

Planetary Procreation

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Abstract. The unique function life forms contribute to the universe is the creative production and reproduction of information, in ever emergent dimensions. Given this, we can explore the purpose of life, evolution, humankind, and where we are going in the future, and discover that the answer is every where and every when. No steering is necessary, we're already on auto-pilot. And the first place were headed is a planet that is as fully connected and collaborative as the individual cells are in a human body.

1. What is the purpose of humans?

Could you, for even a single moment, fail to communicate some bit of new information to the outside world? Could you keep a secret from the universe, for any longer than the infinitesimal space and time between the elementary particles of your body and the rest of reality? I doubt it. This level of privacy would amount to a supernatural ability, or at least some really good manipulation of things down at the Plank length. (And that's not even taking into consideration quantum superposition and the Pauli Exclusion Principle, which offer the potential of deriving your secret information by looking at the hole you're making in the universe.)

All matter “gives off” information, or perhaps, is information itself, if we consider information to be some kind of indication of a pattern of variability in the state of something. Whether you're an atom or an Adam, you are naturally going to propagate information on some level as you emit radiation, gravitation, and nuclear forces.

But, if you are more like an Adam than an atom, you have an exceptional increase in complexity which allows you to express information in a range of ways. The detail and depth of the patterns of information that can emerge from a human is what sets us apart from all other life that we know of.

All living things have the ability to not just give off information about their immediate state, the way inanimate objects do, but also to pass on a copy of their entire set of design instructions. We call this most basic form of procreation sexual/asexual reproduction using genes. Genetic organisms are physical containers for information, which offer the universe a single, unique perspective of reality. Physical procreations are highly stable, as they are made of matter, and also highly resource intensive.

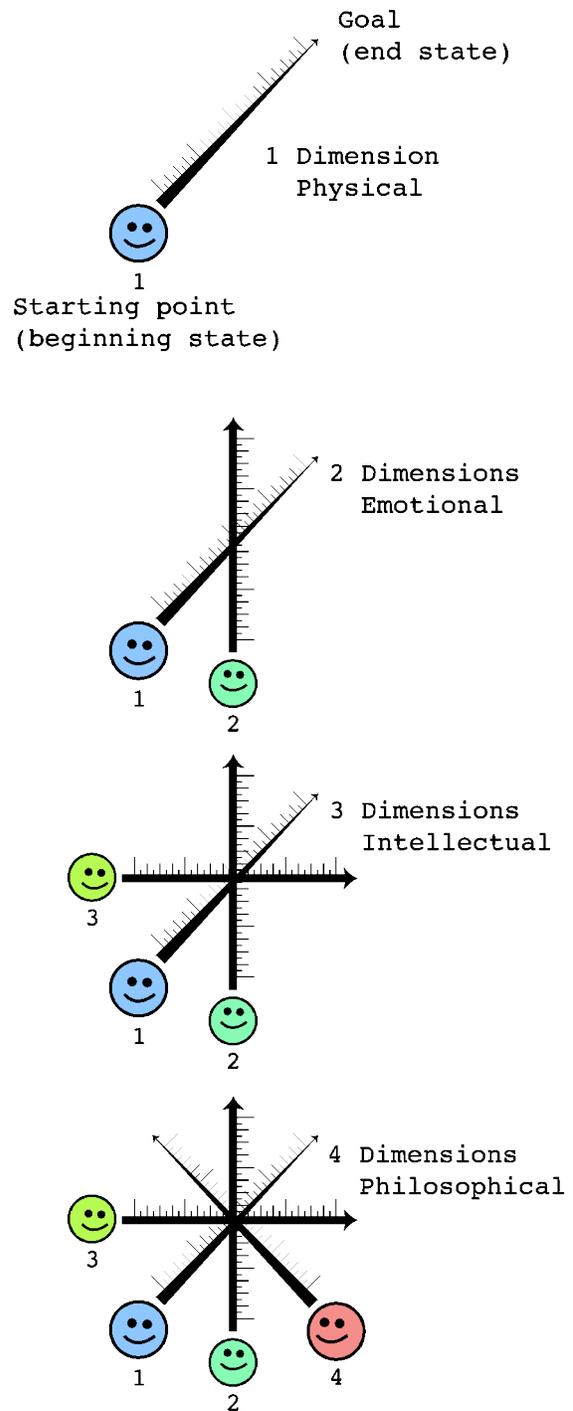
Then we get a second level of complexity, which emerges when organisms express and recombine emotional types of information to produce new, more complex concepts than the single dimension of an individual being. Two dimensional information — with two perspectives of reality acting simultaneously — allows for novel interactions that benefit groups, such as auditory warnings of approaching predators causing a fearful stampede towards safety, or the blushing of cheeks (face or posterior) and come hither looks indicating receptivity to physical mating that doesn't involve random chance or force. Emotional expressions are the simplest non-physical containers for information, sensory in nature, effecting hormonal changes across individuals, either directly from

