ehrhardt would have been the natural choice.

6 Writing of Ehrhardt in Stanley Morison's *A Tally of Types*, Harry Carter said "it belongs to a late phase in Morison's thinking where he was less interested in the reproduction of an old type than in the production of one that gave good value in legibility." (Morison 1973, 118)

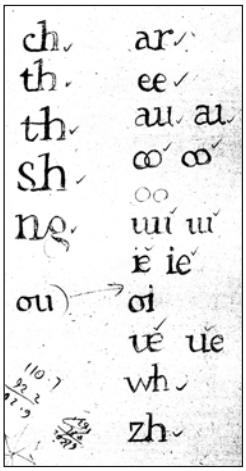
7 Carter and Buday attributed the Janson fonts to Nicolas Kis, a Hungarian who worked as a punchcutter in Amsterdam from 1680–1689.

[12]
Detail of Monotype specimen sheet for Ehrhardt Series 453 (undated).
scale: 100


12 PT. (12D) 11 SET U.A. 397 LINE M·1381
WHEN JOBS HAVE TYPE SIZES FIXED QUICKLY MARGINS OF ERROR WIDEN UNLESS DETERMINING CALCULATIONS
When jobs have type sizes fixed quickly margins of error widen unless determining calculations are based upon factual rather than hypothetical figures. No variation in the amount of copy can affect the degree of error once that error has been made. If instead of ten point the estimator specifies nine point for the
When jobs have type sizes fixed quickly margins of error widen unless determining calculations are based upon factual rather than hypothetical figures. No variation in
ABCDEFGHIJKLMNOPQRSTUVWXYZ *ABCE*

Ehrhardt may have recommended itself for another, technical reason. Fifteen of Pitman's new characters were ligatures and their design involved engineering issues at Monotype. Each character in a set of matrices was assigned a unit-width and had to fit into a specified slot in a specific row of the MCA. The MCA layout was an early and integral part of the design process. Ehrhardt, being already slightly condensed, offered more latitude in designing the ligatures without resorting to numerous double-wide matrices. These were generally to be avoided, as they resulted in sorts with projecting letter parts. The earliest sketches in the Monotype i.t.a. file show a ligature treatment based on Fairbank's somewhat wide, calligraphic model **[13]**, but this concept did not survive long at Monotype. The final form of the *ch, th, sh, ng,* and *ee* ligatures were more condensed in width. The *zh* ligature was abandoned for a single character. The *oo* and *uu* were replaced by narrower characters derived from the Greek *omega*.

[13]
Detail of a sketch attached to a Monotype memo dated 25 April 1956, and described as "tracings of suggestions for the design of double characters." scale: 40

