

Graxes Rock

Being an Epic Alien Self-Accounting on the Threshold of Contact

For “Cultures of the Imagination” 2012

I

Double stars with a third, red dwarf, at a distance.
Around the yellow star, Three planets, close.
A quartet of moons, held tight, make up the entourage of our dark blue gas planet
– Kachol.
Kachol’s moons’ orbits in turn dynamically complex,
moving through a many-gravited space.
First Moon a blue-grey Mars, nearly all ocean
Second Moon a warm Titan, also mostly ocean
– home to us, mostly, so far, but not our natal place:
that’s Third Moon, another Enceladus, “teakettle” Moon,
Its geysers pumping ice chunks and organic materials
through the whole lunar system.
Fourth Moon a retrograde potato – its role more contingent (you’ll see).

II

In the Beginning
we were thrown out of Hell and into the Garden of Eden.
In the roiling and tidally unsettled hot ocean inside Third Moon
our remote ancestor emerged.
Extremophilic like certain Earthly analogues,
certain ancestors, pioneers, turned out to be almost equally at home
when steam-whistled through the cracks of Third Moon’s icy sheath
to the unshielded surface. The ones who lasted
quickly developed cases, hard shells tight against the murderous radiation,
which proved handy when Third Moon’s next gift to them
turned out to be expulsions,
water geysers that propelled them, ice-bound, into space
with clouds of vapor and organic matter
to settle across the vast oceans of nearby First and Second Moons

III

Now picture microbes intermixing in the great ocean on Second Moon.
Besides its globe-spanning ocean, Second Moon’s other great surface feature

is a massive impact crater in which waters also slosh, with its own mix of microbes, evolving semi-separately from the main ocean, but periodically mingling with it too, tincturing out both ways, over a shallow sandy region prone to be overwhelmed by occasional supertides – so there is mixing, but irregularly. The organic interlunar rain from slowly-evolving Third Moon’s geysers continues to arrive as well.

The consequence of all of this is that organisms – microbes to multicellular – constantly encounter others, kin, but only imperfectly assimilable.

Here then comes the dramatic pivot of the first act.

Evolution, diverging between both moons and oceans, and within the great ocean too, also consistently brings the divergent forms back together.

(It’s all liquid, remember: encounter is unavoidable.)

Somewhere along the line those ancestral microbes learn the trick of encompassing another without disassembling it.

Disassembly can provide energy and raw materials; utter unassimilability necessitates rejection;

but assimilation offers *information*.

What drives evolution for us turns out to be indigestion.

Lynn Margulis showed you the story on Earth:

how cells merge, one encompassing others

stealing their DNA, making organelles

like chloroplasts, which retain their integrity

and keep on photosynthesizing inside their new host.

“The tendency of ‘independent’ life,” she writes,

“is to bind together and reemerge in a new wholeness at a higher, larger level of organization.”¹

Sea slugs do it too: eat algae and so learn to eat sunlight like a plant.

Flatworms even eat each other and take over the eaten ones’ experience.

On Earth this is (we thought) rare and strange; on Second Moon

our home world

it becomes the norm.

IV

But indigestion persists.

Assimilation is typically not total.

The challenges to life continue as well, and continue to vary sometimes wildly and unpredictably,

while the organic bombardment from Third Moon continues too.

The result is something new for us, a distinctive twist to Margulis’s story.

For us Graxians, symbiotic affiliation into new organisms is reversible as well.

Eaten ones can break away.

¹ Lynn Margulis, *Symbiotic Planet* (Basic Books, 1998), p. 11.

Eaters may dis-assimilate, reconfigure, and let them go as well.
Thus we became shape-shifters.
Carrying in each cell many genetic tricks gained from our allies,
many shapes we can become.
Each colony is like a human zygote, rich in stem-cell possibilities,
never to be nailed down or finalized.
We do retain echoes of two early body plans.
Fractal, each forms a basic skeleton,
one with leaves filled with smaller leaves, fernlike,
the other with Three tentacles at each node (the Sacred Three!)
each connecting to a smaller node, or to a shape-shifted module.
Beyond this, though, fluidity reigns.
We are mutualistic, shapeshifting communities always deciding what to be next,
with constant renegotiation of shape and configuration at multiple levels
and continually attracted to affiliation at higher levels.
The fractal form is open-ended toward ever-more levels of generativity:
the pattern can be given with maximal simplicity yet can generate infinite complexity
both at the same level of specificity and many levels up or down.
The shape of flagellae may mirror the architecture of a colony.
Buckyballs (a perennial favorite) can be infinitesimal or huge,
colonies of smaller buckyballs still.
And thus our life grows not like a treeform, solid branches with no turning back
but networks, rhizomes, horizontal not vertical, constantly turning and re-turning.
Forms and threads diverge and re-converge,
all with an inner logic
but in all directions at once.

