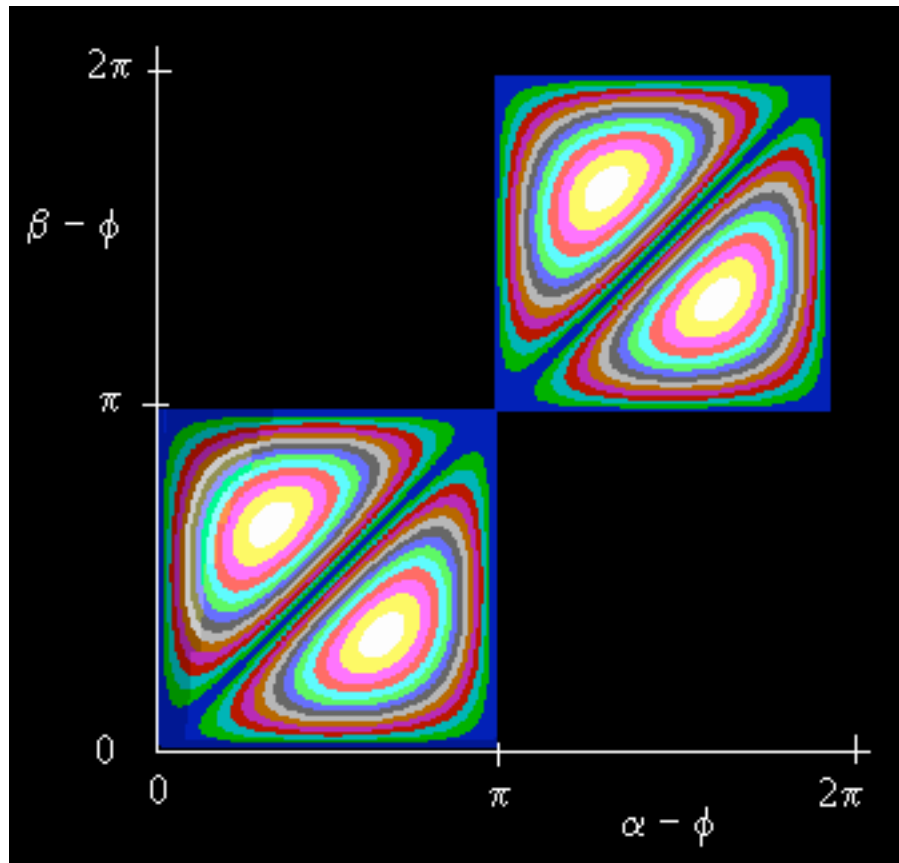


## Entanglement and the Unified Theory of Us.

We can evaluate the left hand function assuming the quantum mechanical correlation  $C(x,y) = -\cos(x-y)$ . This gives  $|\cos(\mathbf{a}-\mathbf{f}) - \cos(\mathbf{b}-\mathbf{f})| + \cos(\mathbf{a}-\mathbf{b})$ , which is shown in the figure below. The colored regions represent that cases where this quantity exceeds 1, and therefore violates the above inequality. The maximum violations occur in the four white regions, where the function attains the value of about 1.5.



