

# TOUCHINGbase

## ● Illustrating science

"Seeing is Believing" is the title of an exhibition featuring 700 years of medical illustration that will open shortly at the New York Public Library. The exhibit includes nearly 300 illustrations depicting advances in scientific and medical history of the last seven centuries around the world. Images range from medieval renderings of the universe over vivid cross-sections of human anatomy to the first photograph of the moon. Among the many items drawn from the library's rare books and manuscript collections are copies of Vesalius' *De humanis corporis fabrica* (1543), Sir Isaac Newton's *Principia Mathematica* (1687), William



Harvey's *De mortu cordis* (1628), Charles Darwin's *On the Origin of Species* and *The Descent of Man, and Selection in Relation to Sex* (see image), Hugo de Vries's *Die Mutationstheorie* and Marie Curie's *Recherches sur les substances radioactives* (1904). The exhibition is on view from 23 October to 19 February 2000 at the Humanities and Social Sciences Library, Fifth Avenue and 42<sup>nd</sup> Street in New York City. For further information, visit the library's web site (<http://www.nypl.org>).

## ● Mirror, mirror . . . on the microarray

One way of making DNA microarrays is by photolithography, whereby light is shined through a mask onto a light-sensitive surface; the regions exposed to light are deprotected, allowing the addition of a nucleoside residue to the ends of targeted chains, but not those of others. As a large number of masks are needed to create the complex array pattern on a chip, making microarrays by this method is laborious and expensive—and it is also patented by Affymetrix, Inc. Michael Sussman and colleagues now report a new way to make microarrays, by creating 'virtual' masks with mirrors (*Nature Biotechnol.* **17**, 974–978; 1999). Borrowing technology from the television projection industry, the researchers used a micromirror device consisting of a 600 × 800 array of digitally controlled micromirrors. Light is reflected from the mirrors onto specified regions of the array, creating a 'virtual' mask. The digital micromirror device is connected to a DNA synthesizer and, as the angle of each 16- $\mu$ m mirror can be individually altered, it can generate a range of images for synthesizing nearly half a million different oligonucleotide combinations. The 'unmasking' of *in situ* synthesis described by Sussman and colleagues may open the door to another means by which to generate microarrays.

*Sleep with your hypotheses, but don't marry them.*

—John Trinkaus

## ● Fictional science

Cyberuni.org, Inc. is a California corporation that intends to become "the world's university". One of Cyberuni's first ventures in the world of science, however, suggests poor judgement. The recent announcement that Cyberuni will provide funds to clone the Huia, an extinct New Zealand bird, is hard to reconcile with the virtual university's mission "to encourage people to think and critically examine the world around them". Having been relentlessly hunted for its beautiful tail feathers—especially after a

King of England started a trend by returning from a trip to New Zealand with a Huia feather in his headband—the bird was declared extinct in the 1920s. The project plans to look for cells in preserved museum specimens with the hope of using them as donors in a cloning experiment à la Dolly. If no suitable cells are found, the leaders of the project will switch to the extraction of DNA from the stuffed birds and use 'Jurassic Park' technology to generate a donor complement of chromosomes. Of greater concern than the project's experimental flaws is that Professor Diana Hill, who heads the Molecular Biology Unit at the University of Otago, calls it "flagship research" and "exciting leading-edge science of international significance". That advances in ancient DNA and cloning technology inspire the imagination of science fiction writers is understandable and often makes for good reading; that 'expert' scientists ignore the facts—it is not possible to extract intact cells from preserved specimens or to re-assemble an intact genome from ancient DNA fragments—damages science.

## "Perfect Husband Gene Discovered"

There's a headline makes you think.  
What might make a perfect husband?  
Leaves bar after just one drink?  
Not afraid to show his feelings,  
Alpha Male, yet soft and caring,  
Puts the duvet in its cover  
In under half an hour, no swearing;  
Pure, mature and good with money,  
Women of all ages rate him  
Handsome, virile, bright and funny . . .  
Who's this Gene? I think I hate him.  
Doesn't work for Railtrack, does he?  
Spends all day in suit and tie  
Being creative with the schedules,  
Then goes home as nice as pie:  
"Hello, darling. Mmmwa! I love you.  
How's your day been? Pass the salt."  
There you have it, weary traveller  
Just blame Gene. It's all his fault.

—Martin Newell, first published in *The Independent*

