The Reverse Notation:
Introducing Negative Digits with Twelve as Base.
By J. Halcro-Johnston. Pp. x + 74. (Glasgow and
London : Blackie and Son, Ltd., 1938.) 3s. 6d. net.

IN this interesting book, the author explains a new
notation which he has devised to remove the
main defects of the Arabic notation. The two main
characteristics of the system, called the reverse
notation, are the introduction of negative digits and
the adoption of 12 as the radix or base. The con-
secutive sequence of digits is written : $\bar{6}, \bar{5}, \bar{4}, \bar{3}, \bar{2}, \bar{1}$,
0, 1, 2, 3, 4, 5, 6, so that any number like 8 is denoted
by $1\bar{4}$, whilst $1\bar{5}4$ represents seven dozen and four.
The notation is applied to the ordinary rules of
arithmetic and the author claims that the numbers
of the reverse notation "are balanced about their
centres of gravity", which is not the case with the
Arabic system.

The whole scheme is undoubtedly very ingenious,
but when judged impartially, there appear to be far
more difficulties in the notation than there are dis-
advantages in the existing Arabic system. The initial
trouble that teachers have in introducing and working
with negative characteristics in logarithms is well
known. Indeed, to arouse a true concept of a negative
number is by no means an easy problem either in
psychology or pedagogy. Yet in the system before
us, negative digits abound ; for example, log
$3 = 0\cdot5\bar{4}\bar{4}0$, log $6\cdot\bar{3}\bar{3}5 = \bar{1}\cdot3\bar{2}0\bar{4}$, $\pi = 3\cdot\bar{2}\bar{4}5\bar{4}$ and
on page 47, the number of days in the year is repre-
sented as $265\cdot\overline{\overline{3}}\overline{1}\overline{1}63$!

The author fully realizes that the introduction of
such a notation is far from being a practical proposi-
tion, but hopes that it will be judged by the principle
of the survival of the fittest. It is, nevertheless, very
difficult to see how the system can first be introduced.
Are accountants, scientific and technical computors,
business men, etc., expected to incur the expense of
changing the basic notation upon which they have
made their calculations for so long ? If they
were sufficiently convinced of the advantages of the
system to try the experiment, would this ultimately
lead to the introduction of the notation into schools,
where it should logically begin to evolve ? One
wonders, however, in this eventuality, what the
teachers of arithmetic, especially in primary schools,
would say to such a suggestion.   F. G. W. B.

The Macaulay Institute for Soil Research
Collected Papers, Vol. 1. Edited by Dr. W. G. Ogg.
Pp. 16 + 54 papers. (Aberdeen : Macaulay Institute
for Soil Research, 1938.) 21s.

THE Macaulay Institute for Soil Research was
founded for the purpose of studying possi-
bilities of land reclamation on the Island of Lewis,
and of raising the standard of agriculture and living
of its inhabitants. Sir Robert Greig states in the
preface that, since the foundation of the Institute,
which is in Aberdeen, and of its experimental farm
near Stornoway, Lewis has become more than self-
supporting in milk and eggs, and fine pastures have
appeared and are extending over the formerly
worthless peat bogs. The Institute has justified its
existence, and has tended inevitably to extend its
research activities beyond its original field of peat-
land reclamation.

These fifty-four reprints of papers by members of
the staff indicate the steady growth in the scope of the
Institute's work. The Macaulay Institute is the only
British station devoted entirely to soil research.
From peat studies it has branched out into the chem-
istry and physics of mineral soils, and latterly into
soil classification and survey. One can trace in these
papers the gradual evolution of a still incompletely
formed "Macaulay" school of thought in soil science
in which modern Russian and ancient Scottish beliefs
are struggling for mastery. The papers themselves
naturally vary in quality ; some have obviously been
included in order to make the collection complete
rather than for their intrinsic value ; but, omitting
these, a high standard is maintained. It is note-
worthy that most of the recently published papers
deal with soil chemistry, classification and survey,
rather than peat-land reclamation. This indicates a
welcome development. Should Britain ever decide
to take stock of its land, the Macaulay Institute
would have an important part to play in the stock-
taking. This collection of papers shows that it is
already equipped for the part and can play it without
detriment to the original purpose for which the
Institute was founded.

Pyrenean Festivals:
Calendar Customs, Music and Magic, Drama and
Dance. By Violet Alford. Pp. x + 286 + 16 plates.
(London : Chatto and Windus, 1937.) 15s. net.

MISS ALFORD is well known as a student of
the folk-dance and song of European peasantry,
but the Pyrenees is a region which in this subject
she has made peculiarly her own province. In this
volume, æsthetically delightful, as well as scientifically
valuable, she has reviewed the results of some years
of observation on both sides of the political frontier
among the inhabitants of the Pyrenean regions from
Catalonia on the east to the Basque country in the
west. Nor has she confined her studies to dance and
song, for she deals here with some remarkable forms
of custom and magical belief which serve to throw
light on the main theme.

The ethnological character of the peoples, as well
as the geographical conditions of their habitat, have
made for an intense conservatism in the past, which
undoubtedly has led to the preservation in the dances
of religious and cultural concepts, which in their
origin are probably older than anything found else-
where at present in Europe. Such, for example, is
the remarkable cult of the bear ; while an apparent
transformation into animal form represented in the
dance recalls the fact that it is in this country that
there occurs the palæolithic painting of the animal-
magician in the cave of Trois Frères of Ariege.

Miss Alford's work is a veritable gold mine for
evidence of survivals of primitive modes of thought,
and as such needs no further commendation to
students of folk-lore and primitive religion.