

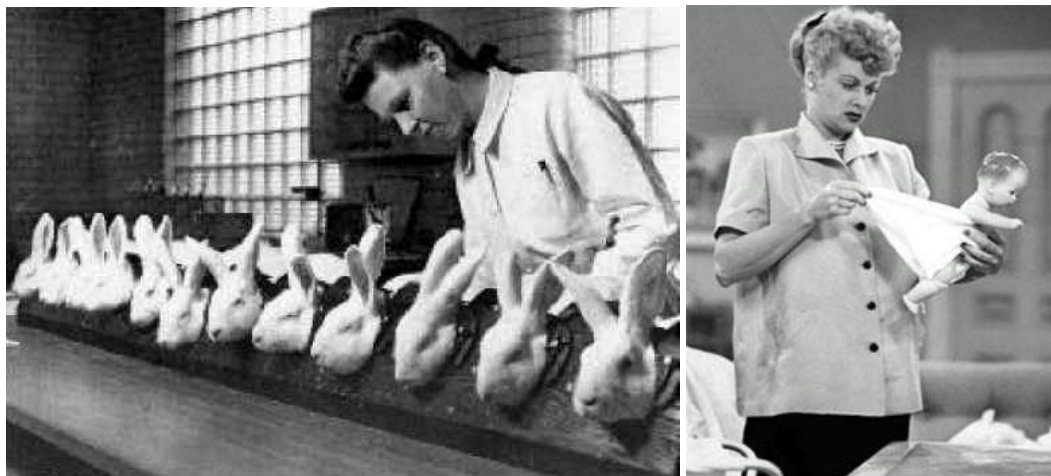
### **Biomedical Engineering: Proof of Parallels between Scientific Progress and Social Revolution**

During his *Hot Science – Cool Talks* outreach lecture on the University of Texas Campus, Dr. Andy Ellington made an important point about the role that scientific research has in shaping modern societies. Scientific discoveries and breakthroughs often precede or accompany pivotal changes in the way we care for ourselves. These advances often evolve the role that individuals have in both diagnosing and making decisions about their own health. The technology used to diagnose pregnancy in humans is a vivid example of the parallel between scientific progress and social revolution.

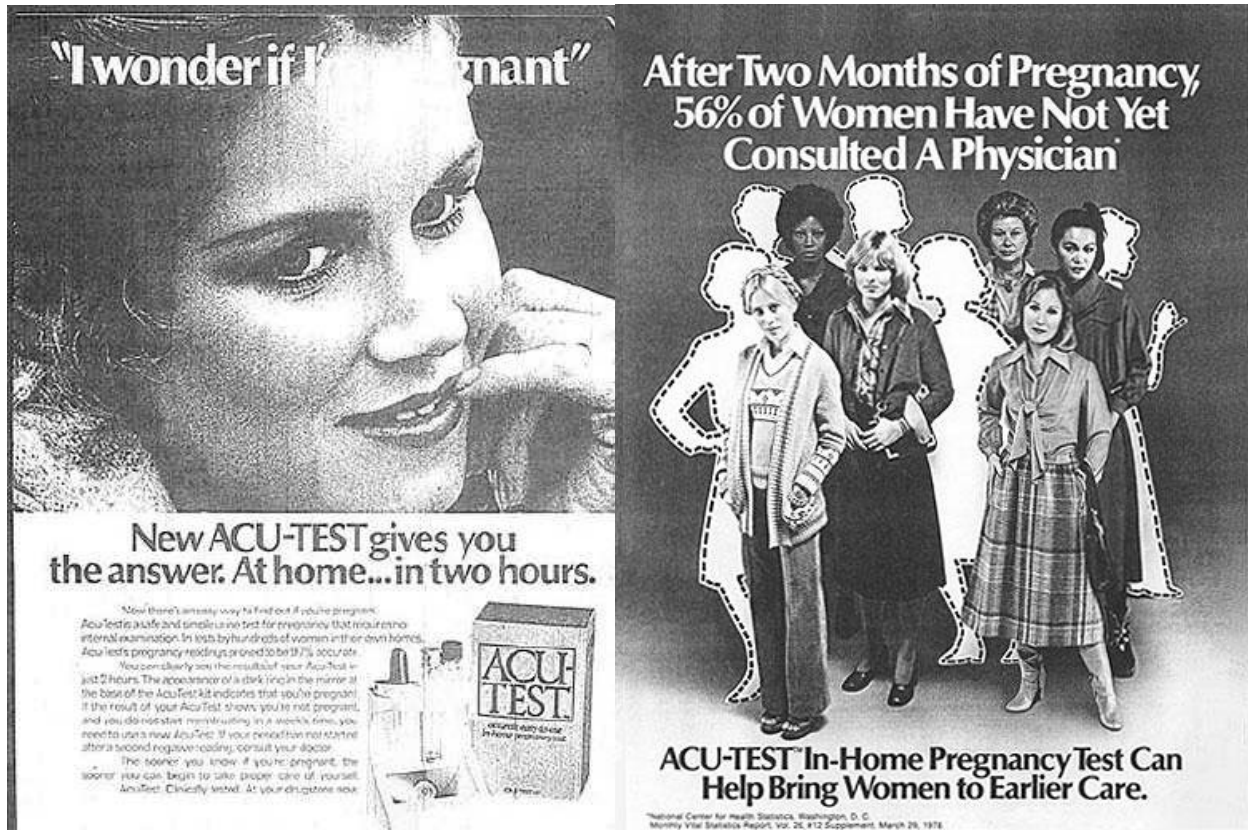
"The rabbit died" was a common expression used to announce a pregnancy after being popularized by Lucille Ball on a 1952 episode of "I Love Lucy". Back then, physicians theorized that a chemical in a pregnant women's urine, known as human chorionic gonadotropin (HCG), would stimulate a rabbit's ovaries if exposed to the urine. Unfortunately for the rabbit, the quickest way to see whether or not her ovaries were affected by the woman's urine was to kill and dissect the rabbit. By today's standards, this is a rather unwieldy and traumatic way for doctors to diagnose whether a woman is pregnant. *Advances in biomedical engineering transferred the ability to accurately diagnose pregnancy from doctors to individual women.* This transition accompanied a marked shift in Western attitudes regarding women's roles in managing their reproductive health, as evidenced by the second set of photographs below.

Today, pregnancy tests are inexpensive and easy for individual women to administer at home without the aid of doctors. Although this medical science advancement is not the sole source and cause of the many changes seen in the status of women in Western cultures, it played a significant role in empowering women to monitor and manage their reproductive health, thereby advancing the cause of women's rights.

**Below: Images from the method used by doctors whereby rabbits were sacrificed to diagnose whether a woman was pregnant and the famous sitcom "I Love Lucy" that popularized awareness of the method during the 1950s**



Below: Images (circa 1976 and 1979, respectively) that demonstrate the shift towards a more active role that women play in diagnosing themselves regarding pregnancy. Diagnosis was previously restricted only to doctors.



**Sources (including featured imagery):**

- Hot Science Cool Talks Lecture: "Diagnosing Ourselves: Take Two Assays and Don't Call Me in the Morning" by Dr. Andrew Ellington, April 4, 2013:  
<http://www.esi.utexas.edu/k-12-a-the-community/hot-science-cool-talks/diagnosing-ourselves-biotechnology-in-your-back-pocket>