CENTREFOLD

Professor Henry Forder

When I first met Professor Forder he had already retired from his position as Professor of Mathematics at The University of Auckland, or Auckland University College as it was then. It was 1959 and I studied Plane Projective Geometry with him in a third year class. Nobody forgets his lectures. I consider this to be one of the best two or three courses that I ever studied, though not all students found it so: if you could keep up with the lectures they were brilliant, but if you got behind you could be terribly lost. He used to pass out cyclostyled notes that were almost impossible for us to follow. In later years these were replaced by direct Xerox copies of his lecture notes which he kept in pocket-size notebooks. He would Xerox two openings of his notebook onto one sheet of paper and pass the result out to the students, but with his tiny obscure handwriting, his brevity, the copying process, sometimes his notation and finally his pagination, we were mystified as often as we were enlightened: I felt thankful that by this time I was no longer taking his course for credit.

Professor Forder's reputation rests largely on his books, particularly "The Foundations of Euclidean Geometry" and "The Calculus of Extension". Everybody knows what the first of these is about. What he calls Grassman's Calculus of Extension we would now call Linear Algebra; thus an extensive of step one is an abstract vector, a spread is a vector space, and so on. It is dated as a book for students but it has a great permanent value for the sheer amount of interesting information that it contains. The book shows Professor Forder as a very learned man in his subject, Geometry, and it is this quality that made his lectures so valuable.

Let me quote a couple of things from the book.

The angle in a semicircle is a right angle. For

$$[(p-a) \mid (p-b)] = \left(p - \frac{1}{2}(a+b)\right)^2 - \left(\frac{1}{2}(a-b)\right)^2.$$

Get it? The second part is the proof: ($[u|v]$ denotes the inner product of u and v while $v^2 = ||v||^2$.) Any of his students will recognise the sparse style. Here is something else, not quite so familiar.

If p, q, r, s be the centres of squares described externally on the sides of any quadrilateral abcd, then the intervals pr, qs are perpendicular and equal in length. For

$$p = \frac{1}{2}(a+b) + \frac{1}{2}|(a-b),$$

and so on. Hence, using

$$\begin{aligned} ||v &= -v, \\ p - r &= \frac{1}{2}(a+b-c-d) + \frac{1}{2}|(a-b-c+d), \\ q - s &= \frac{1}{2}(b+c-d-a) + \frac{1}{2}|(b-c-d+a) = |(p-r). \end{aligned}$$

($|v$ denotes a vector of the same length as v but rotated anticlockwise through a right angle.)

His knowledge is vast and he passed a lot on to us. We can also be thankful that his judgement did not allow his other interest to seduce him into giving dry lectures on the logical foundations of his subject: we gained an empirical knowledge and an intuitive understanding.

This is not the first tribute that has been paid to Professor Forder. On his eightieth birthday Douglas Robb wrote

Ave! Sed Nondum "Vale"

On his ninetieth birthday Gavin Ardley added

Sapiens senescit, non segnescit

What can I, who do not speak Latin, add?: perhaps only the words of Henry George Forder himself

Henry Forder, Henry Forder,
Comparative of Henry Ford,
The superlative is wanting,
For his mercies praise the Lord.

Peter Lorimer

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