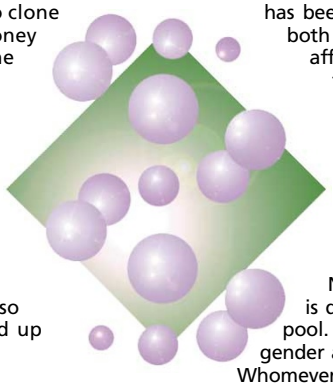
TOUCHING**base**

Dog gone…update

In December 2001, we reported that Texas A&M University had launched the Missyplicity project to clone the pooch of someone who has too much money and free time. Well, we are sorry to say that the team that successfully cloned cats, pigs, bulls and goats has lost their funding to clone a rich man's dog. Founder of the University of Phoenix and rich guy John Sperling has instead decided to funnel his bucks to Genetic Savings & Clone, a company he founded to make a commercial pet cloning service. His dog Missy, who inspired the project, was put to sleep on July 6, 2002. The A&M team plans to continue their cloning interests in other animals so they can better understand how they screwed up cloning a dog.



Contest clone

Nature Genetics is proud to announce our first contest. It has been announced several times in the last year by both Korean biotech company BioFusion Tech (an affiliate of the U.S. based company Clonaid) and the controversial Italian doctor Severino Antinori that they had clients who were pregnant with the first human clone. In April of last year, Antinori told a reporter that one of his clients was 8 weeks pregnant. Since the child would have been due a few months ago, we speculate that either things didn't go so well, or someone was trying to impress a female reporter…uhh um. Now there are reports that the first cloned child is due this month. The contest is a standard baby pool. Send your best guess for birth height, weight, gender and length to us at ngfeedback@natureny.com. Whomever is closest will receive a one-year online subscription to *Nature Genetics* and a copy of Aldous Huxley's best-seller, *Brave New World*.

Patterns of ploidy

The central question of development, at least for complex organisms, is how to get bigger while telling head from tail and back from front. Although most vertebrates increase in size through cell proliferation, some invertebrates also exploit an increase in cell size. Larger cells, however, require larger nuclei, which might require an increase in ploidy. In a recent issue of *Developmental Biology* (vol. **252**, 59–71; 2002) Philippe Ganot and Eric Thompson (Bergen High Technology Centre, Bergen, Norway) outline a beautiful example of regulated increases in ploidy during growth and patterning in the marine chordate, *Oikopleura dioica*. *O. dioica*, with a trunk size of a few millimeters, lives inside a multichambered, extracellular house that is secreted by its own epithelium, where it makes a living by feeding on a variety of organic particles. The authors labeled growing *O. dioica* with BrdU at different times during its life cycle to identify the patterns of DNA synthesis. They found differences in ploidy levels across the animal ranging from 34 to 1300 C! Remarkably, the variation in ploidy is highly regulated, being controlled in space and time by differences in the duration of G-phase. As the animal grows, groups of nuclei, referred to as fields, take on characteristic morphologies depending upon their location. Although not all nuclei in a particular field have similar ploidy, each nucleus was found to have an equivalent DNA content to its bilaterally symmetric partner on the opposite side of the animal, suggesting that control of ploidy is intimately linked with patterning. As the genome of *O. dioica* is now being sequenced, a genetic dissection of the contribution of cell size and ploidy to variations in body size and patterning is on the horizon.

Mutant of the Month

We are pleased to present *Wolverine* as the January M.O.M. Born James Howlett in the late 19th century in Alberta, Canada, he is best known for the Marvel Comics portrayal of his life in the X-men movie and comics. Wolverine is a spontaneous mutant first isolated by the Canadian government, who subjected him to rigorous behavioral and psychological testing as well as fitting him with a metal-laced skeleton and claws. He is phenotypically distinguishable by his extended lifespan, 'animal senses', accelerated wound healing and retractable claws. Also known as Logan, after the man who allegedly killed his father.

Heads, you win.

Science can be cutthroat, but a rather gruesome technique for studying the effects of blood deprivation, or ischemia, on the brain ups the ante. Researchers at Jichi Medical School in Japan decapitated infant rats and then, after a period of ischemia, grafted their heads to the thighs of adult rats. When the procedure was done in a cold environment (19 °C), the brains of the re-embodied heads apparently developed normally for at least three weeks, but at a higher temperature (29 °C), selective neuronal cell death in the hippocampus was observed. In an interview with *The New Scientist*, the authors indicated that the mouths from the grafted heads move as though to suckle (yuck). The full results are reported in the May 2002 issue of *Neuroscience Letters*. Other animal models for studying ischemia exist, and techniques for inducing ischemia include compressing the chest or closing off the carotid arteries for a brief period. The extreme technique, however, imposes a longer period of ischemia than has previously been studied and allows the study of ischemia on the cerebellum. The macabre technique is unlikely to be widely adopted, as the regulations governing experiments involving animal subjects vary from country to country, and the procedure may not be universally approved. But as the need for appropriate animal models for studying human afflictions grows, research techniques may continue to grow ever more extreme. At the very least, we finally have a model for studying the effects of decapitation on brain development.

Questions? Thoughts? Ideas?
e-mail us at ngfeedback@natureny.com