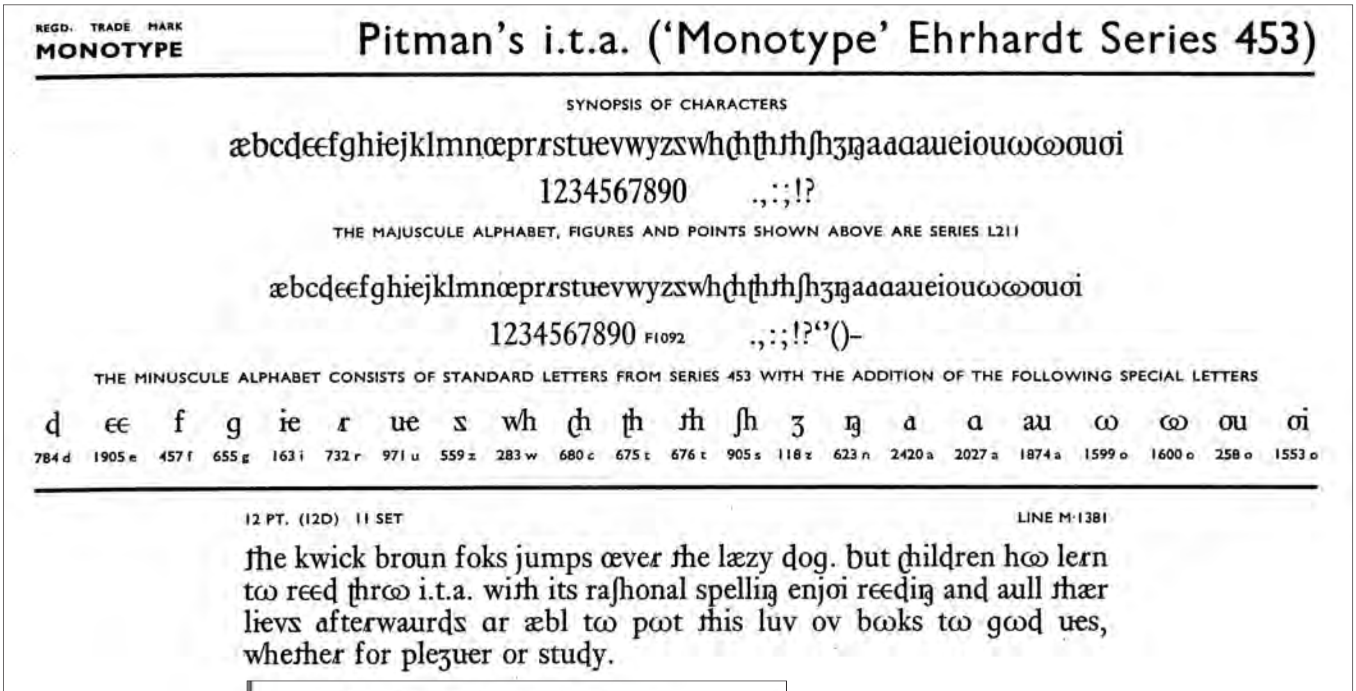


A third supposition regarding Monotype's choice of Ehrhardt is that the corporation's Patent Office would have wished to use a typeface developed exclusively by Monotype in order to assert its licensing rights over the new design. Although the *Janet and John* series used as readers in the educational experiments later were mostly typeset in Century, a popular typeface for children's books (Munro 1961, 1), Century was not an exclusive Monotype typeface.

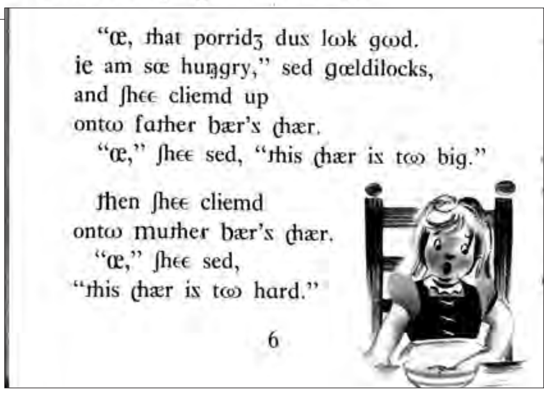
Design critique of i.t.a.

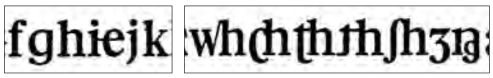
Pitman's alphabet thus first appeared in the *Times Educational Supplement* in a combination of Ehrhardt and Ehrhardt Semibold. Monotype had dodged a bullet in dissuading Pitman from his scheme of majuscules, but only temporarily. He returned to Monotype in the fall of 1959 with the request that they design enlarged characters for the capitals to correct the spotting caused by the Semibold (M: 22 February 1960). One glance is enough to dispel the notion that any concern for typographic unity guided the new design. The majuscules were not compensated for in weight—they are too dark on the page compared to the minuscules and produce as much spotting as the Semibold did—and they possessed additional faults.