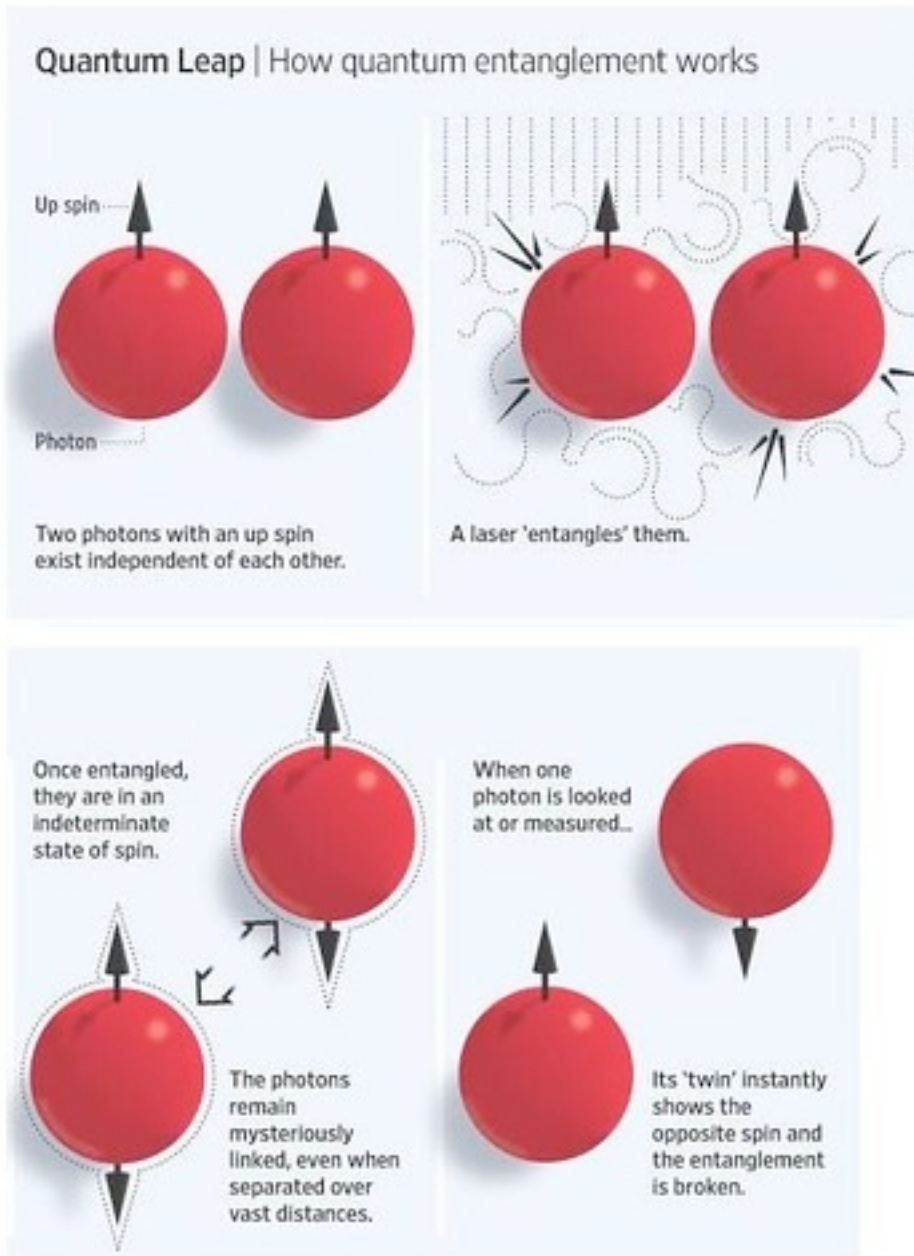
A different approach to analyzing quantum entanglement is to assume that each particle is pre-programmed not with a definite result for each measurement angle, but with a probability of yielding specific results. Needless to say, this model will be incompatible with the premise of independence of measurement angles, because a probabilistic model can't automatically enforce the perfect correlations and anti-correlations predicted by quantum mechanics at  $\mathbf{q} = 0$  and  $\mathbf{p}$ . Still, the previous discussion has shown that the naive premises of "local realism and free choice" are untenable anyway, so it's worthwhile to examine a probabilistic scheme.

