

# The Hedonistic Calculus - explained through an equation

Post by "Charles" of November 4, 2019 at 10:12 AM

$$U = \sum_{i=1}^{P_{total}} \int_{t=0}^{\infty} I_i(t) dt$$

Intensity,  $I$ , is a measure of how intense the pleasure or pain you will receive is.  
Duration,  $D$ , is how long the pain/pleasure will continue.  
Certainty,  $C$ , is the probability of pain/pleasure occurring.  
Proximity,  $N$ , is the time it will take for the pain/pleasure to happen.  
Frequency,  $F$ , is the probability of the pleasure causing more pleasure in the future.  
Purity,  $P$ , is the probability of the pain causing more pain in the future.  
Extent,  $E$ , is the number of people that you will affect.

In these calculations,  $D$  is in units of seconds while all other variables seem to be unitless values. To set up the equation, some assumptions must be made. These are three rules given for these assumptions.

1. Whether you like something or not is a personal decision.
2. Preference has a transitive property (e.g. if you like lasagna more than ravioli and ravioli more than spaghetti, then you must also like lasagna more than spaghetti), similar to the transitive properties found in mathematics.
3. One will generally prefer more pleasure to less pleasure, but less pain to more pain.

<http://ethicsatcbu1.blogspot.com/2015/10/felici...niz-beware.html>

I came across this article a few weeks ago, and thought little of it at the time. But now it has my attention, I'll keep this short as I don't have much time before I head out for the day, but take a quick look at the graphic presented in the article and the variables below it.

What would be considered the Epicurean position on a more defined calculus such as this? While we may not endorse the formal logic & mathematics around Epicurus' time, this presents something different. As most of the variables are unitless, it still remains dependent for each individual according to his or her personal lives & dispositions.

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Post by "Cassius" of November 4, 2019 at 10:43 AM

Charles --Very interesting! This is similar to a discussion we had in regard to coming up with a "pleasure maximization spreadsheet." [A Draft Epicurean Pleasure Maximization Worksheet](#)

One of the first problems that makes this hard is in regard to "intensity." What does "intensity" really mean, and how do we judge it in comparison with duration / time and the other factors as well?

Given this statement in the letter to Menoecus it seems clear that Epicurus would not say that "time" can alone be a determining factor, and that blasts away what is at first glance an attractive method of ranking:

***And even as men choose of food not merely and simply the larger portion, but the more pleasant, so the wise seek to enjoy the time which is most pleasant and not merely that which is longest.***

To me the issues all point back in the direction of the "calculation" of what is "**most pleasant**" being totally subjective. Parsing out the elements and describing them in terms of a spreadsheet or a formula can in fact be very helpful to a thought process, but I think it probably has to be stressed at the beginning, middle, and end that the decisionmaking is personal and not quantifiable through "reasoning."

And on that conclusion I think you will get strong affirmative support from [Elayne](#) !

**In fact, maybe the number one helpful benefit from going through this exercise is to come to an understanding of why it is impossible! Efforts to reduce an individual personal goal into an equation or an abstraction must fail, in the same way a map, no matter how detailed, is never a fully accurate equivalent of reality.**

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### **Post by "Charles" of November 4, 2019 at 10:52 AM**

Good points all around. However I think that duration as a variable would only be applicable if the desire you chose to fulfill is natural, but unnecessary. Though we aren't ones for hypothetical situations, I can see this as a more useful tool for determining the priorities of your disposable income.

For example: should you buy a nice down pillow that's better than the cushioned rock beside your headboard? Or should you buy a cheap box of wine at Target after an excruciating week?

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### **Post by "Cassius" of November 4, 2019 at 11:00 AM**

Could you explain your questions? Why would duration be irrelevant to "unnecessary" desires?

As you may know I consider the whole natural/necessary evaluation to be subject to the same issues and limitations as these calculation models. Is it not true that what is "necessary" for some people in some situations is much different than for other people/ situations? An

automobile might be a "necessity" for living and working in rural Texas, but totally unnecessary in downtown New York. Even in the sense of basics such as food and air and water, we can for a short time defer even those (hold our breath or fast or go without water) for a time in the pursuit of some other / greater pleasure, or avoidance of worse pain.

I certainly don't mean to criticize Epicurus for referencing them in the letter to Menoecus, and I do think the structure is helpful for analysis, just like these calculation models can be. But I tend to think that the commentators (especially those looking to be friendly to Stoics and other rules-based philosophies) have overemphasized their benefit, and minimized their limitations, for just the reasons that we are discussing here.

Among people very knowledgeable about Epicurus, it would be a given and need no reinforcement that there are no absolute rules, and so the question is always asked in terms of what is "necessary" or "natural" FOR US. But outside that clear context, the implication that "natural" or "necessary" might be quantifiable as a universal list would end up, I think, being the REVERSE of the Epicurean perspective. And that seems to be a strong temptation that people looking for accommodation to Stoics and others simply cannot resist.

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## Post by “Charles” of November 4, 2019 at 11:22 AM

### [Quote from Cassius](#)

Could you explain your questions? Why would duration be irrelevant to "unnecessary" desires?

Maybe I should've rephrased, but duration is \*only\* relevant to these unnecessary desires.

I'll be bookmarking this thread, I've spent too much time on the forums today while in my office (lol). In the meantime, I'll be thinking of replies. On the old Discord, Ethan and I used to discuss the 3 types of desires quite frequently, and while I do agree that many non-Epicureans tend to focus on them, I do think they are indispensable for getting rid of the idea that we are just "blanket hedonists" and a good teaching tool for those new looking to learn more.

Of course what may be necessary to someone, may be unnecessary to someone else (insulin comes to mind). But that is the nature of desire regardless of any philosophy - we just choose to embrace it.