D U O D E C I M A L

N E W S C A S T

Year 4
No.3
November
1176

The Duodecimal Society of Great Britain,
106, Leigham Court Drive, Leigh-on-Sea, Essex.

Price:
1 shilling.

Contents

E D I T O R I A L

It is unfortunate that the strength and importance of a cause is often judged, or misjudged, on the numbers and the titles of its supporters. Our Society cannot claim large numbers; but it can boast that their numbers represent a fair cross-section of the community. This means that we must all do two things to show the true strength and importance of our cause.

Firstly, we must get more Members. Personal persuasion is certainly the most efficient way for effort and cost. Also important, but incidental to increased Membership, is the money from subscriptions and donations.

Secondly, we need more publicity for our ideas so that people may understand them better and be less inclined to false prejudices. Again personal persuasion is the most effective. Letters and articles in the Press reach a wider public. Direct advertising has its place, as we have found from advertisements placed at Members' own expense, and the Society is investing a modest sum in this form of publicity.

It is essential, at this crucial time, that all Members and Friends of our Society and those who agree with our cause help now in these and all ways possible.

HAPPY CHRISTMAS 1176 — HAPPY NEW YEAR 1177

The Duodecimal Society of Great Britain

106, Leigham Court Drive, Leigh-on-Sea, Essex

GENERAL MEETING

The fourth General Meeting of
the Duodecimal Society of Great Britain
will be held at

the Raglan Hotel
Aldersgate Street

at half past six p.m. on
Monday, the third day of DECEMBER, *1176

Agenda

1. Progress in *1176
2. Finance
3. Election of Council
4. Policy for next year
5. Amendment to Society's Rules Sect 2
6. Referendum on Duodecimal Fractional Point
7. Other Business
8. General discussion and some colour slides

Light refreshments

All members, friends and well-wishers are cordially urged to come along. Please notify the Hon. Secretary as soon as you can whether you expect to attend and of any matters you will wish to have raised if you cannot attend. You may use the slip below if you wish.

Nearest Underground Station: St. Paul's (2 mins)
Bus routes: 7, 8, 22, 23, 25, 32 East/West St. Paul's
141, 4 North/South to St. Martin's-le-Grand (min.)

To: The Hon. Secretary. The Duodecimal Society of Great Britain.

I expect to attend the General Meeting and shall bring ..... guests. I append a list of the points I wish discussed.

I do not expect to attend the General Meeting. I append my votes for the referenda on the fractional point and Rule 2 (The slips on page 4 can be used if desired).

Delete as appropriate) Signed .....

SOCIETY RULES

At the General Meeting of the Society, the following proposal to amend section 2 of the Society's Rules will be discussed and voted:

"It is considered that the Aims of the Society, as described "in Section 2 of the Rules are not fully in keeping with the "dignity of the Society, and are not adequate in that they do not "lay sufficient emphasis on our intention to educate, to "encourage learning and to look into all fields of science and "mathematics. It is therefore proposed that Section 2, which "reads as follows at present:

Aims

2.1 To draw the attention of responsible people and organizations, with and without technical interests, to the advantages of the dozen for counting and measuring.

2.2 To organize constructive opposition to any legislative proposal to extend the decimal metric system.

2.3 To conduct research into numbers and standardized units with especial reference to those using the dozen as the numerical base.

"should be amended to read as follows:

To further the advancement of learning and commerce and the education of the public, and to conduct research of all kinds, in mathematical science, and disseminate its results, with particular relation to the use of base twelve in numeration, mathematics, coinage, weights and measures, and in the other branches of natural, pure and applied science.

This will be voted in accordance with section 8 of the Society's Rules. ("... Proposals involving the Society's rules ..... shall require a two-thirds majority of all members, excluding abstentions, voting being by the most convenient means possible"). Members who expect they will be unable to attend the Meeting are asked to express their votes by post. If desired, use may be made of the tear-off slip overleaf.

DUODECIMAL SOCIETY NOTES

Subscriptions for the next calendar year 1177 are due on 1 Jan.

Will everybody please help the Treasurer-Secretary by paying subscriptions promptly. Any donations, however small, are vital. You can tear off the slip at the bottom of the page.

The subscription rates are as follow:

Ordinary Membership	1 dozen shillings per year
Younger Membership	6 shillings per year
Life Membership	2 gross shillings once only
Subscribing Supporter	1 dozen shillings per year

REFERENDUM ON A DUODECIMAL FRACTIONAL POINT

We summarize opposite all proposals for a fractional point.

