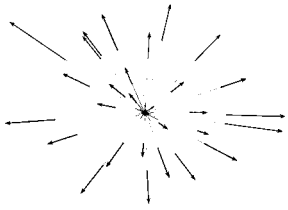

Chapter 3

Harvard College Observatory

My First Job

When I graduated in 1928, I wanted to get a job teaching high school mathematics, especially geometry, but could find no job, so I registered for graduate school. But at Christmas recess the Radcliffe Employment Office alerted me to an opening at Harvard College Observatory. I spent the vacation trying out the job, but in that interval I received an offer of a job with a statistician paying more than twice the observatory wages. I had no hesitation in saying, "No thank you, I have found a job I like." Having grown up "on a shoe string" I could live on the minimal wages of 40 cents an hour, a decision I have never regretted. Actually it turned out during the Depression that this was a fortunate choice. Harvard College Observatory Director Harlow Shapley could hire two women for the price of one man so we women kept our jobs while several men lost theirs. Now, if graduating students ask for advice on seeking jobs, I tell them, first figure out what the minimum wage is under which you can live respectably, according to your own standards of respectability. Within those limits choose the work you like best, otherwise you are not apt to become really happy.

My first supervisor at Harvard Observatory was Henrietta H. Swope, daughter of the wealthy President of the General Electric Company. She had proved herself an expert on the

discovery of hitherto unknown variable stars and determining their types of variation and, where feasible, their periods. Her father was so proud of his daughter that he gave the Observatory funds for hiring an assistant for her. That is how I got my job. Shapley had divided the Milky Way into discrete areas and plates had been taken centered on these areas. The first field I was to examine by intercomparing plates, was in Centaurus, in which I found 124 new variables and determined their probable characteristics. This was published without further comment (Hoffleit 1930). For the second field I was to examine, only a minimal number of plates, 42, had been taken, but I found 286 new variables for 132 of which I determined periods of variation. When I submitted my results to Shapley after Miss Swope had approved my paper, he wrote, "This is a colossal piece of work!" Alas, after it was published (Hoffleit 1931) we heard from none other than the famous Danish astronomer, Ejnar Hertzsprung at Leiden Observatory, that several of the periods I had determined were spurious. Leiden had 302 plates taken at Johannesburg, South Africa, on which an assistant was determining periods. Shapley looked glum and asked, "Didn't anyone ever tell you about spurious periods?" No. This made me wonder if my supervisor, Miss Swope, even knew about spurious periods. With limited numbers of plates, and the inevitable periodic gaps in the observations because none can be made in daylight or at the wrong season of the year, it is possible to find a whole family of apparent periods related to the real period by the periodic gaps in the observations.

In the current *General Catalogue of Variable Stars* (Kholopov 1985–1987) I have checked the periods of all the stars in that field (VSF 175) for which I had determined periods for eclipsing, Cepheid, and RR Lyrae type stars. Among the 47, there

were only 7 discrepancies—for six eclipsing and one RR Lyrae type star. All these were stars examined at Leiden by W. E. Kruytbosch and published in 1932 and 1935. For one of the eclipsing stars—WX Nor—the new period is just twice my old one. In two instances the Harvard period represented the difference between only two observed minima.

For Miss Swope's work on a field in Scorpio and Ophiuchus she also used only 44 plates for the determination of the periods of 35 RR Lyrae type stars (pulsating stars with periods under a day). However, six of the plates were all taken on the same night. Hence the chances of having her first determinations erroneous were comparatively small. Nevertheless I have checked her periods (Swope 1929) against the current *General Catalogue of Variable Stars*. For 34 of the 35 the given periods are still her originals; just one has been updated, with only a minor change in the last decimal place. It would be of interest to get new results on the other 34.

MISCELLANEOUS SERVICES ON VARIABLE STARS

THE GREAT HERTZSPRUNG did not hold me in lasting disgrace. On December 30, 1939, Miss Arville Walker, Dr. Shapley's secretary, gave me the following note:

> Dr. Shapley said, "Here is something for Miss Hoffleit from her boy friend." A moment later he added, "I send it to her because Hertzsprung has confidence in her—and he hasn't in the rest of us."

What Hertzsprung sent was a request for observations of an eclipsing binary star on the Harvard plates. Satisfied with

the first results he kept on asking for more observations on other stars. Finally, instead of channeling his requests through Shapley he began sending his requests directly to me. Then Shapley put a stop to the exchange, saying Hertzsprung was taking too much of my time away from my regular Harvard assignments.

Shapley, however, sent me other occasional requests he had received for observations of miscellaneous variables, so long as a request was not too extensive. One came in about 1950 from Mount Wilson astrophysicist Rudolph Minkowski who thought he had found a nova which he wanted verified. I submitted a formal reply, but privately wrote my reactions, not published until much later by the AAVSO under *AAVSO Humor* (Hoffleit and Overbeek 1984):

Minkowski's "Nova"

Minkowski found a "nova"
On a plate of long ago,
So at once he wrote to Harvard
To have us check that this was so.
Sixth magnitude he'd found the star
Near Orion in Gemini.
A one so bright in such a place,
Where all good amateurs do look,
Could hardly have escaped their watch.
Yet no Harvard Announcement Card
Ever told of its discovery.
So something drastic must be wrong!
On a plate of the given date
This lustrous star did glare at me;
But when another plate I searched
The culprit from its place had lurched!
To one old almanac it jolted me
And there the planet Uranus did be!