Barbara McClintock's Long Postdoc Years

THE STORY THAT BARBARA MCCLINTOCK "didn't find a permanent job until she was 40" (NetWatch, "Mother of the jumping gene," 23 Nov., p. 1623) is a laboratory legend that, although intended to buoy the spirits of long-term postdocs, might dampen those of junior faculty.

McClintock in her early days at Cold Spring Harbor.

In 1935, at the age of 33, McClintock became an assistant professor in botany at the University of Missouri. By 1940, she had become rather wary about academic politics; she seems to have believed she was about to be fired, so she took a leave of absence with no intention of returning. But in early 1941, Lewis Stadler, who had gotten her the job, wrote to Marcus Rhoades, McClintock's closest friend, that McClintock was "definitely slated for a promotion this spring, and Tucker (botany department chairman) has told her so." Stadler continued, "God knows no one can guarantee permanence in times like these, though I think the job here is pretty permanent as jobs go." When McClintock had been hired, the university "gave official assurance that the research jobs would be just as permanent as teaching appointments. Presumably her promotion this year would make her an associate professor, which is the grade here at which permanent tenure becomes automatic" (*1*, p. 64–65). Instead, McClintock got, through Rhoades, a visiting professorship at Columbia University, spent the summer of 1941 at Cold Spring Harbor Laboratory, and was offered a stopgap position while Milislav Demerec, the director of Cold Spring Harbor, pushed through a permanent appointment, which took effect on 1 April 1942.

Cold Spring Harbor was ideal for McClintock in many ways, but a center of maize genetics it was not. One wonders how different the story of maize-controlling elements might be had she stayed one more year at Missouri. As I see it, the moral for junior faculty approaching tenure is—hang in there.

NATHANIEL C. COMFORT

Deputy Director, Center for History of Recent Science, Department of History, George Washington University, Washington, DC 20052, USA. E-mail: comfort@gwu.edu

References and Notes

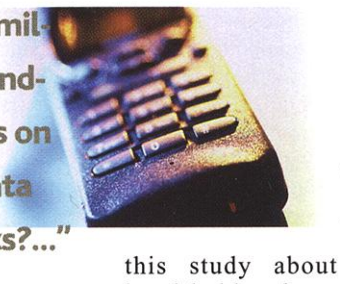
1. Lewis Stadler to Marcus Rhoades, 18 March 1941, Marcus Rhoades collection, Indiana Univ., cited in N. C. Comfort, *The Tangled Field: Barbara McClintock's Search for the Patterns of Genetic Control* (Harvard Univ. Press, 2001).

Hold the (Cell) Phone...

THE ISSUE IN THE NEWS FOCUS ARTICLE "CELL phone lawsuits face a scientific test" (M. Parascandola, 16 Nov., p. 1440) is whether users of hand-held cell phones are being exposed to an agent (radio frequency radiation) that could cause brain cancer. In the article's accompanying table, which lists studies examining this question, there is misleading information. Car phone and bag phone users, most of the cell phone users in the early days and who were participants in the studies listed in the table, essentially did not have exposure to radio frequency radiation (*1*).

The study by Muscat *et al.* (*2*) had 469 brain cancer patients. Only 66 used hand-held phones and are relevant to the topic of the article. The study by Inskip *et al.* (*3*) had 782 brain cancer patients who used a cell phone 60 minutes or more a day or regularly for five or more years. Only 40 used hand-held phones for that time. And the Johansen *et al.* study (*4*) had 420,095 cell phone users; however, no conclusions can be drawn from this study about hand-held phone users because the authors didn't analyze the data on them separately from car and bag phone users who had no radiation exposure.

"...should we be making...decisions for more than 100 million users of hand-held cell phones on the basis of data from 106 patients?..."



The above are the major epidemiological studies in this area of research. Thus, should we be making public health decisions for more than 100 million users of hand-held cell phones on the basis of data from 106 patients, particularly when the

CREDIT: (TOP) COLD SPRING HARBOR NATIONAL LABORATORY; (BOTTOM) JOHN WILKES/CORBIS latency for cancer to appear is typically longer than the latency experienced by these few patients?

ALLAN H. FREY
Randomline, Inc., 11049 Seven Hill Lane, Potomac, MD 20854, USA. E-mail: afrey@uu.net

References and Notes

1. The antenna that radiates a car phone's energy is mounted outside the car, and for a bag phone it is usually on a table well away from the users head. Only the antenna for a hand-held phone exposes the head to significant radio frequency radiation.
2. J. E. Muscat *et al.*, *J. Am. Med. Assoc.* **284**, 3001 (2000).
3. P. D. Inskip *et al.*, *N. Engl. J. Med.* **344**, 79 (2001).
4. C. Johansen *et al.*, *J. Natl. Cancer Inst.* **93**, 203 (2001).

Response

FREY HIGHLIGHTS A CENTRAL CHALLENGE facing epidemiologists who study the effects of cell phone use. How can researchers measure the amount of radiation exposure each user receives? The degree of exposure varies with how many minutes the user spends on the phone, how many years they have been a subscriber, and whether they use a hands-free headset or a car phone that keeps the antenna at a distance.

As I noted in the article, critics of the epidemiologic studies have challenged the exposure estimates. In the Danish study by Johansen and colleagues, for example, all cell phone users were described as "exposed" whether they used their phone only for emergencies or spoke for hours. The authors of these studies do, however, acknowledge these limitations, and most admit that definitive answers about the effects of cell phones are years away.

Notably, epidemiologists Kenneth Rothman and Nancy Dreyer had planned to overcome these difficulties by using subscriber records to measure the amount of time users spent on the phone. But because of the privacy lawsuit described in the article, the fate of their study remains uncertain.

MARK PARASCANDOLA

JGR Authors Set the Record Straight

THE EDITORS' CHOICE ITEM "CLIMATOLOGY: hotter than ever" (9 Nov., p. 1245) about our paper published in the *Journal of Geophysical Research* (*1*) contains three misstatements that we wish to clarify.

In the opening sentence, climate sensitivity is described as "a parameter used by climatologists to specify the increase in average global surface temperature in degrees Celsius as a consequence of doubling the concentration of atmospheric carbon dioxide." Instead, climate sensitivity is the change in average global near-surface temperature (ΔT, °C) for a prescribed radiative forcing (F, in units of watts per square meter), expressed as ΔT or $\lambda = \Delta T/F$ (*2*). It is practice to determine λ for general circulation models by performing a CO_2 doubling simulation, with the resulting temperature change denoted by ΔT_{2x} and $l = \Delta T_{2x}/F_{2x}$. But climate sensitivity can also be determined for other forcings such as an increase in solar radiation. We have performed a suite of such simulations with our general circulation model for different radiative forcings and found that λ was virtually invariant (*3*).

Also in the first paragraph, it is stated that "The Intergovernmental Panel on Climate Change [IPCC] range of likely values for climate sensitivity is 1.4 to 5.8°C, although the full range varies from 0.1 to 10.0°C." These ranges are not for climate sensitivity, but for the temperature change in 2100 projected by the IPCC (*4*). Part of these ranges is due to the uncertainty in ΔT_{2x}, given by the IPCC as $1.5°C \le \Delta T_{2x} \le 4.5°C$ (*4*), and part due to the uncertainty in future emissions.