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Bilingualism and Visible Language

Bilingual Typography

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Drawn from the results of recent investigations into both the history of typography of printed Welsh and bilingual typography in English and Welsh, this article discusses both the history and the current state of typography. It argues, on the basis of the questions raised by the typography of Welsh — a minority language with no typographic history — that if we are to regard typography as a subject and a discipline, as distinct from a form of applied decoration or self-expression, we need to begin to consider typography as essentially language-based. The solution to the problem of designing for multilingual texts rests in the need to produce individual language-based typographic systems.

Given the scarcity of research into the typographic
structures required for the fluent communication of
words in bilingual contexts, we cannot, as yet,
seriously use the term 'bilingual typography' in
relation to an acquired body of knowledge. Even less
can we talk of a multilingual typography. When we
consider how many countries and communities
around the world have more than one language
within their borders, one would assume that
the practice of typography would address itself to
the specific problem of designing for the bilingual or
multilingual page from at least the time of the
invention of moveable type. However, such knowl-
edge does not exist to any significant extent, nor does
this aspect of typography form part of the essential
training of typographers in multilingual countries.
This suggests that there is no necessity for such
study; that no fundamental problems exist for the
typographer when multilingual texts are used, or
that typography has failed to recognize many of the
problems that are raised when the reader is con-
fronted with more than one language in the same
context. Alternatively, it would indicate that typog-
raphy is not regarded as an essential element in how
the meaning of the text is conveyed to, and under-
stood by, the reader. Typography's relationship to
language, therefore, is, and will, remain peripheral
and limited.

Research into the problems of applying typographic
practice to Welsh,[1] a language which has little history
of such concerns, combined with investigations into
the problems of designing for bilingual texts in
English and Welsh[2] have led to speculation on the
validity of much current typographic practice.
In order to begin to study the problems of bilingual
typography we need to come to terms with certain
basic propositions concerning the nature of typogra-
phy and, fundamentally, whether we can regard
it as a distinct discipline.

As a simple definition, typography could be decribed
as designing for the efficient communication of

words which *A* wishes to transmit to *B*. This would entail the production of new typefaces for, and the use of existing typefaces in, an ordered arrangement whereby efficient communication may take place. It follows from this definition that in order to achieve 'efficient communication', the typographer needs to have, not only a sound knowledge of the practice, but also an understanding of what constitutes *A*, the transmitters, and *B*, the receivers. *A* can obviously be subdivided into various categories, for example, clients, authors etc., while *B* will always represent a *particular* audience or combination of particular audiences. 'Efficient' means that the particular audience(s) will understand the communication in the way that *A* intends, without struggle or ambiguity. It is difficult to know how a realised and intended communication can take place if this were not the case.

We would assume from the above definition, therefore, that typographers need to have as sound a knowledge and understanding of the complex structures of what constitutes the specifics of particular transmitters and receivers as they need in the practice of design. It further follows, since the whole enterprise is engaged in the communication of words, that is, *language*, that the typographer needs to have an equal understanding of the structure and usage of the language and an equal understanding of how the practice of design, the characteristics and use of language, the act of reading, etc., interrelate. In order to understand language, the typographer needs linguistic skills regarding its structure and the various uses of language which determine meaning as used by *A* and *B*.

Another assumption is that typographers, and before them, printers, developed, and continued to develop, sophisticated systems of typographic practice based on *language* and that, as a consequence, they studied the effects of such systems on readers. These systems, like the alphabets themselves, would be known and recognised and used by common consent and experience. Further, the systems contain fundamental similarities

common to all languages. However, since no two
languages are exactly the same in their visual mani-
festation, we expect each system to be *relative* to the
particularities of that language. These individual
language-based typographic systems demonstrate,
when compared one with another, the individual
idiosyncracies of typographic practice (typeface,
space, layout, etc.) pertaining to the *particular*
language. From such an historical analysis, we expect
to be able to define the typographers' intentions
which, in any given period, are clear in relation to
the language used; in how they design, for what pur-
pose and for whom, just as we expect to find a similar
history if we study architecture or engineering.

Presumably, from these language-based systems,
the particularities of each language are visible
in the use of, and design for their typefaces,
accepting the histories of the alphabet system used.
We expect to find that where relatively similar
alphabet systems are used, for example, languages
which use the Roman alphabet, there would never-
theless be differences in the application of
typographic practice for the specific language,
such as in relation to orthography. Efficient
communication involves an understanding of the
language if typography is an essential ingredient
in the reader's ability to comprehend fully the
text in the precise way that the client and/or author
intends; the reader comprehends the text
in a specific way as a result of the influence of
typography upon it. By implication, the converse
of this argument indicates that typography is
simply a form of applied decoration operating
as a form of personal expression applied to
literary concepts.

Each language-based system indicates the relation-
ship between the language in use and the typefaces
used and their optimum layout in order to achieve
maximum readability. In designing for bilingual
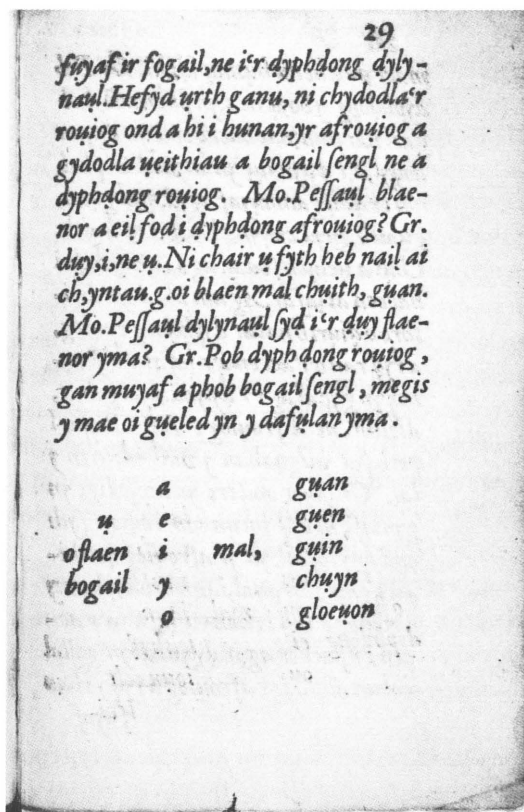material, therefore, the problems of ordered

Figure 1
Dosparth Byrr Gruffydd Robert/
attributed to Vincenzo Girardoni
1567 (RSTC21076)Contained
d for *dd*, *l* for *ll*, *u* for *w* using a
form previously adopted in early
manuscripts. This is probably
the first Welsh book to be
printed in a Roman typeface.

arrangement require use of two such systems, one
for each language, then structuring a relationship
between them so that efficient communication
for each language takes place. Like all disciplines,
we expect such systems to be subject to experiment
and to be in a continual state of modification.

Before too many typographers feel that this
portrays an arid landscape of monotony, we also
expect to find as much inventiveness, imagination and
creativity as in any other subject. We can liken it
to boat building in that boats may be beautiful objects
but are designed primarily in relation to their per-
formance. We can also compare it to acting, which
equally communicates to audiences on behalf of
various and multiple transmitters — where meaning
is produced not simply by understanding

the words of the text but also by the way in which the words are conveyed.

