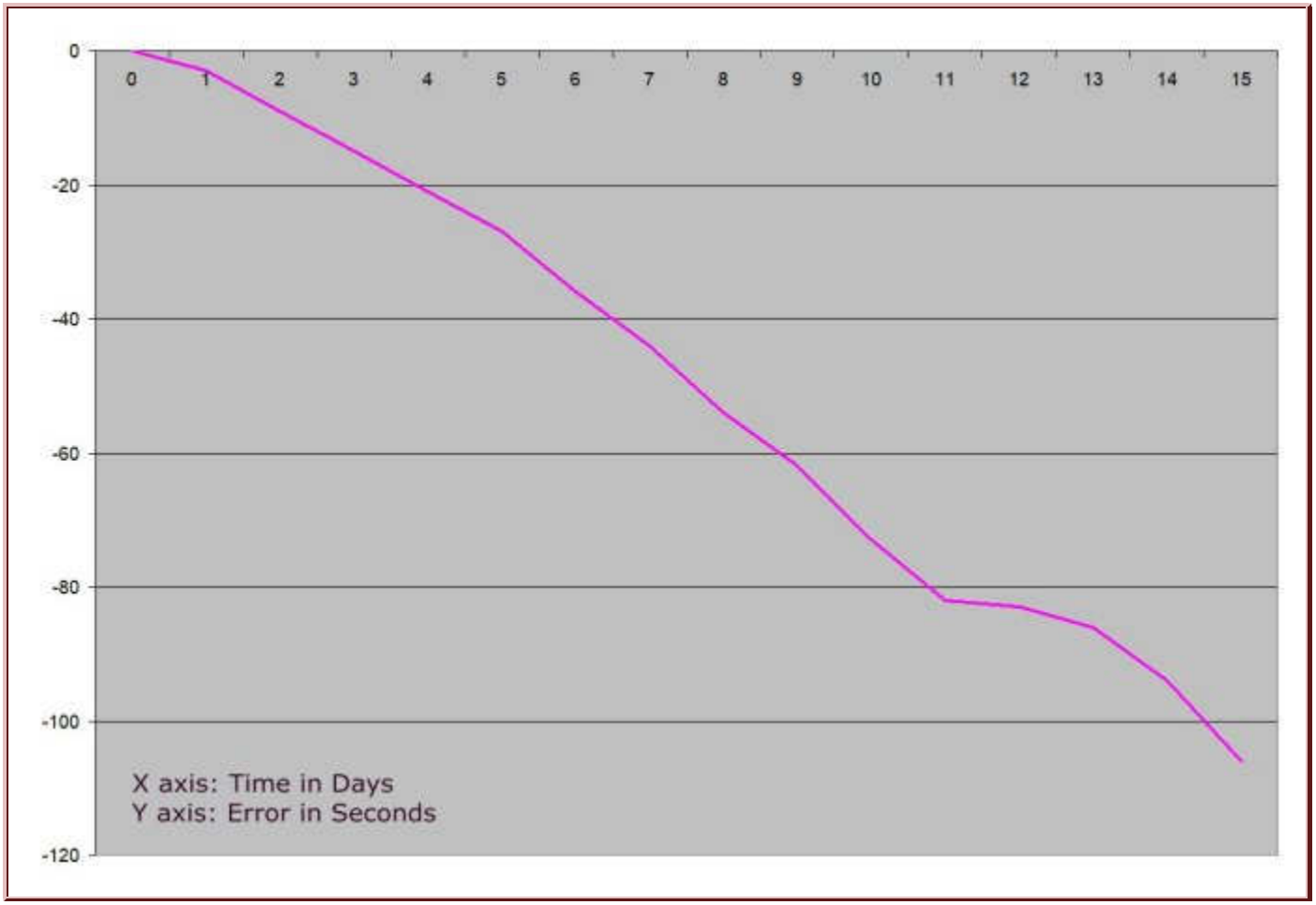
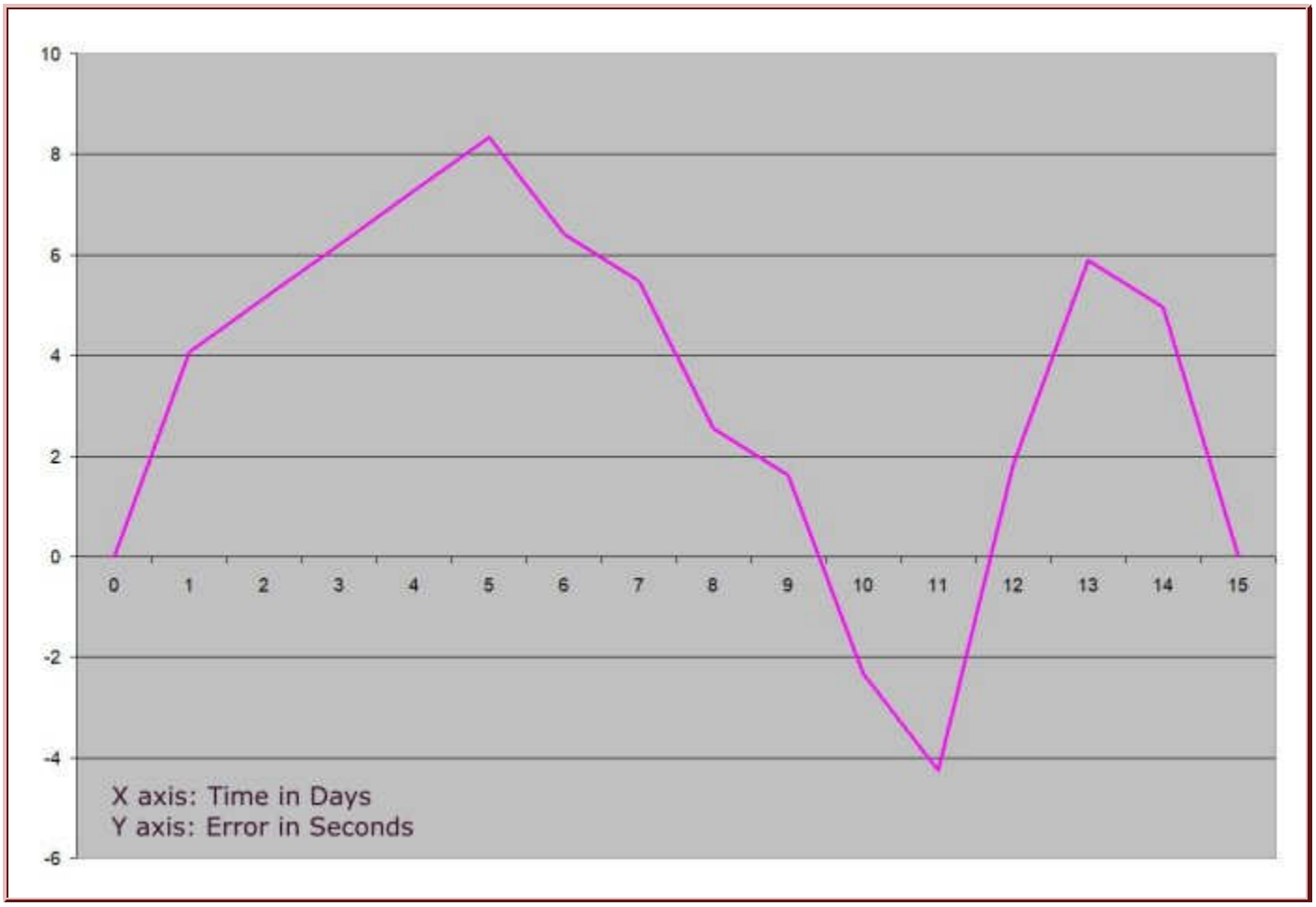
Two Extraordinary Hermle Clocks

