

The Anomaly Event early 2022:

I have a friend that reports a concern, a persistent intuition over the previous 2 months that a drug was being put in their meals on some occasions. I know their "sense" of things past has often been right, but it was rather hard to believe that such would be happening. While concerned, they were as cautious as I was to accept this concern as a reality. I had noticed a decline in their health, cognition and functional sharpness, coincidentally over this same two months. It was agreed to be mindful, observant, but also see if the feeling just passes with time.

Some months later, I was invited to this person's house for an evening meal. I had no thoughts of these concerns by this time being months later. We had a home cooked evening meal together with others in the household, with another of the household preparing the meal that night. We had the meal, a bit more of a chat, and then I drove about an hour to my home.

As it happens, over the previous two years I had been taking and recording my body temperature most days. This was part of a long term study, though also done more diligently in recent years to check for any developing infection. I have some vulnerable family members that I interact with, so with the covid pandemic I have been cautious and self monitoring for signs I might have this virus, or indeed another infection like the common cold or flu. As a result of this practice, I have about 2 years of body temperature data to compare with what happens this night. This is particularly significant and advantages to this case.

Normally I take my body temperature in the morning. I did not that morning. On a whim in view of this, I decided to take my body temperature shortly after arriving home before going to sleep. This was about 2 hours after completing eating the evening meal. I took my under arm temperature as I normally do.

My body temperature was exceptionally low, reading of 34.4°C. Having taken it so routinely, I am very familiar with the typical range, and I was puzzled. How could this be so low?

I first assumed I had mis-positioned the thermometer. I took it a few more times. Still very low, mid 34°C. I checked with a second thermometer. Same unusually low body temperature confirmed, now 34.6°C.

Validating such a low body temperature following a shared a meal I wondered if this could be related to this friends stated concerns expressed several months before?

Having a science background, and some general knowledge, the thought occurred to me that if these body temperature measurements were valid measurements, and if there was some medication or drug in the meal we shared that night affecting my body temperature, then over coming hours my body temperature should normalise back to its normal range in a smooth temperature curve over time. This reflecting my liver removing whatever drug was in the food. And thus I recognised a means to determine if there were grounds to hold such a concern. Either this happens, or it does not over the coming hours.

And so I stayed up for a few extra hours, taking my temperature with two different thermometers to see what happened. I used two thermometers to remove the possibility of one not working properly.

What happened was just what I did not expect. A smooth gradual recovery of body temperature over the following hours back to "typical" and normal body temperature for me.

At the time, while puzzled, I was still expecting to find some technical explanation for this unusual measurement of body temperature.

For example I considered what if the batteries were low coincidentally in both thermometers. But then the temperatures recorded by both should remain anomalous. They would not, over some hours, return in an ordered smooth curve to normal range readings. Or very improbably. I note with this consideration that both thermometers continued to record normal body temperatures in following days, indeed months, with no battery change.

On this evening, I was not subject to any external cold conditions directly that would significantly affect body temperature. At least not more than the few minutes moving from house to car to house. The night was cold. Outside temperature around 0°C. There was going to be a frost by morning. It was mid winter. However I had travelled from a warm house sharing the meal, to a warm car, to a warm bedroom at home. I had no significant

exposure to external cold for more than ten to fifteen minutes as the car initially heated the interior space while driving home.

I think it is significant to note that I had no other symptoms that one would expect from such an apparent low body temperature. No nausea, headache, heart rate changes, or sense of cold, or body shaking, or cough or sneezing. This body temperature, even as a peripheral under arm body temperature, if induced by external cold exposure would result in me feeling cold surely. I was feeling warm and comfortable. Assuming this unusual under arm body temperature reflected some accurate peripheral body temperature, I should have been shivering, surely! I was not at any time that evening. This was one of the incongruencies that struck me to consider something unusual was happening. Past body temperatures have been taken on cold winter evenings and mornings past after dashing outside for a time. Never this low.

Also, I did not develop a cold or flu or other infection in coming days. I had not yet been exposed to covid. So this event was not some oddity of a non-symptomatic covid infection. I did a blood test the following year confirming I had no indications of exposure to the covid virus to that time. I live in a fairly isolated rural area and do not go out much.