This Society must decide a symbol for general use. It need not be the one we eventually press for intergovernmental adoption, but one for consistent use meanwhile.

We need not repeat the facts opposite. Members can weigh for themselves the advantages and disadvantages, and then to let the Hon. Secretary know their choice either at the General Meeting, when the votes will be counted, or in writing beforehand, using the tear-off slip below if desired.

To: The Hon. Secretary, The Duodecimal Society of Great Britain,

Of the proposals for a fractional point listed in 'Duodecimal Newscast' December 1176, I support the one I have ringed below:

1 . 2 . 3 , 4 : 5 ; 6/ 7 * 8 ' 9 '

Signed .....

To: The Hon. Secretary, The Duodecimal Society of Great Britain,

I agree/disagree (delete as suitable) with the proposal to amend Section 2 of the Society's Rules in 'Dd.Nc.' Yr.4 no.3

Signed .....

To: The Hon. Treasurer, The Duodecimal Society of Great Britain

I herewith remit the sum of £....s....d., as my subscription for the year 1177 (/1963) and contribution to the funds of the Society.

Date ..... Signature .....

TABULATED PROPOSALS FOR A DOZENAL POINT

symbol	description	origin as known	for	against	
1 .	"point" raised point	decimal notation Anglo-	Specific to numeration	Decimal	
2 ˙	full stop	" " Saxon		Decimal. Also used in adv. maths for multiplication.	Can be confused with punctuation
3 ,	comma	" " Continental		Decimal	
4 :	colon	Prof. A.C. Aitken	Used now in English money	Ratio sign	Yet more confused with punctuation if also used to denote dozenals
5 ;	semicolon "humphrey point"	H.K. Humphrey and Duodecimal Society of America	Combine Anglo-Saxon + continental decimal usage Already in wide use	Two strokes needed	
6 /	oblique stroke	S.R. Dalton: stroke for shillings. Old long S	Used now in English money	Sometimes used for bar in typing vulgar fractions	
7 *	asterisk "star" "point" "pointer"	H.E. Hallwright	Resemble yet differ from a decimal point. Clearer than a dot on all writing machines	Already used by Ddl. Soc. of G.B., etc., to denote dozenals	
8 '	raised short stroke	alternative to asterisk		Now used for feet and seconds	
9 ’	raised comma				
11 \					

can also serve to distinguish dozenals

CORRESPONDENCE

Duodecimal Fractional Point

It should be remembered that whatever symbol is used, it should never designate primarily any "separation" in the number -- such as signifying the separation of the integral from the fractional part. This latter use is a mere convention (or convenience) arising out of the primary function -- which is as an index to guide the eye and the mind to the position of the primary units' digit in a "positional" number notation.

That there is no intrinsic separation involved is evident from the fact that it is only necessary to change the position of the primary unit's digit to the right (or left) to multiply (or divide) the entire number by its radix (or multiple of its radix).

In the teaching of any position notation (binary, decimal, duodecimal, or with any other radix) this principle is most important. Once the pupil gets the notion that the purpose of the sign is to separate the integral from the fractional part, there will be trouble in the offing for almost any other mathematical operation which may follow -- due simply to bad or faulty teaching.

Hence any "punctuation sign" must be ruled out for our purpose. The use of the period which is so general (except in Britain) is especially sinister, because it implies a full stop, instead of an indefinite continuation of a constant value. There are also objections to Napier's raised point for two reasons. These are:-

1) Except in Britain, it is seldom included in any complement of type.
2) It is often used to signify "times" (multiplication).

When all this has been considered, however, we must still go to literature for our ideal symbol in this connection, the asterisk -- an index calling for our special attention to some item such as a word. As in literature, it should be placed well up and just to the right of the primary units digit. In script, however, it should be written as a dot, or point, and not as a star. Its advantages are threefold, viz.:-

1) It is present in any complete set of type (including typewriters) throughout the world.
2) It is placed in the correct position to avoid confusing it with the period or the half-raised point (the "times" sign)

3) It has a symbolic value apart from its function as a tag or label. As a star it guides the eye and mind to their objective, i.e. the primary unit's digit -- in keeping with all classical symbolism.

The name of this symbol -- as used in a duodecimal notation -- is of less importance, but in recognition of Napier, it might be called the "point", or, better still, the "pointer".