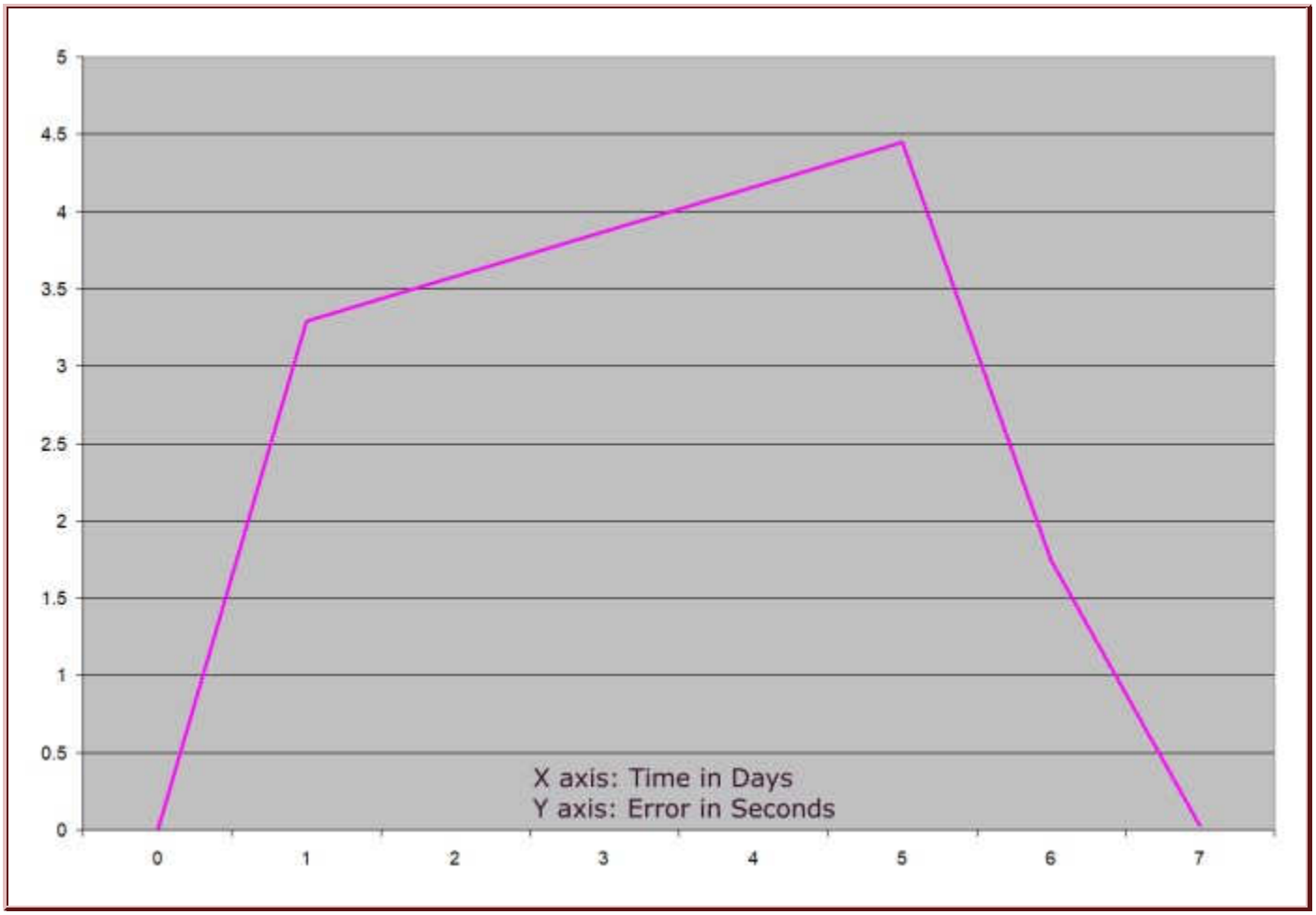
An unusually accurate clock came in for repair this year. A clock with a very short pendulum is not expected to be as accurate as one with a long pendulum, but this one was different. It had a Hermle 1051-020 movement from the 1980s with a 15 cm. pendulum. Three months later, I got to buy one and was eager to put it on a test run. The test subject was a 1975 Hermle 1050-020/15 cm in like-new condition. Its mainsprings looked like new. After replacing the 0.015" thick mainspring in the Time barrel with a 0.011" mainspring and lubricating the movement, it was time for a test run.



