

Supercourse Newsletter  
11 July 2006

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Dear Friends

Thank you Dr. Zerhouni for your lecture, reviewed at the bottom.

“what Muhammad Ali is working on is his legacy, said Ms. Ali,...How are people going to remember him? Muhammad says that we should all be in a race to do good” (NYTimes June 28, 2006)

What we are working on with you is your legacy...we think the best legacy would be to share your science to the great, great, great, great grandchildren of my students and yours. To do this, we need to preserve your lectures.

Legacy Lectures: The legacy lectures are streaming in. It is wonderful thinking how best to package the lectures of Nobel Prize winners, National Academy of Medicine, and best of all, you, for 700 years. We started we thought it would be quite simple, but as we become involved with it, it is most difficult. In fact, Ismail Serageldin, the head of the Library of Alexandria is planning a meeting to discuss how we can save knowledge as long as we did with the Library of Alexandria, 2000 years ago. We have come to several conclusions, the first is no one knows how to do this. The second is that there is a surprising lack of research on how we can save your lectures. We are working hard to develop a system to save your legacy lectures.

We have started to look at this in somewhat different perspectives, what knowledge is saved over 100s of years, and how can we emulate this? Dr. Serageldin suggested using agriculture and seed banks as a model. We have been very successful in saving the knowledge of agriculture as well as that of seeds over the years.

Another example of keeping knowledge over time is religion. The Bible, Koran and Torah have been saved intact for 100s of years. In addition, the language and customs of the religious have survived as well, whereas much of our other knowledge from 2000 years ago has been lost.

Gold is something that has been kept and saved for 1000s of years. The most ubiquitous saving of knowledge is in fact language, as this is past on from Generation to Generation.

Why do we preserve some things, and not others. It appears that if something is essential to life, such as agriculture, effective intergenerational sharing systems are developed. Also, if things are viewed as “precious”, such as gold or religion, or customs, they are retained. The more people who use them the greater the likelihood of success. An article such as by Crick and Watson is precious knowledge, and will be retained for next 700 years, an article by LaPorte in the Amer. J. Epidemiology in 2006 may make it to 2010 before it turns to dust. One of the articles is more precious, and more distributed.

We stumbled across an interesting model for knowledge retention, that of evolutionary biology. Evolutionary biology is based upon genetic fitness. Perhaps knowledge has different degrees of “scientific knowledge” fitness. Each species has a decay function, perhaps each nugget of knowledge have decay functions as well.

Solutions: We still see that having our lectures in multiple formats (e.g. paper, tape, microfiche, video, PowerPoint etc. will maximize the likelihood that your lectures will survive. It is also important to have multiple copies. We have target distributing the lectures to the 170 National Libraries. However, we could even be more creative by taking 1-5 Gbyte nuggets and dropping these into PC world wide. Most of us use <50 of our hard drive, it would be cool to somehow store the best of the best of the world's knowledge into our PCs. Grid Computing has harnessed computers for running programs, but why cannot it be done for saving the world's knowledge?

Lecture of the Week: Elias Zerhouni, M.D. Director of the NIH

"Standing on the shoulders of giants". Among the new lectures in the Supercourse, we have a lecture from the head of NIH which can be accessed through <http://www.pitt.edu/~Super1/lecture/lec23711/001.htm> This elegant lecture describes some of the priorities of public health today and the philosophy of roadmap, or overlapping scientific research areas. Dr. Zerhouni's lecture is graphical, scientific, and interesting for both scientific and lay audience. Please feel free to use this lecture should you want to describe the NIH from the Director's perspective. If you would like to contribute more interdisciplinary lectures, please contact the Supercourse developers. Hundreds of people have visited this lecture since its opening in May.

Bird High Noon:

There was a wonderful movie from the 1950s with Gregory Peck. It was a Western, where the Marshal was to have a gun fight in the corral at 12:00. Early in the day, all the citizens were out, loud and talking...As it got to be 11:59, silence swept over the town with non citizen to be seen. The shoot out occurred at 12:00 in the OK corral. We had a bird high noon in our yard, a most frightening experience. I was sitting on our porch on a warm sunny day, and I hear two sets of birds very noisy in back of our yard, one could not see them, but you could hear the twirl around the trees. Then silence, deadly silence. All of a sudden a beautiful, majestic (and scary) Hawk jumped out of the trees swooped straight at me and sat down on the fence 2 feet away with its mouth open yet strangely quite. I yelped, big time. Hercules the Hawk has been around a long time, but never that close. When Hercules comes, all the small critters hide, and one can feel Hawk tension in the area, even among the Turkeys.

"Don't try to be a hero! You don't have to be a hero, not for me!" (from High Noon)

Best regards from Pittsburgh

Ron, Faina, Mita, Eugene, Hercules, Francois, Julia, Rania, Saida, Ylli, Ali, Kuntoro

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