one individual to another, or indirectly through a more artistic medium. (Sandy Pentland of the MIT Media Lab terms this “honest signals”, since they express physiological states quite accurately compared to verbal language). Emotional procreations are generally not as stable as genes, as emotions are made of volatile chemistry made into color, heat, sound, and motion, but they are usually affordable, resource-wise, and are practical even across moderate distances.

The third level of reproductive creativity arises in the higher conscious organisms that have the ability to think objectively, where detailed three dimensional information — incorporating three unique perspectives of a situation at the same time — is generated. Primates, some other mammals, and at least a few kinds of birds have shown indications of an ability to think about how things can change as they move in time and space, giving such intelligent minds the option to create plans that involve multiple steps before achieving a goal, or achieving multiple goals at once (such as writing an essay that educates as well as amuses both the writer and the reader). When we objective thinkers procreate intellectually, triangulating the data from multiple unique points of view, we output packets of intellectual information that Richard Dawkins terms memes, and that academics call theories, and that everyone else usually just calls ideas. Ideas are flighty little containers of intricate sets of waves that are coded within visions of lines on a page or carefully patterned vibrations in the air, easily destroyed by a bit of rain or a delete button, but they are, at least to intelligent beings, quite literally child's play to create, and can cross vast distances.

But what about that thing that we have a niggling sense of being something important, when it comes to consciousness

LEVELS OF COMPLEXITY OF INFORMATION PACKAGING



and brain function that we humans do? That thing which even clever other species just don't quite seem to have (akin to a giraffe's towering neck, cheetah's dramatic speed, elephant's prehensile nose, and a platypus's taxonomical incomprehensibility)? What about that sometimes scientifically dangerous idea that lies somewhere amidst philosophy, spirituality, and technology, and which lurks in the corners of science fiction and futurist dialogue more and more, temporarily wearing words like xeme, teme, self-directed evolution, and transhumanism? Well, following the path we've been walking down with it's intriguing landmarks of increasing complexity and dimensions of creative reproduction of information containers, we find that this previously blurry notion of what humans are especially useful at might be the emergence of the fourth level of information procreation, where all the unique Earthling points of view mate, tetrahedroning a whole planet of personal perspectives into a single four dimensional living entity of ideas, art, and physical organisms.

This dramatically more complex form of data-based being is something that brings with it, when given some time to mature past puberty, the ability to contain information in a packet that can escape the previously womblike surface of the Earth, to seek out others like itself, to procreate with in the universal ocean that is hopefully teeming with alien life. The friendly little Voyager project that affectionately sent small gold records with genius-designed cave drawings on them out beyond the solar system was just the tiniest start at Earthly procreation. They have mostly just mummified bits of Earth on board, like preserved dinosaur DNA, with no growing, evolving life making the journey, ready to provide collaboration with anyone else out there on creative efforts of any sort. In the future, if we follow the sexual reproduction pattern of increasing complexity into the fourth dimension of perspective taking, in all directions of space and time (that we currently experience), we will see either human-filled space ships exploring the stars and encountering other intelligent beings to have physical, emotional, intellectual, and planetary sex with, or we'll see some kind of living artificial intelligence doing it (and doing it), or both, ensuring that life continues to spread out as far and wide in time and space as possible. There is obviously no universal guarantee that our planet will find even a single mate, just as many early Earthling life forms died a cold and lonely death without passing on their own genes, but the process of increasing the dimensional complexity of information packaging and the ever present motivation for life to try to procreate in as many ways possible seems to indicate that planetary sex is, ultimately, what we're driven to attempt, even if the planetlets that fly so very far away from us are likely to be tethered to only the most gossamer of wings composed of that most ethereal substance which we call the self of our higher consciousness.