Since Pitman's scheme required that the majuscules not differ in form, their discrepancy in size had to be exploited to the fullest. Monotype required that they fit on the smaller body of the minuscules. These conflicting requirements were reconciled by enlarging the x-height to maximize the optical size contrast, compressing the extenders to reduce the character height, and condensing the characters more to keep their unit-widths as narrow as possible. The tall x-height of Ehrhardt, an asset in the standard typeface, became a liability. The resulting characters had a different optical proportion from the minuscules and had to rest on a lower baseline, an arrangement that flouted 500 years of typographic convention. **[14]**

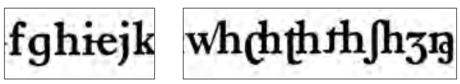


[14]
Above: Detail, specimen sheet for Monotype i.t.a. scale: 100
The paragraph setting on the specimen, and the sample page (right) from *The Three Bears* (i.t.a. edition 1964), both illustrate the unconventional alignment of majuscules on a lower baseline. scale, right: 50





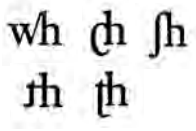
majuscules



minuscules

Above: The majuscules appear to have a taller x-height and look more condensed than the minuscules. scale: 150

[15]
Detail, Monotype i.t.a ligatures containing an *h*. scale: 153

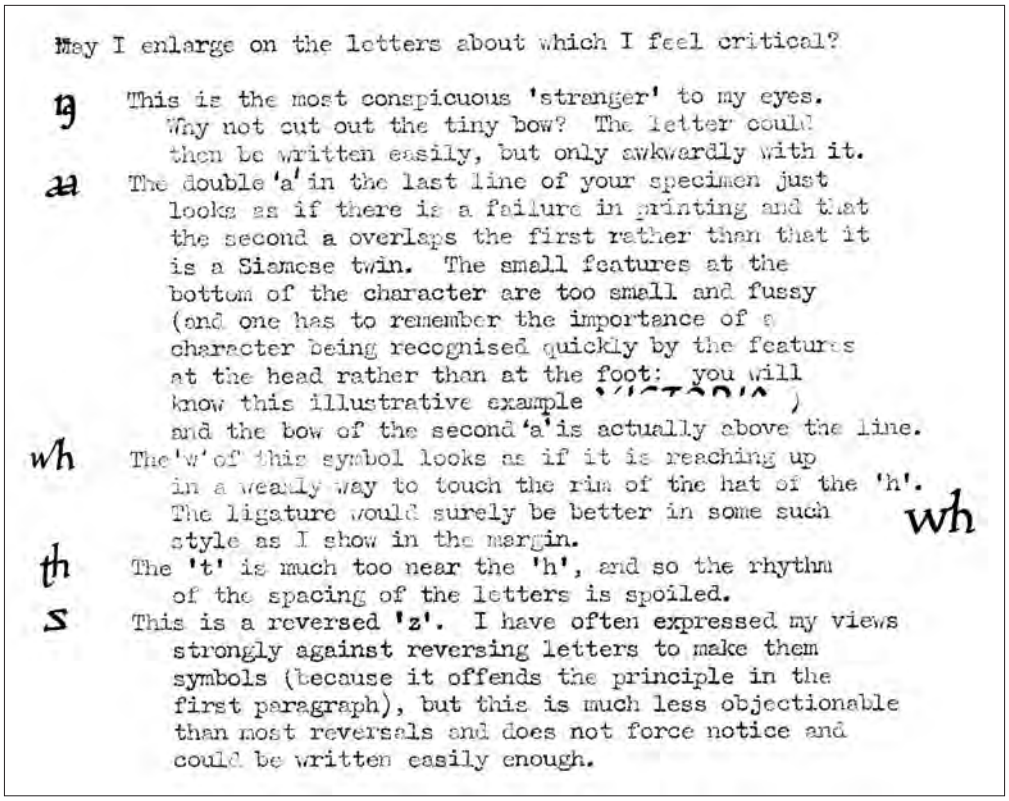


[16]
The i.t.a. *ng* (left) and same character in phonotypy (detail from figure 4, page 5, scale :42).

