

# Ball Bearings

The Greeks said it was male excitement that determined a child's sex; today, scientists know better. The true determinant of sex is a single gene located on the Y chromosome - one of the 46 chemical bundles inside our bodies' cells which determine our physical characteristics. If a person inherits an X and a Y chromosome, they develop as male. Those who inherit two X chromosomes, develop as female.

Scientists have known this for decades, of course. The new breakthrough, made by the Whitehead Institute, Massachusetts, has been to find the precise gene on the Y chromosome which is responsible for maleness. This gene, we now know, manufactures a protein

called testes determining factor, or TDF. Its presence causes a person to develop testes. Its absence results in the development of ovaries.

The isolation of this gene, and the subsequent discovery that all male animals possess it, is therefore important. For one thing, it may soon help scientists manipulate sex ratios in agricultural animals.

But there are other social consequences. The physical differences between men and women may appear to be considerable but now we can see the sexes differ by only ten thousandths of one per cent of their genetic make-ups. Men and women, then, have more in common than is generally acknowledged. Yet many biology students are still taught in sexist terms of an active Y chromosome overriding a passive female pattern. •

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