When placed against such assumptions, however, the history of typography appears, instead, to be a rather wayward, indeterminant and vague enterprise, for none of these language-based systems exists to the extent that our definition of typography implies; on the contrary, there is a marked absence of any language-based typographic practice.[3] From an investigation of the history of printing, there is little evidence to suggest that the problems of the bilingual page have ever been seriously considered. An examination of examples of commonly found contemporary bilingual printed pages from various countries revealed little evidence of systematic thinking, with the exception of Switzerland although, even here, it appears to be the product of astute individual design rather than the result of any programmed research.[4]

The results of an examination into the early typography of printed Welsh indicate that in its entire history there was no attempt to set the text in any typeface, format or layout specifically for Welsh.[5] In carrying out this investigation we also looked for the way in which typographers assess the readability of the printed texts, as distinct from the legibility of the typefaces used; how they used the means at their disposal in relation to the languages they used, in this case, English and Welsh, and how they applied such knowledge to the problems of designing for the bilingual page, for example:

In combining any two languages into one typographic harmony, the designer will have to deal with copy of different length (representing the same message) differing in the size of the average word, sentence and paragraph; and differing in the incidence of certain letters of the alphabet, characteristic of each language.[6]

We looked for the relationship between the alphabet
used and the orthography of each language; the
relationship between the design of the typeface and
the language or languages for which it was set; the
particularities of letter, word, and line spacing and
optimum line length *relative* to both the typeface and
its size *and* to the effect of the language used. We
presumed that typographers would agree that:

> **Each identical sound signal, accented letter,
> word picture and letter group has a different role
> in each language. The same letter shapes appear
> differently in different languages.**[7]

This being the case, in the design of any bilingual
page, the problems of language must be a primary
consideration.

However, the more common belief amongst
designers in Britain, including some of the most
eminent typographers of the English language
is that if you can design successfully for one language,
then you can design for any other. Further, the
designer need not be able to understand, with any
degree of fluency, the language for which he or she
is designing. This view must also logically assume
that good typography consists of a set of common
principles, common to the use of typefaces in *any*
language (or that there are none at all; typography,
therefore, would be the practice of a special
unquantifiable talent in the pursuit of decoration);
it assumes that there is no typographic practice
which can be recognised as 'belonging' to any one
language and therefore, if legibility is achieved,
readability follows, given the view that the designer
need not understand the meaning of the text.

We concede that typographic design has no
fundamental importance to understanding the text
in the majority of printed matter throughout the
history of print but this is not the same as saying it
never did nor could have. We can argue, for
example, that readability, in itself, is a necessary

requisite for *efficient* communication. If one
subscribes, however, to the view of typography as
a kind of flavoring, as distinct from a necessity,
then typography becomes an interest where 'quality'
may be favored while mediocrity can simply be
ignored. Any debate between typographers becomes,
for those outside the subject, a debate about
prevalent *style* in any given age. In this environment,
multilingual design merely represents 'another
typographic problem' that can be treated in exactly
the same way as any other. It is tempting to believe
in such an easy solution and the view of many
respected designers certainly gives it weight. Such a
view would, for example, indicate that where we
find 'bad' typography it is always the fault of the
individual designer not of the subject. This view is
commonly put into practice by typographers and
graphic designers in relation to their judgment of any
piece of graphic design.

Clearly, the current view amongst typographers
dismisses the subject of bilingual typography and
maintains that no problem can be contained within
current practice which, as we have indicated,
would appear to exclude language as a prime consid-
eration. This must reflect the belief that typography
is a known quantity common to all languages.
Typography changes its form *only* in relation to the
particular taste and style which is predominant at any
given time or in relation to changing technologies.

Most designers now accept that the days of regarding
typography as an individual aesthetic response, as
demonstrated, for example, in the history of the
private press, are passing or past. The majority of
designers now subscribe to a much more functional
view of their subject. Typography has indeed allowed
certain limited information to percolate from other
disciplines; from the psychological and physiological
processes of reading and comprehension, the psychol-
ogy of perception etc., but there is no widespread
research and experimentation linking typographic
practice and psychology, for example. Existing

research appears at the periphery of the subject rather than at the center. More significantly, perhaps, there is little research emanating from typographers or from the technologies and industries that manufacture for them or use their services. In spite of the growth of functional design, very few typographers would go so far as to call their subject a science or an applied science. It is at this very point that our conflict begins.

This view of typography is corroborated in the training of typographic designers where linguistics, perception or the psychology of reading and comprehension, not to mention the study of grammar and syntax, is absent. Before students begin to study typography, their experience is primarily in Fine Art. Their subsequent training in design also takes place within the context of art as a form of personal expression. While some graduates may have some knowledge of the stylistic history of typefaces, few will have acquired any knowledge, as part of their training, of the histories of the languages involved or of the social, economic, and cultural history of printing in Europe (or even of their own country). Students are primarily trained in the immediate use of current typefaces as visual, rather than textual, material and are programmed to view the problem of communication as one of successful aesthetic control of a *personal idea*.

It is not surprising, therefore, that given such an educational and cultural context, there is little desire to discover what role typography should play, nor much regard for the notion of typography as the means whereby language, that is, words and the method of combining them for the expression of thought, is made visual. Since language has to be organised, structured and systematic to express thought, it follows that typography *per se* must also be organized, structured and systematic on behalf of the language it serves and before it too can play a part in any 'expression of thought'.

Unol Daleithiau AMERICA.

Yn mha rai y cynnwysir Lloegr-Newydd, Iork-New-ydd, Jersey-Newydd, Pensylfania, Maryland, Firginia, a'r Carolinas; ond yn gyntaf am Loegr-Newydd.

NEW-ENGLAND, neu LOEGR-NEWYDD,

SYDD yn nghylch pum cant a haner o filldiroedd o hŷd, a dau cant o led; yn cael ei therfynu o du'r gogledd a dwyreiniol gan Nofa-Scosia; yn ddehenol gan Iork-Newydd; ac yn orllewinol gan Canada, yr hon a soniwyd am dani o'r blaen. Hi a ranir yn bedair talaeth, sef, Hampshire-Newydd, Massachusets, Rhode-Island, a Chonecticut. Mae'r wlad hon yn gorwedd rhwng 41 a 49 o raddau yn ogleddol; a rhwng 67 a 74 o raddau yn orllewinol i ddinas Llundain.

Er bod Lloegr-Newydd yn sefyll yn nghylch deg gradd yn nes i'r dehen na Hen-Loegr; etto mae'r gauaf yn dechreu'n gynt, yn parhau yn hŵy, a hefyd lawer yn fwy cadarn nag y mae yn arferol o fod yn yr un Lledred: ond o'r tu arall mae'r haf yn fwy gwresog, nid yn unig nag yn ein gwlad ni, ond yn gyfattebol i rai gwledydd dan Linyn y Cyhydedd; er ei bod yn bresennol lawer yn fwy tymherus nâg yr oedd pan ddaethwyd gyntaf mewn adnabyddiaeth o honi.

Mae pob math o anifeiliaid yn Lloegr-Newydd yn dra aml, a rhai o honynt yn rhagori mewn maintioli a'r un lle arall. Nid yw eu ceffylau ond bychain; ond yn wasanaethgar, ac yn bur gelyd; eu defaid sy'n cael eu cyfrif o'r rhywogaeth oreu, a rhifedi mawr o honynt ymhob cwr o'r wlad. Heblaw hyn, mae yma lawer math o greaduriaid, yn enwedig elciaid, hyddod, ysgyfarnogod, beaferiaid, otteriaid, eirth, mwnciod, martiniaid, raccwniaid, bleiddiaid, a chadnoaid; ond y creadur mwyaf hynod yw'r mwn neu fath o hŷdd gwyllt, o ba rai mae dau rywogaeth, sef y gwineu a'r du; ond mae rhai duon yn rhagori mewn maintioli ymhell oddiwrth y lleill, ac yn gyffredin o ddeuddeg i dair ar ddeg o droedfeddi o uchder; mae hwn yn ei gowff o faintioli tarw; ond o ran ei ben a'i wddf yn debyg i garw. Mae gan y rhai'n gyrnau o bedair i bum troedfedd o hŷd, ac yn llawn canghenau ag sy'n agor yn llydain ar bob ochr.