Other contraventions to good typography in the new typeface were:
1) hairline strokes that appear weak and spindly, especially the long diagonal in *wh;*
2) no consistency in the internal spacing of the many ligatures containing *h* **[15]**; and
3) the tiny bowl and thinner stems in the *ng*, a completely idiosyncratic character **[16]**

Alfred Fairbank was disturbed by the Monotype design. He politely lamented, "Your Ehrhardt alphabet is very interesting, but I do wish I could say I liked all your new characters" (12 November 1958 E.3). He offered a critique of five of the worst offenders, touching on all of the points above, and objecting as well to the reversal of the *z* **[17]**. Pitman replied, "I am sorry that Fellows and I did not bring you into the deliberations. I do not remember our reason for not doing so, but I think it could have been only that we were reluctant to take your time further in this 'curious exercise'" (17 November 1958, E.3). This was a "curious" response, for Fairbank had already invested a good deal of his time in the project without remuneration and did not want to see his efforts going to waste.

[17]
Right:
Detail of Fairbank's letter to Pitman in which he criticizes the design of the Monotype typeface. (12 November 1958 E.3) scale: 85



May I enlarge on the letters about which I feel critical?

This is the most conspicuous 'stranger' to my eyes. Why not cut out the tiny bow? The letter could then be written easily, but only awkwardly with it.

The double 'a' in the last line of your specimen just looks as if there is a failure in printing and that the second a overlaps the first rather than that it is a Siamese twin. The small features at the bottom of the character are too small and fussy (and one has to remember the importance of a character being recognised quickly by the features at the head rather than at the foot: you will know this illustrative example [illegible]) and the bow of the second 'a' is actually above the line.

The 'w' of this symbol looks as if it is reaching up in a weakly way to touch the rim of the hat of the 'h'. The ligature would surely be better in some such style as I show in the margin.

The 't' is much too near the 'h', and so the rhythm of the spacing of the letters is spoiled.

This is a reversed 'z'. I have often expressed my views strongly against reversing letters to make them symbols (because it offends the principle in the first paragraph), but this is much less objectionable than most reversals and does not force notice and could be written easily enough.

Pitman was defensive about the Monotype typeface, which he continued to augment and modify throughout the 1960s. He wrote to Fairbank, "I am committed, as you say, to Ehrhardt. It is a deliberate decision not to wage war on too many fronts" (2 December 1958, E.3). Aware that the typeface contained characters that could not be easily copied by children—a liability, considering its purpose—Pitman requested that Fairbank design alternate handwritten versions of the Monotype characters. The ensuing correspondence between Pitman and Fairbank is notable for the frustration evident in the latter's words:

> 11 December 1958: To me an alphabet is to be criticized according to how far it departs from observance of the principle of unity… I am terribly sorry to have lead you to believe I would help you in this project. You will readily see that my calligraphical conscience will not allow me. My deep regrets. (E.3)
>
> 18 August 1959: Frankly I fear that your experiment, because it is tied up with Ehrhardt, is doomed from the outset. (E.3)
>
> 15 July 1962: As I see it, you are doing your best to make reading easier, whilst I am trying to make writing easier… Unfortunately your experiment makes writing more difficult. (E.3)
>
> 6 Aug 1962: I am sorry. It now seems clear to me that I must stick to my aim to improve handwriting and to spend whatever time I have left in that endeavor. (E.3)

[18]
Sans serif i.t.a. characters designed by Joseph J. Hart, a postgraduate student at Hornsey College of Arts and Crafts. The designs, still a work-in-progress, were sent to Pitman at the latter's request. Pitman was critical of the letter forms. (21 July–11 August 1966, E.24) scale: 20

Fairbank's and Pitman's parting of the ways was not the only controversy over the design of i.t.a. One of the earliest critics of the typeface was Kingsley Read, the finalist in the Shaw Competition, who objected especially to the *ng* ligature (M: 28 July 1959). During the period 1965–68, Pitman corresponded with several design instructors and their students who were trying to improve on i.t.a. **[18]**. When Mike Parker of Merganthaler Linotype wrote to Pitman in 1966 about a Century i.t.a. typeface for filmsetting, he planned to redesign the majuscules (22 July 1966, E.619).

