Noesis

The Journal of the Mega Society
Issue #202, December 2016

Contents

About the Mega Society

The Mega Society was founded by Dr. Ronald K. Hoeflin in 1982. The 606 Society (6 in 10^6), founded by Christopher Harding, was incorporated into the new society and those with IQ scores on the Langdon Adult Intelligence Test (LAIT) of 173 or more were also invited to join. (The LAIT qualifying score was subsequently raised to 175; official scoring of the LAIT terminated at the end of 1993, after the test was compromised). A number of different tests were accepted by 606 and during the first few years of Mega's existence. Later, the LAIT and Dr. Hoeflin's Mega Test became the sole official entrance tests, by vote of the membership. Later, Dr. Hoeflin's Titan Test was added. (The Mega was also compromised, so scores after 1994 are currently not accepted; the Mega and Titan cutoff is now 43—but either the LAIT cutoff or the cutoff on Dr. Hoeflin's tests will need to be changed, as they are not equivalent.)

Mega publishes this irregularly-timed journal. The society also has a (low-traffic) members-only e-mail list. Mega members, please contact the Editor to be added to the list.

For more background on Mega, please refer to Darryl Miyaguchi's "A Short (and Bloody) History of the High-IQ Societies"—

http://archive.today/K32e

—the Editor's High-IQ Societies page—

http://www.polymath-systems.com/intel/hiqsocs/index.html

—and the official Mega Society page,

http://www.megasociety.org/

Noesis is the journal of the Mega Society, an organization whose members are selected by means of high-range intelligence tests. Jeff Ward, 13155 Wimberly Square #284, San Diego, CA 92128, is Administrator of the Mega Society. Inquiries regarding membership should be directed to him at the address above or:

ward-jeff@san.rr.com

Opinions expressed in these pages are those of individuals, not of *Noesis* or the Mega Society.

Editorial

Kevin Langdon

For the first time in a decade we've managed to get out three issues of *Noesis* in a calendar year. There's a lot in this issue. We begin with an interesting piece by May-Tzu (Richard May), "Introducing Qigong to a Friend," a short introduction to the Chinese energy/breath/movement work that he has been practicing for many years.

Next is a short description by the Editor of November's supermoon.

This issue also includes Part Seven of the long interview with Rick Rosner by Scott Douglas Jacobsen, from the *In-Sight* journal site—

http://in-sightjournal.com/

—where the interview originally appeared.

As usual, this section of the interview covers a lot of ground. There's a discussion of America's leadership in innovation, the recent decline of technical education and expertise in the U.S., and what could turn it around, followed by a lengthy exchange about abstract metaphysics, cosmology, the possibility of extraterrestrial intelligent life and the Drake Equation, leading up to an exposition of Rosner's thoughts about a theory of everything including matter, energy, space and time, mind and consciousness.

I have also included in this issue my review of a remarkable book of philosophical cartoons, *Indigo Animal*, by Rue Harrison.

Finally, this issue contains a selection of poetry by May-Tzu, Wallace (Dusty) Rhodes, Richard Badke, and Bob Griffiths.

From Mega Society Internet Officer Chris Cole: "The Mega Society Web site currently sees about 10 unique visitors per day, the vast majority of which are from search engines. The most commonly searched phrase is "mega society." The typical visitor spends about a minute on the site. About one in ten visitors reads a page in addition to the home page." It would be good to see more traffic.

Once again it's time for our annual Mega Society election. If any member would like to run for Administrator, Internet Officer, or Editor, please let me know.

And we always need material—from Mega members and others—for *Noesis*.

Cover: The November supermoon from Washington, DC (NASA).

Introducing Qigong to a Friend

May-Tzu
Stains upon the silence

"Rage, rage against the dying of the light." — Dylan Thomas

"The older, the stronger, the wiser, and the happier" — traditional Taiji saying

An 89-year-old internet friend asked me how he should begin to learn and to practice the Chinese arts of qigong to improve and maintain his health. So although I'm not an expert or a master, I wrote the following.

Qigong or chi kung may be translated literally from the Chinese as "breath work." Qi is considered to be the interface between spirit and matter. Qi is equivalent to the Indian prana, the Japanese ki, the Latin spiritus, the Greek pneuma and the Hebrew ruach. T'ai Chi or Taiji is one form of qigong. Massage, acupressure and acupuncture (these are called wai dan) and some forms of meditation (nei dan) are also forms of qigong, as is the art of feng shui, of which I'm more than a little skeptical.

You need to get Justin Stone's book called *T'ai Chi Chih! Joy Through Movement*. (Mr. Stone lived to be 96.) Also get his DVD of the same title. He distilled T'ai Chi Ch'uan (108 choreographed movements, Yang style) to 19 movements. More than 40 years ago I did T'ai Chi Ch'uan, the Yang style, specifically Cheng-Man Ching's 'short' form of 68 movements, for about 8 years (but not without interruption) at the Joy of Movement Center, in Cambridge, Massachusetts, as a student of Alan Shapiro. At that time I also did Mr. Stone's T'ai Chi Chih, self-taught from his book. Mr. Stone's is not only much easier to learn but you can actually feel the qi, especially as tingling in the hands. The qi energy of Chinese medicine and martial arts may be related to the — biological/neurochemical — placebo effect. Interestingly there is an important qigong saying: "The yi leads the qi (chi)." More precisely the xin-yi leads the qi. This may be translated as "the mind-intent or imagination leads the qi energy."

Then you need to pick out about 8 of Justin Stone's 19 T'ai Chi Chih move-ments —or at least 6—and overlearn them. It is not necessary to learn all of them, as he explains in his book. You need to practice these movement-forms pretty much every day for more than a year. As Stone says, "T'ai Chi Chih teaches you T'ai Chi Chih." After about 3.5 years I connected the separate forms I had overlearned into an even more efficient continuous practice. But it is easier to learn them separately. Incidentally, learning the novel movements is good for non-young brains and involves novel use of our proprioceptors.

You also need to learn to do wuji zhuang, a.k.a. “standing pole” or “standing like a tree.” Taijiquan (T’ai Chi Ch’uan) is called “moving standing pole,” huo zhuang. Wuji zhuang or standing pole consists of standing with one’s feet shoulder width apart or slightly more, with the toes pointing slightly outward and the knees flexed or bent slightly, while holding the arms out in an incomplete circle with the hands at shoulder height, as if hugging a very large tree. This position must be maintained in a state of relaxation with minimal muscular effort. Eyes may be open or shut, or preferably half shut. Imagine a sheet of paper balanced on top of one’s head. With the eyes shut swaying back and forth may occur, as an indication of proper muscular relaxation. You may feel a slight inner smile during practice. There are numerous illustrations of wuji zhuang or standing pole available on the web. E.g.:

http://tinyurl.com/h6wcldm

If possible it is recommended to do this outside in a natural setting. Wuji zhuang is among other things a form of mindfulness meditation, which nurtures our qi energy and also gradually strengthens our core musculature and improves posture automatically without conscious intent, both sitting and standing, and may unexpectedly alleviate low-back problems in my experience.

Standing pole is a form of meditation in which the practitioner does not generally fall asleep. The breathing during standing pole is natural and uncontrolled. During a longish session the breathing spontaneously becomes slow and diaphragmatic. Reportedly many large-muscled bodybuilders cannot do standing pole for very long. Also, apparently quite a few individuals who attempt to do standing pole cannot bear to simply stand before their thoughts without distraction for a few minutes.

In qigong there is a form of breathing called embryonic breathing. According to some qigong teachers this is the pattern of breathing found before birth in an embryo, which was intuited by ancient Taoist sages. The lower dantien about 1.5 inches below the navel, but internal below the surface, is the primary reservoir for the storage of qi energy, according to ancient Taoist theory. (Interestingly the navel is, of course, the point of entry of nutrients to the developing embryo and fetus.) Embryonic breathing is abdominal or diaphragmatic breathing, which has in fact been demonstrated to lower blood pressure in Western medical research. By contrast most adults breathe from their upper chest.

During moving or dynamic qigong inner exercises, as taught by Dr. Yang, “reverse breathing” is employed. Here, during inhalation the abdomen is pulled inward and upward and during exhalation the abdominal muscles are relaxed. This is the opposite of normal breathing in adults and may, according to some teachers, massage the internal organs. Reverse breathing is the breathing pattern observed for newborn babies, according to Yang. Presumably this abdominal movement also occurs with a fetus in utero, in order to draw in blood, oxygen and nutrients from the mother.

Standing pole has mostly been kept secret except within families until recently. But on the Boston common about forty years ago students of John Chung Li’s Hwa Yu

style Taiji did standing pole publicly. “One standing pole is worth more than 100 practices.” “One stillness is worth more than 100 movements.” These are traditional qigong martial arts sayings. Another noteworthy saying is: “The qi follows the mind-intent (xin-yi); The blood and oxygen follow the qi.” Also: “Qi, no pain; Pain, no qi.” Standing pole is at least 2700 years old. It may be 5000 years old and appears to be referenced in the *Tao Teh Ching*. As during T’ai Chi Chih practice you can feel what is presumably the qi energy in your hands when doing standing pole for a protracted time. But in this case the hands are quite motionless and relaxed.

There are also dynamic forms of qigong such as Sink Qi, Wash Organs, Gathering the Qi to the Dantien, Circulating the Qi, Strike Shoulders, and the poetic Opening and Closing to Heaven and Earth. Doing Sink Qi and Wash Organs I can actually feel my hands tingle with qi, though the exercise is very gentle. This moving qigong exercise was transmitted to Yang by Grand Master Feng Zhiqiang of Beijing, his most renowned teacher. In addition to increasing qi one of the benefits of the moving qigong exercises is to improve balance and reduce falling in older people.

These are demonstrated and explained in Dr. Yang Yang’s excellent DVD. Dr. Yang also emphasizes that the different styles of Taiji are only differences in choreography. The principles are the same in all styles, such as the Yang style or Chen style. In theory any movement may be “Taiji,” if executed according to these principles.

Standing pole is very easy, but almost no one will actually do it! You should gradually build up to 10 or 15 minutes of standing pole daily, unless you have a cold or the flu. Also standing pole should be avoided immediately before or after sex. Otherwise do it every day. I’ve done 30 minutes of standing pole almost every day for 15 months. After doing standing pole lie down on a flat surface on your back and relax for several minutes. This is lying-down wuji and is very important to avoid any back problems.