For me this body temperature anomaly, one that seems quite well captured, remains unexplained. I kept searching for an alternate explanation, expecting sooner or later to find one, but have not found one. I note this night was the only time I accepted an invitation in advance to come and stay for an evening meal with this friend and others. I am left with the possibility this friend's concern has some truth.

Two years later I have decided finally to try a reddit post. (One of the few suggestions to date I have not taken up.)

The core question: *Given typical body elimination rates over time, does this data fit as possible explanation for a drug ingested in food, then gradually eliminated, or are their elements to the data that would exclude this possibility?*

My attempt at an analysis of the body temperature data over time to more objectively judge the situation.

This is where it is fortunate I had been taking my body temperature regularly. Most times in the morning, other times during the day, sometimes in the evenings, and on most days. I have a very good record of nearly two years of what is my 'normal range' of body temperature.

Looking back on my records my normal body temperature range is typically, at its lowest mid 35°C. It more typically ranges from 35.8°C on first waking, goes up to 36.6°C in the middle of the day with activity, or sits around 36.0°C to 36.3°C if at rest during the day. Hence, this consistent and confirmed by two different thermometers initial body temperature of 34.4°C is very unusual, indeed unprecedented, and a full 1°C below this range.

To my understanding, this is a significant body temperature change for the human body.

A simple statistical analysis of the past years of recorded body temperature, removing any periods from the data where I had a cold and fever recording a body temperature of 37.0°C or greater. Doing a simple statistical analysis (shown below) I find that the initial low body temperature of 34.6°C is about 5 standard deviations from average. I chose 34.6°C rather than 34.4°C, the second reading with a single thermometer, in this analysis to allow for some inaccuracy of the first lowest body temperature reading just to be conservative.

For a single temperature reading of 34.6°C, the chance of this being a random aberration in my personal body temperature case would seem less than one in one million. (5 Std Dev = 1 chance in 1,744,278. Source: Wikipedia).

More significantly to my view is that what follows from that initial unusual body temperature reading is a series of measurements tracking in a smooth curve to a normal temperature over coming hours. Temperatures taken with two thermometers by this time. There appears to be a process over time of "recovery" to a normal homeostasis state. The smooth curve would appear to multiply the above improbability of being just chance aberration by some significant statistical magnitude.

It would seem from graphing the body temperature over time, that the body temperature curve also looks like an exponential decay function over time. A pattern that to my understanding is consistent with a therapeutic medication inducing a reduced body temperature, being eliminated by my liver over subsequent hours. My reduced body temperature being in some fashion approximately proportional to the concentration of the drug still in my blood stream.

A later statistical analysis (again below) using a statistical program seems to confirm these values change over time in a fashion consistent to an exponential decay function.

If this is in fact the scenario, a natural question is: What sort of toxin or drug could induce such a significant lowering of body temperature within hours of ingestion.

From the inquiries and research I have done, my understanding is that most illicit drugs that affect body temperature mostly increase body temperature, not lower it. However, in the arena of therapeutic drugs, anti-psychotic medications are the one group of drugs that seems to have been known to significantly reduce body temperature in some individuals.

Eg: ***Hypothermia due to Antipsychotic Medication: A Systemic Review.*** Cheryl Zonnenberg, Jolien M. Bueno-de-Mesquita, Dharmindredew Ramlal and Jan Dirk Blom. *Frontiers of Psychiatry*. Published: 07 September 2017 doi: 10.3389/fpsy.2017.00165

In days following, I made inquiries about testing for a therapeutic drug. A blood, urine test or hair sample, either mine or this friends given my experience here following future meals.

I was advised that for therapeutic, non-illicit drugs, urine, blood or hair samples with mass spectrometry can not be used to identify therapeutic drugs reliably or at all. The spectrum signature is too complex for therapeutic compounds.

For a therapeutic drug in food, then present in the blood, the specific drug needs to be known before hand for any blood testing for its presence. This brings impracticalities in this situation. One has to anticipate when such has been put in a meal. Then within a very limited time window get a blood sample. And also know the specific drug.

Even if the specific drug could be known, in a rural area how is one going to have a medical professional on hand at short notice to take a blood sample in hours following a meal? The contamination of food may not be every meal, just on occasions. How is that going to be a realistic achievable action? Such actions will also alert the tampering person to their being not only awareness of their behaviour, but active investigation. Thus the person's methods will likely change, and possibly increased life risk to the target person or others involved through fear of being revealed, desperation, and other possible actions.

