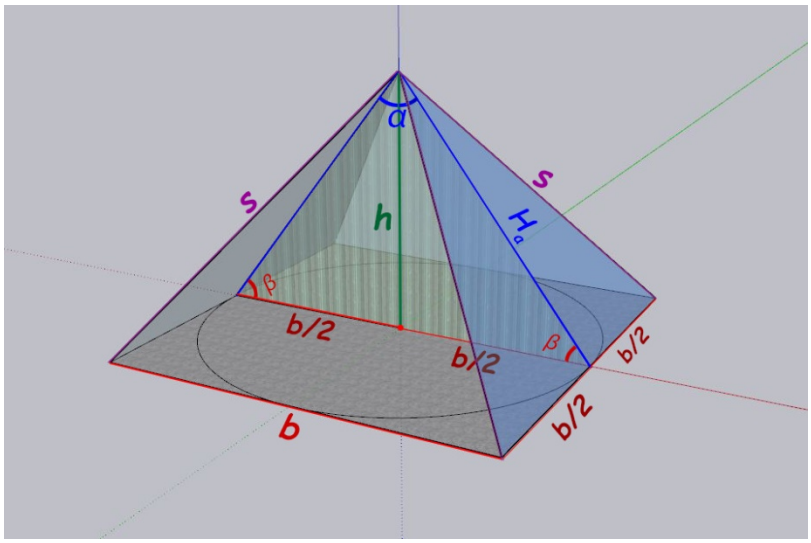
Proportions of the Do-It-Yourself Pyramid (based on the Ra Material interpretation)



Terminology
Regular square pyramid measurements:
Base length (base edge) = ***b***
Perimeter of the base = ***P***
Height of the pyramid = ***h***
Slanted Height (Height of the lateral face) = H_a
Lateral face length (length of the edge) = ***s***
Lateral face angle at the base = ***β***
Apex angle = ***α***

On the subject of building a pyramid for our personal use, such as a charging device that can be placed under the pillow (*for less than 30 minutes*), Ra gave interesting information that left many people puzzled for some time. If taken literally, the resulting shape of the pyramid, with its height 4.64 times longer than the base length, looks unsuitable to be placed under the pillow.

It seems that there is a mistake in the information provided, but did Ra make the mistake, or maybe we didn't understand Ra's words correctly? Let's try to take a fresh look at this issue.

Below is the quote from "The Ra Contact" books where Ra say that in order to properly build a tiny pyramid for placing under the pillow, the size doesn't matter, but there is an important proportion that needs to be observed:

> 57.21 "*Questioner: What would the height of one of these pyramids be, approximately, in centimeters, for best functioning?*
> *Ra: I am Ra. It matters not. Only the proportion of the height of the pyramid from base to apex, to the perimeter of the base, is at all important*."
>
> 57.22 "*Questioner: What should that proportion be?*
> *Ra: I am Ra. This proportion should be the 1.16 which you may observe*."

The first assumption could be that Ra made a mistake in naming the measurements that make up this "1.16 proportion". There are several theories as to what they could be. For example, instead of the proportion of height to perimeter, it could be a ratio between the edge length and the slanted height in the equilateral pyramid (i.e. s/H_a, where $s=b$). This is an interesting idea to explore further, but there are some discrepancies between this assumption and the other information that came from Ra.

First of all, in 66.23 and 66.25, Ra suggest that the proportions of the Great Pyramid can serve as a very good model:

> "*Given that the proportions are such as to develop the spirals in the Giza pyramid, the most appropriate size for use beneath the head is an overall height small enough to make placing it under the cushion of the head a comfortable thing… For energy through the apex angle, the Giza pyramid offers an excellent model. Simply be sure the pyramid is so small that there is no entity small enough to crawl inside it*."

The proportions of the Great Pyramid do not correlate with the "1.16 ratio" being the ratio between the edge length and the slanted height in the equilateral pyramid (***s/H$_a$***), as suggested in the example above.

Another interesting moment is that Ra, in 57.15, by their own will, without being specifically asked (which is extremely rare!), suggested a possible replacement of the pyramid shape used for meditation inside it with other types of geometric shapes: "*Also efficacious for this application are the following shapes: the silo, the cone, the dome, and the tepee*." And while all of these proposed shapes have such measurements as height and perimeter of the base, some of them don't have other measurements that are relevant only to the pyramid (for example, a slanted height or length of the edge). In my humble opinion, this is an additional reason to look at the ratio as described by Ra (the proportion of the height to the perimeter of the base) - the ratio that should provide enough data to build a "do-it-yourself" pyramid or an equally powerful structure for meditation.

Let's see if the very product of Ra's own labor - the Great Pyramid of Giza - can shed some light on this important ratio.