The clock lost a minute and 46 seconds in 15 days with the chimes turned off. The data are then adjusted on a computer spreadsheet until the cumulative error on the last day falls to zero. To reiterate how the data are adjusted, an adjustment of 10 seconds per day, for example, would appear on a spreadsheet as 10 seconds on the first day, 20 seconds on the second day, 30 seconds on the third day, and so on.

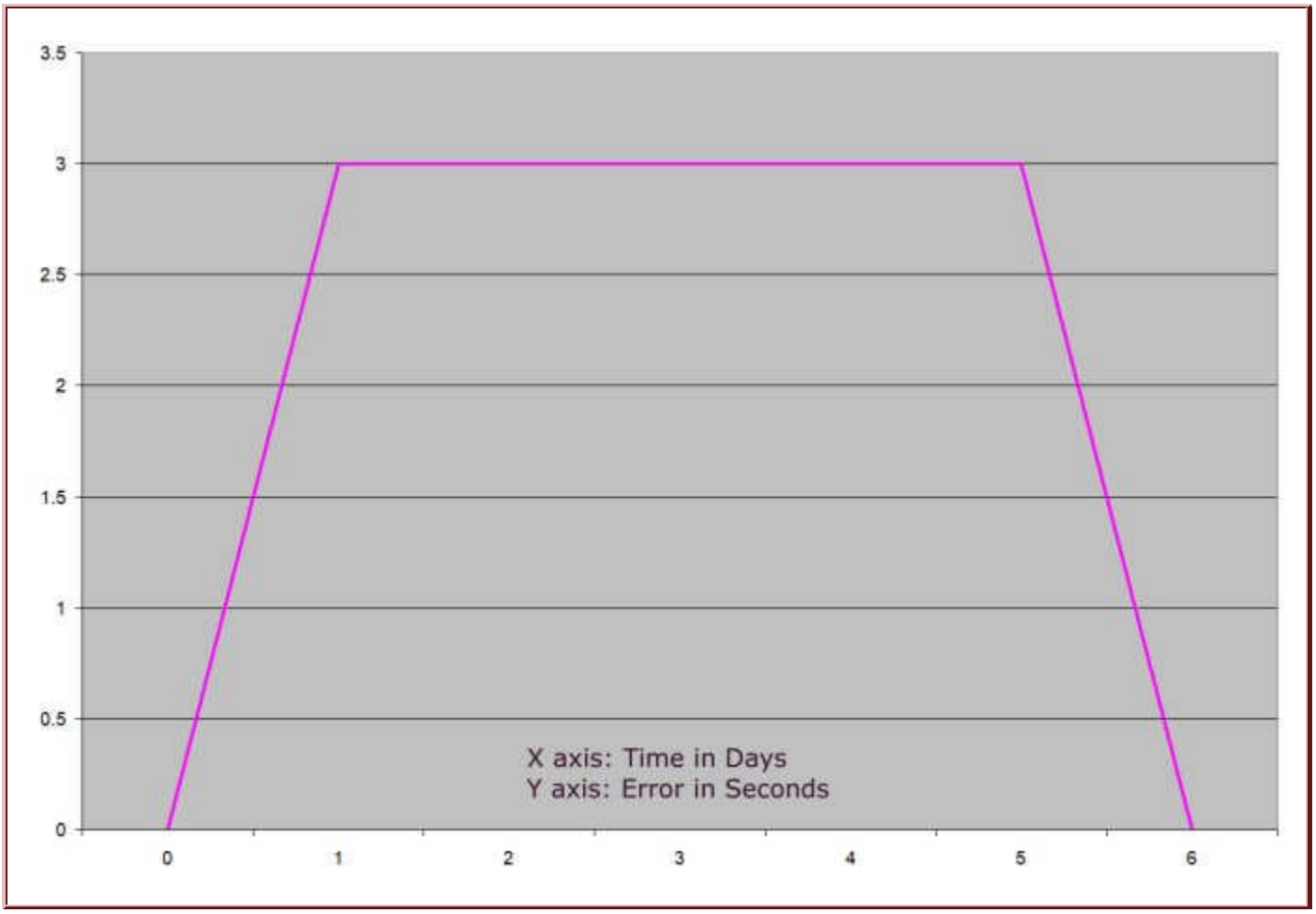


Next, I made a graph for the first seven days because these clocks are usually wound once a week. This graph reveals that most of the error happens after day five.