If we define purpose as being a specific function that something does which nothing else can do — serving as a binding thread in the fabric of reality — then the purpose that humans serve is to continually share not just our genes, our emotional art, and our intellectual ideas, but also our globally shared stories of what our whole planet wants to do. It is from the pattern of emergent information entities expanding into increasing dimensions that we humans have ended up with a natural desire to merge all of the unique personal perspectives of all our fellow Earthlings — flora, fauna, and otherwise — in in such a way that all our world's diverse data is collectively able to expand beyond the single fertile body of the planet, to seek out similar planetary companions, allowing the universe to expand in complexity, as it appears to have been doing ever since its own birth.

2. What does humanity need to fulfill its purpose?

Other than simply trusting the laws of nature (physics) to seduce us into doing what our particular form of life is naturally supposed to do — procreating information in as many ways as possible — what sort of specific changes are needed for us to create a successful, respectable suitor out of ourselves? Well, if you, like Abraham Maslow, Mihaly Csikszentmihalyi, and Malcolm Gladwell, do research on the shared qualities of the most practical and creative thinkers and doers of our species, you will find that at the very bottom of the platform of their exceptional success is a universal set of basic components. This set of components is described in a multitude of ways, but perhaps the most concise description to date is organized using the most basic forms of matter.

Input Needs - regular access to high quality:

- **solids** - nutritious food
- **liquids** - clean water
- **gases** - fresh air
- **energy** - comfortable warmth (including shelter), inspiring light, honest information

Output Needs - welcoming outlets for freely expressing the body's excess:

- **solids** - defecation, shedding dead skin/hair, etc.
- **liquids** - urination, sweat, mucus, etc.
- **gases** - exhalation, flatulence, etc.
- **energy** - radiation, movement, sound, emotions, ideas

All of the more complex levels of needs involve additions of other individuals, with whom one can collaborate, using art and ideas, solving shared problems of serving the basic needs for themselves and others. To put it another way, we humans need to first have an exceptionally healthy, functioning body (including the brain) that is nurtured by its environment and supported in fully expressing itself, in positive or at least neutral ways, so that it can then go on to procreate information with other individuals in whatever ways seem appropriate, given the available resources and circumstances.

Whether nature is an accidental or intentional, blind or sighted, corporeal or mathematical, watchmaker, when it comes to homo sapiens the watch nevertheless needs to be provided with high quality parts, taken good care of, and wound regularly, so that it can do what it is made to do as accurately and consistently as possible.

But up to now, we have lived in a society that trained us to believe that we had to compete against ourselves for our needed input and output resources, rather than to collaborate on finding good solutions to our shared goals of our needed resources. This forced us to be deceptive about the quality of the resources offered, and also forced us to suppress our instinctive rejections to the low quality, often harmful, resources that are typically made available. In other words, because of the forced, artificial individualism and the forced, artificial collectivism approaches we've been using to organize ourselves, we've been jamming garbage into the exquisite biological space and time

machines that we call our bodies, bashing them into one another, and frequently refusing to wind them up, under the absurd misconception that they are already getting all they need, and “should” be working fine (and complaining about “manufacturing defects”).

In this sorry state, no other planet would ever want to date us. We're not even wallflowers right now; we're so uncoordinated that we're not able to make it to the party. We've got to get our brains organized around both a fully pro-social and a fully pro-individual approach to resource flow, so that we're all functioning well and able to work together to move us up and out, fulfilling our purpose as multi-dimensional information procreators expanding into the universe.

