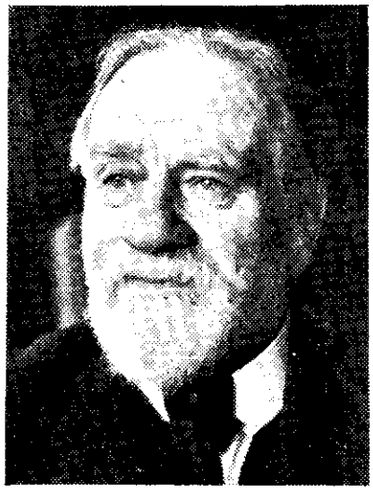
# NO WORLD'S END FOR HIM

## New Zealander Who Spoke About Copernicus

THOSE who heard the tribute to Copernicus broadcast from 2YA on a recent Sunday on the four hundredth anniversary of his death were reminded that science and affairs sometimes go hand in hand. Copernicus was not only the founder of modern astronomy — a scholar who spent long hours studying the stars. He was, in addition, a bailiff, a judge, a military governor, a physician, and even a reformer of the coinage. Not only did he do all those things: he did them so well that those who were not aware during his life of his scientific achievements knew him as a vigorous administrator. Certainly an amazing figure.

But it was also an amazing figure who broadcast that tribute— a man of 82, who had got behind neither in his science nor in his interest in the world at large. If you look him up in *Who's Who* you will find that Algernon Charles Gifford was born at sea in 1861 and went to school in Oamaru; that he later went to Cambridge and became a wrangler; and that two generations of New Zealand boys afterwards learnt mathematics from him at Waitaki, Christ's College, and the Boys' College, Wellington. But that, although it is an interesting record, is not even half the story. His remarks on Copernicus suggested that he is an astronomer in his own right. But he is far more than that. In the opinion of some authorities he is one of the leading astronomical mathemeticians in the whole world—a bold claim certainly, but one that those who make it stoutly support.



*A. C. GIFFORD*
*A photograph from the Centennial Collection in the Turnbull Library*

Here are some passages from the section devoted to him by S. H. Jenkinson in the *Centennial Survey of Science* published three years ago:

"It was on July 4, 1878, a date that must become historical in the world of science, that Bickerton read before the Philosophical Institute of Canterbury his paper *On Temporary and Variable Stars,* in which the main facts of the theory of partial impact were first announced. This was followed by seven other papers before the end of 1880, and in these were revealed all the brilliant guesses that it has been the life work of Gifford to systematise and prove. . .

"Anyone conversant with the science of mechanics will see that a tremendous amount of mathematical investigation is necessary before any of his statements can be accepted as proved. It was here that Bickerton failed, for he was a poor mathematician with little faculty for exact arithmetic. His mistakes in the simplest problems of addition or subtraction were the standing joke of the back row in his classes. The professor, however, had an extraordinary faculty for a mental graphic arithmetic of his own. After looking at a long collection of complicated figures on the board, Bickerton would close his eyes for a few seconds and then dreamily announce that the final answer was about 430,000. No one in the class could tell offhand whether the answer would be closer to 0 or 40,000,000, but excited calculators would soon whisper some such figure as 437,618 round the amazed audience. This faculty was inadequate, however, to win for the theory of partial impact acceptance in a cold world of science. Gifford, with his flair for astronomical mathematics and his enormous industry and patience, was the man for this work. . .

"For 50 years he has devoted all the time he could spare from his teaching and his family life to solitary thought and calculation. He has endeavoured to develop and prove points put forward by Bickerton, and to put the latter's theories into mathematical form. From Bickerton's speculations on whirling coalescence, the possibilities of which he himself did not appear to realise, Gifford has derived a theory of the origin of the solar system. Stars are only bright suns for so many million years after an encounter. Gifford explains the origin of the solar system. . . .

"To Gifford encounter is the life principle of the universe. It explains why all the stars we know appear to rotate. Gifford cannot accept the forlorn view of Jeans, who says, 'We believe that the universe is not a permanent structure. It is living its life, and travelling the road from birth to death just as we are. For science knows no change except the change of growing older, and no progress except progress to the grave.' Like Bickerton, Gifford believes in the immortality of the stars. 'The more the heavens are studied,' he says, 'the more clearly does it appear that stars are revivified by stellar encounters, and that even such vast systems as the spiral nebulae are reformed and given new life by colliding with one another.' He concludes his article on *The Immortality of the Universe* thus: 'Viewed in this way, we see in Nature no imperfection and no seed of decay. The present appears no longer as a passing stage in a slow march towards death, but as a glorious scene in the cycle of the eternal heavens.'"