V

“We eat; therefore we are.”
Eating is knowing: assimilation, encompassing, merging.
Divergent organisms form alliances;
you think they are eating each other;
but they’re actually assimilating, learning.
Tasting and being tasted.
Everything at all scales is in a certain sense alive, a distinct living thing,
but also a re-assimilable part of larger communities with their own living distinctness.
Eating the old way only happens when someone / something
is too boring to keep around or learn from
(or, yeah, when the eater is impossibly hungry).
Good is: dissimilar enough not to be edible,
but not so dissimilar as to have nothing to offer.
Communication becomes something more like communion.
Awareness straight to awareness; complete, beyond signs or signals or words.
In short: Graxes grok!

[Ed note: “grok” literally means “drink” in Robert Heinlein’s Martian language; it seems a good fit.]

Moreover, this strategy is not merely a passive one: soon it becomes a mode of relation. Material is exchanged all the time.

Think of ritual mutual consumption as a regular mode of “meet and greet”.

Bits of yourself become couriers, carrying thoughts across to another.

Eager, ready, fluid, always re-configuring.

Eating becomes knowing becomes re-production

(literally: making ourselves over again.)

We go in for mimesis too. Knowing another may mean *becoming* the other, or rather, in some part, more *like* them, at least for a time.

Our ancestors might even grow a new module (or Three – you’ll see) in the style of the Other.

Whole waves of new pattern thus emerge and migrate through the population.

Some vanish with little trace; others persist and ramify.

VI

With every organism a unique collection of organismic modules, both the individual and the self also become fluid and less categorical.

Without species we don’t even need sex, exactly.

Recombinational possibilities are everywhere, and so is pleasure.

Selves are polymorphous but not perverse.

(Indeed, to be *mono*-morphous is the real perversity.

Cloning yourself would be a kind of incest.)

Health-wise, what would be “sickness” in a being with more definite boundaries is for us, naturally, a challenge to constructive assimilation of the invader.

We become stronger by allying with it, taking it in – think of “infection” as “infuction” as well as “inflection” –

while, conversely, persistently afflicted components might eventually want to rearrange themselves, or re-affiliate elsewhere.

On another scale and in another system, maybe they are exactly what’s needed.

We don’t die, either, at least usually.

There are accidents, sure.

Colonies get squashed occasionally, and individuals fall away.

But more commonly a recognizably functional whole persists, just with shifting parts, and even the parts are immortal, in principle, like Earth’s bacteria.

We’re pretty good at just about everything, meanwhile,

as long as we can shape-shift organs for it.

Sense organs for instance develop and reorganize as needed,

like eyes (light and pattern sensors in various spectra)

and ears (and organs and limbs and all manner of clappers and resonators to generate sounds).

We smell and taste too – filtering the water, for example, itself a thoroughly communicative medium,

full of the tang and tangle of each other as well as the persistent space rain/scum (Third Moon *still* tea-kettling) and dissolved minerals.

We can be like salmon, able to taste the one tiny stream of their natality even in the vast ocean.

Indeed, in time, minerals came to be a main food source,

Seabed, shores, and dissolved minerals are OK too, and they're everywhere.

We know the elements in the way Earthlings might know flavor and spice.

We also live within other sense dimensions altogether:

electrical sensitivities, for one, and the capacity to tune to harmonic resonance – music, melody and harmony, embodied in the sympathetic vibration of our own bodies.

Communication, you can see, takes multiple and shifting forms.

Many prefer a double stream of couriers as the most perfect means to transmit thought, but there are clickers and squealers too, sounding like Earth's dolphins;

tentacle-wavers forming word-pictures clearly seen by sonar,

others bioluminescent or inky like Earth's cuttlefish.

Communicative preference even marks out different social groups – but none of it especially fixed, naturally!