Figure 2

Speculum Terrarum & Coelorum neu Ddrych y Ddaer a'r Ffurfafen Mathew Williams/John Evans 1826 Typical of the lowest quality of nineteenth century printing.

An examination of the history of the typography of printed Welsh, with few exceptions, revealed the complete lack of a structured and systematic typography applicable to it. Printed Welsh has always been set as if it were English. In itself, this may sound unremarkable given a country which, until 1718, only received printed matter in Welsh if it were printed in London, or from 1696 onwards in Shrewsbury and which, throughout its history, has never operated a type foundry which might have allowed the possible development of a Welsh-oriented typography, or even a typography developed

primarily by Welsh speakers. The typography of
Welsh imitated, and still imitates, that of English.

Throughout the history of printed Welsh we witness
the cultural domination of the majority language over
the minority, just as we witness, throughout the
history of Europe, the continual attempts to suppress
minority peoples, their cultures and languages, by
subjugation in order to assimilate them and thus
consolidate the ruling establishment's power base.
The history of printing and typography is also a
history of politics.

As early as 1567 when William Salesbury brought out
in London a Welsh translation of the New Testament
(*Testament Newydd* STC 2960) he had to list the
expedients which he had been forced to accept since
Henry Denham's type stock lacked certain letters
needed for the printing of Welsh, for example,
Salesbury used '...*C* for *K* (because the printers had
not so many as the Welsh requireth) and in some for
G...'. It is significant that, even in 1986, the charac-
ter incidence of Welsh is not quantified. The Welsh
language suffered the additional disadvantage of
lacking a visual identity of its own precisely because
it appeared to use the same alphabet system as
English. The London printers often used the redun-
dant letters of English (*j, q, z* and *x*) in Welsh texts
if they were short of *i, c,* and *y*. Although this use of
redundant characters occurred even in English,
as the end-pages of many books bear witness, it was a
particular problem for the printers of Welsh working
with cases of type calculated to the incidence of
English. Furthermore, to a printer (or typographer)
who does not understand the language for which he is
designing, there was, and still is, no obvious problem
in reading distinctive Welsh characters, for example
ll is simply two 'English' *l*'s. Words could be
hyphenated at any point and unsuitable typefaces
could be used, some of which effectively broke words
into two since the use of certain character combina-
tions in Welsh had not been envisaged in the design of
the typeface. Once printing moved from London to

B i T y p o g r a p h y

Shrewsbury and then to Wales, it was inevitable that Welsh printers would wish to print Welsh as capably as the average London printers were printing English. Until the advent of William Caslon (1693-1766) in the eighteenth century, this was dependent on using, for the most part, low-priced, second-rate Dutch types. Until the introduction of foundry capacity and paper mills into England and the advent of Caslon, English was, to all intents and purposes, set in relation to continental practice. The orientation away from the influence of the continent and particularly that of Holland, was reflected in the growing competition as to who might produce the most popular indigenous typefaces. It was Caslon who set the standards and he continued to do so until the first decade of the nineteenth century. Caslon's Roman, produced between 1728 and 1732, was the first typeface to be designed specifically with the English language in mind. Produced within a family type-style, it was to generate a standard of harmony, elegance, and balance that permits the subject of an English typography to begin. It is perhaps indicative of our society, and the subject, that while every British schoolboy may have heard of William Caxton few will have heard of William Caslon.

The restrictive economics of type design and foundry practice throughout Europe played a crucial role in the history of printing. This goes a long way to explaining the lack of the emergence of individual language-based typographic systems. The results on the printed page are more the results of the social, cultural and economic history of European foundries than the application of any ideas derived from art.

The setting of a typeface in a language for which it is not primarily designed demonstrates that the slightest modification in the shape and style of the typeface used can either aid or deter the legibility, and thus readability, of the language used. No two languages ever manifest themselves in precisely the same visual shape even if they use the same alphabet since the particular frequency of letters associated one with

another is distinct and determines the visual presen-
tation of the language: its shape and format. Thus
the relationship of letter frequency and *sequence*
(as distinct from the differing number of individual
characters used) produces the visual appearance
of a language and determines the suitability of a
particular typeface. The shape and style of the
typefaces used in the visual presentation of any
language must be determined, not by habit or
expediency, but by the visual characteristics of that
language. This awareness came late to the printers
of English and, because of their desire for parity, and
their use of English-oriented types, it did not come
at all to the printers of Welsh. Yet we argue that
it is one of the fundamental maxims on which typog-
raphy must be based.

In applying the problem of letter frequency and its
effect on legibility and readability, recent research[8]
demonstrated that out of twenty-five commonly used
typefaces for English texts suitable for books, only
three could be described as usable for Welsh, with
Plantin Light the favorite. Five are possible, but
only if certain modifica-
tions are carried out, such
as variable letter spacing,
and seventeen are rejected
as entirely unsuitable.
The results are as follows:

Suitable
Plantin Light
New Baskerville
Times Roman

Figure 3
Plantin Light 10 on 12 pt/
Designed by Rhiain Davies
1982, from MA thesis.
Typeface suitable for Welsh.

ffafriol dros ben â chynnyrch gwŷr llên Ewrob yn ystod y bedwaredd
ganrif ar ddeg a'r bymthegfed ganrif. I ddarllenwyr heddiw
mynegiant personol yw cynnyrch bardd ond i fardd yn yr Oesoedd
Canol nid hunan-ddatgeliad oedd canu iddo ef ond canmol ei
noddwr hyd eithaf ei allu. Yr oedd gan y bardd bryd hynny ei safle
arbennig mewn cymdeithas a bu'n rhaid iddo fynd drwy gyfnod naw
mlynedd o brentisiaeth cyn cael ei alw'n fardd o gwbl. Ymgeisiai'n
barhaus i loywi ei grefft a gelwid arno gan ei noddwr i gyfansoddi
gweithiau newydd ar gyfer y gwyliau crefyddol neu achlysuron eraill
arbennig, megis marwolaeth cyfaill o uchelwr, cwblhau tŷ newydd,
neithior neu wledd. Y ffydd Babyddol oedd cynsail eu bywyd ac yn
aml iawn gwelid y beirdd yn moliannu daioni Duw a'i roddion.
Canent hefyd i ferched arbennig gan glodfori eu harddwch a
weithiau canent yn arbennig i rannau gwahanol o'i chorff megis ei
gwallt. Weithiau ceid caneuon ganddynt yn gwatwar hen ddynion
am briodi gwragedd ifainc a thro arall ceid disgrifiadau rhywiol o'r
corff. Un dull o ganu a oedd yn boblogaidd dros ben ganddynt oedd
y dull o ddyfalu — gofynnent am rodd o wrthrych arbennig heb ei
enwi gan bentyrru disgrifiadau cain ohono a'u gwau drwy'i gilydd yn
gelfydd dros ben. Ambell i waith canent gerddi dychanol ar destunau
gwahanol. Dro arall canent gerddi proffwydol eu naws a elwid yn
Ganu Brud. Amddiffynnent eu crefft dro arall drwy ganu cerddi
protest yn erbyn unrhyw gamddefnydd a wnaed a'u barddoniaeth.
    Ni chanent yn arbennig i serch a natur ag eithraid i'r canu yw
cywydd Gruffudd ap Adda i'r Fedwen, ond fe fyddai serch a natur
yn ffurfio cefndir i'w cerddi yn aml iawn. Yn wahanol felly i'w
gydoeswyr rhagorodd Dafydd ap Gwilym mewn canu i'r ddau
destun hyn ac mae ei gywyddau serch a'i gywyddau natur ef ymhlith
ein gweithiau llenyddol ceinaf fel cenedl. Canu mawl oedd prif
thema beirdd yr uchelwyr a defnyddient gymhariaethau o fyd natur i
gynnal y moliant hwnnw. Cymharent eu noddwyr i anifail megis
llew, ag eto yn addfwyn fel oen. Yn aml iawn defnyddient goed fel
delwedd i ddisgrifio cadernid a chryfder eu noddwr.