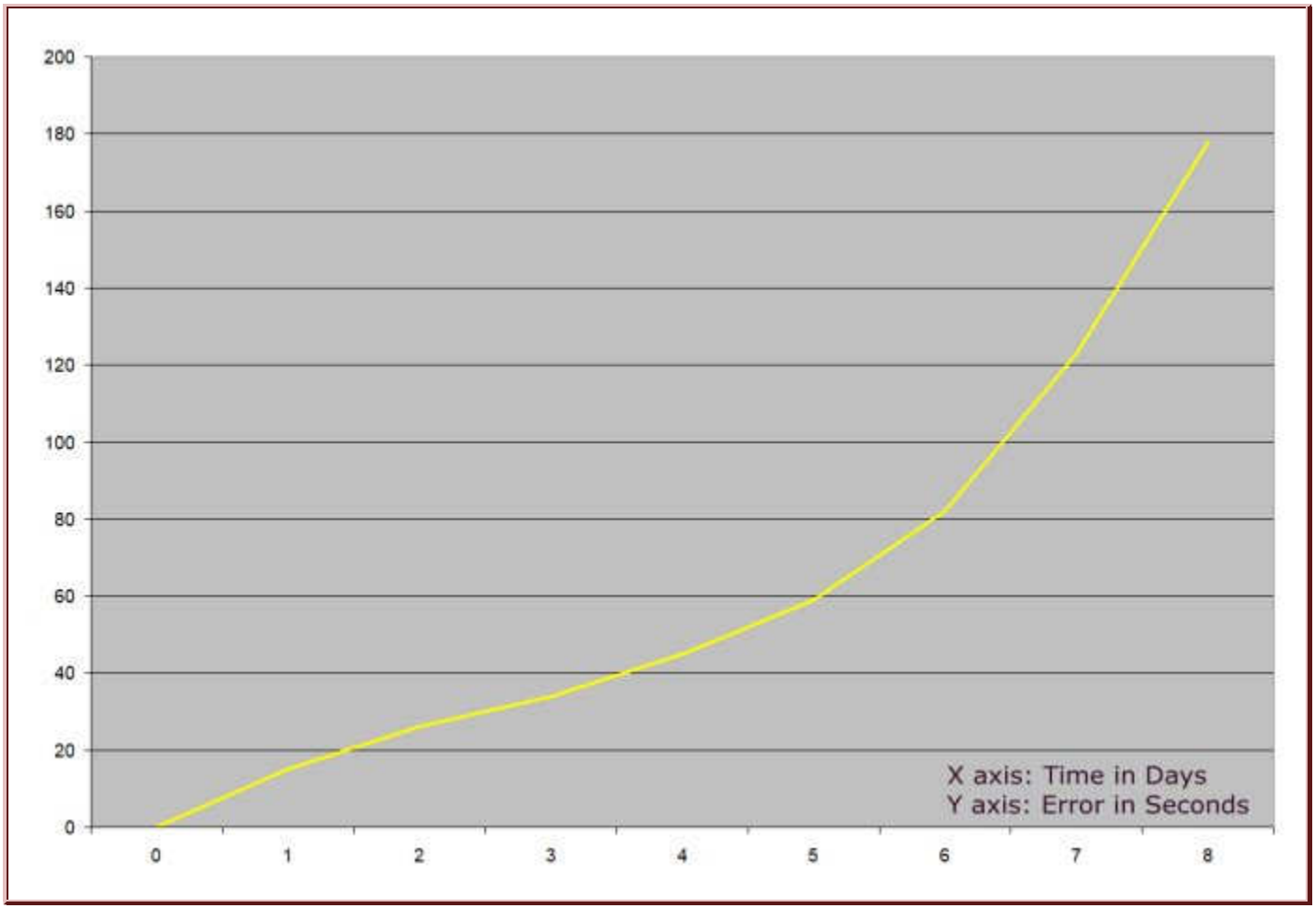


A graph of only six days is much more interesting, showing that the variable error was only 3 seconds on the first day, no error on days 2,3,4,5, and then -3 seconds on the sixth day. This is the closest to perfection I have ever seen in a clock with mainsprings.