At some point you should get Dr. Yang Yang’s DVD on evidence-based qigong and Taiji's excellent book on the same subject. Yang Yang has a Ph. D. in kinesthesiology from the University of Illinois, Urbana, in addition to being a Taiji/qigong master. He is focused upon scientific/medical research on traditional Chinese qigong practices and applying this knowledge to improve the quality of aging. If you know anyone who may be subject to aging, this could be of interest.

There are other more meditative schools of qigong not as grounded in the internal martial arts, such as Taiji and aikido. For explication of differences between internal and external martial arts, please see:

http://www.shenwu.com/Internal_VS_External.htm

According to their practitioners, it is possible with long practice by xin-yi or mind-intent to lead the flow of the qi energy along the primary meridian channels of acupuncture within the body in various directions, thereby obtaining both healing—medical results—and spiritual transformation. These practices, including the microcosmic orbit

and macrocosmic orbit meditations, among others, appear to be less evidence-based and perhaps more airy-fairy or 'metaphysical' than those rooted in the traditions of Chinese internal martial arts. Before fMRI brain-scan technology became available, combat was far more observable than were the inner results of a meditation practice and hence perhaps it was more difficult to deceive oneself about martial arts attainment.

The goal of some of these practices was to attain literal immortality for the advanced practitioner through conceiving a "spiritual embryo" within, which could survive the death of the physical body. This seems analogous to the idea found in certain esoteric traditions that we are 'wombs' or 'incubators' for the creation of a "soul" or 'higher being-body' in life. Such possibilities, however interesting, go far beyond evidence-based qigong.

In the macrocosmic orbit meditation qi can supposedly be deliberately exchanged between the external environment and the qigong practitioner or qi may be transferred from an individual practitioner to another person for healing purposes. Curiously, one source states that one should not practice these forms of qigong for three days before or four days after one has sex. (Do people usually know three days before they will have sex?)

According to traditional lore these techniques were brought from India to China by Bodhidharma, a.k.a. Tamo, a Buddhist monk in the 5th or 6th century. In these more philosophical schools of Taoism qi is considered more broadly to be all forms of energy in the physical universe, not merely the 'subtle' energy within the acupuncture meridians of the body, according to traditional Chinese medicine.

In conclusion, I met Master T. T. Liang in Boston, Massachusetts about 40 years ago. He was a beautiful old Chinese guy, probably in his late seventies. He and William C.C. Chen, a student of Ch'eng-Man Ching, were my teacher's teachers. Master Liang made many interesting observations on Taiji, including that it took him more than twenty years of practice to discover qi and eventually you have to make the forms you practice your own. He wrote that for the first part of one's life one should be a Confucian, the middle part a Taoist, and approaching the end of one's life one should be a Buddhist.

Only many years later did I learn that when Master Liang was in his early 40s in China, medical doctors told him he had at most 2 months to live. Opium addiction, prostitutes, cirrhosis of the liver, a virulent STD and shoot-outs in alleys with Chinese gangsters had graced his younger life. Upon receiving his prognosis he then resumed his former practice of Taiji and quit his job as a Chinese customs official in Shanghai after deciding that he was making too much money. Subsequently T.T. Liang wrote many scholarly books on Chinese philosophy and Taijiquan and lived to the age of 102, from 1900 – 2002.

Bibliography

Taijiquan – The Art of Nurturing, The Science of Power, by Yang Yang, Ph. D., with Scott A. Grubisich. Zhenwu Publications, Champaign, Illinois, USA:

http://www.chentaiji.com

The Way of Energy: Mastering the Chinese Art of Internal Strength with Chi Kung Exercise, by Master Lam Kam-Chuen, Gaia Original Paperback

Qigong Meditation, Small Circulation, by Dr. Yang, Jwing-Ming
YMAA Publication Center, Boston, Mass., USA

Simple Qigong Exercises for Health,Eight Pieces of Brocade (Ba Duan Jin),
by Dr. Yang, Jwing-Ming, YMAA Publication Center, Inc., Wolfeboro, NH, USA

A flock of crows squawks

Just outside my back window.

Could it be May-Tzu?

Supermoon

Kevin Langdon

From Wikipedia:

A supermoon is the coincidence of a full moon or a new moon with the closest approach the moon makes to the Earth on its elliptical orbit, resulting in the largest apparent size of the lunar disk as seen from Earth.

My wife, Virginia and I live in Berkeley, on the west side of the East Bay Hills.

To view the supermoon on Monday, November 14 we drove down to a high school running track with a good view to the east, around 6 PM in the evening. The supermoon was supposed to rise at 5:40—but that was without taking the hills into account, so we were still early.

There were still a few people running around the track. We saw their flashlights as points of light across the track.

The first sign of the supermoon was a glow over the hills. A few minutes later the limb of the moon appeared, a bright horizontal streak right at the hilltops.

The moon rose quickly. It was very large and bright. As it rose further up in the sky it brightened, which makes sense as it was passing through less of earth's atmosphere to reach us, but it also appeared to get larger.

We watched for about half an hour, took a few photos, and then went home. I was happy to have seen this unusual event.

Tuesday night I drove to San Francisco and back. On the way back I saw the moon again, still very large but veiled by fog.

And Wednesday night it was clear again and the moon was still big and bright.

Interview with Rick Rosner by Scott Douglas Jacobsen (Part Seven)

November 8, 2014

ABSTRACT

Part seven of eleven, comprehensive interview with Rick G. Rosner. Ex-editor for Mega Society (1990-96), and writer. He discusses the following subject-matter: The United States of America leading the world in science, technology, and innovation, strange situation for the 21st century, possible continued decline of America, example from Britain in the 1930s, news sources and liberal leaning, and possible contexts for the continued flourishing of the United States; descriptive capacity of the principles of existence, functional truth of principles of existence, and speculation on their inhering in reality; philosophers' idea of logical possibility mirroring self-consistency, extrapolations of nested universes, the possible limit to minds/mind-spaces and their respective armatures, universe's ability to handle contradiction, correlation establishment between two particles through close proximity and emission of energy, widespread contradiction would appear as loss of information, "spooky action at a distance" of Einstein, consideration of an infinity of mind-spaces, assumption of no maximum-possible size for an information space, constrained perspective akin to Plato's Cave, possibility of the universe finding a way to communicate with "its minions," thoughts on writing a "big ol' space opera-ish SF novel," 10^{80} particles in active center of universe (with possible multiplication by 10^3 for all collapsed matter at T = 0), a hypothetical 10^{10} step down each rung of the mind-space ladder making our universe 8 rungs from the bottom of an infinite ladder, possibility of blackish holes being the visible outputs of larger processors, and considerations of the universe containing itself acting as its own armature; Frank Drake, *Drake Equation*, extensions of the *Drake Equation*, contents of the Milky Way galaxy, Matrioshka brain out of a Dyson Sphere thought, Fermi Paradox; thoughts on Goldilocks Zone for universes existing with caveat of Occam's Razor; infinities in informational cosmology, metric of minds and metric of the uni-verse, lack of infinities in information cosmology, and list of possible metrics; modern cosmology, common sense, and informational cosmology on 'empty space'; formulations of modern cosmology and informational cosmology in relation to bidirectional time and the arrow of time, and a scenario for a time-asymmetric process; other scenarios of a time-asymmetric process; summarization of discussion on informational cosmology with respect to equivalence of minds and universe, and complementary fields of informational cosmogony and eschatology; informational cosmology in relation to particles, dark matter and dark energy, gravitation and collapsed matter, and additional elements; blackish holes equal universe's memory, with thoughts on possible functions of other astronomical objects such as solar systems, gas giants, galaxies (e.g., Barred spiral galaxies, Elliptical galaxies, Irregular galaxies, Lenticular galaxies, Ring galaxies, Spiral galaxies, and so on), galaxy filaments, galaxy clusters, galaxy groups, galactic superclusters, quasars, blazars, seyfert galaxies, stars (e.g., A-type, B-types, F-type, G-type, K-type, L-type, M-type, O-type, T-type, peculiar, barium, neutron, hypergiants, and so on), stellar groupings, variable stars (e.g., cataclysmic, eclipsing binaries, eruptive, pulsating, rotating, and so on), circumstellar matter, accretion discs, star systems, meteoroids, interstellar medium, comets, satellites, stellar streams, asteroids, planets, intergalactic space, dwarf planets, cosmic microwave background radiation, proplyds, open/globular clusters, nebulae, and voids; discussion on

derivative fields of information-based cosmology including chemistry, biology, psychology, economics, and other fields amenable to the information-based program of research, and influence on education and entertainment; and everything related to informational cosmology in context.

Keywords: arrow of time, bidirectional time, blackish hole, dark energy, dark matter, Einstein, empty space, gravitation, infinity, informational cosmogony, informational cosmology, informational eschatology, innovation, isomorphism, logical possibility, Mega Society, mind-space, Occam's Razor, Plato's Cave, Rick G. Rosner, science, technology, The United States of America, universe, writer.

70. The United States of America continues to lead the world in technology, science, and innovation. America persists in its descent relative to other nations on the world stage with respect to these three domains too. In part due to the disjunction between the level of scientific literacy of the general populace and scientists, not limited to any particular area, this trend persists across scientific disciplines, with representative statistics and data collected, collated, and presented by organizations such as the Pew Research Center and *Smithsonian* magazine. Moreover, this pattern appears to have continued at about the same rate for many, many years.

We have a strange situation. In the 21st century, nations with the desire to thrive need their populace capable of critical thought without restriction to particular domains. Some countries will not warm to this prospect. Information does have easy access. Some countries' leaders work towards active suppression of this activity – to deprive the populace of basic information. Others will have increased probability of flourishing with allowance of free-flow of information and education. No doubt expedited by internet and computers.

Some interesting emergent ideals in society with increased information. Information for self-education turned into superficial knowledge – not by necessity deep knowledge-based networks of comprehension. Although, the possibility for such self-education might develop more general algorithms for critical thought – more important than base knowledge. With many countries inundated with information, such as the United States, I suspect some resentment from the scientific community on this matter of the general population's scientific ignorance, with public outreach partaking of the more positive side of concern in this statistical phenomenon.