At the same time, to involve police would be to raise a possibly incorrect suspicion, and bring all sorts of consequences to this friend's family and extended others. Yet, sometimes such actions are undertaken by individuals you would never expect. How do I know I have fair basis for concern to warrant such action without some independent professional view of this data and documented situation? As it is I can not imagine such behaviour of any individual present, and hence while concerned I continued for a long time to assume I was missing something and would soon find a technical, and not suspicious, explanation for this data.

Year or more on, there have been other events and changes in behaviour of their house mate noted by this friend, and in my friends state, episodic and variable, and with still no other explanation arising for this temperature anomaly. Consequently, there is need to seek some independent view on this body temperature data.

I should note here this friend remains unaware of this event. I have not told them as I did not want to overly concern them until I confirmed it had significance. Which I thought would be only weeks to get a view, not years. (I began seeking opinion immediately in days following.) I also did not want them "looking" for a low body temperature effect themselves out of fear and suspicion from this one event. What I have done as they raise ongoing "sense of concern" at various times, is suggest they take their body temperature routinely along with their blood pressure for good

health monitoring. They annoyingly have failed to do so with any regularity. Hence, frustratingly, this simple practical solution to this situation has been not possible.

In my search for opinion on this data, toxicologist and forensic pharmacologists appear very hard to find in my country. I tried for several months. Each time I found someone and I showed them the data they would re-direct me to try somewhere else, saying they were not qualified. I am a bit mystified by this repeat response. I do not think the request and data is that difficult for someone more professionally familiar with rates of drug removal by the liver in humans to provide a view. For example, "Not a valid basis for concern for these reasons...", or, "Yes concerning.", or "Yes, highly suspicious given the contextual factors and considerations." Perhaps such professional avoidance to give a view is in itself an answer. I simply can not tell. A quite agonising situation to be left in.

Without such professional review, I can not determine what level of concern to hold. While I think this data seems compelling, I also know I like anyone can miss something obvious. Greatly disillusioned, and after two years with ongoing concerns, I thought I would try seeking professional views on this reddit.

Specifically, in regard to this body temperature anomaly, I have four questions on my mind in seeking views with professionals with appropriate knowledge and experience.

- (i) Given past historical body temperature data, the smooth curve back to normal over hours, and two different thermometers used to double check measurements in time, is it reasonable for me to see this event as a statistically significant anomaly?
- (ii) From a toxicology or pharmaceutical view point, is the shape of the temperature curve back to normal range over several hours 'consistent' to what would be reasonable to expect for a drug inducing a lowering of body temperature and that drug then being eliminated from the body and blood stream over several hours?
- (iii) If consistent as in (ii) what would be the likely half life of the drug in the body. (I am around 80 kg, male, in my early 60's, and in fair health for my age generally. Liver function has been checked, all good.)
- (iv) Given different drugs have different process of elimination and different half lives in the body, does this rate of elimination in a matter of hours suggest any particular anti-psychotic drug or other drug that could be the source of this effect?

If you take an interest and provide a response on Reddit, please let me know your professional background with your post.

If you hold professional interest and you want to provide responses off Reddit, I have a Survey Monkey form for feedback, with opportunity for contact. All responses optional. I would value your response, professional or student.

Response, feedback off Reddit Here: <https://www.surveymonkey.com/r/BSDJ3GV>

Data here (Dropbox): <https://bit.ly/3QCehTU>

Or Data here (Github): <https://bit.ly/3ycjzis>

Both csv and Excel .xlsx files, in one zip file.

[Note: Dropbox asks you to sign up or sign in. There is a download link at the bottom, to download without doing so. I can not think of better ways to provide the data.]

Below is my analysis of the data.