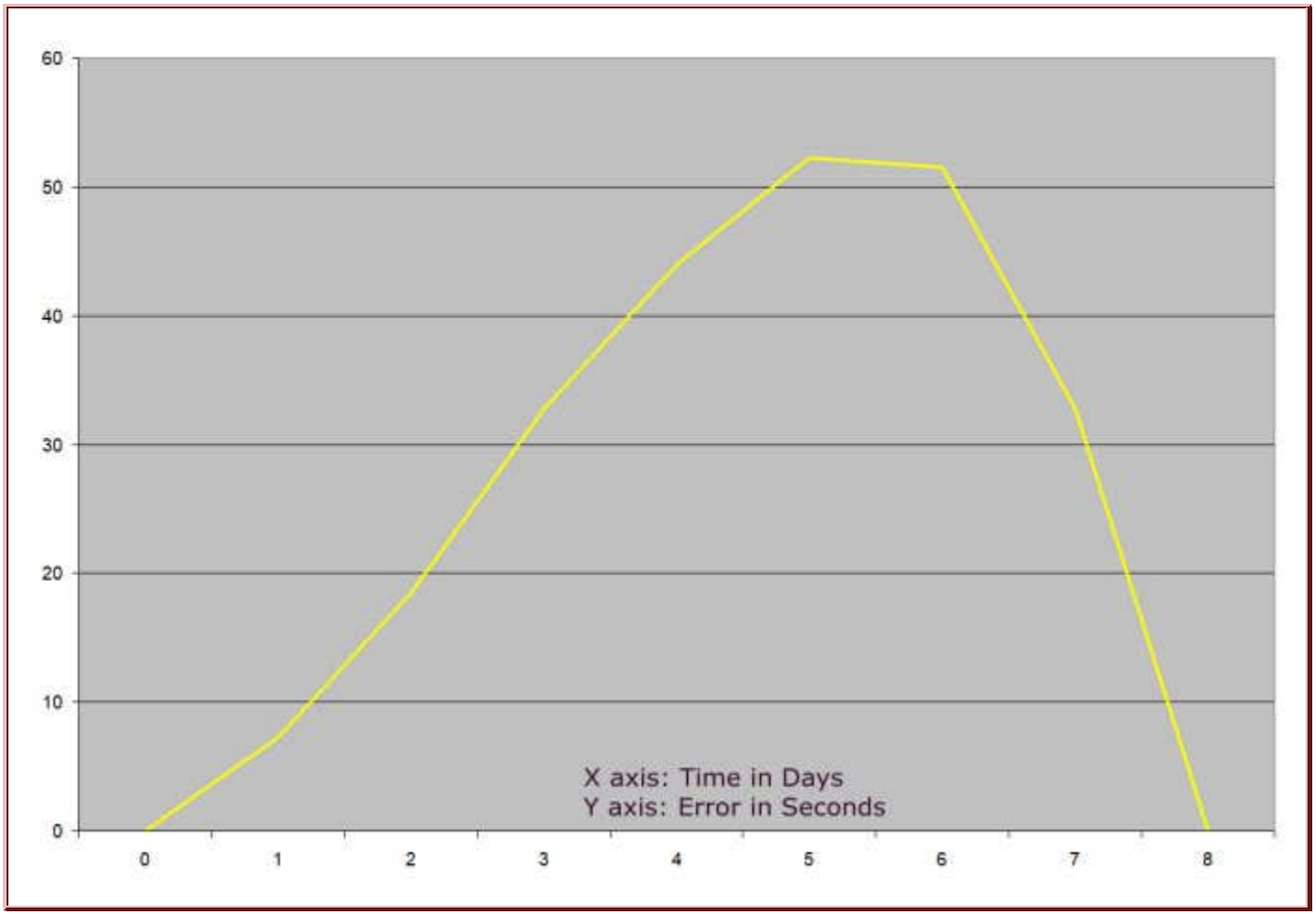
	1051
day	0.011
0	0
1	3
2	3
3	3
4	3
5	3
6	0