VII

"Grax" is a biological term that, according to Rupert Sheldrake, describes the action of individual bacteria, or slime mold or anything coming together as an intelligent community to address a challenge that cannot be resolved alone. Myriad expressions from Arab Spring, American Autumn, to Occupy Everywhere announce, "We are in a period of Global Graxing!"

-- wordwizard.com

A world, then, of loosely affiliated, fractally structured floating assemblages

(and eventually some on land, it's just that there isn't much dry ground and new modes of exchange and communion must be developed to work in air)

of smaller and also highly complex organisms,

exchanging materialized information, meeting the needs at hand.

We don't live in cities -- we *are* cities, graxish together-gatherings.

Work-groups form and dissolve graxishly, buckyball hive-minds made for big tasks

We don't live in communities, we *are* communities.

We don't live in nets and networks, but *as* nets and networks.

We don't even write history, we *are* history,

with materialized memories that can last thousands of years,

through countless splittings and recombining,

and symbols, which last longer still, written with our own cement-like excretions

(you would call them mere wastes – and waste them).

We don't even make tools: for the most part, instead, we make ourselves *into* tools

Some of which extrude, but even then they're us, just sitting still holding water or whatever it is.

We don't have farms, we *are* farms,

growing fields of microbes on the inner walls of special modules.

When we need to build a wall, for a time we make ourselves the wall,

We scaffold it up from our own bone like coral, then separate and leave it behind.
(In fact we even make a project of preserving earlier forms in this way, another form of history,
“fossilized” extruda, ready and able to be revisited and reclaimed at all times.
Reefs, yes, but more:
mausoleums, libraries, monuments, whole alternative pasts – and futures.)
From Organelles to Cells to Organs
From Organs to Colonies to Unions
From Unions to Workgroups to Nations
Layers of organization come to supervene on others without locking any form in.
But (again to be very clear) these are only terms to identify relatively more developed or intelligent layers,
new “wholes” a level or two up or down (or around).
Any analogy or terminology for task-related affiliation or organization would do:
Couriers may also be considered an Organ’s or Colony’s Truckers or Spies;
we have the equivalent of Motorcycle Gangs, Refugees, Migrants;
Brigands (associations of outcasts that may forcibly affiliate or waylay, hijack, raid);
Syndicates, Colleges, Coteries, Pods;
Congregations, Coffee Klatches, Posses, and Bands;
Crews, Teams, Retinues, Troupes;
Splinter Groups, Conspiracies, Task Forces
– and a thousand other and ever-new forms of purposeful but impermanent assemblage.
Impermanent, remember, and not all-inclusive –
for there are countervailing forces and tendencies too.
We can’t get huge or *all*-inclusive.
Intelligence correlates with size, roughly, up to a point,
but after that point, inevitably, it works the other way around: greater size slows us down.
Bigger becomes dumber – so smaller modules vote with their feet, so to speak, and just leave.
Couriers take time,
and things happen while they are en route, while they are passing on the road.
Maybe they even re-affiliate (voluntarily or not) on the way
and never show up at all.
As we develop, it becomes possible to replace couriers to some extent with electrical impulses:
leading to other forms of assemblage, in effect biological computers.
Even electrical impulses take time, however, especially when transmitted
as they typically would be for us, in shifting and makeshift linkages.
Affiliation is in any case reversible (remember),
while even the affiliative impulse isn’t the only one:
there’s wanderlust too.
Not to mention that the affiliative impulse itself may draw us toward *other* assemblages
as well as our current ones.

In short, no Borg here!

Already a mere Trekkie fiction, as if it could be real even for you,
that kind of hyper-collectivist fantasy is only a Terran bugbear (Own it, Terrans!).

Recognize the actual face of Grax:

many kinds of mid-sized and shape-shifting communities in many environments –
seafloor, seashore, sea surface far from land,
inside or outside the great crater rim –
each with their own uniqueness and contingency,
wary of larger others as well as attracted:
a delicate, resilient, well-tested balance.

VIII

Grax's philosophical syndicates have come to know the Perfection of the World.

It is our proudest knowing:

the Threeish inspiration/aspiration of everything
from our own bodies to the music of the spheres.

The first realization may have been when we first saw Three moons in our sky,
though we did not realize then that our world was itself a moon.

Eventually we learned that so it is – four of us share the great blue gas planet Kachol –
yet Threeness is preserved.

Fourth Moon, the wrong shape and orbiting backward, we can declare unworthy,
an interloper – and indeed it is,

no child of our central giant world, but a visitor
from the great figure-eight comet belt beyond.