Not an easy task for a whole populace to develop sufficient skills, faculties, and knowledge; it might lead to a modified form of anarchy with implied continuous dismantling of unjustified authority. Some might welcome the prospect; some others might not welcome it. Insofar as the trajectories of collected information might predict the future with increasing accuracy based on the nearness to the present, these do not, and especially in further, and further, extrapolations, mean fate or destiny of a nation. If aware and proactive, positive itineraries for society can continue with many negatives avoided or circumnavigated.

Flash back to the 1930s; one could argue for Britain's decline due to the great minds entering into disciplines of finance rather than sciences. Rather than generating new wealth through innovations in technology and science, smart people funneled into finance. They dealt with existing money rather than generating wealth through innovations in technology and science. America's decline appears to reflect this in some ways.

If innovation grinds to a sufficiently slow pace, America seems geared to become a technical nation with technology – plenty of technical support work – while lacking innovation into new frontiers through scientific machinery, methodology, discovery, and subsequent application for new machinery and methodological refinement – at least in prime leadership status with regard to these aspects of nation building and wellbeing. How best to stop this possible historical pattern of societal innovatory decay connected to dissolution of the US?

Fixing society isn't really my field. Plus, you should know I watch a lot of MSNBC (balanced a little by CNBC) and read HuffPo, Salon, and Slate and only occasionally Drudge. I lean liberal. At the same time, I'm not stupid. (Though maybe not as smart as I'd like to think.)

A great strength and a great vulnerability of the United States is our population of nearly a third of a billion. Only China and India have larger populations (much larger). Our population, our standard of living and our level of education give us the resources to innovate. But on the other hand, a large population means we have tens of millions of yahoos. And for the past 30 or 40 years, cynical conservative think tanks have studied and learned how to mobilize low-information voters. There's always been a strain of angry dumbness in American politics, but the size of our population, the persuasive power of the internet and TV, and the amount of money devoted to persuasion have made dumbness in politics a more potent force than ever before.

Plus, the pace of change is genuinely weird and scary. If you're conservative or if you're old or even if you're not, you find the world an increasingly strange place. The world hasn't gotten so crazy so fast since the run-up to World War II. But WWII ended – the current acceleration of change won't.

Here are some things that could happen which would help the US continue to lead in innovation:

Science-denying conservatives lose political power. This could happen as a result of demographics and/or growing disgust. Roger Ailes, who runs Fox News, is 74 and fat. What, if anything, happens when he's no longer able to run it?

Competition with China and India heats up. During the Cold War, competition with Russia drove science education and quite a bit of publicly funded scientific innovation. Or we could productively partner with China or India.

The means of innovation continues to decouple from governmental support. The more people can innovate on their own, the more it doesn't matter if government continues to suck.

There's a biotech revolution. As biotech becomes more effective, providing people with extra decades of (healthy) life will become the biggest industry on earth. And the US has the largest group of consumers able to afford it.

Damage to the planet becomes an urgent concern.

So what can people do to help the US remain competitive?

Stay current – understand and embrace technology and change. The world's gonna change with or without you. Be part of it, even if it's scary. Because even scarier is living in some change-denying backwater and dragging down the rest of the country with you. Make reading about new technology part of your daily routine.

Sell the positive. Conservatives sell fear to people who are intimidated by change. Win people's hearts and minds with cool, fun tech.

Be healthy and don't die. Change-avoiders and the ignorant have unhealthy lifestyles, don't educate themselves about healthy change, and die off sooner. Don't be them.

71. We discussed the descriptive capacity of the principles of existence ("laws"). All describe an aspect or function of universe. Functional truth provides confidence for operational utility. What about deeper? Principles of existence describe universe. They must inhere in it too. Why "must" they inhere in universe? Plain and simple: principles of existence describe universe's operation. They map reality. They must map *onto* it because of operating *in* it. Correspondence warrants containment. Otherwise, an inaccurate map. How do principles of existence inhere in reality?

I suppose, without knowing the math of the quantum mechanics behind it, worlds that can't exist – that are self-contradictory – decohere – expand into nothing. I'm guessing that in a quantum computer, only the consistent solutions are coherent – they exist. Universe probably works the same way. Things that can exist, do, thorough consistency (and only get blurry to the point of non-existence at the edges). Which I guess is the same way of saying that universes are pockets of deep consistency.

But it's not as if rules were set up at the beginning and the universe was built like a Lego set. It's more like what turns out to be consistent gets to exist and enjoy an increased likelihood of continued existence. And it turns out these consistent worlds embody consistent systems, which don't exactly pre-exist the universe but which are highly consistent across universes. The universe defines, reveals and refines the principles of existence as it goes along. These principles are mostly the same across universes. But they're not used to build universes. It's just that universes that don't have them can't exist. It's bootstrappy and at the same time reflective of some unavoidable principles.

72. Philosophers have an idea of utility here: logical possibility. "Logical possibility" parallels "self-consistency." Logical possibility comes from philosophy; self-consistency from pure mathematics and derivative fields – as preliminarily discussed in Part Three and Part Five.

Conceptual or generalized self-consistency entitled logical possibility. Opposed by self-inconsistency and logical impossibility. Banal examples of logical impossibility include a "married bachelor" or "square circle." Either a bachelor or married, but not both; either a square or a circle, but not both. You see the point – generalized consistency.

Universe contains self-consistency, and therefore pertains to logical possibilities. It exists. Translation: universe does not net self-contradict. Net self-consistency equates to logical possibility meaning allowance for universe to exist. A circuitous path to hyphenated terms "self-consistent" or "self-consistency" once more.

It sharpens the construct of "universe's armature." Universe's framework must have logical possibility. Same for universe, minds' material frameworks (brains), and minds in universe. All require self-consistency in an information-based perspective.

Self-consistent structures derive from logical possibility because of logical possibility applied internal to them. "Logical possibility applied internal to them" means "intrinsic components and interrelationships remain logical." Part Five's definition of "system without self-contradiction" – broadened in Part Seven to "system without net self-contradiction" – harnessed technical and concrete definitions.

Far from blunting the definitional lapidary tools of this gem, we further refined as proper artisans. "Logical possibility" equates to maximal generalized definition of "self-consistency." It applies the most general system of reason: logic. Logic consolidates dominance of one discipline: philosophy. To the consternation of some, it reigns here. All else derives from it.

Additional issues pertain to brains and minds with self-consistency and self-consistent relationships – likewise for armature and its universe. Furthermore, the self-consistent nature of the four major conceptualizations in informational cosmology at present – armature, universe, minds, and brains – converge to less and imply more.

Convergence of four major conceptualizations. Brains necessitate minds; armature necessitates universe. No brain, no mind; no armature, no universe, minds emerge from brains and universe emerges from armature. Each reflects the other. Brain means armature; mind means universe.

Insofar as definitions and isomorphism permit, the four primary objects of informational cosmology converge brain into armature and mind into universe with

differences in capacity. Four objects reduced to two. Correspondence to such an extent to permit the convergence of two pairs of ideas with implication of an emergent or necessary construct. One structure-pair, brain and armature into armature alone; another function-pair, mind and universe into universe alone; necessary construct of mind-space from armature/universe.

Ergo, informational cosmology contains two major conceptualizations: armatures and universes. Four reduced to two major conceptualizations with emergent respective mind-spaces from armatures and universes. All net self-consistent – without net self-contradiction – and information processing.

Implication of nested relationships with the possibility of an infinite vertical regress of mind-spaces. A simple nested system of self-consistency with armature and universe connected by information processing. An informational cosmological nested system with primacy of structure from armature, primacy of function from universe, and primacy of construction from mind-space. Armature produces universe; universe derives from armature; and mind-space constructed from respective armature and universe. All connects to argument for universe as consciousness endowed system or mind because of net self-consistency and information processing.

In conditionals: if isomorphic geometry between brains/minds and armature/ universe, and if brains imply minds, and if armature implies universe, then these equate in definition and differ in magnitude. Implication of universe as mind bound by armature further extrapolating into another armature and universe, or brain and mind. These mean nested systems and interrelationships among these systems.

Insofar as our universe operates (and other universes of logical possibility operate) within principles of existence equating to mathematical descriptors (symbol systems) and respective evidential bulwarks (symbol systems mapped to scientific evidence), armature for universe external to universe equates to *nested universes within respective armatures*, within further universes within respective armatures *und so weiter*. Armature and universe contain self-consistency and information processing.

If I may, this recapitulates earlier arguments with important extrapolations and subsequent adjunctions. Minds within universe and universe have identities with one another based on isomorphic geometry. By implication, universe contains operation and traits analogous to individual localized minds within itself, and therefore – and further – universe equates to a mind in philosophic *and* scientific terms (as an aside).

Evidence from cognitive neuroscience would bequeath reasonable grounds for extrapolation about universe. This defines the new disciplines. Informational cosmogony, informational cosmology, and informational eschatology describe the beginning, development, and conclusion of universe and other universes of logical possibility. Study of every logically possible armature/universe relationship,

interrelationship of all armatures/universes, and their respective mind-spaces for each.

Furthermore, universe represents operation of an armature; all minds (consciousness endowed subsystems within universe) have containment within universe. If localized minds and universe have isomorphic operations (through time) and traits (self-consistency and information processing), and if localized minds (consciousness endowed subsystems within universe) have armatures (brains), then universe must have an armature (unknown equivalent of "brain").

Moreover, this validates contemplation on armature for universe too. You know the likely apocryphal yarn of the woman stating "Turtles all the way down." Nested universes and respective armatures mean the prior argument extended into an indefinite number of iterations without grounds for reasonable cessation.

In more formal terms, if brain/derivative armature equals A_1, its mind equals M_1, armature for universe equals A_2, universe equals M_2, and if these have isomorphic operation – through time – and traits – self-consistency and information processing, and if A_1 and M_1 have containment in A_2 and M_2, then A_2 and M_2 should have containment in an unknown A_3 and M_3, and these in A_4 and M_4, and so on. Each A_n and M_n constructing their respective mind spaces, S_n. Charles Lutwidge Dodgson (Lewis Carroll, *Alice's Adventures in Wonderland*) would smile.