Pitman was in the position during this period of having to defend Ehrhardt i.t.a. from would-be revisionists in order to prevent the "babelization" of the design (2 February 1966, E.24). Monotype pressured him to do the same for its own reasons. With the industry advancing toward phototypesetting, the company was diligently pursuing the income from licensing fees. Pitman had given i.t.a. to the world copyright-free; only the rights to Ehrhardt were owned by Monotype. D.G. Fletcher Rogers, manager of Monotype's Legal and Patents Office, wrote to Pitman in 1965:

> On the one hand there is, for example, the statement in the Observer that the copyright is free. On the other hand, there is the matter of our own efforts to licence people for the royalty.
>
> Now, I appreciate that to the lawyer a distinction can be shown so that there is in fact no conflict concerning these two facts. But, to the businessman, I am quite sure that he will consider the two things conflict and it is with the businessmen of the trade and not with the lawyers that we have to deal.
> (15 April 1965, E.618)

Repercussions of a flawed design process

Pitman credited C. N. Fellows and D. H. J. Schenck of Monotype with designing the Ehrhardt augmented roman (Pitman and St. John 1969, 117), but this was not their true role.[8] Pitman's misapprehension in this regard confirms the rigid compartmentalization of the design process at Monotype and the isolation of the type designers from the clients. This business model rarely results in the best design work being realized. Nor was the corporate culture during this period conducive to creative solutions based on traditional typographic aesthetics. Regarding the role of the Monotype Type Drawing Office (TDO) in the design process, David Saunders, writing for the centenary issue of *Monotype Recorder*, reports that in 1965, when a new head took over the TDO, the department was suffering from a management that saw it:

> not as a development or creative facility but rather as a production area…
>
> It would appear that the advice given to management was that the drawing operation could be subjected to the same controls as all the subsequent mechanical operations; and that it could be broken down into a sequence of low skill mechanical operations…
>
> In any case this approach produced some strange, not to say bizarre ideas. One such idea was for a separate type drawing office, with staff who had no typographic background other than one supervisor who was given a few weeks training. (Saunders, 1997, 29)

Conflicting motives also took their toll on the design process and its participants. Pitman wanted to see his invention exert widespread influence. In 1962 he predicted that within five years i.t.a. would be the preferred medium for teaching reading to English speakers and English to foreign speakers (6 July 1962, E.3). He was briefly rewarded with fame and accolades, but not with the degree of lasting influence he expected. The general consensus among independent evaluators at the close of the experiments in Britain was that i.t.a. did not confer benefits of great enough magnitude or duration to precipitate its universal adoption as a reading scheme (Downing 1967; Houghton 1969; Bullock 1975). Fairbank lost interest in the project when it took a direction that violated his principles. The manuscript he wrote for Pitman's i.t.a. was never published, nor was it included in the list he made of his career commissions.[9] His disappointment in the design process is palpable. Monotype—a company challenged by the most significant technological revolution since its founding—could not countenance design improvements to the i.t.a. at the same time as protecting the licensing fees for its typeface.[10]

Epitaph for i.t.a.

Although still in use today in the U.S. for dyslexia remediation and teaching English as a foreign language (www.itafoundation.org), i.t.a. never fulfilled its promise of revolutionizing literacy education for English-speaking children. Its epitaph must include comments on the design of i.t.a. made in 1967 by Dr. John Downing, the educational psychologist at the University of London who supervised the British experiments of 1961–67:

> (8) The i.t.a. writing system itself should be reshaped through scientific research to maximize the combined effects of simplicity and regularity at the beginning stage and similarity to t.o. for the transition stage. It is essential that detached scientific research should replace subjective feelings or hunch judgement in designing a writing-system closer to the ideal. This recommendation is regarded as of great importance and one that should be implemented with urgency. (Downing 1967, 302)

8 In response to the writer's query this reply was received from Monotype in December, 2005: *The two gentlemen you mention worked in the Monotype sales department. While they were involved with the commercial side of the ITA project they would not have had any influence on questions of design.*

9 John Fairbank, the calligrapher's son, has since added it to his father's list.

10 While it is not within the scope of this essay to explore details of Monotype's licensing policy for i.t.a., this conclusion was formed after reading the relevant files of correspondence in the Pitman Archive (E.617, E.618, E.619, E.624).