What might a planetary system that is able to serve both individual and collective needs look like? Well, again, we can look to a simple pattern in nature, in this case, the global structure of resource flow in our own human bodies. All animal bodies have a governing force that consists of two parts, a nervous system for moving information from where it's produced to where it's useful, and a circulatory system for moving material from where it's produced to where it's useful. That's it. There are no other governing organs. No other structures that extend throughout the entire system. All other processes are handled by smaller communities of individual cells, working together or independently, that are supported in doing what they are naturally inclined to do, so that they can do it as well as possible.

So, if we recognize the merits of using evolution's already thoroughly proven approach to systems organization, that means that at the top level of any government, we start to focus on directing all our available resources to the creation and maintenance of networks connecting every individual, or at least every community, together, for free (unconditional) exchange of information and material resources, with the long term goal of getting the stuff from where it's produced (excess solids, liquids, gases, and energy) to where it's useful (as food, water, air, and warmth, light, and information) without blockage or excess leakage. Once these networks are installed and fully accessible to everyone, the individuals of the world will naturally be nourished enough and free enough to do all kinds of creative, detailed, ingenious work that furthers the goal of the whole Earth: being healthy enough to procreate, planetarily.

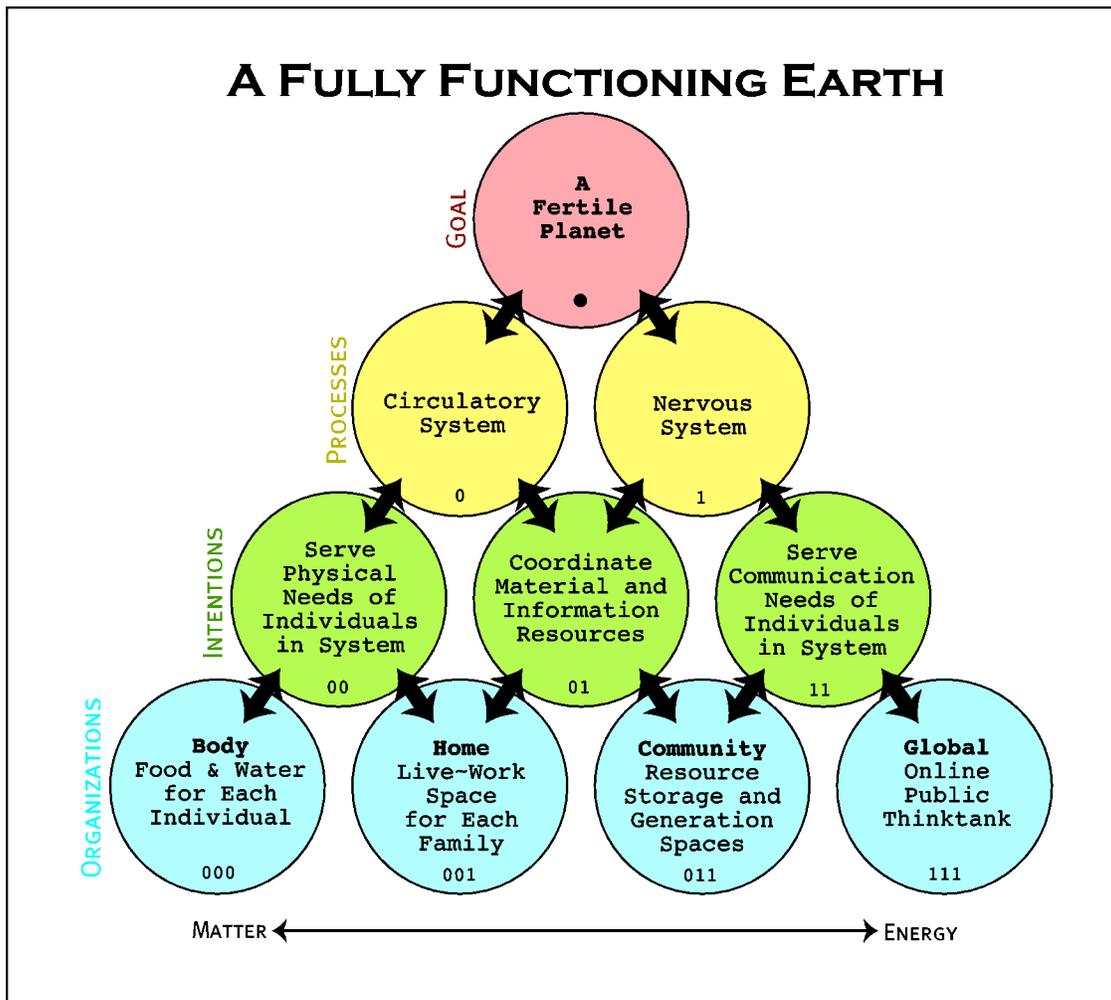
For those who appreciate more detailed maps of the future system, we can use another simple pattern that the universe offers us, which was discovered in the West by Blaise Pascal, and which was also discovered in the East by unknown mathematicians in China, where elements are divided and recombined in a comprehensive way that uncovers all the possible combinations, at increasing levels of complexity. This categorization process gives us an idea of what each organ/community within the Earth might contribute to the systemic goal of health (and information procreation).