H. E. HALLWRIGHT

Instead of "Duodecimal Fractional Point" may I put forward the old plea for UNITS' POINT, a point over units' place -- often suggested, never taken up decimally; so would now distinguish duodecimals from finger counting as well as being better for logs at school and more logical in general.

While on the subject of symbols, may I raise a humble wail over your inverted 2 for ten. The letter x, written or typed, was not confused with multiply x and neither was confused with figure 1 for ten. Such confusion as there has been in hand work was between ell and three (ℓ, 3). Independent tables, sine and cosine, etc., now making use ↊ and ℓ.

Please do not look on this as heavy criticism. I am too old to worry much about names and symbols. Of one thing I am sure. Dozen counting will be used by science when a few more people have time to practice it enough to compare.

GEORGE S. TERRY

In response to the invitation to submit proposals for a duodecimal point I would like to suggest a simple comma, placed centrally, or at the top of the line to provide a better distinction from the continental one.

This is in line with tradition, as J. Napier used a comma for a decimal point, and it will be facile in use. Later on, after the general establishment of a duodecimal notation we can slip back to the simpler dot.

A comma is not as clearly distinguishable from a point as might be preferred but I feel that simplicity is an important feature of any symbol to be adopted.

A.F. WHILLOCK

NEWS FROM AMERICA

Soon after the last Newscast came out we received 'The Duodecimal Bulletin' for December 1175 from the Duodecimal Society of America. This contained details of the invitation to the Meeting of the Board of Directors in Alamagordo, New Mexico on 2, ᘔ and 10 April. An article on Publicity mentions successes in 'The New Yorker', 'Product Engineering', and the work of Theodore Baumeister, Paul van Buskirk, William C. Schumacher, and John E. Whiteside. F. Emerson Andrews has written a new book for young people, called 'Numbers, Please'.

Charles S. Bagley had two articles. The first, 'Remarks on the metric and English measures', gives a quick history of the vicissitudes of the pound weight, and shews how the metre is still in a state of flux, recommending a gallon-pound-cubic foot relationship on a dozenal basis. His second article, 'New symbols', establishes criteria for number symbols, analyses our present ones, and recommends new ones for ten and eleven, based on a stylized Greek rho.

Tom B. Linton had a lively article with the self-explanatory title 'Mental squaring of some numbers', and half a page listed his 'Other dozenal symbols for ten and eleven'.

A long and valuable article by H.C. Churchman summarizes his reasons for insisting on the exclusive use of a semicolon for a dozenal point, chi or X for ten and ᘔ or E for eleven.

The rest of the magazine is taken up with an Index of the past five years of 'The Dozenal Bulletin'.

Talk to the Southend Esperanto Group by the Hon. Secretary

The talk in Esperanto, entitled 'La dozeno -- la deko de la estonteco' (The dozen -- the ten of the future) was divided into three parts: the dozenal system, its advantages, and its applications in systems of measuring.

The dozen system was explained with the aid of marbles, which the group counted into saucers to learn the concept of number base, and large sheets of paper instead of a blackboard, to illustrate the four rules. The advantages were supported by charts of factors and arithmetical tables, etc. The part on measuring gave opportunity to point out the dozenal aspects of our present system, the advantages of which could be enjoyed in any system based on twelve.

OFFPRINT
No. 10

One-Two-Three of Duodecimals : Part 3

Percentage and Pergrossage

As the multiples of twelve have so many more useful factors than those of ten, it is clear that the pergrossage system would be an advantage to us in place of the clumsy percentage system. Consider the advantage of being able to express 1/*14 as precisely as 9 per gross instead of the awkward ₰6.25 per cent, or a third -- exactly four dozen per gross (*40 p.g.) instead of the clumsy ₰33.333 .... per cent which never ends. How often one sees garments marked "67% A and 33% B", and one knows that they mean "2/3 A and 1/3 B". In dozenals this is simplified, and the relation becomes "80 p.g. A and 40 p.g. B" precisely.

Since percentage and pergrossage are only other means of expressing two-place fractionals (e.g. 3% = 0.03), the dozenal superiorities we have already noted also apply here. The symbol % in ₰ 3% refers to the hundred, 3% being 3 parts in one hundred, ₰ 0.03. In dozenals, we find fractions in everyday use come out more even, nearly twice as many come out as whole numbers, because the p.g. stands for the flexible gross, and 3 p.g. in dozenals is then 3 parts in one gross, ₰ 0;03.