Possible with Modification

Baskerville
Helvetica
Melior
Olympian
Optima Medium

Unsuitable

Poliphulus
Bembo Old Face
Bodoni
Goudy Old Style
Perpetua
Zapf Book Light
Rockwell
Gill Sans
Univers
Roman Old Face
Garamond
ITC Century Book
Caledonia
Palatino
Futura Book
Caslon 540
Century Old Style

ffafriol dros ben â chynnyrch gwŷr llên Ewrob yn ystod y bedwaredd ganrif ar ddeg a'r bymthegfed ganrif. I ddarllenwyr heddiw mynegiant personol yw cynnyrch bardd ond i fardd yn yr Oesoedd Canol nid hunan-ddatgeliad oedd canu iddo ef ond canmol ei noddwr hyd eithaf ei allu. Yr oedd gan y bardd bryd hynny ei safle arbennig mewn cymdeithas a bu'n rhaid iddo fynd drwy gyfnod naw mlynedd o brentisiaeth cyn cael ei alw'n fardd o gwbl. Ymgeisiai'n barhaus i loywi ei grefft a gelwid arno gan ei noddwr i gyfansoddi gweithiau newydd ar gyfer y gwyliau crefyddol neu achlysuron eraill arbennig, megis marwolaeth cyfaill o uchelwr, cwblhau tŷ newydd, neithior neu wledd. Y ffydd Babyddol oedd cynsail eu bywyd ac yn aml iawn gwelid y beirdd yn moliannu daioni Duw a'i roddion. Canent hefyd i ferched arbennig gan glodfori eu harddwch a weithiau canent yn arbennig i rannau gwahanol o'i chorff megis ei gwallt. Weithiau ceid caneuon ganddynt yn gwatwar hen ddynion am briodi gwragedd ifainc a thro arall ceid disgrifiadau rhywiol o'r corff. Un dull o ganu a oedd yn boblogaidd dros ben ganddynt oedd y dull o ddyfalu — gofynnent am rodd o wrthrych arbennig heb ei enwi gan bentyrru disgrifiadau cain ohono a'u gwau drwy'i gilydd yn gelfydd dros ben. Ambell i waith canent gerddi dychanol ar destunau gwahanol. Dro arall canent gerddi proffwydol eu naws a elwid yn Ganu Brud. Amddiffynnent eu crefft dro arall drwy ganu cerddi protest yn erbyn unrhyw gamddefnydd a wnaed a'u barddoniaeth.

Ni chanent yn arbennig i serch a natur ag eithraid i'r canu yw cywydd Gruffudd ap Adda i'r Fedwen, ond fe fyddai serch a natur yn ffurfio cefndir i'w cerddi yn aml iawn. Yn wahanol felly i'w gydoeswyr rhagorodd Dafydd ap Gwilym mewn canu i'r ddau destun hyn ac mae ei gywyddau serch a'i gywyddau natur ef ymhlith ein gweithiau llenyddol ceinaf fel cenedl. Canu mawl oedd prif thema beirdd yr uchelwyr a defnyddient gymhariaethau o fyd natur i gynnal y moliant hwnnw. Cymharent eu noddwyr i anifail megis llew, ag eto yn

Figure 4
Bodoni Book 12 on 13 pt/ Designed by Rhiain Davies 1982, from MA thesis. Unsuitable typeface for Welsh, for example, the thick strokes of the ascenders and descenders draw attention to the double characters *dd, ff, ll.* The typeface produces a vertical stress rather than a horizontal one.

When set in Welsh, many of the typefaces listed, such as Century Old Style and Caslon 540, produce a contradiction in the activity of reading from left to right by creating a vertical stress to the page due to the frequency of ascenders and descenders. Because of the thick strokes of their long ascenders, Bodoni and Caledonia draw too much attention to the double Welsh characters, *dd*, *ff*, *ll*, etc. Certain letter combinations, such as *gy* which is found in Welsh but not envisaged in the design of the typeface, make others, for example, Garamond, unsuitable. Similarly, the angle of certain letters when set in the frequency needed for Welsh also causes problems, such as the *y* in Gill Sans. It is significant that one of the finest settings in the entire history of Welsh printing is the first Welsh book printed in the United States, *Annerch i'r Cymru* by Ellis Pugh which was published in 1721 and printed by Andrew Bradford. With an increase in the leading and a shorter

ffafriol dros ben â chynnyrch gwŷr llên Ewrob yn ystod y bed-
waredd ganrif ar ddeg a'r bymthegfed ganrif. I ddarllenwyr hed-
diw mynegiant personol yw cynnyrch bardd ond i fardd yn yr
Oesoedd Canol nid hunan-ddatgeliad oedd canu iddo ef ond can-
mol ei noddwr hyd eithaf ei allu. Yr oedd gan y bardd bryd hynny ei
safle arbennig mewn cymdeithas a bu'n rhaid iddo fynd drwy
gyfnod naw mlynedd o brentisiaeth cyn cael ei alw'n fardd o gwbl.
Ymgeisiai'n barhaus i loywi ei grefft a gelwid arno gan ei noddwr i
gyfansoddi gweithiau newydd ar gyfer y gwyliau crefyddol neu
achlysuron eraill arbennig, megis marwolaeth cyfaill o uchelwr,
cwblhau tŷ newydd, neithior neu wledd. Y ffydd Babyddol oedd
cynsail eu bywyd ac yn aml iawn gwelid y beirdd yn moliannu
daioni Duw a'i roddion. Canent hefyd i ferched arbennig gan
glodfori eu harddwch a weithiau canent yn arbennig i rannau
gwahanol o'i chorff megis ei gwallt. Weithiau ceid caneuon gand-
dynt yn gwatwar hen ddynion am briodi gwragedd ifainc a thro
arall ceid disgrifiadau rhywiol o'r corff. Un dull o ganu a oedd yn
boblogaidd dros ben ganddynt oedd y dull o ddyfalu – gofynnent
am rodd o wrthrych arbennig heb ei enwi gan bentyrru dis-
grifiadau cain ohono a'u gwau drwy'i gilydd yn gelfydd ∴ros ben.