What does this mean for an indefinite iteration of minds/mind-spaces? What else do you argue for informational cosmogony, cosmology, and eschatology? How far does the regress of minds continue? In other words, how far does the proverbial 'rabbit hole' persist with respect to minds/mind-spaces and their armatures?

First, about contradiction – the universe can handle quite a bit of it. Processes in the active center – fusion, the creation of life – involve the creation of information and order, the emission of energy and the settling down of protons, neutrons and electrons into lower-energy states. The active center is reshuffling and compactifying itself by finding relationships among particles.

When two particles establish a relationship/correlation by coming into proximity and emitting energy, the emitted energy serves as a contradiction check with the rest of the universe. Say an electron is captured by a proton, or an electron already in orbit around a proton falls to a lower orbit. A photon is emitted. As the photon traverses space, it's announcing, "There's been a status change," and asking, "Does this necessitate a change in the status of other particles?" If the photon is absorbed by another particle, that says the initial change in status required a change elsewhere. If the photon isn't absorbed locally, it travels farther and farther, losing energy to the curvature of space, which means it's losing the ability to create change elsewhere. As it travels across billions of light years to the edge of the active center, it's lost almost all ability to cause a status change in another particle or set of particles. It's as if it's performed a universe-wide contradiction check. Its energy has been lost to space, slightly increasing the precision with which

space is defined. 1. Status change between particles with the emission of a photon, asking, “Everybody cool with this, or is it gonna cause a blip?” 2. Photon crosses space – blip of absorption if this necessitates a status change elsewhere – a mini-contradiction – no absorption if no problem. 3. After traveling for billions of years, photon has lost almost all energy to space, and a little bit of additional order has been created.

Widespread contradiction would look like the loss of information. Blasting a part of the universe with a bunch of energy would destroy its order and information. Information lost in a leaky blackish hole would be lost to heat energy – matter would collapse, heat up as in a Big Bang run backwards, and relationships among particles would be cooked away. An entire universe that’s losing information is doing so by heating up. It shrinks, the Cosmic Background Radiation increases in temperature, making it more disruptive. Information and order are lost.

We could also look at “spooky action at a distance,” as Einstein called quantum correlations which apparently travel faster than light. A photon emission and capture is a handshake between the present and the future, (Except for the photon itself – photons, traveling at the speed of light, never see any time pass. They exist in an eternal present of zero duration.) (The Einstein-Podolsky-Rosen experiment – a thought experiment prompted by Einstein’s loathing of “spooky action” is a linked pair of handshakes between present and future.) The history of the active center of the universe is, in part, the systematic arrangement of these handshakes to minimize their duration (a minimization in time and space). Cause-and-effect, non-contradiction, space itself and time itself might be consequences of or at least accompaniments to this systematic arrangement. Every handshake is a contradiction and a link in a mesh of cause-and-effect, a mesh that tries to maximize the handshakes’ localization and predictability.

Now for the infinite stack of mind-spaces. If every mind-space requires an outside armature that is itself located in another mind-space, then this implies an infinite chain of mind-spaces and armatures. (The chain can terminate at the small end – you can have a mind-space that’s so small that it doesn’t include the armatures for any smaller mind-spaces.) Infinities are troubling, but at least the infinities associated with mind-spaces are aleph-null, the lowest degree of infinity – the infinity of the counting numbers. This assumes that each mind-space can be described finitely – that it doesn’t have unavoidably infinite gradations of anything.

I’m assuming that there’s no maximum-possible size for an information space and that everything that exists does so as part of (or all of) an information space. These are big assumptions, but fine for a short discussion. If there’s no limit on size, then there’s no immediately apparent insurmountable problem with an infinite chain of mind-spaces within mind-spaces.

It’s not like we’ll ever see all the way up the stack of mind-spaces. (Our constrained perspective make’s Plato’s Cave look like a view of a 100-inch high-def flat-screen slice of raw, unmediated reality itself.) But it’s not unreasonable to imagine that the universe might figure out a way to communicate with its minions in its mind-space and tell them

what's what. It'd be nice to know what the universe is the mind of, and it might be helpful for the universe. Most likely to know are the ancient civilizations possibly hanging out at the centers of galaxies. They might officially be working for the universe, helping it do its mental business (with greater precision).

If I were going to write a big ol' space opera-ish SF novel, it would concern humanity's attempt to travel to the center of the Milky Way, to find out what's going on, but stealthily, so we don't get swatted down by the big, old civs.

The universe has about 10^{80} particles (in the active center – maybe multiply that by 10^3 to include all the collapsed matter around T = 0). The million-stellar-mass black(ish) hole at the center of the Milky Way might have about 10^{64} particles, which might be the armature for a mind-space of 10^{60} particles, a step-down by a factor of 10^{20} between the mind-space of the universe and the biggest mind-space in the universe, unless the central black hole has more information on the inside than is apparent from the outside. So just for fun, figure there's an average step-down of only 10^{10}. Even with that fairly small step-down, our universe is only about eight rungs from the bottom of an infinite ladder. Unless . . .

. . . blackish holes could be just the visible outputs of possibly much bigger processors. Could be – quite likely is – that information-spaces can contain information outputs from information-spaces much bigger than themselves. I guess that doesn't really affect the laddered hierarchy – the armature of the complicated processor is probably part of the same external universe as the armature of the mind-space it's feeding information into. Anyhow, our universe, big as it is, is very close to the bottom of the ladder of universes within universes. Things get really big if there's no governor on the size of things that can exist.

Not that such hugeness is visible to us – we're thoroughly a part of our fairly small universe, and furthermore, we're a product of a single long moment of the universe. We'll need luck and great leaps forward in complexity and understanding to survive as a civilization beyond this moment.

Can a universe contain itself – be its own armature and thus avoid the infinite ladder of universes? I don't see how. (But of course I know almost nothing.) The mind-space would be minding just itself, self-referentially shielded from any reason for existence. Even if you could have an information-space that's equivalent to its armature, wouldn't that armature need to be a material presence in an external space?

73. Frank Drake proposed an equation mapping onto the probability of extraterrestrial/alien life with active radio communication technology. A widely-accepted probabilistic metric of advanced civilizations. Moreover, one can remove the additional specifications of the theory for estimations of lesser, and lesser, degrees of advanced life. He proposed a single equation to distill the probabilities:

$(N=R^* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L)$

Each in brief:

- **"N" means "The Milky Way galaxy civilizations with detectable electromagnetic emissions."**
- **"R*" means "rate of star formation acceptable for intelligent life's development."**
- **"f_p" means "fraction of stars with planetary systems."**
- **"n_e" means "planets per solar system with acceptable habitat for life."**
- **"f_l" means "fraction of acceptable planets with certain emergence of life."**
- **"f_i" means "fraction of acceptable planets with certain emergence of intelligent life."**
- **"f_c" means "fraction of civilizations with technology capable producing detectable signs in space."**
- **"L" means "life span of f_c in intelligent life and their civilizations."**

Most expert critiques consider the last four variables hard to measure. It may seem complicated, but each new variable builds, i.e. specifies, on prior variables. You simply follow the steps. If one removes "f_i", the equation produces probabilities for emergence of life rather than intelligent life. Duly note, if you remove one variable, you effectively remove subsequent numbers of higher specification. Latter variables build on former variables in specification.

In universe with ultra-deep cosmic time and multiple unfoldings through tremendous numbers of "little bangs" rather than one "big bang" based in neutron cycling, how does the *Drake Equation* operate?

In my humble consideration of Drake's venerable work, not an expert, but he did not seem to extrapolate far enough – do not know of others. I consider two additional variables of substance. He limited "N" to The Milky Way galaxy. Another variable needs inclusion based on best estimates of galaxies with habitable life. Galaxies might have a "Goldilocks Zone" akin to range of planetary orbits suitable for the development of known kinds of life. Rate of life-permitting galaxies labelled "G*" in a *Drake-Jacobsen Equation* for our universe. New formulation becomes the following:

$$(N=G^* \cdot R^* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L)$$

One might include an additional variable on life-permitting universes too. "U*" for the rate of life-permitting universes in the total set of logical possibilities of universes. With the first addition of "G*" in the modified equation, we produce a modified "N" meaning "galaxies containing civilizations with detectable electromagnetic emissions." In the second addition, we produce a further modified "N" meaning "set of logically possible universes containing civilizations with detectable electromagnetic emissions." The second extrapolation of the formulation becomes:

$$(N=U^* \cdot G^* \cdot R^* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L)$$

Moreover, the non-arbitrary definition of "detectable electromagnetic emissions" – as an adaptation of Drake's definitions – does narrow the range; however, we do not know the precise forms of life, if indeed it exists beyond the DNA-based, and the expression of intelligibility including those outside of the use of technologies with detectable electromagnetic emissions. One need merely redefine the former variables appropriately – in a self-consistent way – to extrapolate on a more specified or less specified definition of extraterrestrial intelligent life with detectable activity. If Drake can string assumptions together and name a formula after himself, then I can string assumptions together off Drake's and adapt various forms of a *Drake-Jacobsen Equation*.

How might the *Drake Equation* work in an informational cosmology view?

The Milky Way contains at least 100 billion planets. There's nothing so untypical about our solar system that we can't imagine similar conditions existing on many millions of other planets in our galaxy, not to mention the more than 100 billion other galaxies in the universe. Informational cosmology suggests that it's pretty hard to avoid the creation of life and, eventually, thinking organisms.

Thought isn't this magical thing the creation of which requires the touch of a wand from on-high. Thought is flexible information processing which can bestow evolutionary advantages. In the random spread of organisms to occupy evolutionary niches, the niche of thought has likely been occupied on a multitude of different planets.

And once occupied, the niche probably doesn't get unoccupied. Yes, we're fucking up our planet. But we're not fucking it up so terribly that we won't be able to fix it. We're about to enter the era of smart everything. I remember when, in 1974, my family's first computer chip entered our house in a primitive four-function calculator. Now, our home contains at least a dozen computers or computer-like devices with trillions of times the computing power of that first chip. And that's nothing – we're far from the limit of Moore's law. In the past 50 years, the cost-per-calculation has dropped by something like a billion-fold, and it will keep dropping. We're about to be surrounded by computation, and we'll increasingly merge with our computing devices.