Fraction (decimal)	Percent (decimal)	Per gross (dozenal)
1	100	100
7/8	87 1/2	86
3/4	75	90
2/3	66 2/3	80
5/8	62 1/2	76
1/2	50	60
3/8	36 1/2	46
1/3	33 1/3	40
1/4	25	30
1/8	12 1/2	16
1/12	8 1/3	10
1/16	6 1/4	9
1/32	3 1/8	4 1/2

Applications of pergrossages

Suppose a firm wants to borrow ≠ £100,000 for one month, the annual interest rate being 3-1/8th percent. The monthly charge would be (in decimals) 1/12 x 0·03125 x £100,000, i.e. £260/8s/4d. Putting this in dozenal terms, the loan would be *£49,254 at a yearly interest rate of *4½%, and would work out: *£49,254 x 0;046 x 0;1, i.e. £198;5 (=£260/8s/4d.). This demonstrates the advantage of having the monthly rates equal to 0;1 of the yearly rates, since we may move from the one to the other simply by moving the (dozenal) point, and, even though we are here using a pound of 20 shillings and 240 pence, the advantage still exists. Such an advantage could only exist in the decimal system if we had ten months in the year instead of twelve. In 1789, after the Revolution in France, some decimalists wanted ten months in the year (and ten hours to the day).

If we were commercially using dozenal numbers and currency, the problem would be further simplified. Taking the Crown of *100 shillings, and a sum of these approximating to the £100,000 above (+), the loan would be *C 8000 at a rate of *4½% per annum, or C 8000 x 0;046 x 0;1, i.e. *C 30.

(+) £206/8s/4d is C 30;204 precisely.
£100,000 is *£49,254 or C 8054;28 precisely.

Other applications are well known to travellers on the Continent of Europe; where a service charge is payable, it is usually 10%, sometimes 15%, suitably rounded off. The dozenal equivalent for these would be *12;497% and *19;724% respectively, but the dozenal forms corresponding in simplicity are *10% and *16%, i.e. decimal 8 1/3% and 12½%.

When the Government, or the Customs and Excise levy taxes, they often do it by percentages. The pergrossage system provides a finer framework for this, and, combined with a dozenal currency and metrology, would allow more precise ratings and adjustments than the decimal percentage system can.

E R R A T U M

Duodecimal Newscast Year 4 No.2, July 1176 p.8
'One-Two-Three of Duodecimals': Part 2 p.6. line 14 last number for 2 0 read 2ᘔ

CONVERSION OF SYSTEMS

A. Decimal to dozenal: (a) integral numbers.

Divide the given number by twelve, and note the remainder; divide again, note remainder; carry on dividing until you are left with a number less than twelve. Take the remainders, starting with the last, in order, to get the dozenal number.

Example: turn 1960 (decimal) into dozenals.

```
12) 1960
 12) 163   r.4
  12) 13   r.7
      1    r.1     decimal 1960 is dozenal *1174.
```

Turn 20,769 into dozenals.

```
12) 20,769
 12) 1,730 r.9
  12)  144 r.2
   12)  12 r.0
       1   r.0     decimal 20,769 is dozenal *10,029.
```

(b) fractions.

Multiply the given number by twelve, taking the integers obtained, in order, for the dozenal fractional.

Turn 0·2133 into dozenals.

```
0·2133 x 12 = 2·5596     take the integer, 2
0·5596 x 12 = 6·7152                       6
0·7152 x 12 = 8·5824                       8
0·5824 x 12 = 6·9888                       6
```

and keep on multiplying until you have the required number of places; for three places, 0·2133 = *0;269

Turn 0·53125 into dozenals.

```
0·53125 x 12 = 6·37500                     6
0·375   x 12 = 4·500                       4
0·5     x 12 = 6·0                         6
```

Decimal 0·53125 is dozenal 0;646 exactly.

Remember, if rounding off fractionals, that, where we round off five or more to the nearest ten above, using decimals, in dozenals we round off six or more to the nearest dozen above.
Thus: 0·3125 = 0·313 to 3 places. 0·3124 = 0·312 to 3 places.
0;3125 = 0;312 to 3 places. 0;3126 = 0;313 to 3 places.

B. Dozenal to decimal; (a) integral numbers.
Divide the given dozenal number by ten (ᘔ); remember that all operations are to be carried out in dozenals.
Convert *1174 to decimals.

