

Aventis and functional genomics



In mid-2000, at the beginning of a new century, no topic could be more appropriate for Nature Insight than functional genomics. Of all the scientific disciplines, none will have a greater influence on the future of drug discovery than genomics, and none will change medicine more profoundly.

Exactly one hundred years have passed since the genetic rules of Gregor Mendel, originally published in 1865, were rediscovered in the reports of the German Botanic Society, their significance having initially been overlooked. In 1900

Mendel's findings flourished in a fertile environment of scientific curiosity, which laid the foundations for the subsequent genetic revolution of the 20th century.

At the height of this century, the world was struck by Watson's and Crick's discovery of the DNA structure and its ramifications: "It has not escaped our notice that the specific pairings we have postulated immediately suggest a possible copying mechanism for the genetic material", they concluded in an article published in "Nature" announcing the news to the world. Along with the digital revolution, the genetic revolution has already radically changed the face of science and propelled mankind forward towards its roots, while biology is being transformed more and more into an information science.

Sequencing the human genetic information is a task that has now almost been completed. The speed at which this has been achieved goes beyond all expectations of just 12 years ago. It has taken us into the entrance hall of the library of life, whose still largely incomprehensible volumes contain the three billion letters of our genetic make-up, now waiting to be joined together into meaningful words, sentences, paragraphs and chapters. With the resulting instructions we shall be

able to make life on earth more worthwhile.

Such a vast decoding task makes deciphering the hieroglyphics look like child's play. To accomplish this task, we all need to combine the urge for scientific knowledge with an unprecedented responsibility for life and its preservation. This library of life affects the subjective life of us all to a greater extent than any scientific factors have ever done in the past. If we use it wisely, we shall have a unique opportunity to ensure the sustainable development of life on Earth.

"Our challenge is Life" is the motto that governs our actions here at Aventis. Functional genomics – together with a wide array of enabling technologies – plays a central part in meeting this challenge, and we, as a leading life sciences company, are supporting it with all available resources. We hope the results achieved in the near future will help millions of patients throughout the world by healing conditions for which there has so far been no adequate treatment, if any at all.



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