This has probably happened on some crazy number of planets. Recent science fiction has it playing out like this – an advanced civilization devotes increasing amounts of resources to computing, eventually dismantling entire planets to build a shell around its sun – a Dyson sphere – or multiple shells – a Matrioshka brain –
https://en.wikipedia.org/wiki/Matrioshka_brain
– to capture more energy for computing.

Computing might be the answer to the Fermi Paradox. (With regard to space aliens, Fermi asked, "Where is everybody?") If it's more profitable in terms of knowledge to stay home for the most part and devote resources to computation and simulation, civilizations will stay home. It's not computationally efficient to have a far-flung galactic empire because the speed of light puts a speed limit on communication. Better to build

your empire around a single star, where the exchange of messages will take hours at most rather than years. And once you outgrow your Matrioshka brain, maybe you set up shop around or in a blackish hole, which gives you a bunch of matter in a much smaller space for faster communication and computation.

There's no non-weird answer to the question of aliens. No aliens anywhere? Weird. Aliens? Weird! Aliens colonizing space? Weird. Aliens not colonizing space? Weird. But everything is weird. We're on a ball of rock orbited by a smaller ball of rock which both orbit a huge ball of hydrogen atoms undergoing fusion? Weird. Weirdness is a less-than-reliable guide to the validity of a theory.

In a Big Bang universe, it's unlikely that there aren't a bunch of civilizations a million years old and more. Unless something consistently wipes out civilizations, which would be weird. Or civilizations link up or are colonized into super-civilizations extending across swaths of the galaxy. So the question becomes, what does a civilization do for a million years or ten million or a billion? I'd guess that there's some principle that the number of interesting things to do increases along with the computational power of your brain (or your brain plus your super-computing add-ons). Otherwise, you and your civilization would go nuts from boredom.

In an informational cosmology universe, civilizations could survive for longer than the apparent age of the universe. You could have civilizations tens or hundreds of billions of years old or more. I'm guessing that if this is the case, then such civilizations are very involved in the business of the universe. They have a good idea of the universe's objectives, and they help with its operations. A big, old, highly organized universe might include highly developed technicians. Kinda doesn't make sense that it wouldn't.

I imagine that, among other things, long-lasting civilizations might be able to manipulate quasars to hose down dormant galaxies with neutrinos, awakening those galaxies. (Can also imagine this might be wrong and dumb.) Can't imagine how a civilization or entity could persist for 100 billion years without going stir-crazy, but it has 100 billion years to figure out fun things to do. (A hundred billion years is the ultimate endless Sunday afternoon.)

74. What about the Goldilocks Zone for universes existing?

I don't think there's any optimum size for a universe, except that really tiny, fuzzy ones are on the borderline of existence. And to have creatures inside it that can speculate about the universe, you need a universe of a certain hugeness, though such creatures aren't essential – they don't grant the universe existence by observing it. The universe observes itself. (That is, the matter in the universe defines itself through its interactions.)

If every universe is an information-space supported by an armature in a universe external to that information-space, that implies an endless chain of universes, each with an external armature supporting it. This is disquieting – we live in a huge universe, which is supported by an even larger external universe, etc. Seems like Occam's Razor might

scoff – "Your concept implies an infinity of universes, each one more gigantic than the one before? That's simple – not."

75. What role do infinities play in informational cosmology? How about metric of minds? How about metric of universe?

I don't think there are infinities in informational cosmology. I think everything's the result of a finite number (though often fantastically huge) of interactions in finite though tremendous time and space. Fuzziness and the finite nature of information save us from infinities. For instance, you can't get two particles close enough together to have infinite gravitational force between them – their fuzziness means they can never have zero distance between them – it's impossible to specify distance with infinite precision.

To indicate the size of an information-space, there could be various metrics – total number of particles, apparent age, apparent size, scale – the DeBroglie wavelength of a proton compared to the average distance between protons, maybe even the proton-electron mass ratio or the number of levels in the hierarchy of clustering (solar system, galaxy, galactic cluster, supercluster).

76. Modern cosmology found 'empty space' weighs something. Common sense might think empty space weighs nothing. In informational cosmology, does apparent empty space weigh something or nothing? Does empty space contain something or nothing in informational cosmology? Does 'empty space' suffice for a proper title?

Common sense believes that nothingness is the natural, default state, and that anything else requires an explanation. In actuality, everything including nothingness requires an explanation, and nothingness is a very unlikely state.

I don't know if space weighs anything. In informational cosmology, space has to be specified – given shape and scale and size by the relationships among the matter it contains. Don't know if this implies that it has weight. Apparently empty space does have a lot of stuff in it – zillions of photons and neutrinos crossing every cubic centimeter of space all the time. And space is bubbling with virtual particles which are probably part of the universe's bookkeeping, in that virtual particles reflect relationships among actual particles. So empty space isn't empty.

Two of my ideas in particular need to be mathematicized and put into an overall system of how the universe defines itself – that protons' and neutrons' relatively heavy masses have to do with the amount of collapsed matter in the universe, and that space in the active center is further defined by interactions among charged particles.

The exchange of distance-traversing particles – photons and neutrinos – defines and organizes space via Hubble sorting – giving clusters of matter their own unique apparent velocity vectors.

When I was working at Anthony's Gardens, at the time America's biggest outdoor bar, in the 80s, one of the other bouncers, Larry Reimers, a tough, competent Vietnam vet, would break up fights using spatial sorting. Instead of grabbing people who were brawling, he'd walk into the middle of the tussle and shove everyone in different directions. The brawlers would stumble several steps backwards. Continuing to shove drunk idiots as they tried to get at each other allowed Larry to handle fights that otherwise would've required more bouncers. (Not being as competent or as brave as Larry, I'd come up behind a single brawler and try to put him in a sleeper hold, which I didn't know how to administer – nobody ever went to sleep. I'd grab the guy around the neck. Customers would scream that I was choking him, so I'd let go, and then he'd turn around and hit me, so I'd put him in an incorrect sleeper hold again.)

The universe sorts itself out by exchanging particles. Over billions of years, particles' kinetic energy is translated into Hubble sorting – large-scale structuring (and, I suppose, indexing – with the structure allowing for retrieval of information when needed). A photon traversing the universe loses its energy to the curvature of space (the universe being one huge gravitational well). But the loss of this energy helps define space, so the lost energy is turned into order. (Hence, no entropy on a universe-wide scale.)

The collapsed matter hanging out in collapsed space close to T = 0 is Hubble sorted – relativistically segregated. It doesn't all coalesce into one big blob. Every collapsed galaxy or cluster has its own unique Hubble vector, with all the vectors separated by what must be, in that neighborhood, a pretty severe (equivalent of a) cosmological constant.

77. You provided extensive discussion of informational cosmology. I formulated modern cosmological and informational cosmological conceptualizations rooted in information theory from Shannon and Weaver (1949) in one question for each:

- **In modern cosmology, we ask, "What if the contents of the universe equals input, process equals laws plus time, and output equals transformations of the contents (e.g., particles, fields, forces, and so on) of the universe?"**
- **In informational cosmology, we ask, "What if bit units of universe equal input, process equals principles of existence plus time, and output equals transformations of bit units of universe?"**

How does the former relate to bidirectional time? How about the latter?

The arrow of time should point into the future whether we picture the universe as a thinking entity or only as a set of physical processes. The arrow of time should make sense when thought of from both points of view. For the physics to have a time arrow, you might need to have time-asymmetric processes. On a large scale, we have these. Physical processes are only reversible across small distances. Traversing millions of light years, neutrinos and photons lose energy to the curvature of space, energy they wouldn't get back if you bounced them off of a mirror and sent them back where they came from.

This is true for a uniform Big Bang universe (everything's the same everywhere) and even more so for an information-based universe, which isn't spatially uniform, with most of its collapsed matter hanging out in its smallish outskirts, making the collapsed outskirts much less transparent to neutrinos than the active center. Neutrinos are created through fusion in the active center and travel largely unimpeded to the outskirts. It's a large-scale, one-way process. It doesn't work in reverse.

Are large-scale one-way processes sufficient to propel the arrow of time? Does the arrow of time need to be propelled, or is the entire idea of the potential reversibility of time a misconception based on thinking of physics as a set of small-scale reversible processes? I don't know.

Though small-scale individual physical events can be run in reverse without violating the rules of physics, events don't happen in isolation. Events are part of moments. In our minds, moments are what we're currently aware of. This might also apply to the universe itself, but even if not, a moment can be seen as what's currently happening in the universe (from a particular vantage point or in the universe as a whole). Each moment contains information about the present, which includes information about the past (which contextualizes the present) and predictive constraints on the future. Each moment predicts its immediate future. An arrow is built in.

78. What about other scenarios with the possibility of a time-asymmetric process?

With regard to time, I think the biggest question is, if the universe is vastly, wildly ancient, with its Big Bang age only an apparent age, why does the universe look so precisely as if it had a Big Bang? The answer must have to do with the nature of information. (Or with me being wrong. But I'm not.) The active center of the universe is where new information is being formed. Protons entering the active center are new – either they've been created from neutrons in collapsed matter, or they've come from a soup of unstructured primordial matter around T = 0. (I picture space around T = 0 consisting of collapsed galaxies, separated by their Hubble/general relativistic vectors along with a large local gravitational constant, all suspended in a dense primordial soup.)

All the protons are new, though most of them are contextualized by the once-collapsed and now uncollapsing galaxies they're part of. They all enter the active center from close to T = 0. The protons' (and electrons') interactions with each other puff up the space they share in what looks like a Big Bang. Galaxies don't have to all enter the active center at the same time. Since all galaxies enter from close to T = 0, more recently lit-up galaxies look like they're located in part of the universe that's distant from us, so we're seeing them earlier in their existence.

The proton interactions have to start from around T = 0. They have to create the space they're in – the active center, which, as galaxies light up, expands like a Big Bang universe. The protons and their galaxies create information through a shared history that plays out in what looks like a Big Bang – they enter at the beginning of apparent time, and space expands around them.

Some conceptual trouble comes when galaxies burn out. They recede from the active center, which means they're moving backwards in apparent time. I guess this is okay. Observers within a burned-out galaxy would see something like a Big Crunch, I suppose.

