

# 'It takes a genome: How a clash between our genes and modern life is making us sick'

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It's not just the climate that is struggling with what humans have done to the modern world, our genes are feeling the pressure as well, according to Professor Greg Gibson's recently published book.

*In It Takes a Genome: How a Clash Between Our Genes and Modern Life Is Making Us Sick*, Professor Gibson, from UQ's School of Biological Sciences, suggests the increased rates of diseases such as diabetes, cancer and Alzheimer's are due to human genes being unable to cope with the 21st century Western lifestyle.

"In the last two generations or so, we've changed our environment so much in terms of what we eat, what pathogens we are exposed to and the stresses we put on ourselves psychologically," Professor Gibson said.

"The rapid cultural change means our genes are no longer in a comfort zone - that's pushed us outside of the realm that the genome can normally tolerate.

"Because of that, we've gone from one percent of people being susceptible to these diseases to more like 10 or 15 percent."

Detailed in the book is the idea that, because genes evolve at a much slower rate than the environment changes, disease epidemics cannot be attributed solely to genetic susceptibility. Rather, environmental change is to blame.

Professor Gibson said while being able to identify the genes responsible for certain diseases was an exciting advancement in genetics, it didn't necessarily mean we were closer to predicting who would get sick.

"If we know our genes we have a better guess at who's predisposed to certain diseases, but we have to understand a whole lot more than that," he said.

"This book actually started out as a response to Richard Dawkin's *The Selfish Gene*, so I wanted to get the message across that, rather than us being robots that are slaves to our genes, genes are communities that work together."

The ideas in *It Takes a Genome* are the culmination of 10 years' research analysing how the genomes of various animals respond to environmental change.

The book is available to purchase online and is aimed at a non-scientific audience.

Professor Gibson is an Australian Professorial Fellow in UQ's School of Biological Sciences, having moved recently from North Carolina State University.

Source: Research Australia

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