Citizen.
(Australia)
2024

B. Statistical analysis to determine significance of the body temperature anomaly:

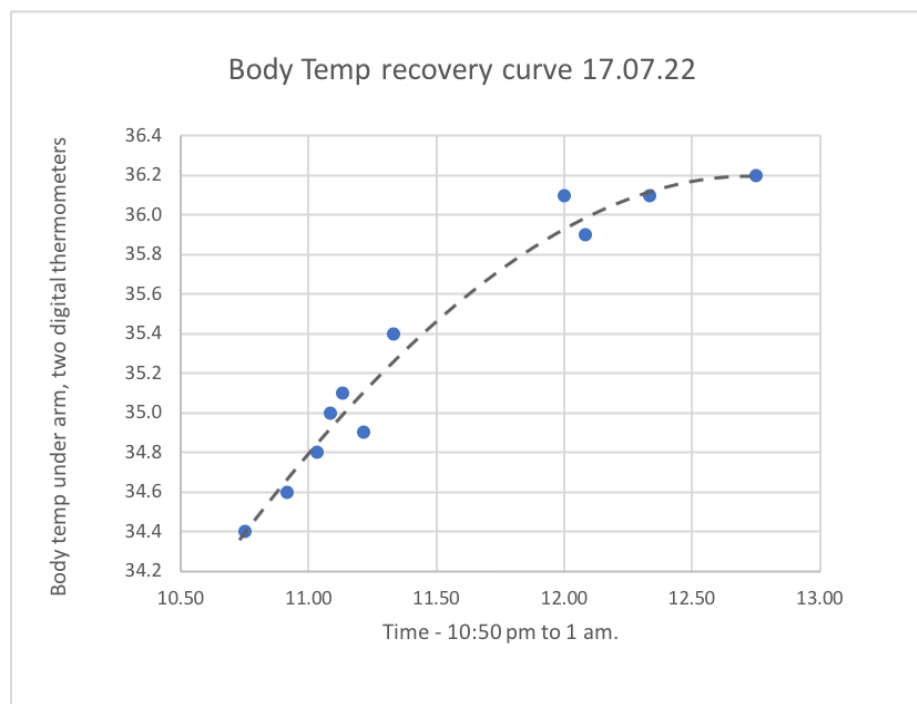
1. Plot of the recorded body temperature anomaly data, and adding an initial manual fitted curve.

The body temperature data:

Decimal Time (from noon), Body Temp.

10.75,34.4
10.92,34.6
11.03,34.8
11.08,35.0
11.13,35.1
11.22,34.9
11.33,35.4
12.00,36.1
12.08,35.9
12.33,36.1
12.75,36.2

There appears a smooth recovery process to normal body temperature over hours. On initial plotting of the data, it seemed clear to me that this was not a case of thermometers reading wrong.



2. *The original recording of the temperature data.*

Below is a screen shot of my excel note to the excel cell where in I would normally enter a single temperature reading for that day, with the time of day it was taken in an adjacent cell. I use more than one thermometer, usually do it twice or more to check consistent readings. (Bit of a science head, hard to do things simple.) If there are significant discrepancies I will note the readings in a cell comment and enter an average estimate figure. This evening's comment captures my surprise, puzzlement, then actions.

I was going to do a simple one thermometer reading on this occasion, keen to go to sleep. A quick reading better than none!

34.4	figure thermo not in right place. Do again.
34.6	checked twice, thermo 1. 10:55 pm approx
	Has to be instrument misreading surely. Now taking with second thermo to check. 10:59 pm approx.
34.8	11:02 pm approx.
	What!! Checking that a second time now.
35.0	11:05 pm
35.1	11:08 pm
34.9	11:13 pm interesting. What can cause this?
	Identifying comment covered in this gap.
35.4	11:20 pm
36.1	12:00 midnight.
35.9	12:05 am
36.1	12:20 am
36.2	12:45 am