The apparent age of the universe could stay roughly the same for a very long time, as newly lit-up galaxies enter from near T = 0 and burned-out galaxies recede back towards T = 0. Or the apparent age can change as more or less business is done in the active center. You could have relatively few galaxies in the active center, with the universe kind of being asleep, or you could have a relative multitude.

79. Let's summarize some of the back-and-forth from our discussion of informational cosmology. We've covered the equivalence of minds and universe; isomorphic operation and traits of minds and universe. Informational cosmology implies informational cosmogony and informational eschatology too. Brain/mind converging into armature/universe. Armature/universe constructing mind-spaces. Possibility of armatures/universes and respective mind-spaces extrapolated in positive magnitude without reasonable grounds for cessation.

You have some primary derivative constructs such as a series of little bangs in a neutron cycle rather than a single big bang for the universe, ultra-deep cosmic time, Hubble Redshift based on information, a flat universe (compared to open or closed). What are the primary elements of the physics you've presented here?

Information in the mind and information in the universe have strong structural and dynamic equivalences. The physics of the universe is analogous to information-processing in thought.

The optimal map of information within a mind-space or information-space has the same properties of the universe – same 4D space-time and same physics.

Consciousness is a technical property of wide-angle information-sharing.

The universe is probably conscious.

The universe extends across ultra-deep time, with the current 14-billion-year or so current unfolding of the universe being a single (computational) moment in a long series of such moments. (The universe can think about more than one thing at a time, and series of thoughts can continuously fade into each other, but shifts in what the universe has under consideration generally take billions of years.) The unfolding of the universe for what appears to be its apparent age is more or less the equivalent of a single thought. The universe thinks many, many thoughts across an ultra-deep span of time.

There's an ongoing series of Little Bangs. The universe didn't explode once, 14 billion years ago. It's been on a rolling boil for a fantastic span of time.

Galaxies recycle, lighting up and helping for the universe's active center, burning out and being pushed to the outskirts (around T = 0), and lighting up again when needed.

The apparent age of the universe is an indicator of the amount of information in the (active center of) the universe.

An information-based universe is essentially flat – it won't expand to infinity or collapse to nothing. The size of the universe is proportional to the amount of information it contains.

An information-based universe appears to have Big Bang mechanics, with all galaxies' (Hubble) expansion vectors apparently originating from a single point, and with a history of proton-mediated interactions stretching back to what is apparently the early universe. There was no Big Bang.

The Hubble redshift is due to the nature of information. Parts of the active center of the universe which have less to do with each other (less information in common) are more redshifted relative to each other.

80. In relation to particles, modern ideas such as dark matter and dark energy, gravitation and collapsed matter, Cosmic Background Radiation, and proton-electron mass ratio, what other elements come from informational cosmology?

The five persistent particles do most of the universe's information-processing and memory-keeping. Other particles are largely helpers and bookkeepers.

Dark matter responsible for the flat galactic rotation curve isn't exotic matter – it's regular collapsed matter – neutron stars, blackish holes – which has survived previous galactic cycles. (There might be issues here with metallicity – heavy elements contained in stars – and absence of microlensing.)

Gravitation is most commonly seen as following the inverse-square law, but gravitation is informational, with the shape and scale of space determined by the distribution of and relationships among particles, which means that on the very largest scales, gravitation probably isn't inverse-square. (It behaves as if there's a cosmological constant.) This may also account for what looks like dark energy. (General relativity addresses the shape of space. It doesn't have as much to say about the scale of space. [I think.])

Probably don't need gravitons. The net result of other types of interactions (electromagnetic, the weak nuclear force – neutrino stuff) probably accounts for gravity without requiring special particles.

The Cosmic Background Radiation is noise/uncertainty. The more organized the active center is, the more CBR is attenuated.

The proton-electron mass ratio is proportional to the ratio of collapsed matter to non-collapsed matter. (Which means it might be proportional to the ratio of neutrons to protons (or, in the case of blackish holes, at least what look like neutrons when observed from outside the blackish holes).) Collapsed matter helps specify matter.

Collapsed matter contains memory of past interactions or other specification mechanisms such as processing of external information (within the collapsed matter).

81. Blackish holes equal universe's memory. What about other astronomical objects? For instances, solar systems, gas giants, galaxies (e.g., barred spiral galaxies, elliptical galaxies, irregular galaxies, lenticular galaxies, ring galaxies, spiral galaxies, and so on), galaxy filiments, galaxy clusters, galaxy groups, galactic superclusters, quasars, blazars, seyfert galaxies, stars (e.g., A-type, B-types, F-type, G-type, K-type, L-type, M-type, O-type, T-type, peculiar stars, barium, neutron, hypergiants, and so on), stellar groupings, variable stars (e.g., pulsating variables, eruptive variables, cataclysmic variables, rotating variables, eclipsing binaries, and so on), circumstellar matter, accretion discs, star systems, meteoroids, interstellar medium, comets, satellites, stellar streams, asteroids, planets, intergalactic space, dwarf planets, cosmic microwave background radiation, proplyds, open/globular clusters, nebulae, and voids, what about possible novel astronomical objects?

Don't think you get quasars without collapsed matter at the center.

Think there are a variety of collapsed matter structures – memory (mostly sits there), sensory information feeds (comes in semi-processed, is a spraying hose of information), reduced information feeds from semi-conscious to unconscious processors (in ourselves, walking, breathing). Also have leaky blackish holes – information goes in, gets lost forever – universe's armature doesn't hold onto it. Would guess that any celestial objects behaving spectacularly are doing something interesting with information.

Also have to talk about the Cosmic Microwave Background, which is basically noise. By organizing itself, universe has managed to reduce its impact. It's like three degrees? So it doesn't have much power to cause heat-based disorder. If it were 100 degrees, it would make it harder for the universe to order itself – stuff would be getting randomly knocked around by stray photons.

Think that any aggregating celestial body is an incipient idea. Bodies coalesce, and as they boil down over billions of years, they become more sharply defined mental objects – representations of fork, cube, tire, movie cliche, messy 2010s hair, shininess, the letter B – lots of fairly specific mini-umbrella concepts. The concepts can feel kind of arbitrary – clustering is choosing. To form one classificatory concept is to preclude others (which doesn't drive them out of existence but which makes them less handily referenced, I suppose).

Black holes aren't black – they're blackish. Their crushing gravitational force isn't as crushing as traditionally thought, because interactions among particles within the blackish hole reduce the scale of space.

Blackish holes store and process information. Most of this information is retrievable

The universe has three spatial dimensions because information is generally limited to holding open – specifying – three dimensions. (Specifying dimensions takes information. Information-in-common/not-in-common with the point of observation specifies the polar axis. Points with the same amount of information-in-common with the point of observation form a sphere (centered on the point of observation).)

The general mechanism for specifying matter and space is Hubble sorting of matter. That is, the more matter that has its own unique apparent velocity or acceleration vector away from other matter (and the greater the vector's magnitude), the more precisely matter is located within space.

Photon flux keeps space open in the active center of the universe. (Alternately, virtual photons keep space open.) In essence, an array of Hubble-shifted protons keeps space in the active center open, making space extra voluminous via the specifying activity of interactions among charged particles. As protons and electrons cook down into neutrons, space starts to close up.

Neutrino interactions are time-asymmetric. (This is within the large-scale arena of the universe – but where else are they gonna interact?) Neutrinos are emitted in the active center through fusion, pass through the active center which is largely transparent to neutrinos, and are absorbed by the collapsed matter at the outskirts (where the neutrinos have been slowed down, increasing their capture cross-section, and where there's a bunch of neutrons close together). Photon interactions are also large-scale time-asymmetric – they lose energy traversing great distances. You can't run that in reverse and have photons pick up energy. Is this enough to specify the arrow of time? Seems like it. Does the arrow of time need to be specified? Probably – some large-scale framework needs to keep all the essentially reversible small-scale interactions in line.

Space seems organized to minimize the total distance traversed by particle interactions. And time seems organized to maximize the number of interactions per unit of time. (This is tricky, because the scales of space and time are self-determined, but still doable. In temporal terms, this means a distribution of events that's as evenly spaced as possible. In spatial terms, it means efficient clustering.) The universe might also be arranged to maximally specify (predict, determine) the immediate future and/or to maximize the information obtained from the immediate future.

Universe as a whole doesn't have to increase in entropy. Energy lost to the curvature of space is translated into increased order (via Hubble sorting).

Protons are units of potential correlation. They act as variables or dimensions, correlating via proximity. When two protons are so near to each other that they're essentially perfectly correlated as a single variable, they fuse, locking down one of the protons as a neutron, with a single proton interacting via charge.

82. What about derivative fields in an information-based cosmology? How do they change? How does this effect fields such as formal sciences (logic, statistics, computer science, systems science, and mathematics), social sciences (anthropology, archaeology, criminology, sociology, psychology, and so on), natural sciences (biology, chemistry, earth sciences, and so on), humanities (linguistics, literature, arts, philosophy, religion, and so on), professions (law, education, divinity, and so on), and others amenable to the information-based program of research?

We can hope this fits into the tech boom which will empower people, make them less stupid, leave politicians in the dust. Of course that's optimistic. But we're at a 100-year low point in American politics. It has to get better, especially as people get less dumb. If it doesn't get better, then America eventually ceases to be a first-world country and turns into a cowboy theocracy. Dozens of SF books present different versions of this, including Margaret Atwood's *A Handmaid's Tale*, Cory Doctorow's and Charles Stross's *The Rapture of the Nerds*.

Understanding that consciousness can be mathematicized is the last major conceptual hurdle to having programs that research all aspects of human physiology. Consciousness has been ignored for being too nebulous, too disconnected from the body. But to truly pursue immortality or even healthy extended living, we have to understand consciousness. Once we understand that consciousness is something we can aspire to work with, that opens up new research angles in what, up to now, has been brain research. Doing brain research without a mathematical model of consciousness is like trying to build computers and software without the benefit of display screens.