Thus we imagine that the first particle contains a function  $f(\mathbf{a})$  that represents the probability of yielding spin up for the measurement angle  $\mathbf{a}$ . Likewise the second particle is programmed with the function  $g(\mathbf{b})$  that represents the probability of yielding "spin up" for the measurement angle  $\mathbf{b}$ . In these terms we can express the probabilities of agreement and disagreement as

$$\Pr(\text{agree}) = f(\alpha)g(\beta) + [1-f(\alpha)][1-g(\beta)] = \sin\left(\frac{\alpha-\beta}{2}\right)^2 = \frac{1-\cos(\alpha-\beta)}{2}$$

$$\Pr(\text{disagree}) = f(\alpha)[1-g(\beta)] + [1-f(\alpha)]g(\beta) = \cos\left(\frac{\alpha-\beta}{2}\right)^2 = \frac{1+\cos(\alpha-\beta)}{2}$$

If we double the "disagree" equation and subtract 1 from both sides we get



From Wall St journal 2009 by GAUTAM NAIK<sup>1</sup>

<sup>1</sup> <http://davidjarvis.ca/entanglement/wave.shtml> for more theory

The entanglement of Judah and Joseph will overshadow all future interactions questioning each of their descendants in a self-doubting quest for authenticity.

Avivah Zornberg speaks of this entanglement

“this is signified by the word *va-yigash*. Judah comes close to Joseph’s secret life and forces it into expression.”<sup>2</sup>

The Judah character exposes Joseph’s by his recounting the whole plot with the brothers in Egypt with no new information delivered to the reader of the text. All has been rehearsed before. Zornberg suggests that the description of the whole narrative highlights the way Joseph entangles his brothers from his searching questions for verifiable truth to the plot to entrap them with the goblets. The difference between the two brothers unfolds as the text reveals the way the speech of Judah resembles a personal litany as if he is recounting and becoming transformed by the very confessional (and seemingly redundant) speech to Joseph.

“In a project of self-creation, he lists the events, the experiences, that have meshed together to create the unique world of his self-hood.”

For Zornberg Judah’s greatness lies in his capacity to redescribe himself, rooted in earth (*malchut*) aspiring to a personal vocabulary, rather than the paradigms of betrayal, loss and revenge that motivates others in this plot. Quoting from the midrash in which God throws down emes or truth to the ground, having seen that the world cannot exist with truth alone,<sup>3</sup> truth must now grow from the ground up “in splintered contingent shards”.

Citing the verse from Psalms “truth springs up from the earth” (Ps. 85:12) Judah is able to redescribe himself, rooted in earth, “in which the splintered letters of God’s name can be detected”<sup>4</sup>

It is this ability to re-define oneself that moves Joseph. Joseph is the master knower and must understand and see all things. He must test continuously the credibility of the brother’s words, he can no longer believe without seeing, having been thrown twice into the pit, once by the brothers for bringing back word of their behavior to his father, and once (prison is

---

<sup>2</sup> The Beginning of Desire Zornberg Doubleday 1995 Parshas Vayigash

<sup>3</sup> Midrash Rabbah Genesis 8:5

<sup>4</sup> The Hebrew “emes me-eretitzmach” contains the first letters aleph mem taf or emes meaning truth can be re-constituted from the separated letters themselves “grounded in earth and becoming” see Zornberg, note 38 *ibid* p417

called by the same Hebrew word *bor*) for the unjustified accusation of Potiphar's wife. In the darkness of the pit he can no longer rely on his eyes. Once free he will always seek proof and verification for even in the end of Jacob's life he argues with what Jacob senses as Patriarch regarding the blessing to Menashe and Ephraim. He will argue against the blind Patriarch because Jacob sees with inner vision but Joseph cannot see beyond the verifiable truth.

In this struggle Judah wins because he is able to continually change his biography from the time he admitted Tamar was right in front of the court that had condemned her, to the time he rehearses the litany of the Joseph story in a different key. His emotional speech adds nothing new only a plea but what has really changed has done so within him. Now he realizes his past and needs to recreate a new biography of that past with a new understanding and vision. This unique ability is his alone and makes for true kingship as opposed to the wise counselled Joseph who will continue to weigh and verify the facts of the case. Once Judah unmasks Joseph he has forced Joseph into expression beyond his own control "and Joseph could not hold back" for Judah had unleashed his own unmasking by showing up Joseph's *modus operandi*-his judicial self.

