Four hundred up

The practice of applauding centuries can be overdone. It is arguable, that, if landmarks are needed, then successive terms of the G.P. $\{10^n\}$ provide more appropriately spaced occasions of rejoicing than those of the A.P. $\{100n\}$ (and if these are considered too infrequent, we can always change the number base to suit our taste). Nevertheless, the completion of another century does afford an excuse to re-examine the role of the *Gazette* in an educational and mathematical scene very different from that when No. 300 appeared in 1948. This last century has seen the taking of the 'new ball' of modern mathematics; those who accused the *Gazette* at the time of playing it too cautiously might be surprised, looking through those issues now, to discover how much of abiding relevance they contained. Another phenomenon of the period has been the startling increase in the number of people in this country learning and teaching mathematics: in primary school (or even earlier—see pp. 97–100 of this issue) and across the whole range of ability of secondary pupils, in colleges of education and polytechnics, in courses for intending sociologists, ecologists and town planners, and through the new medium of the Open University. The number of undergraduates studying for degrees in mathematics has increased about fivefold over the 25 years. And, of course, it means less and less to talk in terms of "this country"; air mail now brings the editor a steady correspondence from every continent, and not a few of the writers are known to us personally through international meetings or through visits at home or away.

What part should we 'amateurs' play in this new situation? In the aftermath of the recent White Paper on Education, it is well to remind ourselves that the Mathematical Association—particularly through its *Gazette*, reports, branch meetings and conferences—initiated 'in-service training' for mathematics teachers long before the term itself was coined. On the scale now envisaged the task is, of course, far too big to be covered by the umbrella

1   85

of the voluntary subject associations; but rather than declaring our innings closed and putting the professionals in to bat, we look forward to increasing co-operation (at local, national and even international level) with those whose job it is to see that this training is made available. In this context we see the *Gazette,* and its younger sister *Mathematics in School,* as an important resource—as reference points in the search for quality in mathematical education. We have therefore formulated afresh our main criterion for the selection of material in this journal: "to what extent will this help the reader to become a better teacher of mathematics—whether at school, college or university?" Of course, "better" is a big word: it can mean better informed, more critical, more sensitive to the needs of our pupils, wider in sympathies, more curious, and much more beside. We believe that the *Gazette* should embrace it all.

One does not expect to receive many presents on a 400th anniversary; so we are especially grateful to the authors of the first four articles in this issue who have generously responded to an invitation to send us a 'birthday card'. It gives us added pleasure that they come to us from friends all round the world.

*   *   *   *   *

This *Gazette* was already with the printer when we were saddened to learn of the death of Professor T. A. A. Broadbent, who to a whole generation will be remembered as *the* editor of this journal—for he held office over exactly 25 years, seeing 120 issues through the press in that time. More recent readers will know him as the author of masterly reviews, notable for a rare combination of scholarship, sympathy and style. Those of us who had the good fortune to know him personally will cherish above all his generous encouragement and wise counsel. *Si monumentum requiris, perlege.*

<div align="right">D.A.Q.</div>

A story with a moral

G. POLYA

I knew Emmy Noether for many years, although I did not know her well— our mathematical interests were too different. Yet I remember very well a discussion I had with her. It started after a lecture I gave in Göttingen around 40 years ago, and it was a rather obscure discussion: I think, each of us wanted to defend his or her own mathematical taste. It turned finally into a debate on generalisation and specialisation: Emmy was, of course, all for generalisation and I defended the relatively concrete particular cases. Then once I interrupted Emmy: "Now, look here, a mathematician who can only generalise is like a monkey who can only climb UP a tree." And then Emmy broke off the discussion—she was visibly hurt.