ᘔ)1174
ᘔ)144 r.0
ᘔ)17 r.6
1 r.9

or

*1174 = 1 x ≠ 1728 = 1728
1 x ≠ 144 = 144
7 x ≠ 12 = 84
4 x 1 = 4
1960

dozenal *1174 = decimal 1960.

Convert *10,000 to decimals.

ᘔ) 10,000
ᘔ) 1,249 r.6
ᘔ) 153 r.3
ᘔ) 18 r.7
2 r.0

or

*10,000 = 1 x ≠ 5 x 12^4
= ≠ 20,736

dozenal *10,000 = decimal 20,736.

Convert 0;716 to decimals.

0;716 x ᘔ = 5;ᘓ30 take the integer, 5
0;ᘓ3 x ᘔ = 9;46 9
0;46 x ᘔ = 3;90 3
0;9 x ᘔ = 7;6 7
0;6 x ᘔ = 5;0 5

0;716 = decimal 0·59375 exactly.

(b) Fractions.
The same rule as the decimal to dozenal applies, but multiply by ten (ᘔ); all operations are to be carried out in the dozenal system.

Convert 0;216 to decimals.

0;216 x ᘔ = 1;930 take the integer, 1
0;93 x ᘔ = 7;86 7
0;86 x ᘔ = 7;1 7
0;1 x ᘔ = 0;ᘔ 0

0;216 is decimal 0·177, to three places.

CORRESPONDENCE WITH THE CHANCELLOR OF THE EXCHEQUER

On the *26 August 1176, the Hon. Secretary wrote to The Rt. Hon. Reginald Maudling, Chancellor of the Exchequer and asked the following questions:-

"We should be grateful if you would tell us

"a) to what extent proposals other than those based on the decimal system, in particular duodecimal proposals, were considered when the Government set up the Committee of Inquiry;

"b) whether the Government will consider other proposals if the Committee indicates financial or other difficulties, and if so, what the Government at present regard as sufficiently grave difficulties;

"d) to what extent it is at present intended that the feelings of the public at large will be consulted before a final decision is made;

"e) whether there is any change from the statement made in the House of Commons on 1st November, 1956, which said the Chancellor of the Exchequer "does not consider that a decimal currency system is in any way necessary for the successful participation of this country in a European common market".

The Chancellor of the Exchequer's Private Secretary replied as follows on the 7 September:-

"The Chancellor has asked me to reply to your letter of the "30th August with which you enclosed a paper published by your "Society dealing with the question of currency in the wider context "of weights and measures.

"I am sure that you will appreciate the reasons why the "Chancellor can neither disclose details of the considerations "which led to the appointment of the Committee of Enquiry in "December, 1961 nor speculate on the action that will be taken "following publication of the Committee's Report.

"In general however I can say that the position on the duo-"decimal system remains as stated by Lord Mills in the House of "Lords on the 23rd January, 1962. The Economic Secretary to the "Treasury also discussed the Government's attitude to duodecimal-"isation in the course of a speech in the House of Commons on the "4th May (Hansard Colmns 1439-40).

"It is not yet known exactly when the Report of the Committee "of Enquiry into decimal currency will be available although it is "anticipated that the Committee will report early in 1963".

INDEX TO DUODECIMAL NEWSCASTS FOR 1176, YEAR 4

There was a young man who could count
up to ten — and found wrong the amount!
So he tried duo-d's
and found that with ease
math's troubles he could always surmount.

(D. A. SPARROW)

CALENDAR FOR 1177

JANUARY

Sunday		6	11	18	23
Monday		7	12	19	24
Tuesday	1	8	13	1ᘔ	25
Wednesday	2	9	14	1Ɛ	26
Thursday	3	ᘔ	15	20	27
Friday	4	Ɛ	16	21	
Saturday	5	10	17	22	

FEBRUARY

	3	ᘔ	15	20	
	4	Ɛ	16	21	
	5	10	17	22	
	6	11	18	23	
	7	12	19	24	
1	8	13	1ᘔ		
2	9	14	1Ɛ		

MARCH

	3	ᘔ	15	20	27
	4	Ɛ	16	21	
	5	10	17	22	
	6	11	18	23	
	7	12	19	24	
1	8	13	1ᘔ	25	
2	9	14	1Ɛ	26	

APRIL

Sunday		7	12	19	24
Monday	1	8	13	1ᘔ	25
Tuesday	2	9	14	1Ɛ	26
Wednesday	3	ᘔ	15	20	
Thursday	4	Ɛ	16	21	
Friday	5	10	17	22	
Saturday	6	11	18	23	