So: the Three *true* moons, locked in 4:2:1 resonance, orbit Kachol
spinning in turn with two other planets

in a great triangle around our sun, all sides and angles equal.

Yet another sign of the Pervasive Three in the skies!

At first we thought the sun was God.

Later we found that the smaller sun and the bright star
were dancing with the bigger sun around a central point.

Threeness again, this time in the very sources of all light and life!

At that central point is nothing we can see, but we now believe
that God is to be found there, if anywhere.

Our philosophy, then: everything in Threes, a triangular spectrum.

Instead of true and false, we have nested Threes.

Matter is a mix of solid, liquid, gas.

Later we find that mass can be matter, degenerate white dwarf, or giant neutron-star
nuclei.

We ultimately learn that the universe is a spectrum of mass, energy, spacetime.

We've long seen society as a combination of culture, locality, and religion.

Most crucially, beings are identified as self, other, and/or connected module
which can be parent (I am part of it), child (it is part of me),
and/or sibling (we negotiate as equals within the greater whole).

Of course the sacred Threeness may also need our help from time to time.
The mere correction of error, mostly, like the ejection of the pretender Fourth Moon from true Moon status.

Some of our body structure is fractal in Threes,
each node circled by Three smaller ones, like the heavens,
but some of it is not.

When we first discovered the music of the spheres,
some decided that their bilateral fern fronds must be ejected,
even destroyed as profane and impure.

Originally, to be honest, a tri-formed creature probably just happened to predominate,
but we have followed fact with *fiat*: now Threeness rules mostly by design.

Few bilateral structures remain.

If one cutting tool is needed,

Three are often created, even now, to keep the symmetry.

Still, obviously, Threeness has its completeness, its harmony, its eternal dance of possibility.

Twoness is sterile; fourness reduces quickly to two twos;
but *Three* – ah, the glory!

IX

Graxian science, art, and religion smoothly merge

– another great Three-in-One –

and necessarily are thoroughly embodied.

Our music for example is a series of orisons to Threeness, while at the same time Threeness is also the music of the spheres.

The Great Harmonic Ratios play for us each night and all night in the skies:
all Three Moons a full chord;

one Moon singly a third (major third when First or Third Moon;
minor if only the now demoted Fourth)

Two Moons of Three is the interval of a fifth.

Your own Pythagoras discovered the same harmonic ratios millennia ago
but your own skies, too bad for you, never showed them like ours.

Your Kepler thought he'd discovered the great ratios

between the perfect Platonic solids that could be transposed between the known planetary orbits –

the little-known impetus for his entire dynamic system –

but it was forced, to say the least,

whereas Keplerian perfect triangles clearly define our sister planets' orbits.

Meanwhile, along with the geometry in our skies

there's chemistry (alchemy too) in what you might call our gastronomy.

We know the elements by flavor, by taste,

and "refine" them internally with more specially-adapted modules, a bodily act.

Or again: most of our electronics would look cyborgian to you:

we make *ourselves* radio receivers and even computers

A little metallic augmentation here and there is all it takes.
Graxian economics is implicit in this kind of process as well.
Since we don't produce things, as a rule, separate from our selves/bodies,
and since our mode of exchange is free and constant, as a matter of course,
we have no money, no markets, no accumulated lifeless wealth.
Even our excreted fossil memories are more like relics of the ancestors than economic
goods.
Our "surplus" is *beauty!*

X

But nothing stands still.
We are, after all, shape-shifters.
We also recognize that the cosmos itself,
perfect as it is in its participation in Three,
is also imperfect and itself shifting within that same Great Given.
Long ago for example we knew that Third Moon was changing, volcanic, active:
we could see the geysers.
More recently we came to realize that we were looking at our own birthplace and birth-
process:
that Third Moon was our original microbial home.
More recently still we realized that it continues to arrive,
The periodic microbial rain, still unsettling and intriguing the microbial mix of Grax's
oceans,
is Third Moon's.
And not always welcome:
actually the mechanism of the discovery
was that Grax's swings through Third Moon's tea-kettled ejecta correlated to plague
cycles.
that some of that microbial rain can be deadly.
Once we understood, it was not hard to make ourselves ready,
to neutralize the unwelcome "rain", or – better – transform it into something
unexpectedly tasty.
But the metaphysically unsettling residue is something else:
a new understanding of the larger system in which we live.
Other worlds are active and alive!
We know, as well, imperfection and possibility in First Moon.
It swings close enough to us, often enough,
that we can make our surface features much like Grax's.
Sometimes we see First Moon meteorite impacts as well,
and have inferred from our own good eating from impacts here at home
that meteorites sometimes bring lifeforms that are again related to us
but curiously different, like new spices, and a new kind of challenge to good digestion.
Something else is going on, it seems:
Third Moon is not the only nearby world that has life,
and perhaps others, First Moon for one,