Impact on psychology: If you read a lot of brain research, you can get a pretty good idea of how thoughts are assembled. But a model of consciousness that specifically addresses how thoughts might play out in a mind-space gives you a bigger set of tools for observing thought. Minsky's society of mind, built up from simple, mindless mental agents, is a good place to start. But you generally can't observe your mind working at the agent level – they're too small. You can, however, observe different perceptions and half-formed thoughts competing in your mental arena. I can observe my mind battling about whether I should get out of bed or get out of the tub. (Often, it takes me observing, "This lazy battle has been going on too long – I'm just gonna get out of the tub now" to get me out of the tub.) You can watch yourself telling yourself, "I knew that chair was there – why did I walk into it?" Truth is, part of your brain sensed the chair was there immediately before or just as you walked into it, but not soon enough to avoid the chair. You got your chair warning too late, but part of your brain misunderstands it as a timely warning and says, "I knew that was gonna happen." Yeah, you knew it was gonna happen because it did happen, and chatter among parts of your awareness doesn't come time-stamped. Anyhow,

having a physics-based model of mind-space is very handy for understanding the mechanics of thought and memory and subconscious processing.

Impact on economics: In the next century, the world economy will get kicked in eight different directions. Among the things weirding-out the economy will be: accelerating pace of technological change, reduced cost of essential goods, in-home manufacturing, increasing population, destruction of the environment and massive clean-up and preservation projects, changing sources of energy, a biotech revolution, possible epidemics abetted by failure of antibiotics. The longevity business – selling extra years of healthy, somewhat youthful life – will become the biggest industry on earth. But uncoupling consciousness from the human body (beginning 40 to 60 years from now and becoming commonplace by the middle of the 22nd century) will be more economically disruptive than all these other things. Almost all of our economy is involved with the physical needs of the body. Increasing numbers of people will choose to make some of these needs go away. We'll have the human economy fading into the transhuman economy.

Impact on education and entertainment: Eventually we'll have knowledge and expertise on-demand. To the extent that classroom learning continues to exist, it will be for socialization more than for academics. Information and entertainment will be piped into our heads with increasing directness.

You can read about this stuff in good near-future SF novels. Informational cosmology provides a mathematical framework which facilitates making consciousness transferrable, augmentable, fabricatable. It's part of the science fiction world we pretty much know is coming, with a few unexpected technical/spiritual overtones.

83. What does it all mean?

We're out of the habit of pondering metaphysical questions. The universe that science shows us seems to run without purpose. But . . .

The principles of existence allow for large structures – the size of our universe, at least – to exist. It's not necessarily a deep, permanent existence – probably has a finite-though-enormous lifespan and can disappear without a trace. But . . . Worlds that can exist, do exist, belonging to the set of allowed-to-exist worlds – a bunch of present moments. (We only know our present moment, and we don't even know it in some super-deep sense. We only know things in a virtual, "as if we actually know it but we don't, really" knowingness. However, each present moment contains statistically indisputable evidence of the past.) Nothing that we know of exists except in the form of a present moment. These moments can be seen to form chains in that each present moment contains information about past present moments and information that predicts future present moments. Does being part of these allowed worlds – belonging to this set of all that is – give us any sort of satisfying permanence? (I mean, we're woven right into some immutable fabric of what is or can be.) Seems unlikely. This abstract permanence doesn't satisfy any of our real needs – it's just tokens in an abstract set. It doesn't extend our existence beyond its natural, situational limits. But . . .

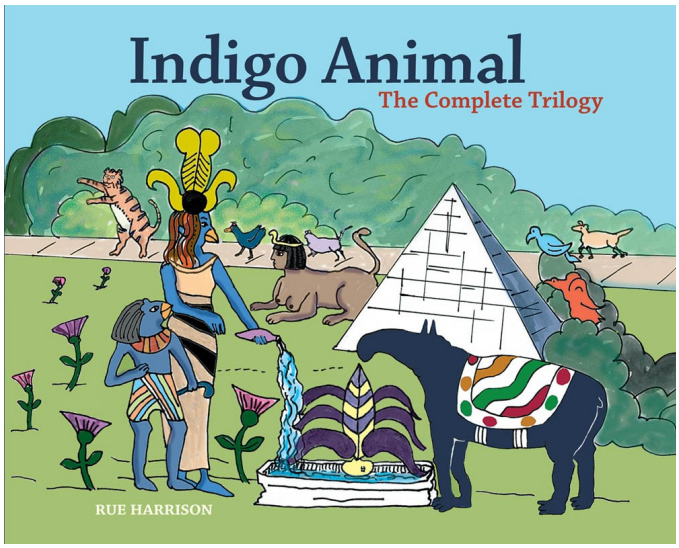
Persistent structures tend to persist. They may not last forever, but they might be able to last for any length of time short of infinity. Structures might be able to grow to any finite size. We've evolved to want to continue to exist. (Beings that don't want to exist probably don't persist so well.) Call that desire to exist the Persistence Project. Belonging to the Persistence Project means adhering to a set of non-nihilistic morals (which function to make continued existence more likely by avoiding destruction and chaos). We have evidence that the Persistence Project works – the universe itself is huge and old and likely to continue for a long time.

It's almost a cliché that each scientific revolution takes humans farther away from the center of creation. Copernicus moves the sun to the center and kicks us to the side. Darwin descends us from fish and dwarfs human history with hundreds of millions of years of deep time. Hubble and Einstein locate us in Nowheresville in a vast universe. And if the universe is some fantastic multiple of tens of billions of years old on a rolling boil, then we've lost even the story of being witnesses to the grand unfolding of the big bang universe. There were a zillion unfoldings before us, and a zillion after. We're a sub-blip in ultra-deep time. But . . .

If consciousness is a technical, not a mystical thing, if it's associated with thorough sharing of information among specialized subsystems – modules – within a self-contained system of information, then it may be found in many places in the universe and may be an attribute of the universe itself. To me, this feels like a small victory versus the vastness of the universe (which keeps getting bumped up in size and duration). Consciousness may be the framework through which the universe perceives itself and exists is an information space.

(Humans have very jazzy, souped-up consciousness – emotionally charged, rich in special effects and value judgments and motivation to take action. Is a quieter consciousness, more of an observer than an actor, not wired for strong emotion, still conscious? That is, is the drama of amped-up consciousness responsible for the awesome, profound, feeling of undeniable existence and solidity of reality that we experience as consciousness? Is consciousness without emotion still consciousness? I think it is (though without oomph) and also think it's hard to drain all emotion and value judgment from consciousness. A pure observer with no preferences is unlikely, and such an observer would still be conscious of what it's perceiving.)

That we can reasonably assume that we share the property of consciousness with many entities throughout the universe can be seen as heartening. It's the way entities do mental business. We each have our story of contending with the principles of existence. And, because persistent systems can be huge and old, we can assume that huge, old persistent systems have found adequate reasons to continue to exist. So, everything considered (including that we currently know approximately zero percent of what we will know), I have guarded optimism about the nature of existence.



Review of *Indigo Animal: The Complete Trilogy*, by Rue Harrison

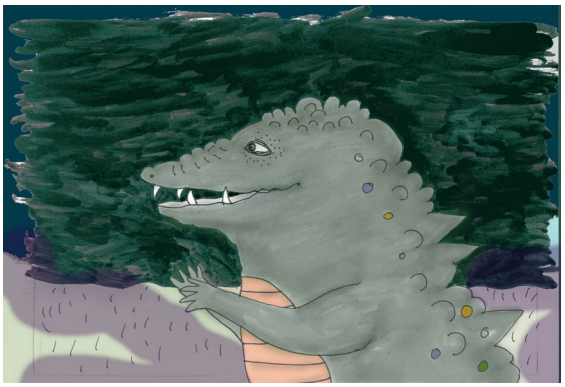
Kevin Langdon

This is a review of a very unusual book.

Rue Harrison is a friend of mine but I was surprised and delighted when I first saw *Indigo Animal*. I discovered that there was a strange and wonderful world inside my friend that I'd seen only the barest glimpses of.

Indigo Animal is a mythical beast, a seeker of truth. Here is how the author describes the beginning of Indigo's search:

> After three squirrels steal the TV, Indigo Animal embarks on a journey of self-discovery enhanced by the study of lawn statuary, of all things. A matchbook discarded on a neighbor's lawn reveals the existence of a mysterious school, the Lawn Statuary Research Institute. With hopeful heart, Indigo sets off to meet other like-minded animals. Thus begins a unique narrative.



The book is beautifully designed and formatted. Rue Harrison's whimsical, introspective, primitivist, colorful and impressionistic artwork provides a perfectly appropriate setting for Indigo's story.

In her introductory remarks the author reveals that the story of Indigo Animal has been a vehicle for her own search for meaning in art and in life. The very personal quality of her work invites the reader to share something of this journey.

Indigo Animal is of undetermined sex while the other characters are male or female. Indigo is clearly intended to represent everyman—or, for the politically correct, everyperson. Spiritual seekers can easily enter into Indigo's point of view.

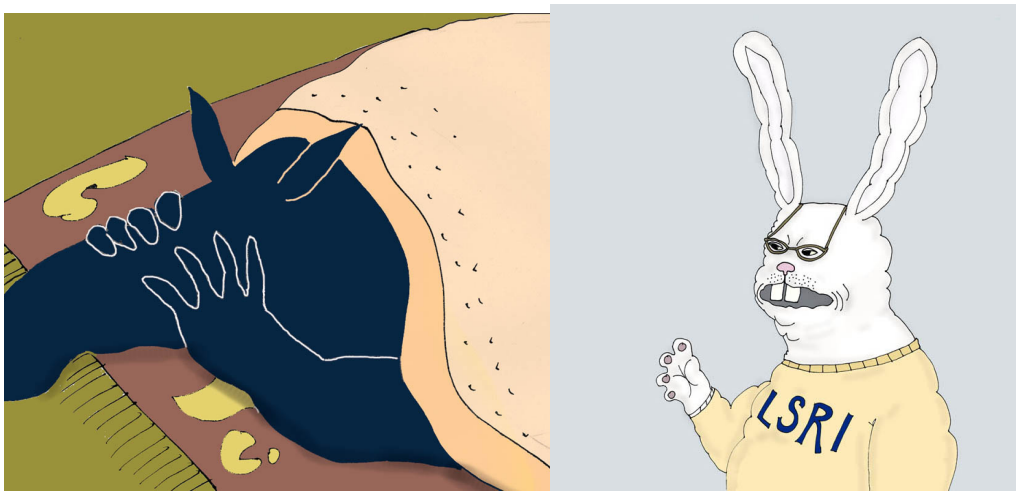
Although the students at LSRI are non-human animals, the statuary depicts almost entirely humans, with only a few other animals depicted. Humans appear directly in the story of the early life of Orange Bearcat, the Director of the Lawn Statuary Research Institute (see below).