And we don't have to go to Egypt (unless we want to!) to find what has already been discovered. It's interesting to note that the Great Pyramid of Giza, among other mysterious things, is known for the ratio of its perimeter to its height. The fact that it's equal to **2π** has attracted considerable public attention because of the precision with which it was built by the ancient Egyptian builders (according to the mainstream view, of course ;)).

So, the "π theory" of the Great Pyramid demonstrates the following: *the ratio of perimeter to height is equal to 2π*. Ra spoke of the proportion of height to perimeter, which is exactly the same ratio, but in reverse.

Let's calculate this ratio/proportion for the Great Pyramid and see if the resulting number is the same as suggested by Ra (i.e. 1.16). Let's say ***P*** - is the perimeter of the base and ***h*** is the height of the pyramid from the base to the apex:

$$\text{If} \quad \frac{P}{h} = 2\pi\,, \quad \text{then} \quad \frac{h}{P} = \frac{1}{2\pi} = 0.159 \cong 0.16 \qquad \textit{Formula 1}$$

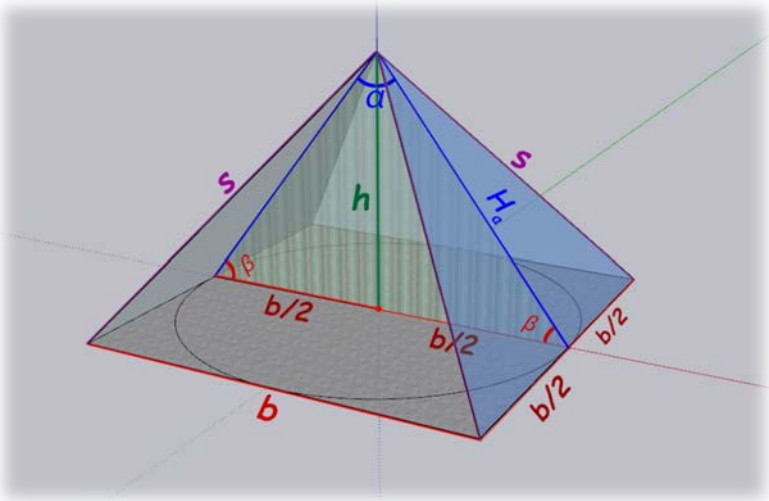
The digits in this last number look suspiciously similar to those mentioned by Ra. But why would Ra say, "*This proportion should be the 1.16 which you may observe*" when it is the "0.16" that we observe in the Great Pyramid that should serve as the model? Is it Ra's mistake in pronunciation or our misunderstanding of the **punctuation** in this sentence?

I'm not a native English speaker (and neither are Ra, lol). But what if we should read Ra's words as "*This proportion should be the one, .16, which you may observe*"?

To be fair, it must be noted that in the audio recording of Session 57, we can hear Ra pronounce "the one point one six" without any notable pauses between any of those words, so it's really easy to assume that they meant "the 1.16". But as I recall Jim McCarty's comment about the difficulty of transcribing Ra's monotonous transmissions, which had no extra spaces between words to indicate even the end of sentences: "*You really couldn't tell where the end of a sentence was*" (*Tilting at Windmills* ©2016 by L/L Research (Louisville, KY), p.86), this may indeed be the case here.

So is there another strong argument to support the idea that Ra actually meant exactly what they said, i.e. "height to perimeter" and not something else? And also that they meant the ratio of .16?

I can offer a couple of additional points in favor of this hypothesis. One is the aspect of sacred geometry, specifically the Golden Ratio, found in the Great Pyramid of Giza. The Golden Ratio is observed between the slanted height (***H$_a$***) and half the base length (***b/2***).



Is there a correlation between the Golden Ratio and my hypothesis of Ra's "height to perimeter ratio" being 0.16? We know that in the Great Pyramid both ratios are observed. But to illustrate this with a practical example, let's imagine that we are building a pyramid from scratch, using the ratio recommended by Ra. We'll assume that 0.16 is the correct value of this ratio, so we'll base our calculations on this assumption and see if it brings us to the Golden Ratio.

Let's say we want to build a pyramid with a base length (***b***) of 2 meters. What should be the height of this pyramid?

If $\frac{h}{P} = 0.16$, then $h = 0.16 \times P = 0.16 \times 4 \times b = 0.64 \times b$

So, if the base length is 2 meters, then the height of this pyramid should be $h = 0.64 \times 2\, meters = 1.28\, meters$.

To find the Golden Ratio, we should look at the cross section of the pyramid (green striped right triangle in the picture). We will use the Pythagorean theorem to find the slanted height:

$$H_a = \sqrt{h^2 + \left(\frac{b}{2}\right)^2} \qquad \textit{Formula 2}$$

$H_a = \sqrt{1.28^2 + \left(\frac{2}{2}\right)^2}$ = 1.62 (or, more precisely, 1.618 if we use three decimal places in this calculation (see Formula 1)).