Downing proceeded to recommend further research to discover the most effective shapes for the "ideal" form i.t.a. was to acquire. He constructed a table showing his ideas for improvement of certain characters. Ironically, these improvements echoed Fairbank's principle of using harmonious cursive upstrokes for ligatures without distorting the original letter forms **[19]**.

[19]
John Downing's recommendation for improving i.t.a. characters. (*Evaluating the Initial Teaching Alphabet,* 1967, 305) scale: 100

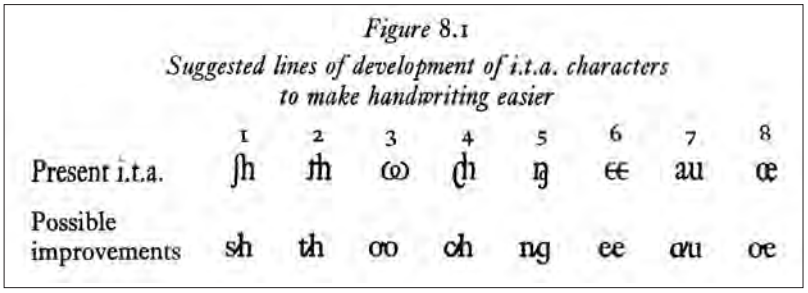


Figure 8.1
Suggested lines of development of i.t.a. characters to make handwriting easier

	1	2	3	4	5	6	7	8
Present i.t.a.	ʃh	ɟh	ɷ	ɖh	ŋg	ɛɛ	au	œ
Possible improvements	sh	th	oo	oh	ng	ee	ou	oe

Downing also asserted in his report that "numerous other improvements have been suggested by teachers" and that one of the advantages of spelling reform over alphabet augmentation was "acceptance would be easier because the s.r.w.s. [simplified and regularized writing system] would look less strange to teachers, parents and other people…" (Downing 1967, 306).

Of what consequence, design?

It is remarkable that Downing, trained as a scientist, not a typographer, should have felt compelled to critique the typographical design of i.t.a. His assessment completed the circle of criticism which began with its first designer, Alfred Fairbank, whose work was superseded before it could be tested with the public. Such a concurrence strongly suggests that the typographical design of i.t.a. was a flaw which contributed to its ultimate demise as a reading medium for children. Downing certainly implied in his report that it prevented parents and educators—who were accustomed to, if not cognizant of, traditional standards of good typesetting—from wholeheartedly embracing the i.t.a. scheme.

This scheme was seen by independent evaluators as a qualified success: as a teaching medium i.t.a. did no harm and had been shown to confer advantages in the early stages of reading (Houghton1969, 52). Greater support in schools for the transition to t.o., more teacher training, and access to more reading materials were recommended to boost its effectiveness (Bullock 1975, 523). Yet such evaluations were not enough to save i.t.a. from relative obscurity in the ensuing decades. A well-designed typeface might not have been enough to stave off the effect of new fashions in education, but it might have prolonged the life of i.t.a. as an early reading medium and even enhanced its acceptance for other educational purposes.

Acknowledgements & references **semibold:** works cited and image sources

Thanks to Lizzie Richmond, archivist, for assistance in accessing the relevant files in the Pitman Archive, University of Bath Library.

Thanks to Robin Nicholas, Monotype Imaging, for providing access to the Monotype archives on i.t.a.