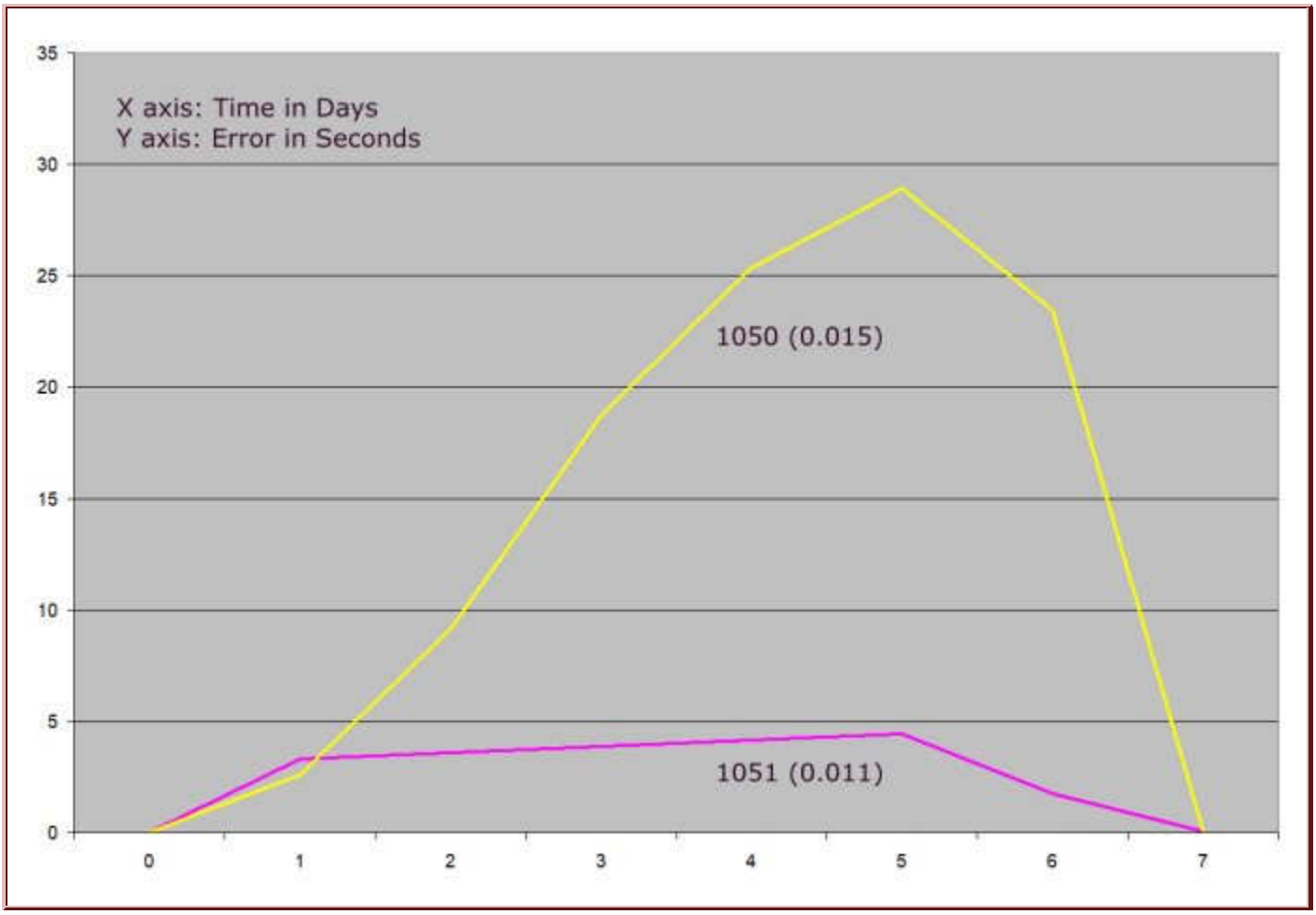
Next came a 1986 Hermle 1050-020, which is the same clock, except that it has a balance wheel instead of a pendulum. Its cousin, the ubiquitous Hermle 340-020, is probably the most mass-produced mechanical clock ever made. This 1050 clock was also like new, not used because it had chime problems, a defective lever that