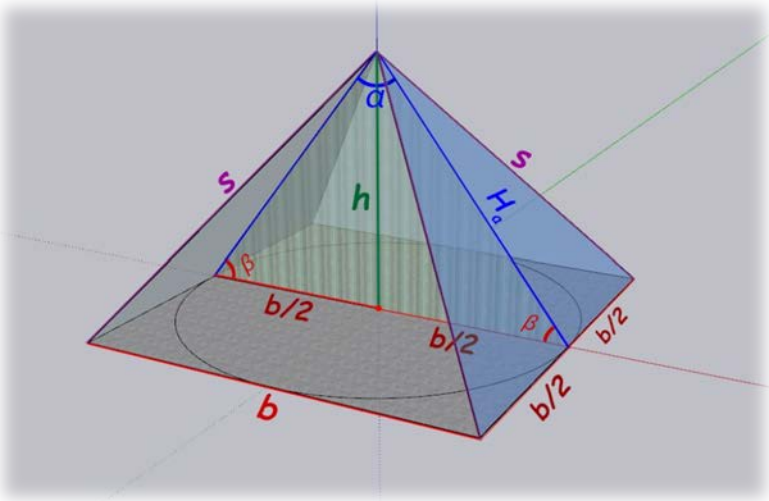
Now, to calculate the Golden Ratio, we have to divide H_a by ***b/2***. If ***b***=2 meters, then ***b/2*** is 1 meter, so we have the following ratio:

$$\frac{1.618}{1} = 1.618$$

The value of 1.618 is known as the Golden Ratio. And we achieved this ratio by designing a pyramid using Ra's suggested ratio $\frac{h}{P}$, which we assumed to be equal to 0.16 (when rounded to the second decimal place). In my humble opinion, all of the above observations already provide enough proof that it makes sense to read Ra's words as "*This proportion should be the one, .16, which you may observe*".

But let's add more valid points to this line of thinking. This time we will take a closer look at the apex angle of the pyramid. Ra said: "*the 76° apex angle is that characteristic of the powerful shape*" (57.30). Let's see if the ratio $\frac{h}{P} = 0.16$ is going to produce this powerful angle.

How to calculate the apex angle "alpha" (α, in blue), based on the height (h) and base length (b)



We're going to use a little trigonometry here (don't worry, it just looks complicated, but it's not!).

First, let's find the half-angle α using the measurements of the right triangle on the central cross-section of the pyramid (green striped area). To do that, we'll find the tangent of this half-angle by calculating the ratio of the half-base to the height:

$$\tan\frac{\alpha}{2} = \frac{b}{2} \div h = \frac{b}{2h}$$

So, if your pyramid has a base length of *2 meters* and a height of *1.28 meters* (as we calculated in the example above, using the suggested ratio of 0.16), then the tangent of the apex half-angle is 0.78125. To find this half-angle itself, there is a corresponding inverse function - arctangent:

$$\frac{\alpha}{2} = \arctan\frac{b}{2h}$$

Using an online arctan calculator, we find the half-angle of the apex:

$$\frac{\alpha}{2} = \arctan 0.78125 = 37.99°$$

The rest is easy: $\alpha = 37.99° \times 2 = 75.98° \cong 76°$

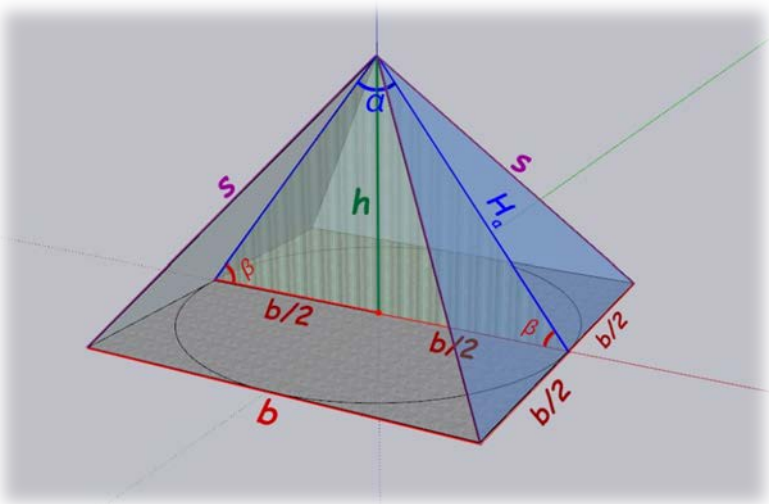
So we did it again: our assumption that "Ra's ratio" is 0.16 led us to the same idea - that this must be the correct value, because it corresponds to the other characteristics of the "powerful shape".