Thanks to Sue Walker, University of Reading, for pointing out the collection of i.t.a. children's books which first sparked my interest in this topic. Her remark that there was a story waiting to be written provided incentive for this research.

Thanks to Mick Stocks, University of Reading, for educating me about Monotype MCAs.

Thanks to Michael Twyman for lending his rare phonotypy books.

Abercrombie, D. (1962)
Augmenting the roman alphabet, some orthographic experiments of the past four centuries
The Monotype Recorder. 42:3, 2–17

Baker, A. (1930)
The life of sir Isaac Pitman (rev ed)
London: Sir Isaac Pitman & Sons, Ltd

Burke, C. (1997)
The early years 1900–1922
In: Boag, A. and Wallis, L.W. (eds). One hundred years of type making 1897–1997
Monotype Recorder (centenary issue).
New series 10, 4-13

Carter, H. (1973)
Ehrhardt
In: Morison, S. *A Tally of Types*. 117–122
Cambridge: Cambridge University Press

Carter, S. (1997)
The Morison years and beyond: 1923-1965
In: Boag, A. and Wallis, L.W. (eds). One hundred years of type making 1897–1997
Monotype Recorder (centenary issue).
New series 10, 14-25

Cole, J.A. (1965)
A scholar penman
In: Osley, A.S. (ed). *Calligraphy and palaeography, essays presented to Alfred Fairbank on his 70th birthday*, 3-15
London: Faber and Faber Ltd

Daley, P.V. (1938)
Phonetics and the printer
In: *The Monotype Recorder*. 37:1, 15–18

Bullock, Alan (1975)
Department of Education and Science
A language for life. Report of the committee of inquiry appointed by the secretary of state for education and science under the chairmanship of sir Alan Bullock FBA
London: Her Majesty's Stationery Office

Downing, J. (1964)
The initial teaching alphabet
In: Downing, J. (ed) (1966)
The first international reading symposium Oxford 1964
London: Cassell & Company, Ltd

Downing, J. (1967)
Evaluating the initial teaching alphabet
London: Cassell & Co Ltd

Fairbank, A. (1977)
A book of scripts (new ed; first ed 1949)
London: Faber and Faber

Fairbank, A. and Stone, C. (1961)
Beacon writing books, (first and second supplements to book one and two)
London: Ginn and Company, Ltd.

Fry, E. (1967)
The diacritical marking system and a preliminary comparison with the initial teaching alphabet.
The Journal of Typographic Research. 1:1, 19–30

Gardner, K. (1962)
The adventures of captain roi (book two, i.t.a. ed)
London: Sir Isaac Pitman & Sons, Ltd.

Graham, F. (1964)
The three bears (a wauk in the wuudz, i.t.a. ed, the downing readers series)
London: Initial Teaching Publishing Company, Ltd.

Hall, J.
The initial teaching alphabet
Eye, 55, 77–78. Available at: www.eyemagazine.com/feature.php?id=117&fid=524

Houghton, W. (1969)
Report on the use of the initial teaching alphabet in a sample of London schools (1963-7)
London: Inner London Education Authority

Jaspert, W.P., Berry, W.T., and Johnson, A.F. (1983)
The encyclopaedia of type faces (4th ed)
Poole: Blandford Press

Mazurkiewicz, A.J. (1966)
The initial teaching alphabet and the world of English: proceedings of the second annual international conference on the initial teaching alphabet, August 18–20, 1965)
Hempstead: The Initial Teaching Alphabet Foundation at Hofstra University

Monotype Archive
i.t.a. file (1956–1975)
Monotype Imaging, Salfords

The Monotype Corporation, Ltd. (1938)
Typographic problems of the illustrated book [specimen display issue for Monotype Ehrhardt Series 453]
Monotype Recorder 37:2, 3–7

The Monotype Corporation, Ltd. (1956)
'Monotype' matrices and moulds in the making
Monotype Recorder. 40:3

The Monotype Corporation, Ltd. (1961)
Learning to read
Monotype News Letter 64, 1–3

The Monotype Corporation, Ltd. (1962)
Progress in p.a.a. [pitman augmented alphabet]
Monotype Recorder. 42:3, 19-23

The Monotype Corporation, Ltd. (undated)
A pocket picture-book of 'Monotype' machines
Salfords: The Monotype Corporation, Ltd.