3. Historical body temperature over the previous 800+ days. [18 Sept 2020 to 25 Dec 2022.]

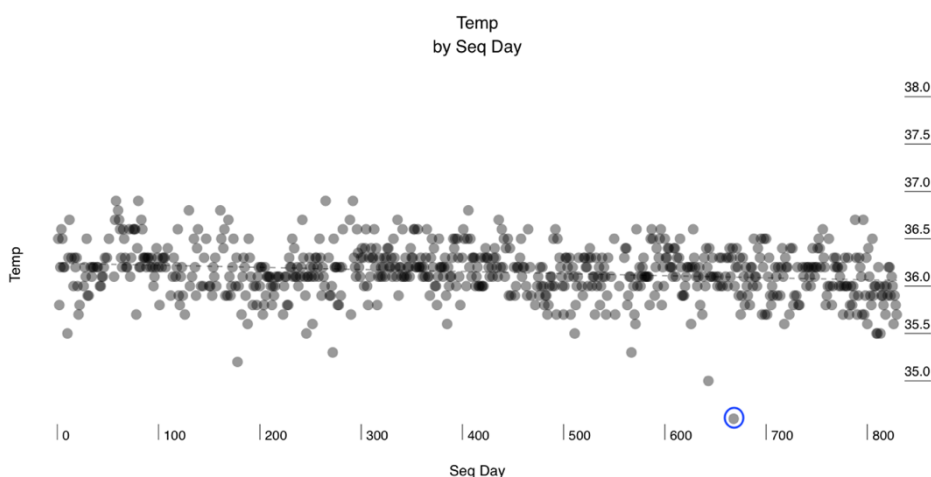
The historical body temperature data is held in view of a longer term research project, completely independent to this anomaly event. To my view there is sufficient historical data over a long period of time to provide a good understanding of what is typical body temperature, and thus provide a means for comparison and statistical estimation of this anomaly event. To my view it is well outside normal body temperature variation. Sufficiently so to be considered an anomaly event warranting the seeking of an explanation.

Of this historical data period there are 105 days of no recording of body temperature. Further removed from the remaining data are 10 days of higher body temperature days in view of having a cold/flu and fever. The blue circled data point, lower right, is the unusual initial body temperature of 34.6°C recorded for that day, with additional readings noted in following hours in a cell comment as shown above.

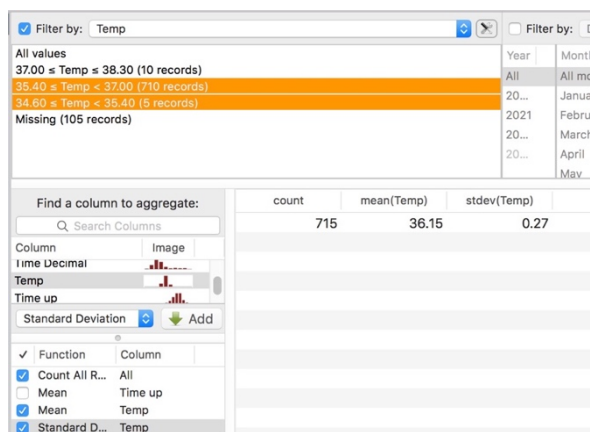
Some of the past lower temperature values around low 35°C, to my mind, are explained by the occasional rushed single reading only measurements. Most times I take two sets of readings to ensure a correct value for this study. It is preferable to take underarm temperature twice or more, giving more time for the thermometer to gain warmth, particularly on cold days.

In this event 34.4°C and 34.6°C measurements were from more than one reading, and two thermometers. Thermometers had plenty of time to warm up and stabilise their temperature reading.

Note there is a very slight, statistically significant (faint dashed line), downward trend over the data period. Possibly aging? (Now aged 60's.)