Indigo wonders about the big questions. "What's my purpose in life?" Everything seems very strange but there are indications of an underlying order through which it may be possible to make sense of things.

Indigo Animal is innocent, seeing the world through the eyes of a child. But Indigo is not without self-doubt and hesitation and is compelled to face many fears and doubts along the way.

Indigo Animal is attracted by the mystery and beauty of lawn statuary and undertakes a study of harmonious proportion. After making a beginning of a personal investigation in the face of the unknown, Indigo discovers the Lawn Statuary Research Institute and becomes a student there.

Seeing the emphasis on modern trends in lawn statuary, Indigo wonders whether this is the right place to undertake a study of the classical forms. The classical studies department exists but is attracting very few students.



Indigo Animal is reassured by a class with Dame Eleanor Marmot, the head of the Classical Studies Department, and becomes a part of her campaign to rediscover and revive classical lawn statuary. When Indigo's fellow classical studies students Yeti and Wombat join this effort a very interesting "creative anarchy" emerges.

Indigo finds much that's edifying at the Lawn Statuary Research Institute, but there's internal intrigue as well and Indigo winds up in the middle of it.

The process is very stressful but, contemplating ancient wisdom, Indigo is often able to avoid inappropriate reactions to disturbing situations.

A visit by three prominent lawn statuary experts provides an opportunity which Indigo and Dame Eleanor can use to rekindle interest in classical statuary.

The trilogy ends on a note of harmony but there is more trouble brewing and a new series of Indigo Animal stories is being serialized in *works & conversations* (see p. 35).

Like other successful symbolic texts, *Indigo Animal* reveals greater depth on a second reading, as I discovered on reopening the book in preparing to write this review.

This book reminds me of the fairy tales, science fiction stories, and cartoons that influenced me when I was very young and played a key part in my own inner search; I think that children—and adults who are still in question—will respond very directly to the story of Indigo Animal.

Highly recommended.

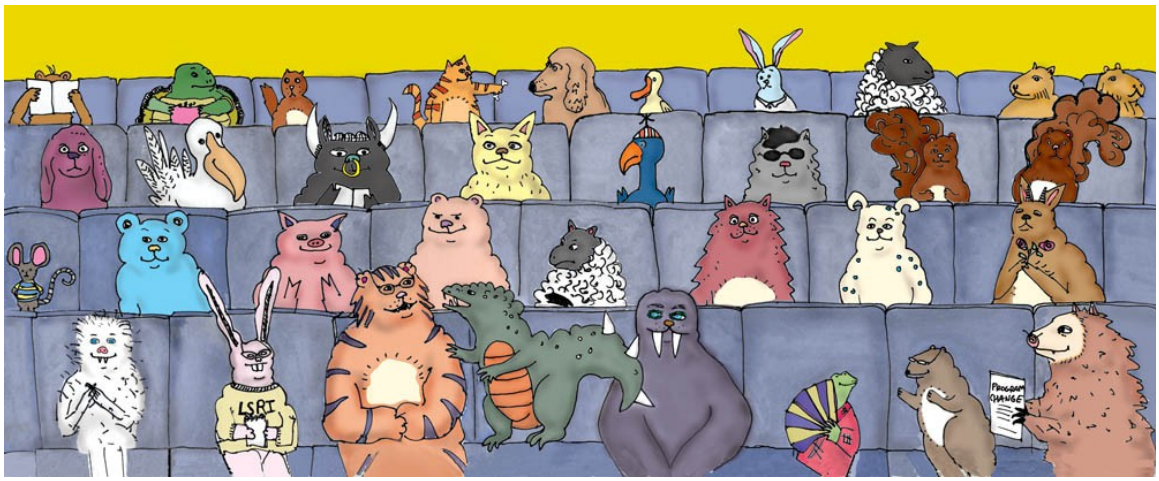
Rue Harrison Whittaker MFT, an artist and psychotherapist practicing in Oakland California, has fond memories of an illustrated book that every child in her elementary school wanted to read. She hopes that young people today will feel the same way about *Indigo Animal*. Her research into outdoor statuary has led her to Rome and Egypt. She has lately been immersed in the *Hypnerotomachia Poliphili*, a 15th century treatise on gardens.

Porch Lion Press has been publishing *Indigo Animal* since 1999. A compilation of the first strips appeared in 1999 as *Indigo Animal*. The next part of the story appeared in 2005 as *Indigo Animal and the Lawn Statuary Research Institute.*

Indigo Animal: The Complete Trilogy includes these first two books with the conclusion under one cover. This new book is in a new format with a completely new design.

The Bay Area arts magazine *works & conversations*—
http://www.conversations.org/
—is currently serializing a new story, *Indigo Animal and the Obelisks of Rome.*

Indigo Animal: The Complete Trilogy (319 pages) can be ordered through Gurdjieff Books and Music—
http://www.gurdjieffbooksandmusic.com
—or Porch Lion Press:
http://www.porchlionpress.com



Poetry

The Total Breakdown of Society

May-Tzu

Yesterday as I approached the door of Whole Foods
(think of a cat waiting outside a mouse hole)
I noticed a sign on the door saying "Service Dogs Only."
My inner programmer/logician was shocked.
Only a few days ago I had shopped there.
Now it now was restricted to service dogs only.
I looked inside and there were bipeds without feathers shopping and eating as usual.
Didn't they see the sign? My God! (Or maybe somebody else's.)
I tried to explain to people entering through the door
that they shouldn't go inside unless they were a service dog,
but to no avail. They just laughed,
not realizing the seriousness of the matter at our level of "mesoscopic existential reality."

Author's Preface to "Death in Autumn"

Wallace (Dusty Rhodes)

I got up Saturday morn at 5:00 A.M. ET and walked through a mist blanketed meadow to an old country dirt road. It was so quiet one could hear the dawn approaching. I happened upon a movement in a clump of grass. There I found a tiny kitten no larger than my palm. I picked up the slim little body. It cried out softly and then nature

reached out and closed this brief life from pain and fear. Forever. I sat in the middle of the road all night. I thought of Richard May's videos and the expression of love on his face holding his small kitten and his general love of cats and kittens. I feel such love for my little 6 y.o., very hairy Chihuahua (he speaks in a language that I now know after many years) We found him by the side of the road, freezing on an icy March day. He now is a family member. Emotions run wildly and there is no rampart to stop them. But I shall endeavor to try; to straighten up; to fight my sadness; to get in touch with myself.

Things are difficult when the heart is tender. When the heart loves the small cats and dogs and other creatures that walk with us. They say a few lines of a poem is the same as one chapter in a book. I wrote this poem last night and will post it, herein, so that anyone who wishes may see a brief conspectus of my thoughts.

Death in Autumn

Wallace (Dusty) Rhodes

10/28/16

I walk across my Autumn meadow
Through a mist that lay upon its ground,
To an ageless old dirt country road
So lonesome it subdues all sound.

I come upon it so lightly treading,
And see Autumn's grass and weed;
Even the busy ants as they scurry
Pay me only the scantest heed.

Then I spy a subtle movement
In a tiny wee clump of grass.
Preoccupied thoughts within my mind
Almost told my stride to pass.

Yet I stopped to look more closely,
And saw a tiny pair of frightened eyes.
It was a gaunt wee frail kitten
Who almost had no earthly size.

I held it so gently in my palm
And wondered what best should I do;
Then nature reached out and touched it
And its small life I knew was through.

Such sadness gripped my aching heart,
And tears flowed down each cheek.
I sat in that road, so all alone;
With my body so tired and weak.

The whole day passed into the night,
And death once more I've met.
Such sadness held closely in my hand,
And with such a sorrow I shan’t forget.

My Neighbor's Passing

Richard Badke

He lived maybe half a mile up Camden Way.
Half way up the hill but below the trees.
Where the summer's scent of new mown hay
mingles with the elder blossom's on the breeze.

An older gentleman was he, who wore simple clothes
and a white, close trimmed beard. Slower than most
walked 'round here, he'd lean on an old, worn post
next to the garden's gate, where the pear tree grows.

He was a man of few words who never spoke
of where he came nor how he came to be here.
We never heard him mention if he had any folk.
A lady friend would come and go a few times a year.

In the city, I saw his name on books.
The missus and me once saw a play he wrote.
Who would have thought, by way of his looks,
his words on paper made him a well known poet?

After supper, we watched him slowly walk,
with Earnest, past the fields of oats in late July,
stopping now and then, to watch purple martins fly
or, maybe just remembering the day with small talk.

The lights woke me, flashing all around.
When they came I wouldn't know.
Then they left, not in any hurry though.
Tuesday's paper is where his notice was found.

When we entered the church, they were all there.
Even Earnest and Mae. I heard a woman cry,
heard more than one cough, heard another sigh.
Heard someone piously, quietly, say a prayer.

The missus and me walked to where he laid
wearing a simple suit so many years had frayed.
We crossed ourselves, said a prayer and bade
him farewell. With that our respect was paid.

As the missus and me walked home
I remembered his latest poem
and recited it to a passing cloud
and the scarecrow in a field, newly plowed.

My missus said, “Beautiful words,” and bent her head
as we passed the garden fork with a broken tine.
A fork he’d use to till the earth, then stop and sip red wine.
Where flowers once bloomed burdock grows instead.

The deer stood round the pear tree,
next to the post at the garden’s gate.
Some stood still, just looking at me,
while others bowed their heads and ate.

I'm Wrong

Bob Griffiths

The smartest people on this earth,
Have got a strange complaint.
Intelligence, for what it’s worth,
Enough to try a saint.

It matters not what you may say,
At least a dozen more
Will claim that you have gone astray,
Your reasoning is poor.

And they can prove it easily,
With argument so strong,
To show the likes of you and me,
My thesis must be wrong.

They’re not about to stop the fight,
So I’d better cut and run.
How can I prove that I am right,
Outnumbered ten to one!