have more complex forms than microbes.
Our own affiliative impulse therefore invites, even compels, us to space.
Those curiously tasty Others appear to be some kind of kin, after all:
it seems that we can assimilate them, and presumably they us.
Spacefaring, besides, is part of our past already (remember?).
Perhaps even our deepest memory contains traces or recollections
of the first pilgrimage from Third Moon's Hell to the Eden of Second
(though our skeptics insist, plausibly, that microbes have no memories).
In any case: our lives are in the visible midst of a vastly fertile and dynamic system,
with close-lying tea-kettles and Other Edens
and great blue planetary sphere of Kachol
hanging over it all.
Other Moons and beyond – not only our past, but now our destiny.

XI

Outward then, Grax!
Today we Graxians stand on the verge of venturing – again – beyond our home world.
Indeed we therefore stand also on the threshold of the first great Graxian world project,
the first great challenge, or great invitation, perceived by us as one world, together.
Everywhere new beyond-oriented workgroups and syndicates spring up.
In one great equatorial nation, inverted half-buckyballs form floating spherical “dishes”
into living radio telescopes,
seeking signals from elsewhere, and sending our own.
Although there was initially some debate over what to send
the eventual answers were satisfying, and the consensus holds.
One syndicate sends music
its own variation on the Great Harmonies
with the invitation to Extra-Graxian Others, whoever might hear, to join
– that is, to jam.
Another also sends music, but closer to the electrical frequencies at which life itself (we
now are learning to add: as we know it) resonates,
with the hope of inducing or uplifting pre-living or proto-living flows on other planets or
moons
upon which our signals may someday play.
Think of it as a form of Musical Uplift, or even cosmic seed-spreading,
a sort of pangermia,
except the seeds are harmonic, musical, electromagnetic:
our own form of extending the “music of the spheres”!
Graxian combines who have colonized the thin strip of land around Great Crater
have extruded the elements to build vast metallic dishes
and send out star maps along the radio waves, a cosmic “at home” card.
Others, more ambitious, now contemplate the next step:
launching actual probes out beyond Grax, aimed at First Moon especially
and even beyond the Moons too,

to Kachol's sister planets, both of which have conditions much more like Grax and First Moon than Kachol.

(Some say that even our star's twin has planets and moons like Grax.)

Our way, of course, would be to send couriers, small and variable, shell-shielded from cold and radiation, like our remote ancestors, to taste other worlds.

Probes may be spit-wadded off our planet

(it's easy: gravity is low and the probes, being mostly microbial, will be super-light)

and then make use of the regular sweet spots when Moons align, just right,

to slingshot the probes faster and farther out.

To report back they will need radio transmitters, again fairly small.

Or it might be best to send miniaturized fractal modules able to use local materials to scale up:

to build transmitters or even actual Graxians

at whatever scale and with whatever complexity suits the new conditions.

Shape-shifters even across space, we are!

XII

The work is underway with typical Graxian ambiguity:

mutualistic but also a little mutually suspicious (it never hurts)

all at the same time.

Individual syndicates and workgroups look skyward in their own ways,

loosely coordinated, not at odds with each other,

but not fully trusting or centrally mandated either.

Yet the sense is unmistakable that Grax as a whole is now gesturing into the Beyond.

It is the great project of our time,

the re-assumption of our space-faring past,

shape-shifting ourselves now with a cosmic imagination, on a greater-than-Grax scale.

A glorious threshold, O Grax!

A galactic graxing commences!

O Grax, soon we will taste new worlds, new beings!

The stars await!

“Graxes Rock” is written by Anthony Weston with contributions by Ben Sibelman, as one way of compiling and organizing the beaucoup and intrepid conceptualizations of the COTI 2012 Alien Group: Randall Hayes, Michelle Merrill, Chad Rohrbacher, Ben Sibelman, Anthony Weston, and Mara Williams.