Joseph is a survivor and as such must take the facts alone with no room for a subplot allowed. Life has been too harsh, the lessons learned are one of an ex-convict who must survive in the real world. Judah survives in another realm, the world of imagination, where language and words play a greater role than vision and proof. Judah survives precisely because he is less interested in truth as a whole rather allowing *emes* to emerge from the fragmented parts of the self as it plays out in his lived life. His unmasking of Joseph was performed by words and rhetoric, with no new information or facts presented to the viceroy, only the force of rhetoric and the opening of new ways to see truth, in a fragmented and broken way.

There is a sense of entanglement between the two which is picked up in the book of Ezekiel chapter 37 where the prophet describes the future when the tree or twigs of Joseph and Judah will become intertwined in the messianic era. This moves our historical confrontation of the two giants into the mythical future realm. Only in some messianic future will a resolution of these two entangled strains of the sons of Jacob be resolved. Until then the two different approaches to life and eternity must continue.

For us struggling with our failed lives, we have Judah to help us through our struggle to make sense of our biographies and his inspiration in seeing *emes* fragmented as intended. God cast truth to the ground to fertilize up in pieces but how can truth be so fragmented? We return to our mathematical equations revealing in a quantum world the entanglement of all particles with

each other. Our connection remains to truth however fragmented it appears as it bubbles up in tiny holographic images of what once was in our lives.

At a deeper level the text itself reveals that Judah “approaches none other than himSelf...

*“vayigash eilav Yehudah, vayomer bi adoni”*

JUDAH APPROACHED HIM AND SAID “IF IT PLEASE MY MASTER”

Gen: 44.18

This verse has been interpreted by the Hassidic Masters as applying to Judah’s approaching his higher Self. Where Joseph represents the sefirah of Yesod in Ze’ir Anpin Judah represents Malchut, the feminine aspect of the Divine Self. Within each of us is a holographic representation of the *tzelem elohim*, the image of God, that in each of us there is a confrontation between the Judah/Malchut and the Joseph/Ze’ir Anpin aspect.

In psycho-dynamic terms the Judah within represents that character trait of surrender and ever-changing realities that is part of this world and the struggle to see the divine within it as immanent. Joseph on the other hand, represents that higher Self that reaches beyond as is not of this world. When Judah approaches Joseph there is according to the zohar, a *Yichud*, a connection at the deepest level, a union of sorts where the divine beyond meets the divine within, where *Kudsha Brich Hu* meets Schechina, the feminine aspect of Self.

I would like to suggest that our function as the children of Jacob, is precisely this kind of union, which only occurs when Judah does the inner work of seeing the fragmented self in this world of suffering and struggle and nevertheless being able to approach the blameless innocent Joseph, that other-worldly sense of the sublime, and connect the brokenness and fragmentation by seeing the fractured *emes* or truth even here.

When Judah approaches Joseph in this way, then he is able to say “BI ADONI” which could translate as “my master is within me” i.e. I have integrated the Joseph within me precisely because Joseph cannot hold back from the union and “reveal himself” from his brothers once the Judah has shown him the true purpose of being down here in the world of suffering. Joseph was unable to hold back once confronted with a brother who was able to negotiate the fractured self in a non perfect world and yet connect to the divine.

What is so compelling about the Sfat Emet who contributed most to this idea of integrating the “yehudah” within (in the name of his grandfather the Chidushei Harim) is the internalizing of these archetypes in a dramatic way and the Midrash of *emes* or truth which is impossible in this lwoy world, is

thrown to the ground where it fertilizes and emerges from the ground in a fragmented way yet containing particles of emes nevertheless. It is a theology of hope and a healing text by virtue of its acceptance of life and suffering as it is lived as holding the possibility of (albeit fragmented) truth in the absence of the divine and perfection.