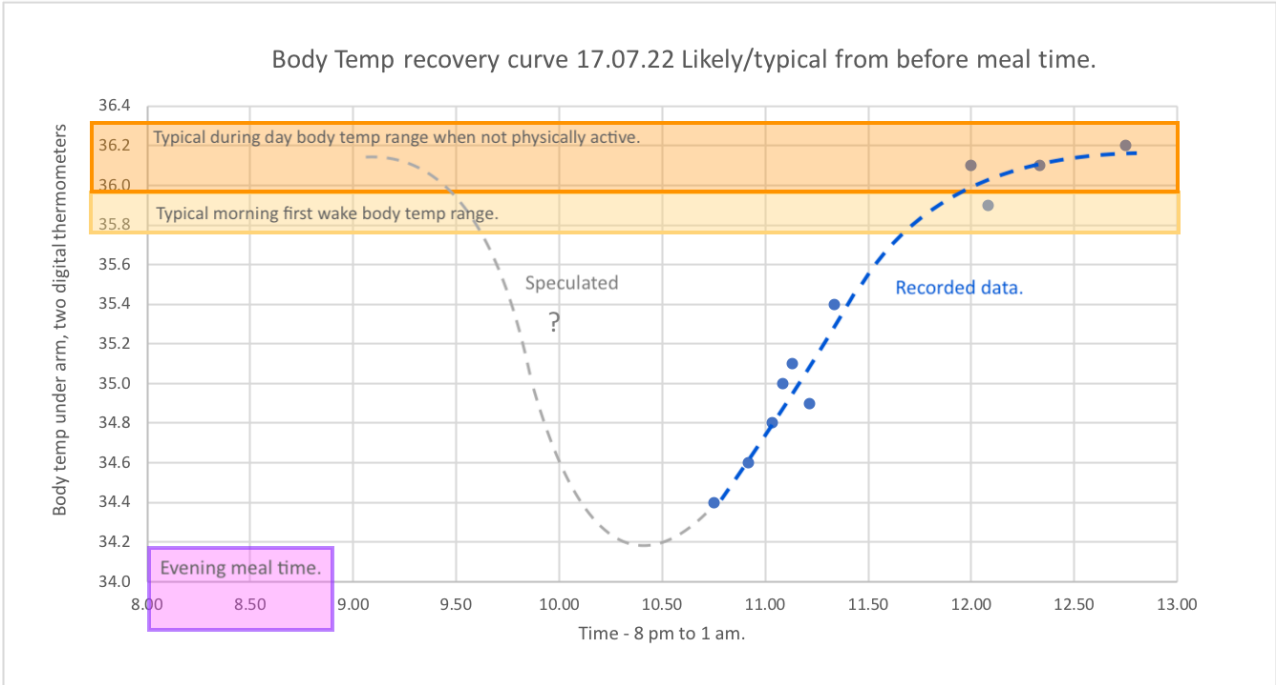


Statistics of normal body temperature for the above plotted data. Of N=715 days with temperature recorded, (no cold, flu, fever) mean temperature = 36.15, with standard deviation of 0.27. I hence conclude the body temperature of 34.6 is >5 SD from average and range of body temperatures over the previous 2 years.



(Statistical program providing analysis of the data is Wizard, on OSX.)