At the first level of bifurcation, we have the two global networks of material resource exchange and information exchange.

At the next level, we get three main functions, an organization that aims to serve the basic physical needs of individuals, an organization that aims to serve the basic information needs of individuals, and an organization that helps coordinate it all by using the information obtained to figure out who has what to get rid of and who can use it, all of which support the first two processes in being effective, rather than arbitrary or ignorant.

When we get to the level with four components, the first is very specifically focused on ensuring that everyone gets enough of the particular kind of high quality food and water that they are most in need of (each individual has their own unique requirements, since each individual is

at least slightly different in biology and environment), the second is specifically focused on making sure everyone has access to a comfortable home (wherever they might be at the time) in which to live with their families or friends or alone, the third is specifically focused on building and maintaining spaces for communities to come together to explore, create, store, share, enjoy, research, and just generally use resources (these are essentially the hubs that the main branches of the global information and material resource networks connect to), and the fourth focuses specifically on creating and maintaining a global database of theories about how to best solve problems of using x resource to get y need, so that local areas can be more self-sufficient, and less useless waste gums up the proverbial tubes.



Using a version of Pascal's Triangle, where larger elements are divided and recombined into smaller elements, and with the most matter-like elements congregating on the left and the most energy-like elements congregating on the right, we can categorize the different parts that make up a healthy planetary system at any level of complexity. When all lower level elements are successfully functioning, all of the elements above them will function as well.

More detail can, of course, be added to the map, using the same process of dividing up the higher categories into their most material-like components and their most energetic-like components, and then recombining the fractions with their next door neighbors to create the smaller, unique categories of more specificity that support the higher, more general functions.

3. How will this emergent planetary organization play out?

Obviously, just like the weather, and the next generation's taste in music, are unpredictable at any sort of detailed level, so too are the details of our own global future. However, we can take at least a few more general hints of what is to come for our maturing Earth from what we already know.

For starters, we know from our own experience that “play” is indeed the right word here. When we are doing what we love, what is most meaningful to us, and what we are especially skilled at (or want to be), work *is* play. Even hard work, like solving humanity’s greatest questions.

We also know that life is naturally diverse, and that individuals are evolutionarily programmed to come in a wide range of shapes and sizes and lifestyle preferences, which means that individuals will be instinctively drawn to filling a plethora of roles in the grand plan of creating a functioning system with flowing material and informational resources. Even young children will happily engage in all sorts of practical and creative work, as long as they are free to do it on their own terms. (Have you ever tried walking into a preschool classroom and asking the kids to draw pictures for you, or help you plan and plant a garden, or build a treehouse, or even collect data for a scientific study? If not, I can assure you that it's well worth it!) Adult humans are the same way, and other social animals as well. We all automatically find ways to use our particular genetic make up to fill empty niches in our environment. The only real trick is to make sure that the kinds of niches that are promoted support the health of the system as much as possible, and that individuals are able to easily find the roles that appeal to them most.

