



Meru Foundation eTORUS Newsletter

Number 46 – June 2009

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Spring Update II – June 2009

East Coast: Levanah and Stan Tenen
West Coast: Bill Haber

Featuring: *Clouds in my Coffee*
an essay by Elliot Pines, Ph.D.



As reported in the last eTORUS, Stan and I are continuing to focus on our book manuscript, and Meru President Bill Haber is continuing to create new material for Meru's online video site. Meru Foundation has several different websites, each with a different focus and material:

www.meru.org Meru's original website was created in 1996, and has a large selection of essays and posters on many different aspects of this work. Our recommended reading list is at www.meru.org/readlist.html; past eTORUS Newsletters are archived at www.meru.org/Newsletter/journalindex.html. This is a site for leisurely exploration; the home page also includes a PayPal button for contributions.

www.meetingtent.com Meru's secure-server website for ordering our lecture DVD's, books, and other materials, and for making contributions via credit card. This site also includes a Meru FAQ, sample videos, and contact information for the media.

www.merueline.info/common/MerulntroPacket.a.20oct08.pdf A basic introductory packet on Meru Foundation and its research, suitable for printing. Includes a research summary, endorsements, a sample eTORUS, and bio information.

www.meruwest.org Bill Haber's web portal for Meru video clips and other media posts. You can also view and post comments on all of our video clips on Bill Haber's YouTube site, www.youtube.com/user/filmguy2121.

www.meruwest.blogspot.com Meru Foundation blog, also run by Bill Haber.

Clouds in my Coffee: An Essay by Elliot Pines, Ph.D.

This month we again are offering a guest essay. Dr. Elliot Pines is a long-time correspondent, whom we met via email several years ago. Stan commented on an article Dr. Pines had published in the Torah and Science journal B'Or HaTorah; he and Stan have been emailing ever since.

Dr. Pines holds degrees in physics and electrical engineering from Brandeis University, The California Institute of Technology (Caltech), and The University of California, Los Angeles (UCLA). He has worked for 31 years in modeling, characterization and analysis in the California aerospace and semiconductor industries, and is presently with the Bio-Inspired Technology and Systems group of Caltech's Jet Propulsion Laboratory (JPL) / National Aeronautics and Space Administration (NASA). Dr. Pines resides in Los Angeles with his wife and four children, has written and lectured in subjects in Torah and Science for the past 20 years, and has been part of the world-wide program in Daf Hayomi (daily study page) of Talmud for 22 years, recently completing his personal third cycle.

[Note: All personal and professional opinions presented in this essay are those of Dr. Pines, and don't in any way represent the opinion or policy of JPL, Caltech, or NASA.]

Clouds in my Coffee by Elliot Pines, Ph.D.

I feel another downhill day coming – I dread going into work. Will I get a sudden escort out this morning like poor Erika? Phil wouldn't want us to steal or damage anything, especially staff morale – as if there were any left! I've known Phil for 30 years, what's happened to him? – to the whole world?!



At least there remain some creature comforts – a gourmet cup of java to bring me some courage. Watching that drop of creamer in the coffee, the pattern of swirls within swirls, I can't help thinking back to that 1972 Carly Simon song, *"I had some dreams; they were clouds in my coffee, clouds in my coffee..."*

Clouds in coffee, swirls within swirls – patterns unfolding within themselves over and over as variations on a theme. Fern leaves, coastlines, clouds – isn't this the way all Nature is? If so, the world's problem and solution are hidden in these unique, yet universal patterns. Unlocking this universal secret takes a skeleton key, the "fractal."

This term was coined for these all-pervasive self-similarities by Benoît Mandelbrot in his classic *The Fractal Geometry of Nature* due to their common element, *fractional* dimension. Hitting an exact whole number dimension like the two of a square isn't likely, so everything is fractal. The math generating a fractal proves a simple repeating formula, yet can produce awesomely beautiful visuals. One senses deep, frightening power – a two-way ebb and flow as though looking into the eyes of Infinity itself.

There really is a dynamic transcending the still image. As pointed out by Robert Shaw, a pioneer in the science of "Chaos," there's actual communication reflected up and down orders of magnitude between the inner and outer patterns. [See: R. Shaw, "Strange attractors, chaotic behavior and information flow," *Zeitschrift fur Naturforschung A (Astrophysik, Physik und Physikalische Chemie)*, v 36A, n 1, Jan. 1981, 80-112.] The consequences are a lot more serious than pretty pictures.

A most important example is our complex heartbeat and circulatory flow. The complexity actually keeps us alive. Where all components work together, communicating as though in mutual love, coronary interactions stay harmonious at all scales. Natural fluctuations at any level are corrected by the system as a whole. However, if this love breaks down and part of the system selfishly pulls itself too far awry for too long, something ominous begins to happen. The beat pattern grows smoother, at first glance seemingly a sign of stability. That is, until it smoothes down to a simple sine wave, and finally the straight line of cardiac arrest.

The fractal's universality makes the above a fundamental law of nature – ruling all systems mineral, vegetable, animal, and human. But only at the human level is there the freedom to follow a dysfunctional policy of "every man for himself." Sweet as it may first appear to gifted predators, beneath the surface the system begins an accelerating decay until the nightmare finally comes out of the woodwork as Murphy's Law – anything that can go wrong, will go wrong. In analogy with an enormous pocket watch overwound to the point of no return, there is, as it were, a flaming explosion of snapping teeth and mainspring, causing and caused by the freezing of gears grinding to a halt. Systemic doom seals the fate of even the "successful" individuals along with it – it's just a question of "who by fire and who by ice."

Humanity's evolution into a global economy through ever-growing and entwining infrastructures has given it a worldwide heartbeat and circulation. Murphy's law has already started to go berserk before our eyes, yet we continue to proceed mindlessly against Nature as lemmings towards the edge of a cliff. No force but individual free choice to see others as the greater part of him or herself rather than isolated prey to feed upon can turn the situation around. Do we not yet realize that the pattern in each of our personal fractals is actually made out of all of us?

The clouds in my coffee dissipate on a hopeful note – a song the Youngbloods provided five years before Carly Simon. *"Come on people now, smile on your brother. Everybody get together; try to love one another right now."* And when we look into the eyes of Infinity, maybe we'll be met by an infinite fractal smile. Wouldn't that be something!

See, my cup of java kept its promise to encourage. What message will your favorite brew be giving YOU?

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Los Angeles, California





Thank you for reading this issue of the Meru Foundation eTORUS Newsletter.
Past issues are available online at www.meru.org/Newsletter/journalindex.html.
For video excerpts see www.meruwest.org, and visit our blog at blogspot.meruwest.org

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