However, this information comes with a warning. The ratio $\frac{h}{P} = 0.16$ basically locks the apex angle of the pyramid at 76^0. That's good for the small under-the-pillow pyramid (if the pyramid is used for no more than 30 minutes at a time!) But if someone is building a larger pyramid to sit in, it's important to consider the potentially dangerous effects of the King's Chamber that this powerful structure can have on its visitors.

So, for the purpose of meditating inside this structure, there are two ways to avoid the potentially dangerous "King's Chamber Effect":

1) By keeping the powerful/sacred ratio of 0.16, but using a structure of a different shape that produces only the Queen's Chamber Effect ("*the silo, the cone, the dome, and the tepee... - these shapes have the Queen's Chamber effect*" - Ra, 57.15-16).

2) By making the apex angle of the pyramid smaller (Ra said "*the lesser angle may be any angle less than 70°* (57.32).) In this case, unfortunately, the powerful ratio will be lost. But if this is the choice anyway, then let's take a little tour into the calculation of the basic dimensions of such a pyramid.



The following formulas can be useful for playing with 3 measurements of a pyramid: apex angle (***α***), height (***h***), and base length (***b***). (Note that the ratio given by Ra is not locked in these formulas - that's why there is so much flexibility in the results of the following calculations, so it's up to each seeker to decide which ratios to use, if any).

- If we know the height and the apex angle of the pyramid, we can calculate the base length:

$$b = 2 \times h \times \tan\frac{\alpha}{2} \qquad \textit{Formula 3}$$

- If we know the base length and the apex angle of the pyramid, then the height would be:

$$h = \frac{b}{2 \times \tan\frac{\alpha}{2}} \qquad \textit{Formula 4}$$

- If we know the height and the base length of the pyramid, then we can find the apex angle:

$$\alpha = 2 \times \arctan\frac{b}{2h} \qquad \textit{Formula 5}$$

Example 1
You are building a pyramid 2 meters high with a "safe apex angle" of 69^0.
What is the base length of this pyramid?

Using the *Formula 3*:

$$b = 2 \times 2 \times \tan\frac{69°}{2} = 4 \times \tan 34.5° = 4 \times 0.687 = 2.75\ meters$$

Example 2

For an equilateral square pyramid with all edges of equal length of 1.16 meters and height of 0.82 meters, what is the apex angle of this pyramid?

Using the *Formula 5*:

$$\alpha = 2 \times \arctan \frac{1.16}{2 \times 0.82} = 2 \times \arctan 0.7073 = 2 \times 35.27° = 70.54°$$

I hope this is enough information for anyone to make their own decisions regarding the type of structure to build to enhance their meditation experience or energize their body, and also regarding the interpretation of the instructions given by Ra.

As to the reason why, in 57.23, Ra confirmed that it's correct when Don paraphrased Ra's words by saying: "*Do you mean that the sum of the four base sides should be 1.16 of the height of the pyramid?*" - This is a question for each of us to decide for ourselves. Did Ra mean that Don is correct in paraphrasing the term "perimeter" as the sum of the four base sides, or maybe there is some other perspective from which Don's statement can be considered correct (or "not incorrect," as our Boolean logic would let us say)?

When someone reads the Law of One books, they always have their own unique impression regarding the meaning of Ra's words, especially when the questions are very close to the boundaries of the Law of Confusion that is supposed to protect our free will. What's definitely true about this "1.16 ratio situation" is that this issue has sparked a conversation in the Law of One community, forcing seekers to look for their own answers, to do their own research, and to make an effort to devise a proper design for the structure of their interest...

And this is quite a beneficial result (and perhaps also a required attitude?). After all, Ra has already given "our peoples" such a powerful healing device as a Great Pyramid. And not only is it forgotten and not used, it's been shockingly misused in the past! So it seems quite fair if Ra decided to leave this material out in the open, but slightly covered by the veil of confusion. Perhaps it wasn't intended to be a matter of intentional confusion, but Ra could certainly take advantage of the misunderstood wording when it happened, so that this time the recipients of this information would have to make an extra effort and use their own minds as to where to look and what to consider important.

Here is another gem from the interview with Jim McCarty, where he describes the way Ra would just give clues as to where to look for a mistake, but never point it out directly: *"…They did that a few times, giving us a clue about something that we needed to consider, but they did not tell us what, because that would be infringing on our free will. Clues were okay. Just laying it out flat—you need to do this—was not. The contact was a product of free will, and we had to be able to exercise our free will at all times."* (*Tilting at Windmills* ©2016 by L/L Research (Louisville, KY), p.148).

So the conclusion is always the same: before taking any action or accepting someone else's point of view, please exercise your free will by using your own discernment and doing your own research, starting with reading the original material, which can be freely downloaded or read here:
https://www.llresearch.org/channeling/ra-contact

With Love and Light,
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