Creating high quality positions is primarily a matter of listing the basic needs of inputs and outputs that we’ve already discussed — the specific solids, liquids, gases, and energy of life — and supporting people of all shapes, sizes, ages, and species in finding ways to use available excess resources to serve one or more of those needs, somehow.

And we definitely know that technology already plays a crucial role in all of this organizing, as it is the core tactic for moving material and information resources around a connected world. Keeping things flowing smoothly and efficiently, and making sure that the necessary resources get to where they are needed the most, as soon as possible, will take a gargantuan effort of networked intelligences, both biological and artificial. And, now that we now can understand that “intelligence” means the ability to consider three or more different perspectives, or goals, at the same time when making theories about what the best option is, we can intentionally incorporate three dimensional thinking into our computers and robots (and our own minds), so that we end up with the most friendly AI possible, who collaborate directly with us on our mutually shared goals of taking good care of ourselves so that we can spread our own unique stories of what it's like to be us, in our particular time and space in the universe, and find others with whom we can share our genetic, artistic, memetic, and planetary information.

Finally, given that we have an entire universe of matter and energy to play with, and everything we ever want in life is made up of the same basic building blocks that are merely arranged in different ways, as one of MIT's most loved teachers, Fred Kofman suggests, the only limited resources we can honestly say we face are purely informational. Collaboration, with all of ourselves, animal, vegetable, mineral, and otherwise, in gathering and processing and exchanging information about how to turn what we have into what we want, is therefore always going to be the best solution for any long term problem. So, as long as we communicate our shared goals with everyone we interact with, using physical, emotional, intellectual, and/or philosophical communication, the risks of working together will be kept to a healthy minimum in the same way that individual cells coming together as a complex body made up of a set of lungs, kidneys, a heart, brain, and intestines is somewhat riskier than being a single celled organism on its own, but is also nearly always a magnificently more victorious strategy for continuing to survive long enough to express our *sui generis*, one of a kind, view of reality far into the future in myriad ways.

Now

This is has mostly been a rather dry intellectual theory, produced by the copulation of the multiple perspectives of positive psychologists, mathematicians, and biologists. If we also want to share a more emotionally appealing message with those we are interested in collaborating with, especially those with whom we might find some conflict, in our homes, communities, and government, we could offer something like the following:

I for one, am curious about what might happen if you listened compassionately to your body's requests for what it really wants as a unique living being with its own special perspective on reality, and then shared your discoveries with me and everyone else you think might care about you, so that we can work together to help us all get more of what is truly meaningful to our lives. I have a suspicion that we are each born to accomplish something brilliant that no one ever expected. I also believe that while the future is uncertain, and likely to be very challenging at times, we seem to be heading towards some impressive things in the near future that will improve all of our lives dramatically, and allow the adventurous among us to follow our dreams to places no one has gone before, and bring back impressive souvenirs for those of us who's dreams remain comfortably closer to home.

But first, would you like a hot cup of tea?

References and Recommendations

Quantum Information: *The Quantum Universe (and why anything that can happen does)*, Brian Cox and Jeff Forshaw, De Capo Press, Massachusetts (2011)

Levels of Complexity: *The Reflexive Universe: Evolution of Consciousness*, Arthur M. Young, Anodos Foundation, California (1976)

Emotional Information: *Honest Signals: How They Shape Our World*, Alex (Sandy) Pentland, MIT Press, Cambridge, Massachusetts (2008)

Memes and Temes: *The Meme Machine*, Susan Blackmore, Oxford University Press, UK (1999)

Positive Psychology:

The Farther Reaches of Human Nature, Abraham Maslow, Viking Press (1971)

Flow: The Psychology of Optimal Experience, Mihaly Csikszentmihalyi, Harper Perennial Modern Classics (2008)

Outliers: The Story of Success Paperback, Malcolm Gladwell, Back Bay Books (2011)

Pascal's Triangle: <http://www.mathsisfun.com/pascals-triangle.html>

Effective Communication:

Conscious Business, Fred Kofman, Sounds True, Colorado (2006)

Speaking Up for Little People, Turil Cronburg, TheWiseTurtle.com (2013)