4. A speculative graph in summary, with extended time line back to the meal time. For illustrative purposes.



5. Does the body temperature data show an exponential distribution?

To determine if this so, I used a program called Regress+ v2.7.3. This is a simple but competent program. I believe I have used it here correctly to determine the statistical likelihood that the anomaly data conforms to an exponential function.

```
Body Temp Anomaly data                26 Mar 2023 at 2:37:20 pm

Model: y ~ Exponential(A,B)  [11 points]

Regress+ converged after 127 iterations.

Using the maximum-likelihood criterion, the optimum parameters are as follows:

  A = 1.07500e+01
  B = 7.60909e-01

Summary Statistics (one-sided, 1000 bootstrap samples) --

Log-likelihood = -7.99434e+00
  This value is estimated to be in the 50th percentile.
K-S statistic = 0.170193
  This value is estimated to be in the 28th percentile.

Goodness-of-fit is ACCEPTABLE.

Two-sided, parametric (percentile) confidence intervals for this distribution:

  A   90% --> [1.07500e+01, 1.07500e+01]
      95% --> [1.07500e+01, 1.07500e+01]
      99% --> [1.07500e+01, 1.07500e+01]

  B   90% --> [4.35780e-01, 1.18696e+00]
      95% --> [4.01039e-01, 1.32767e+00]
      99% --> [3.14799e-01, 1.56506e+00]

  LL  90% --> [-1.29058e+01, -1.86321e+00]
      95% --> [-1.41498e+01, -9.49349e-01]
      99% --> [-1.59272e+01, 1.71418e+00]

  KS  90% --> [1.26394e-01, 3.10443e-01]
      95% --> [1.19474e-01, 3.36787e-01]
      99% --> [1.06803e-01, 3.90072e-01]

Parametric Bootstrap:
Mean values for parameters [A-B]
  1.07500e+01    7.77286e-01

Covariance Matrix
  4.61463e-23    -1.99257e-13
                5.72814e-02

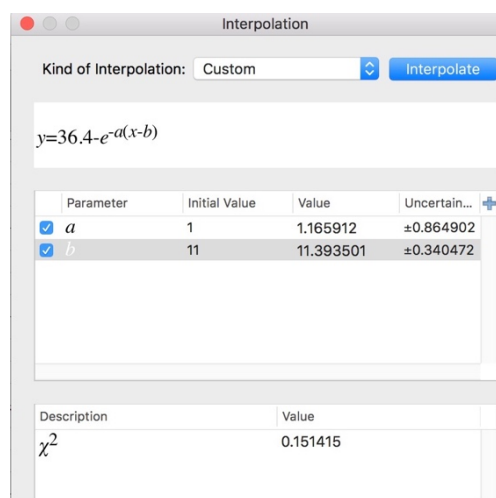
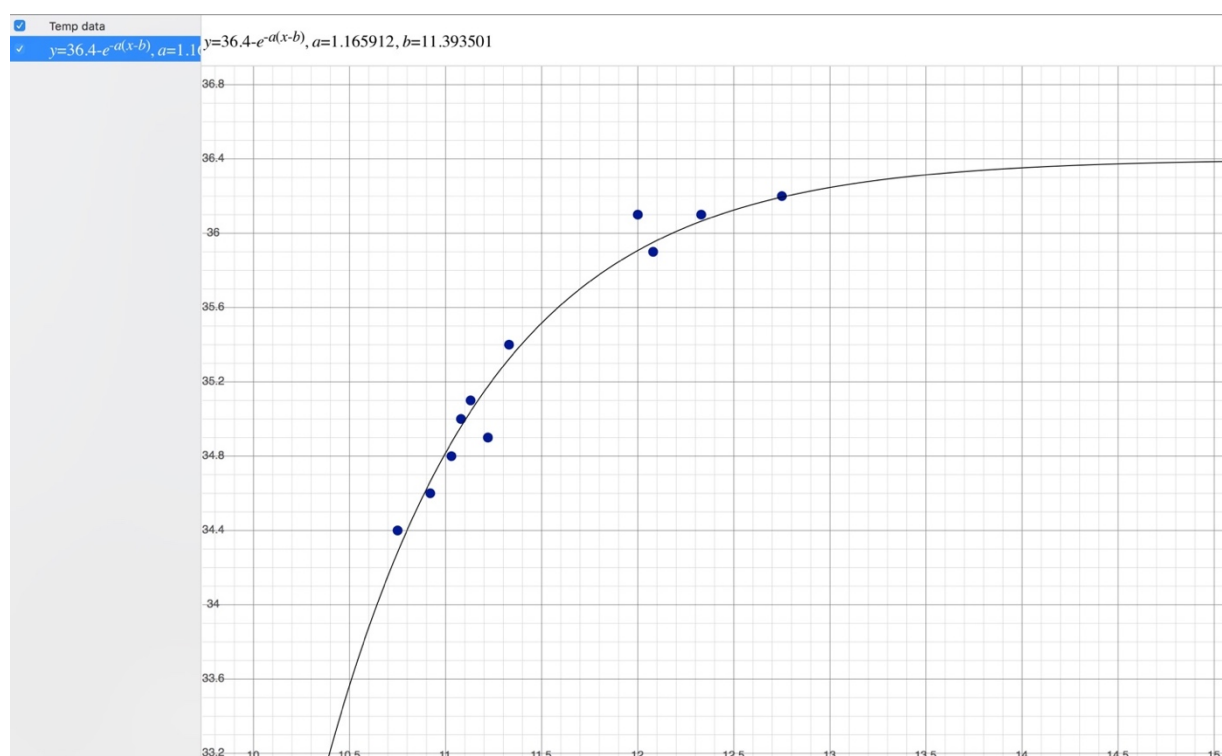
Correlation Matrix
  1.00000e+00    -1.22557e-01
                1.00000e+00
```

6. What would a good fitting exponential function be? (Used OSX Grapher program.)

I am mindful an exponential function relates to phenomena of things that involve a "half life". The change in value over time is determined by, and is consistently proportionate to, the previous value in time. Plot data in this other program and see what exponential function is a best fit, and visually check.

One assumption: In this curve fit, it was assumed from past experience that having been recently active physically in travelling home, just prior to the beginning of taking the first temperature measurement, that my normal body temperature would be around 36.4°C. (Under armpit as typically measured). Hence if there is a 'return to normal' process here, the convergence of the exponential function needs to approach this temperature. This value helps constrain the modelling of an appropriate fitting exponential curve.

This seems to confirm that there exists an exponential function that appears to fit the data well, involving an exponential decay of influence on body temperature over time. To my understanding the exponent of e value likely relates to the half-life of a drug elimination rate by the body, if that is indeed the explanation for this anomaly. This may help narrow down the specific drug, if one is involved.



End.