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Título: Deeper Genome The. Why There Is More To The Human Genome Than Meets The Eye

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Over a decade ago, as the Human Genome Project completed its mapping of the entire human genome, hopes ran high that we would rapidly be able to use our knowledge of human genes to tackle many inherited diseases, and understand what makes us unique among animals. But things didn't turn out that way. For a start, we turned out to have far fewer genes than originally thought - just over 20,000, the same sort of number as a fruit fly or worm. What's more, the proportion of DNA consisting of genes coding for proteins was a mere 2%. So, was the rest of the genome accumulated 'junk'?

Things have changed since those early heady days of the Human Genome Project. But the emerging picture is if anything far more exciting. In this book, John Parrington explains the key features that are coming to light - some, such as the results of the international ENCODE programme, still much debated and controversial in their scope. He gives an outline of the deeper genome, involving layers of regulatory elements controlling and coordinating the switching on and off of genes; the impact of its 3D geometry; the discovery of a variety of new RNAs playing critical roles; the epigenetic changes influenced by the environment and life experiences that can make identical twins different and be passed on to the next generation; and the clues coming out of comparisons with the genomes of Neanderthals as well as that of chimps about the development of our species. We are learning more about ourselves, and about the genetic aspects of many diseases. But in its complexity, flexibility, and ability to respond to environmental cues, the human genome is proving to be far more subtle than we ever imagined.