dull o ganu a oedd yn boblogaidd dros ben ganddynt oedd y dull
o ddyfalu — gofynnent am rodd o wrthrych arbennig heb ei enwi
gan bentyrru disgrifiadau cain ohono a'u gwau drwy'i gilydd yn
gelfydd dros ben. Ambell i waith canent gerddi dychanol ar
destunau gwahanol. Dro arall canent gerddi proffwydol eu naws
a elwid yn Ganu Brud. Amddiffynnent eu crefft dro arall drwy
ganu cerddi protest yn erbyn unrhyw gamddefnydd a wnaed a'u
barddoniaeth.
   Ni chanent yn arbennig i serch a natur ag eithraid i'r canu yw
cywydd Gruffudd ap Adda i'r Fedwen, ond fe fyddai serch a
natur yn ffurfio cefndir i'w cerddi yn aml iawn. Yn wahanol felly
i'w gydoeswyr rhagorodd Dafydd ap Gwilym mewn canu i'r ddau
destun hyn ac mae ei gywyddau serch a'i gywyddau natur ef
ymhlith ein gweithiau llenyddol ceinaf fel cenedl. Canu mawl
oedd prif thema beirdd yr uchelwyr a defnyddient gymhar-
iaethau o fyd natur i gynnal y moliant hwnnw. Cymharent eu
noddwyr i anifail megis llew, ag eto yn addfwyn fel oen. Yn aml
iawn defnyddient goed fel delwedd i ddisgrifio cadernid a
chryfder eu noddwr.

ffafriol dros ben â chynnyrch gwŷr llên Ewrob yn ystod y
bedwaredd ganrif ar ddeg a'r bymthegfed ganrif. I ddarllenwyr
heddiw mynegiant personol yw cynnyrch bardd ond i fardd yn yr
Oesoedd Canol nid hunan-ddatgeliad oedd canu iddo ef ond
canmol ei noddwr hyd eithaf ei allu. Yr oedd gan y bardd bryd
hynny ei safle arbennig mewn cymdeithas a bu'n rhaid iddo fynd
drwy gyfnod naw mlynedd o brentisiaeth cyn cael ei alw'n fardd o
gwbl. Ymgeisiai'n barhaus i loywi ei grefft a gelwid arno gan ei
noddwr i gyfansoddi gweithiau newydd ar gyfer y gwyliau
crefyddol neu achlysuron eraill arbennig, megis marwolaeth cyfaill
o uchelwr, cwblhau tŷ newydd, neithior neu wledd. Y ffydd
Babyddol oedd cynsail eu bywyd ac yn aml iawn gwelid y beirdd yn
moliannu daioni Duw a'i roddion. Canent hefyd i ferched arbennig
gan glodfori eu harddwch a weithiau canent yn arbennig i rannau
gwahanol o'i chorff megis ei gwallt. Weithiau ceid caneuon
ganddynt yn gwatwar hen ddynion am briodi gwragedd ifainc a
thro arall ceid disgrifiadau rhywiol o'r corff. Un dull o ganu a oedd
yn boblogaidd dros ben ganddynt oedd y dull o ddyfalu —
gofynnent am rodd o wrthrych arbennig heb ei enwi gan bentyrru
disgrifiadau cain ohono a'u gwau drwy'i gilydd yn gelfydd dros ben.
Ambell i waith canent gerddi dychanol ar destunau gwahanol. Dro
arall canent gerddi proffwydol eu naws a elwin yn Ganu Brud.
Amddiffynnent eu crefft dro arall drwy ganu cerddi protest yn
erbyn unrhyw gamddefnydd a wnaed a'u barddoniaeth.
   Ni chanent yn arbennig i serch a natur ag eithraid i'r canu yw
cywydd Gruffudd ap Adda i'r Fedwen, ond fe fyddai serch a natur
yn ffurfio cefndir i'w cerddi yn aml iawn. Yn wahanol felly i'w
gydoeswyr rhagorodd Dafydd ap Gwilym mewn canu i'r ddau
destun hyn ac mae ei gywyddau serch a'i gywyddau natur ef
ymhlith ein gweithiau llenyddol ceinaf fel cenedl. Canu mawl oedd
prif thema beirdd yr uchelwyr a defnyddient gymhariaethau o fyd
natur i gynnal y moliant hwnnw. Cymharent eu noddwyr i anifail
megis llew, ag eto yn addfwyn fel oen. Yn aml iawn defnyddient
goed fel delwedd i ddisgrifio cadernid a chryfder eu noddwr.

Figure 5
*Rockwell 10 on 12 pt and ITC Zapf Book Light
10 on 12 pt/* Designed by Rhiain Davies 1982,
from MA thesis. Both unsuitable for Welsh, for
example the letter *g* in both typefaces, and the
combination of *w* and *y* and *gy* in Zapf.

Figure 6
Gill Sans 11 on 13 pt/ Designed by Rhiain
Davies 1982, from MA thesis. Unsuitable
typeface for Welsh, for example, the angle of
the character *y*.

length of line, it provides an indication
of an acceptable standard. It suggests
that a rounded and wide typeface with
short ascenders and descenders is more
appropriate for Welsh than the con-
verse. Poorly-set justified text, in any
language, causes a vertical scatter of
rivers of white throughout the page but
this problem is more pronounced when
type is set in Welsh due to the fre-
quency of *extra* short words and the
frequency of the ascenders. Ideally,
therefore, the space between letters

and between words should be consid-
ered individually and in relation to
line and column length; it should also
be considered in relation to the *phrase*
and this should apply to both justified
and unjustified setting.

To date, the history of printed Welsh
does not display any such typographic
concerns. Instead, we find a disregard
for and a lack of sensitivity towards
the relationship of language and
typography, just as we find a similar

Annerch ir Cymru.

YN y dechreuad fe a greawdd Duw bob peth wrth ei fodd ei hunan, a dyn ar ei ddelw ei hun, uwchlaw yr holl greaduriaid, mewn Cyflwr pur, yn gymwys i wafanaethu ac i anrhydeddu ei greawdwr: ond y Sarph, yr yspryd Cyfrwys gelyniathol, a dwyllodd Efa, a hi awelodd fod y Ffrwyth gwaharddedig yn beth dymunol, felly Adda ag Efa a dorrafant y gorchymmyn, trwy yfyddhau i'r un drwg, ac anyfyddhau i Dduw, yno pechod a llygredigaeth a gymerodd afel ar ddynol ryw. Ond eu Tad trugarog a ymwelodd a hwy gydag awel y dydd, yw Ceryddu, ac iw ymgleddu, yr hwn a ddywedodd, y cae had y wraig figo pen y Sarph; felly ffrwd o lygredigaeth pechod ac anyfydddod a ddilynodd blant dynnion fel gwahan glwyf, ond had y wraig oedd y'r help a'r ymddiffyn, a roddes Duw iddynt, fel y gallent orchfygu Satan, yr hwn had iw Chrift, yr vn, *Tr hwn a laddwyd, er Seiliad y byd* (o lygredigaeth pechod a dynnion) ag efe a, ordeinwyd hefyd i farw yn gorphorol ynghyflawnder yr amfer, i brynnu dynnion, ac yw dwyn adref at eu Tad, ac i wneuthyr eu Cymmod, Canys *efe a roddwyd yn oleuni i'r Cenhedloedd, ac yn Jechydwriaeth hyd eithof y ddaiar.* Efay 49. 6. Ac er i Satan, a llygredigaeth wneuthyr y dynnion yn anghymwys, ac yn anabl o honynt eu hunain i wneuthyr dim gwafanaeth Cymmeradwy iw gwneuthyrwr, etto drwy

