

Hamsters Gone Wild



We're not the best family for pets, having killed many goldfish and two cockatiels. One time I had a parakeet named Clyde. Before you hear the rest of the story (so to speak), I should point out in my defense that this was a really mean parakeet. We were not the first owners. The bird was originally given as a gift from a man to his fiancée. In this case maybe flowers would have been better, because the man left her at the altar. She expressed her anger by torturing the parakeet. It was a reverse "he loves me, he loves me not," done with feathers instead of flower petals. Eventually she couldn't stand doing even that, so she sought to discard the bird. We wanted a pet, and this was before we understood our deficient pet-rearing abilities, so we rescued him. But by then, Clyde was pretty much finished dealing with human beings. As a result, Clyde was not easy to love. It wasn't like the cherubic birds in *Mary Poppins* that would chirp along with Julie Andrews and land on her finger. No, Clyde was out for vengeance.

One time I was cleaning the cage while Clyde was still in it. I carefully avoided his nasty beak and sharp talons. I used the vacuum cleaner with the top attachments off. I got distracted, and then I heard a "thunk." Poor Clyde was stuck at the top of the vacuum, his little feet and tail feathers wiggling out the end of the hose. For about a week or so after that, Clyde was a bit friendlier, or at least not as nasty. It was either because the cage was cleaner or the bird feared being vacuumed again.

We haven't had cats or dogs, and we won't in the near future. But my daughter loves animals, and she tried for years to get another pet in spite of our dysfunctional abilities. Finally we relented and got hamsters. This seemed like a safe choice. Hamsters stay in cages, and they're really

mice, which should have been pretty hardy, even in our household. Also, I was frequently reminded by my family about the time I vacuumed the parakeet, so a hardy pet would be preferable to a more delicate creature. We thought about getting one hamster, but that seemed wrong because a solitary mouse would be too lonely. We got two, with the pet store assuring us that both were girls. My daughter named them Wolf and Zeppelin.

In the beginning, both hamsters were adorable little babies that needed help drinking water from the hanging dispenser. However, the life cycle of a hamster is much shorter than a human being, or even a dog. Within a few weeks, Wolf and Zeppelin were much bigger. In fact, Zeppelin grew a surprising amount in a short time. We thought it was from too much food and watching TV with my daughter, but there was another cause of the sudden weight gain.

Instead of two girl hamsters, we had one girl and one boy. On a Friday morning, my daughter shrieked—“Dad, you have to come see this!” A gaggle of tiny babies squirmed in the cage. We had a hamster family of 11. How the two original hamsters had gone so quickly from being babies to parents themselves, I’m still not sure. I thought of an episode of the original *Star Trek* series, in which the crew encountered cute, fur ball creatures called “tribbles.” The trouble with tribbles is that they reproduce, continuously and often. Dr. McCoy concluded that tribbles were essentially born pregnant, close to the condition of our pets, who had a few weeks of hamster childhood. Dr. McCoy’s key advice was that you shouldn’t feed the tribbles. This didn’t seem like an option for our pets.

With the now expanded family of rodents, we had to deal with all sorts of hamster infrastructure issues. The cage we bought was pleasant and spacious for the two pets. The split-level cage had a health club spinning wheel on the side and a plastic house on the top level where the two hamsters could hide out and rest. This was where Wolf and Zeppelin decided to raise the kids. What was cozy for two little hamsters seemed pretty crowded for two big fat hamsters and nine growing babies. Apparently hamsters like to smooch all together.

Watching this growing family, I thought about issues of sustainability. In the microenvironment of the hamster cage, things would quickly get out of hand. In a few weeks, we went from two pets to 11. Assuming the same rate of growth, with some conservative assumptions, we would

have about 900,000 hamsters a year later. Clearly we would be out of room well before then. To support even a month or two at the current growth rate, we would need a vast expansion of the hamster infrastructure. We would need more cages, more hamster houses, more food, and more water bottles. We would need lots and lots more hamster exercise wheels, and they would all be spinning furiously at 3 a.m. because the creatures are nocturnal.

Something would happen before we reached the one-million-mouse mark. The initial growth rate would not be maintained. Another thing we learned about hamsters is that they have problems with maternal instinct. After a few weeks of loving care, the mother hamster started eating the babies. One by one, the kids turned up dead in the cage, until my wife actually caught Zeppelin in the act. At that point, Zeppelin was banished to a hamster ball and eventually back to the pet store. This type of behavior is not unusual in hamsters, but of course we were clueless.

The two extremes of hamster behavior help frame the debate about sustainable development for human beings. One extreme argument postulates that our human future involves massive overpopulation and environmental degradation, with apocalyptic results. For example, a global warming disaster movie in the summer of 2004 showed giant tidal waves and tornadoes blowing away Hollywood. At the other end of the scale, a more laissez-faire approach is endorsed. The argument maintains that things will readjust by themselves regardless of what we do. It's not that human mothers will start behaving like hamsters to reduce the rate of growth, but factors that we are not taking into account will moderate the doomsday scenarios. One theory holds that the vast reservoir of energy and mass in the ocean naturally moderates any changes we might cause.

There is evidence to support both scenarios. Rapid human growth and infrastructure development have probably led to some global warming, with uncertain impacts that we are unable to model with great accuracy. On the other hand, birth rates have reduced drastically in the last decade or so. The vision of *Soylent Green*, a cheesy post-Moses movie in which Charlton Heston lived in a failed, overpopulated world, now seems like an overwrought and incorrect extrapolation of the future. The debate is often phrased like the classic engineering approach of alternatives analysis. Engineers as problem-solvers must do something, even

though doing nothing is one of the alternatives. Maybe doing something could be a worse alternative. On these lines, for example, assigning a limit to the human population has the negative impact of fewer people in the community, which can be a bad thing: what if one of these unborn individuals would have discovered the cure for cancer or the follow-up to string theory?

Civil engineers are now grappling with the difficult set of questions related to sustainability. What is needed is a cross-discipline, big-picture understanding of problems and interrelationships. For many engineers used to a more atomized, discipline-specific evaluation, this requires a new set of skills and a new approach. Another challenge involves comparing and weighting entirely different issues—for example, the economic bottom line of a project versus projected social impacts 20 years from now. Our current approach is not much better than formulating checklists of what's been accounted for and what hasn't. The old bottom line still tends to carry the most weight. But true sustainability is what is demanded of our projects now and in the future. Our evaluation, analysis, and design tools must rationally address this requirement. Engineers need to get ahead of the learning curve, or we will be continuously in reactive mode.

As with most complex problems, the best responses are often found closer to the middle and not at the extremes. As it goes with infrastructure design, so it goes with pets.