needed to be replaced. I replaced the Time barrel with a #50 barrel, as the #52 was stronger than I wanted. This clock stopped after eight days, having gained almost three minutes.



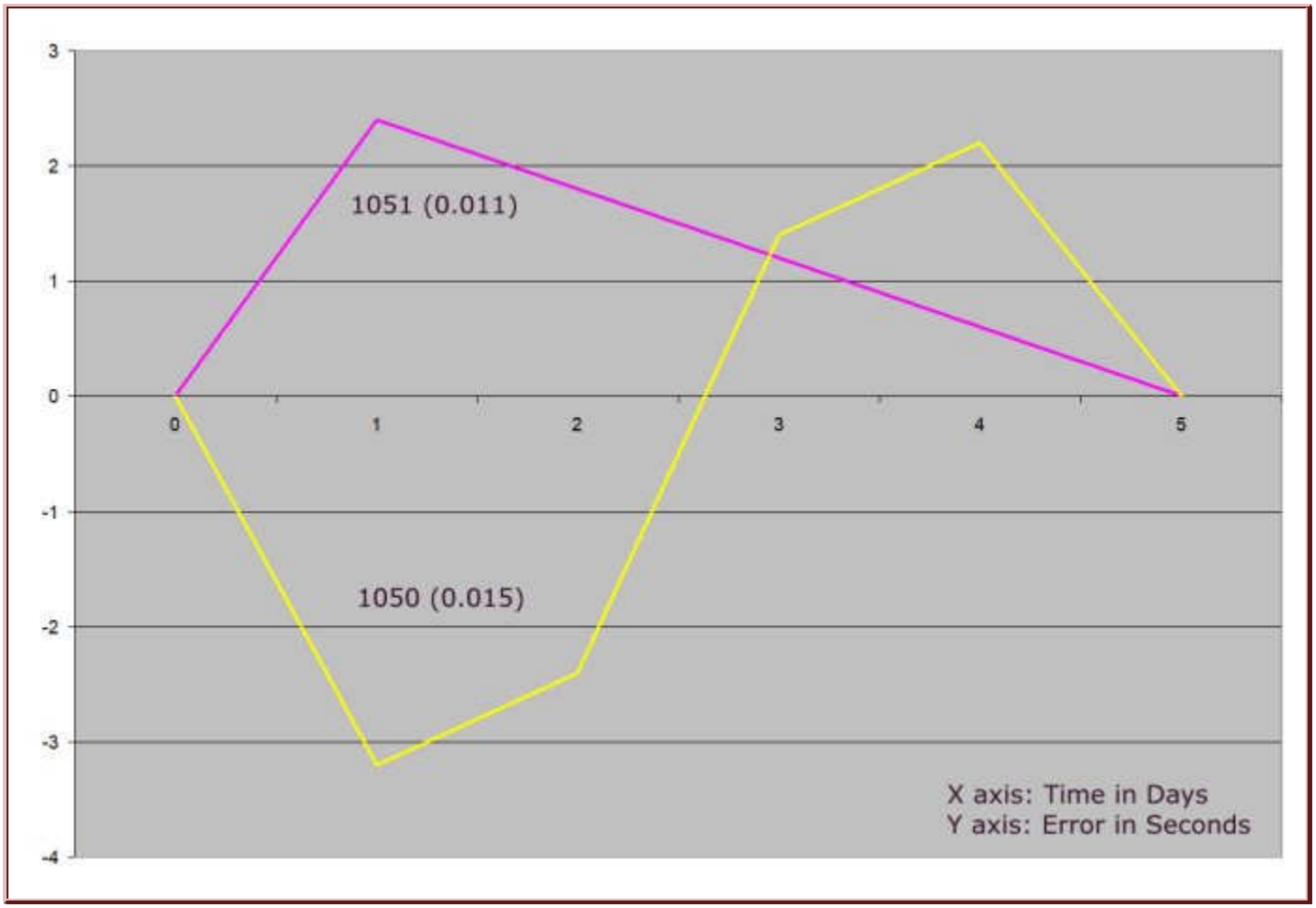
After adjusting the data, the graph shows that the clock had a total cumulative variable error of 53 seconds in the first five days.