A 2   help

Figure 7
Annerch i'r Cymru Ellis Pugh/Andrew Bradford 1721. The first Welsh book to be printed in the United States and one of the finest typographic settings in the history of the Welsh.
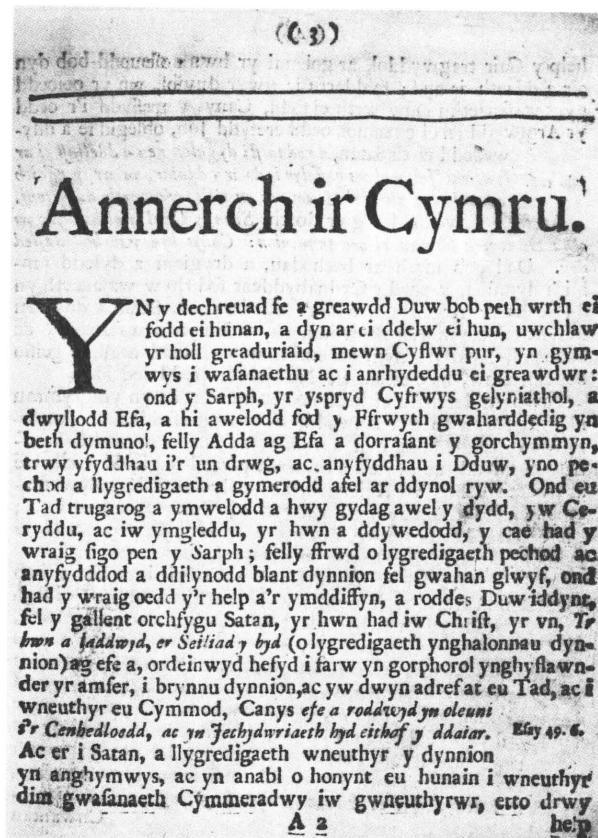
disregard between the design of type-faces and the languages in which they are used. There is no doubt that if the same exercise were applied to *English*, we would find *equally* unsuitable typefaces in common use. We find this in a subject whose *raison d'etre* would appear to be concerned with the acute visual implications of printed shapes, letters, words, spaces, length of line, letter space, word space, line space, etc. which should be arranged in the service of optimum readability. And we find this at a time when:

There has never been a moment like today when perfect spacing is more possible. Many photo-composing machines offer in their makeup the opportunity of this.[9]

Mawr yw dy ferw, goeg chwerw gân,
Henwr, wrthyd dy hunan,
Gwell yt, myn Mair air aren,
Garllaw tân, y gŵr llwyd hen,
Nog yma 'mhlith gwlith a glaw
Yn yr irlwyn ar oerlaw

Taw â'th sôn, gad fi'n llonydd
Ennyd awr oni fo dydd.
Mawrserch ar ddiweirferch dda
A bair ym y berw yma.

Ofer i ti, gweini gwŷd,
Llwyd anfalch gleirch lled ynfyd,
Ys mul arwydd am swydd serch,
Ymleferydd am loywferch.

Dydi, bi, du yw dy big,
Uffernol edn tra ffyrnig,
Mae i tithau, gau gofwy,
Swydd faith a llafur sydd fwy –
Tau nyth megis twyn eithin,
Tew fydd, cryw o frwydwydd crin.

(Rhan o'r gerdd 'Cyngor y Biogen')

Thus Kindersley indicates the search for precision and structure and reinforces the possibilities of contemplating a more language-based typography:

We now have an entirely new set of circumstances with the onset of photoprinting. No hard and fast barrier need exist between letters... Each space can be the direct expression of each character. That is the positioning of a letter in its correct optical space on the optical fulcrum or centre. This is of immense importance to the undisturbed scanning of the printed line of words by the human eye.[10]

Mawr yw dy ferw, goeg chwerw gân,
Henwr, wrthyd dy hunan,
Gwell yt, myn Mair air aren,
Garllaw tân, y gŵr llwyd hen,
Nog yma 'mhlith gwlith a glaw
Yn yr irlwyn ar oerlaw

Taw â'th sôn, gad fi'n llonydd
Ennyd awr oni fo dydd.
Mawrserch ar ddiweirferch dda
A bair ym y berw yma.

Ofer i ti, gweini gwŷd,
Llwyd anfalch gleirch lled ynfyd,
Ys mul arwydd am swydd serch,
Ymleferydd am loywferch.

Dydi, bi, du yw dy big,
Uffernol edn tra ffyrnig,
Mae i tithau, gau gofwy,
Swydd faith a llafur sydd fwy –
Tau nyth megis twyn eithin,
Tew fydd, cryw o frwydwydd crin.

(Rhan o'r gerdd 'Cyngor y Biogen')

Comparison using the possibilities of adjustments in spacing with a photosetting computer program.

Figure 8 (Top)
*Bembo 12 on 14 pt (Linofilm VIP)/*Designed by Rhiain Davies 1982, from MA thesis.
Regular setting

Figure 9 (Bottom)
Bembo 12 on 15 pt/ Designed by Rhiain Davies 1982, from MA thesis.
Reduced width setting (Bell 02) plus one unit reduction of lower case *d, w,* and *y* and a two unit undercut for capital *T* and *Y.*
Regular setting for the character *I* when followed by another *I.* Leading increased.

Similarly Tibor Szanto's research into the suitability of typefaces in his article "Language and Readability" confirms the results of the investigation into the suitability of certain typefaces for Welsh and points directly to a language-based typography:

It happens very rarely that a typeface combines in equal measure the requirements of good legibility, formal beauty and adequate reproduction. If in addition, a typeface suits equally the requirements of polyglot texts, then we would be able to speak of a perfect letter design...Now the fact that every language has its own characteristics gives rise to several questions relating to legibility, aesthetics and techniques... As a result of the different frequency of individual sounds, the graphic term of each national language offers a specific visual and aesthetic pattern which differs from texts printed in other languages. This visual, aesthetic exterior, as we well know, is influenced most decisively by the typeface selected. Each individual sound signal, accented letter, word picture and letter group has a different role in each language. The same letter shapes appear differently in different languages. This can be easily demonstrated if we look at analytical comparative examples. Identical typefaces have totally different effects in an English or French text... we see from the various Monotype roman typefaces that not every typeface brings out properly and characteristically the rhythm of a given language, nor offers the best and most readable visual picture of the text, nor does every typeface serve the orthography of the language... A typeface which has an agreeable effect in the case of an English text would give quite a different visual, aesthetic picture (more frequently a disagreeable effect) in the case of German, Finnish or Polish texts, and even legibility may be affected.[11]

The problem, therefore, of designing for the bilingual page, for obtaining an equal validity for each language and efficient communication, immediately

demonstrates the need for typography to become, above all, language-oriented. The nature of bilingualism also confronts the designer, as it does the reader, with the need for an ordered and meaningful separation of content. The lack of a logical and systematized typography results in an ineptness of bilingual typographic design. The use of unsuitable typefaces, which makes the text difficult to read, combined with unsystematic, incoherent, separation of the two languages on the printed page merely serves to antagonize the readers of both languages. The very fact that most typographers are content with, or are not ever aware of, the visual confusion and the breakdown of communication which results from the lack of even a rational separation of the two languages, implies that the righteousness of individualistic typography prevails over a search for ways of aiding the comprehension of the text through a dialogue with the reader.

