

Letters to the Editor

We invite readers of the *Journal of Space Philosophy* to send us letters referencing any past publication, to suggest subjects for future publication, or to submit information from anywhere in the Global Space Community. **Bob Krone and Gordon Arthur.**

Recursive Distinctioning Revisited

By Joel Isaacson, PhD, August 15, 2014.

Dear Editor,

In response to queries about earlier articles in JSP on recursive distinctioning I provide below a brief summary.

This work is rooted in a discovery of a fundamental natural process termed “Recursive Distinctioning” (or Recursive Distinguishing [RD]). RD has been shown to underlie a number of disparate disciplines, from the philosophy of mind to particle physics, with lots in between.

In re philosophy of mind, the most striking link is to the Hegelian dialectic. Among other things, the Hegelian dialectic is said to underlie patterns of thought processes.

In the physical sciences, it has been shown that patterns that emerge from the simplest RD process are identical to patterns of elementary particles, called baryons, described through their quark constituents.

Part of that work turned out to be related to the Pythagorean Tetractys, which is an ancient esoteric symbolism/principle followed by adherents of Pythagoras and believed to be fundamental to the make-up of the Universe.¹ (The Tetractys also plays a significant role in the Kabbalah.)

For how the Tetractys shows up autonomically in the development of the model of the baryon octet see: www.iss.org/2001meet/2001paper/stegano.pdf. See the discussion therein on page 3 and Figures 3 (page 12) and 4 (page 13).

In Figure 4, the basic elements of the Tetractys are 3x3 matrices of quarks that include the up, down and strange quarks, organized as follows:

u s d
s s s
d = u

¹ See en.wikipedia.org/wiki/Tetractys.

Each such matrix can be shown to subsume, by selecting 3 out of 9 quarks, patterns of elementary particles, called baryons, including the neutron and the proton, which are the fundamental constituents of the nuclei of matter.

This 3x3 grouping can be thought of as a strangelet.² Strangelets relate to strange matter and, cosmologically, to strange stars. There is also a hypothesis in cosmology that strangelets relate to dark matter.

I have discussed elsewhere that RD that operates in streak mode may involve dark information and may be a universal mode of communication among diverse intelligent species in the universe.

Marc van Duijn discussed recently a possible connection between RD and certain intelligent behaviors in bacteria. Louis Kauffman has repeated numerous times that RD, in his view, underlies all mathematics.

There is strong indication that RD is a basis for many developments in many fields, including computing artifacts that mimic natural intelligence.

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About the Author: Joel Isaacson has pioneered in RD Cellular Automata since the 1960s. RD was rooted in studies relating to the analysis of digitized biomedical imagery. Dr. Isaacson utilized NASA's computing facilities at the Goddard Space Flight Center in Greenbelt, MD for the initial stages of this research. His research has been supported over the years by DARPA, SDIO, NASA, ONR, USDA, and a good number of NIH institutes. Isaacson is Professor Emeritus of Computer Science, Southern Illinois University and Principal Investigator of IMI Corporation. Dr. Isaacson has made a huge contribution to Cosmos understanding. Mass and energy are well known. His discovery that our universe contains information and intelligence in a process that is basic also to human perception and cognition is a scientific knowledge paradigm shift.



EDITORS' NOTES: Dr. Isaacson has published on his discoveries of autonomic string manipulating systems periodically since his patent of that discovery in 1981. He refers here to his article, "Nature's Cosmic Intelligence," published in Fall 2012 issue of the *Journal of Space Philosophy*. His reference to Marc van Duijn is to Dr. van Duijn's "Universal Principles of Biological Cognition," *Journal of Space Philosophy* 2, no. 2 (Fall

² See en.wikipedia.org/wiki/Strangelet.

2013), 15-26. Louis Kauffman is Dr. Louis H. Kauffman, Professor of Mathematics, University of Illinois at Chicago, who provided a postscript to the Marc van Duijn article, titled "Comment on Recursive Distinguishing." ***Bob Krone and Gordon Arthur.***