The maximum variable error is only 29 seconds if the clock were wound after seven days. This graph compares the two clocks after seven days.



Comparing the two clocks over a period of five days, the variable error falls to only a few seconds.



I was not able to achieve that level of accuracy with the Hermle 1051 in practice because the adjustment on the pendulum was not so precise. The Hermle 1050 could be adjusted more closely and more easily because of the precise adjustment screw next the the balance wheel, even if not as closely as the graphs suggest. This graph explains why I tell everyone to wind your clocks most of the way twice a week, instead of all the way once a week. It is easier to remember to wind your clock twice a week than every five days. Whenever you wind your clock, also move the minute hand to the correct time.

The most common problems with pendulum clocks is that they are not set up exactly level and that they are often (almost always) moved without disconnecting the pendulum first, causing the escapement to get out of adjustment. Most clocks will stop if they are off level by only two degrees. The Hermle 1050 has a balance wheel and does not need to be level. It can be moved without problems. Timekeeping accuracy is easily adjusted. These features combinne to make the Hermle 1050 an exceptionally user-friendly and reliable clock. If you have a Hermle 340, it is almost as good. From the point of view of timekeeping, the main difference is that the #50 mainspring barrel is slightly bigger than the #40 barrel, so the Hermle 1050 will run for

an extra day or so.

Hats off to Hermle for producing so many of the most accurate mechanical clocks at affordable prices. It is much more difficult to produce an accurate clock of good quality, achieving the lowest possible cost through economies of scale by mass production in prodigious quantities, than it is to produce such a product when cost is no object. Famous brands like Elliott, Winterhalder, Japy and Herschede produced magnificent clocks for incredibly high prices, but how many are as accurate as these Hermle clocks? Very few.

Not every Herschede is magnificent, so not every Hermle is excellent. Avoid any clock that has plastic parts in the escapement: a plastic escape wheel or pallet. I also stay away from round Hermle movements because one of the pivots is too close to the edge of the plate, so the bushing in the plate is difficult to repair. Overall, Hermle clocks are excellent, which I can say after repairing them for over 30 years. Most problems are found in wear caused by lack of lubrication. The owner does not get the clock lubricated because it is "running perfectly." That is like owning a beautiful car with 100,000 miles on it, but you never check the oil because it is running perfectly. When you buy a mechanical clock of any brand, have it lubricated by a professional in a year, as soon as the warranty expires, because many new clocks have some bushings which do not have enough lubricant. After the first year, have your clock lubricated by a professional every four years. Clocks with chimes have about 40 different spots which require lubrication regularly.

Summary:
1. Buy a clock with a Hermle 1050.
2. Wind your clocks most of the way twice a week.
3. Lube every 4 years. Repeat after me: LUBE.EVERY.FOUR.YEARS.

Mark Headrick