An examination of bilingual communities will demonstrate that there is some truth in the allegation of cultural arrogance on the part of the majority language over the minority; the history of language is also a history of suppression. An exception is perhaps to be found in the stability of Switzerland which also displays the most advanced typography using trilingual texts. If we treat typography as some sort of sociological art, then the confusion we find on the bilingual page in Britain, Belgium, and Canada, merely indicates the confusion and conflict in the political situation regarding the problem of accepting the equal validity of languages. Effectively, therefore, until typographers become involved with the nature of language and begin to add their skills in relation to *its* demands, the screen of the predominant culture will remain drawn over the major problems, not only in bilingual typography, but over the opportunity to develop typography as a distinct subject with research demands and social responsibilities.

o gwmpas ardaloedd eraill yn dal yn broblem. Oherwydd darpariaeth ddiogelu annigonol, prinder adnoddau arddangos addas, cyfarpar henffasiwn a diffyg staff cymwys yn y pen arall, bellach fe roddir mwy o bwyslais ar drefnu arddangosfeydd llai eu maint, a mwy hyblyg. Eto i gyd, er cael llai o eitemau arddangos ac er eu cyflwyno'n fwy cynnil, nid yw hyn yn llesteirio diddordeb y cyhoedd: teithiodd Cymru Du a Gwyn, Llechi, Llafur Cariad a Phrintiau o Siapan yn bell ac agos, a chael eu canmol ymhobman. Bob yn dipyn, fe fydd y cyfrandal newydd a neilltuwyd ar gyfer 'gwelliannau orielaidd' yn gymorth i hel ynghyd y cyfarpar sylfaenol sy'n angenrheidiol er mwyn arddangos pob arddangosfa deithiol yn effeithiol, waeth o ble y daw.

Er pan neilltuwyd swm o arian pwrpasol ar gyfer cynorthwyo arddangosfeydd, y mae'n galondid sylwi bod rhif y grantiau i sefydliadau ac orielau ar gyfer eu cynlluniau arddangos eu hunain wedi cynyddu'n sylweddol.

Cymorthdal Arddangosfaol £
Oriel Bangor
Rhaglen flynyddol — 800
Canolfan Gelfyddydau Coleg Harlech
Arddangosfa 'Arduddwy' — 2,250
Conwy, Academi Gelf Frenhinol Cambrian
Arddangosfa fenthyg o Amgueddfa Genedlaethol Cymru — 120
Eisteddfod Genedlaethol Frenhinol, Bro Myrddin
Cynllunio a chodi'r Babell Gelf a Chrefft — 2,000
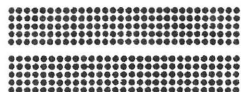
have led to greater emphasis being placed on smaller, more flexible exhibitions. However, fewer exhibits and a more economical presentation do not deter public interest: Wales Black and White, Slate, A Labour of Love, and Japanese Prints all toured extensively and drew a heartening response wherever they were shown. The new allocation set aside for 'gallery improvements' will help gradually to provide the basic equipment that is essential for the adequate display of all touring exhibitions no matter from what source they originate.

It is an encouragement that since the introduction of the 'exhibition aid' allocation there has been a substantial increase in the number of grants to organisations and galleries for their own exhibition projects.

Exhibition Aid £
Oriel Bangor
Annual programme — 800
Coleg Harlech Arts Centre
'Arduddwy' exhibition — 2,250
Conwy, Royal Cambrian Academy of Art
Loan exhibition from the National Museum of Wales — 120
Royal National Eisteddfod, Bro Myrddin
Design and installation of the Art and Crafts Pavilion — 2,000
South Wales Group
Competitive exhibition 'What's New' — 2,000
South East Wales Arts Association
'Year of the Valleys' exhibition — 200

Grŵp De Cymru £
Arddangosfa gystadleuol 'What's New' — 2,000
Cymdeithas Gelfyddydau'r De Ddwyrain
Arddangosfa 'Blwyddyn y Cymoedd' — 200
Coleg y Brifysgol, Aberystwyth
Arddangosfa 'Agweddau ar Bensaernïaeth' — 379
Caerdydd, Grŵp Celf Coleg y Brifysgol
Rhaglen flynyddol — 1,000
Caerdydd, Athrofa Gwyddoniaeth a Thechnoleg Coleg y Brifysgol
Llogi arddangosfa 'Walter Gropius' — 250

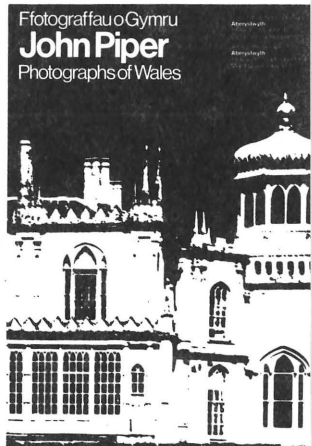Catalog Arddangosfa 'Merlyn Evans 1910-1973'
Cynlluniwyd gan Peter Gill (Design Systems).
Bwletin Arddangosfeydd 1975/6.
Cynlluniwyd gan David Dyas.

Exhibition catalogue 'Merlyn Evans 1910-1973'
Designed by Peter Gill (Design Systems)
Exhibitions Bulletin 1975/6.
Designed by David Dyas.

Gallery Improvements
Oriel Bangor
Security system — 440
Cardiff, Chapter Arts Centre
Refitting existing gallery — 5,154
Bala, Seren Centre
Display equipment — 350

Gwelliannau Orielaidd £
Oriel Bangor
cyfundrefn ddiogelu — 4
Caerdydd, Canolfan Gelf Chapter
ail-drefnu yr hen oriel — 5,1
Bala, Canolfan Seren
offer arddangos — 3
Cumbrân, Canolfan Gelf Llantarnam Gran
ail-drefnu hen oriel — *gweler hefyd o d*
Lletya'r Celfyddyd
Yn ychwanegol i hyn, rhoddwyd cymorthdal i bedair canolfan gelf trwy dalu costau arbenigwyr pensaernïol mew

Poster Arddangosfa 'John Piper, Ffotograffau o Gymru', sy'n gwneud defnydd o ran o ffotograff o'r Hafod, Ceredigion, 1939 gan John Piper.
Cynlluniwyd gan Brian Shields (Design Systems).

Exhibition Poster 'John Piper Photographs of Wales' using a detail of a photograph of Hafod, Cardiganshire, 1939 by John Piper.
Designed by Brian Shields (Design Systems

Cumbran, Llantarnam Grange Arts £
Centre
Refitting existing gallery — *see also und* *Housing the A*
In addition, aid was provided to four venues by paying architectural consultancy fees in connection with Housing th Arts capital grants.

Welsh Arts Council Touring Exhibitions
Choice of Six (purchases for the Contemporary Art Society for Wales, 1968/72)
Swansea, Llanelli, Newtown, Newport, Aberystwyth, Penarth

Ffotograffau o Gymru
John Piper
Photographs of Wales

Merlyn Evans 1910-1973

In recent years, we see the growth of another view of typography which suggests that the introduction of what we could term 'technological' typefaces implies the elimination of any national (language) considerations:

ysylltiad â phrif grantiau Lletya'r
elfyddydau.

.rddangosfeydd Teithiol Cyngor
elfyddydau Cymru

'ewis Chwech (pwrcasiadau i Gymdeithas
elf Gyfoes Cymru 1968/72)
bertawe, Llanelli, Y Drenewydd,
asnewydd, Aberystwyth, Penarth

im Dine (arddangosfa Gwasg Petersburg
iewn cydweithrediad ariannol â Chyngor
elfyddydau'r Albar)
asnewydd, Abertawe

'erlyn Evans 1910-1973
aerdydd

ichard Hamilton (arddangosfa Gwasg
etersburg mewn cydweithrediad
riannol â Chyngor Celfyddydau'r Alban
aerdydd, Harlech

apel Salem, Talysarn. Ffotograff gan
ulian Sheppard o'r arddangosfa
Llechi'. Cyhoeddwyd hefyd fel un o'r
yfres o gardiau post.