Montague, A. (1984)
Designing the initial teaching alphabet in five typefaces
Visible Language, 4: 1, 67-72

Morison, S. (1973)
A tally of types (first private press ed 1953)
Cambridge: Cambridge University Press

Munro, R. (1961)
A teacher's manual for use with the Janet and John reading course (first ed 1954)
Welwyn: James Nisbet & Co., Ltd.

Pitman Archive
University of Bath Library
The correspondence of Sir James Pitman on i.t.a. during the period 1951–1971: files E.1–E.4, E.24, E.617–E.619, E.624

Note: To avoid confusion between the two I.J. Pitmans, grandfather and grandson, Sir James Pitman is listed only as Pitman, J.

Pitman, I.J. (1849)
Ae fonografic magazen
London: Fonetic Depó

Pitman, I.J. (1850)
A general specimen of printing types in use by Isaac Pitman
Bath: Phonetic Institution
[pamphlet in the Great Exhibition Archive, University of Reading Library]

Pitman, J. (1959)
The Ehrhardt augmented (40-sound—42-character) lower-case roman alphabet
London and Bath: Pitman Press

Pitman, J. and St. John, J. (1969)
Alphabets and reading
London: Sir Isaac Pitman and Sons Ltd.

Pitman, J. (1959)
Learning to read, a suggested experiment
The Times Education Supplement, May 29 1959, 985.

The Pitman Press (1950)
Specimens of the typefaces available for machine and hand composition
Bath: The Pitman Press

Read, K. (1972)
Sound-writing 1892 -1972
In: Smart, P. (1983). *The Kingsley Read alphabet collection: a catalogue*, 9–23
Reading: University of Reading Library

Southall, R. (1997; written 1981–82)
A survey of type design techniques before 1978
Typography Papers 2, 31-59

Tarr, J.C. (1949)
Type and type casting
Printing Today (rev ed), 59–69
London: Oxford University Press

Twyman, M. (1990)
Lithography and phonography: the books of Isaac Pitman
Early lithographed books, 146–165
London: Farrand Press & Private Libraries Association

Wallis, L. (1997)
Monotype time check
In: Boag, A. and Wallis, L.W. (eds). One hundred years of type making 1897–1997
Monotype Recorder (centenary issue).
New series 10, 46-55

Warburton, F.W. and Southgate, V. (1969)
i.t.a.: an independent evaluation
London: John Murray/W.R. Chamber

URLs (as of 12/2005)**:**

BBC News (5 September 2001)
Educashunal lunacie or wizdom?
news.bbc.co.uk/1/hi/uk/1523708.stm#top

i.t.a. in Australia:
www.austehc.unimelb.edu.au/guides/itaa/ITP0001.htm

i.t.a. in the United States
www.itafoundation.com

general i.t.a. information:
www.foolswisdom.com/users/sbett/ita-radio.htm
www.omniglot.com/writing/ita.htm

i.t.a. font freeware:
www.thesauruslex.com/typo/ita.htm

Juliet Shen has been a designer long enough to have done paste-up with hot type galleys, rubber cement and a single-edge razor blade. These days her design clients in Seattle are mainly nonprofits. She has a Master of Typeface Design degree from the University of Reading and has designed custom fonts for Oxford University Press and the Tulalip Tribes (Lushootseed). The Lushootseed font has been made into wood type by the Hamilton Wood Type & Printing Museum. She has written about diverse interests such as Morris Fuller Benton, Pitman's Initial Teaching Alphabet, and creative methods of restoring an iron handpress. Juliet teaches typography at the School of Visual Concepts, Seattle, and also teaches custom seminars for corporate creative and marketing departments.