MAY

	5	10	17	22	
	6	11	18	23	
	7	12	19	24	
1	8	13	1ᘔ	25	
2	9	14	1Ɛ	26	
3	ᘔ	15	20	27	
4	Ɛ	16	21		

JUNE

	2	9	14	1Ɛ	26
	3	ᘔ	15	20	
	4	Ɛ	16	21	
	5	10	17	22	
	6	11	18	23	
	7	12	19	24	
1	8	13	1ᘔ	25	

JULY

Sunday		7	12	19	24
Monday	1	8	13	1ᘔ	25
Tuesday	2	9	14	1Ɛ	26
Wednesday	3	ᘔ	15	20	27
Thursday	4	Ɛ	16	21	
Friday	5	10	17	22	
Saturday	6	11	18	23	

AUGUST

	4	Ɛ	16	21	
	5	10	17	22	
	6	11	18	23	
	7	12	19	24	
1	8	13	1ᘔ	25	
2	9	14	1Ɛ	26	
3	ᘔ	15	20	27	

SEPTEMBER

1	8	13	1ᘔ	25	
2	9	14	1Ɛ	26	
3	ᘔ	15	20		
4	Ɛ	16	21		
5	10	17	22		
6	11	18	23		
7	12	19	24		

OCTOBER

Sunday		6	11	18	23
Monday		7	12	19	24
Tuesday	1	8	13	1ᘔ	25
Wednesday	2	9	14	1Ɛ	26
Thursday	3	ᘔ	15	20	27
Friday	4	Ɛ	16	21	
Saturday	5	10	17	22	

NOVEMBER

	3	ᘔ	15	20	
	4	Ɛ	16	21	
	5	10	17	22	
	6	11	18	23	
	7	12	19	24	
1	8	13	1ᘔ	25	
2	9	14	1Ɛ	26	

DECEMBER

1	8	13	1ᘔ	25	
2	9	14	1Ɛ	26	
3	ᘔ	15	20	27	
4	Ɛ	16	21		
5	10	17	22		
6	11	18	23		
7	12	19	24		

NEW MEMBERS

A. Ferreira 7c, Estrada Nacional, Póvoa de Santa Tria, Portugal
T.I. Wright Weights and Measures Dept., Shirehall, Shrewsbury
Mrs. M.D. Anderson, M.A. (Cantab.) 9, Pensioners' Court, E.C.1.
J. C. Imber 9, Harvard Road, Isleworth, Middx.

DUODECIMAL PUBLICITY

Engineering News (article H.T.E. Hone)	4 Jan.
The Mensa Correspondence (article H.T.E. Hone)	Feb.
Students Quarterly Journal of the Institution of Electrical Engineers (letters)	Mar. and Jun
Evening News (review of Prof. Aitken)	9 Apr.
New Scientist (letter -- B.R. Bishop)	10 Jul.
The Southend Standard (news article on Hon. Sec's talk to Southend Esp'o Group)	22 Jul.

DUODECIMAL PUBLICATIONS, etc.

The following publications are available through this Society Prices are in dozenals, packing and inland postage a penny in the shilling extra. Please obtain those marked ℘ through shops.

Logical Money, Weights and Measures	free
Duodecimal Leaflet	free
Duodecimal Newscasts for *1174, *1175, *1176	1s;0d
Offprints:- New duodecimal notations (2), A revised currency (3), Duodecimal metric proposals (4), Report of Duodecimal Summit Conference (5), Measuring our way (6), New duodecimal notations and names (7), A set of symbols (8), A suggested series of notations and names (9), The 1, 2, 3 of dozenals (ƨ, Ɛ)	;2d
℘Prof. Aitken The case against decimalisation Oliver + Boyd	2s;6d
F.E. Andrews An excursion in numbers (English or Esperanto)	free
R.H. Beard Antipatio al aritmetiko (in Esperanto)	a few free
℘J. Halcro Johnson The Reverse Notation (Blackie & Son)	13s;0d
℘Jean Essig Douze notre dix futur (in French) Dunod)	13s;0d
℘ " " La Duodécimalite: Chimère ou vérité future	6s;6d
Duodecimal Society of America Manual of the Dozen System	7s;6d
" " " " The Duodecimal Bulletin	3s;6d
" " " " Circular Slide Rule ℘5 or £2:0:0	