Eiconograff o'r Mabinogion (trefnwyd ar
gyfer Eisteddfod Genedlaethol Frenhinol
Cymru, Bro Myrddin)
Caerfyrddin, Aberystwyth, Bangor,
Hwlffordd

Golwg yn ôl ar Alfred Janes
Caerdydd, Cwmbrân, Bangor, Abertawe,
Aberystwyth

Ray Howard Jones
Caerdydd, Hwlffordd, Aberystwyth,
Y Drenewydd, Penarth

John Piper—Ffotograffau i Gymru
Aberystwyth, Llanelli

Dianne Setch
Aberystwyth

Llechi
Bangor, Wrecsam, Caerdydd, Yr Wyddgrug

Teithiau Ymestyn
Printiau Pren-naddiad o Siapan
(o gasgliad Amgueddfa Genedlaethol
Cymru)
Llanelli, Hwlffordd

Sgathriadau gan Augustus John
(o gasgliad Amgueddfa Genedlaethol
Cymru) Llanelli

Llafur Cariad (agddangosfa o dystysgrifau)
Aberystwyth, Harlech, Caerdydd

Cymru, Du a Gwyn (ffotograffau gan
David Hurn)
Cwmbrân, Yr Wyddgrug, Harlech
Aberystwyth

Dylan Cymreig (trefnwyd ar gyfer Adran
Llên Cyngor Celfyddydau Cymru)
Yr Wyddgrug, Bangor

**Arddangosfeydd Cyngor Celfyddydau
Prydain Fawr a ddangoswyd yng
Nghymru**
Cynlluniau ar gyfer Twelfth
Night a Don Giovanni   Caerdydd
Dr P. H. Emerson,
Ffotograffau   Caerdydd
Illusion   Casnewydd
Tâpies   Abertawe

**Arddangosfeydd Cyngor Celfyddydau
Cymru a ddangoswyd y tu allan i
Gymru**
Merlyn Evans 1910-1973 Glasgow
Sgathriadau gan Augustus John
Southsea, Stroud, Efrog, Hull
Printiau Pren-naddiad o Siapan
Portsmouth, Sudbury
Llafur Cariad, Leeds.
John Piper—Ffotograffau o Gymru
Beaford, Durham, Hereford.
Cymru Du a Gwyn. Wyneb y Pwll Glo 1900.
Teithiau a drefnwyd yn Lloegr o dan
ofal Cyngor Celfyddydau Prydain Fawr

Wales Black and White (Photographs by
David Hurn)
Cwmbran, Mold, Harlech, Aberystwyth

Welsh Dylan (organised for the Literature
department of the Welsh Arts Council)
Mold, Bangor

**Arts Council of Great Britain
exhibitions shown in Wales**
Designs for Twelfth Night and Don
Giovanni
Cardiff
Dr P H Emerson, Photographs
Cardiff
Illusion
Newport
Tâpies
Swansea

**Welsh Arts Council Exhibitions shown
outside Wales**
Merlyn Evans 1910-1973
Glasgow
Etchings by Augustus John
Southsea, Stroud, York, Hull
Japanese Woodcut Prints
Portsmouth, Sudbury
A Labour of Love
Leeds
John Piper—Photographs of Wales
Beaford, Durham, Hereford
Wales Black and White
Coalface 1900
Tours arranged in England under the
auspices of the Arts Council of Great
Britain

Figure 10
Welsh Arts Council
*Annual Report 1975 /*John
Sorrell 1975. In spite of a
novel design which keeps
the Welsh language in
the upper half of the page
and the English below,
the two languages remain
in perpetual confusion
and conflict.

Salem Chapel, Talysarn. Photograph
by Julian Sheppard from the
exhibition 'Slate'. Also published as
one of a series of postcards.

'im Dine (A Petersburg Press exhibition
ointly financed with the Scottish Arts
Council)
Newport, Swansea

Merlyn Evans 1910-1973
Cardiff

'ichard Hamilton (A Petersburg Press
xhibition jointly financed with the
cottish Arts Council)
Cardiff, Harlech

4n Iconograph of the Mabinogion
organised for the Royal National
Eisteddfod of Wales, Bro Myrddin)
Carmarthen, Aberystwyth, Bangor,
Haverfordwest

Alfred Janes Retrospective
Cardiff, Cwmbran, Bangor, Swansea,
Aberystwyth

Ray Howard Jones
Cardiff, Haverfordwest, Aberystwyth,
Newtown, Penarth

John Piper—Photographs of Wales
Aberystwyth, Llanelli

Dianne Setch
Aberystwyth

Slate
Bangor, Wrexham, Cardiff, Mold

Continuation Tours
Japanese Woodcut Prints (from the
collection of the National Museum of
Wales)
Llanelli, Haverfordwest

Etchings by Augustus John (from the
collection of the National Museum of
Wales)
Llanelli

A Labour of Love (an exhibition of
certificates and testimonials)
Aberystwyth, Harlech, Cardiff

... the many active contacts between people from
every country today leave no scope for typefaces
with a pronounced national character... The
neutral typeface, aloof from all national consid-
erations, has already to some extent become a
reality... Direct lines right round the world are
used for teleprinters, and alphabets are being
evolved which can be read automatically by a
machine. Technology compels us to think afresh
and calls for new forms as a living expression of
the age in which we live.[12]

B I T y p o g r a p h y

'Active contacts' between people from every country may well be taking place on an unprecedented scale, but rarely can they be understood without translation for they are still language-based. 'Technological' typefaces only succeed if they communicate in a universal code which has not been invented. Typography cannot be divorced from language. 'Technological' typefaces, in fact, reflect a monopolistic cultural arrogance on a grander scale than previously seen.

The main problem for typography, however, is not politics or cultural subjugation of minority languages or justifications for new technologies, but rather that the subject of typography appears to be continually concerned with primarily aesthetic responses; with the notion of the typographer as an individualistic designer. The problems posed by bilingual typography reveal that our first priority has to be research into the problems of designing for specific languages and, after that, with placing individual systems in an ordered relationship dictated by the needs of the various readers.

This does not necessarily mean radical changes in the practice of typography so much as a change of emphasis and priority. If we compare many examples of twentieth century typography, including technological typefaces and examples of bilingual design, with a page of printing by the fifteenth century Venetian printer Nicolas Jenson, one cannot help thinking that here was a typographer who understood the implications of a language-based typography. How far have we progressed since then?

Notes

Credits

1 .Crawford, A. and Jones, A. P. 1981. "The Early Typography of Printed Welsh." *The Library*, sixth series, Vol. III, No. 3, September, 217-231.

2 Crawford, A. 1976. "Bilingual Typography," *Planet*, 33 August, 20-28.

3 There are, of course, many published works which have indicated support for a systematic typography and one related to language.

4 For example, the excellent typography in three languages of *Typografische Monatsblätter.*

5 Crawford and Jones, op. cit.

6 Oron, Asher. 1972. "A New Hebrew Sans Serif for Bilingual Printing," *Icographic*, 3, 16-17.

7 Szanto, Tibor. 1972. "Language and Readability," *Icographic*, 3, 18-19.

8 Davies, Rhiain. 1982. "Some Considerations in the Application of English Typography to Welsh Language Publications," unpublished MA thesis, Manchester Polytechnic.

9 Kindersley, David. 1976. *Optical Letter Spacing for New Printing Systems.* London: Wynkyn de Worde Society/ Lund Humphries, 38.

10 Ibid., 20.

11 Szanto, 18.

12 Ruder, Emil. 1969. *Typographie/Typography.* Basle: Arthur Niggli.