LETTERS TO THE EDITOR

28th February, 1983

Dear Sir,

As a teacher of some experience I wish to comment on some of the points in the article on the Post Primary syllabus by Michael Brennan (December 1982).

No one could have any doubt about the fact that we have Euclidean Geometry as against that of Papy. Papy was a most important source for ideas, notation and definition in introducing Transformations. Transformations, so introduced, had some important effects.

The traditional approach had depended largely on congruence which used movement in and out of the plane ungoverned by axioms - hardly a satisfactory situation - but Axial Symmetry and its compositions, being isometries, provide for congruence of sets in general and triangles in particular. To my mind, congruence, thus readily deduced from material in the syllabus ought form an important part of present teaching and occupy a more explicit role in any future syllabus. The old approac also depended on a parallelism which led to the rather unsatisfactory *reductio ad absurdum* tactic on proving the angle Theorem. In contrast, translation now deals directly and effectively with the Theorem.

Transformations have the further essential purpose of acting as a motivation and introduction to the idea of function which in turn fulfills the most important pedagogical purpose of unifying Algebra and Geometry. Mathematics is a unified activity.

Yours sincerely,
Hugh McTigue,
Meanscoil San Lughaidh, Coillte Mach, Co. Maigh Eo.

The following is Mr. Brennan's reply to the above:

Sir -

The most important effect of the Transformation approach to Geometry was to make Geometry more obscure.

Teachers *are* responsible to the Mathematical truth that they know, to see that there is proper government by proper axioms. But children do not need to know the details. Teachers are *not* responsible to children in the way that they are responsible to Higher Mathematics. Certainly they should tell the children the truth, but not the whole truth if the result will mostly be mystification, as at present.

As for the unifying effect of sets and transformations on school Mathematics, what about the disintegrating effect on children of getting E's and F's and NG's (and other grades too) during their years at school and doing Maths courses that are contrary to education? The vision of Unification comes only to a minority.

I do not think it matters what Geometry comes from the present shake-up provided that:

(i) it promotes intuition and logic in the child, and

(ii) the background is logical and elegant to the adult.

The present course fails on both counts.

Yours,

Michael Brennan,
Bower School,
Athlone.

16/6/83.