field notes

from blueatlas

mctavish

Table of Contents

the repair(*)

001	3
002	4
003	5
004	6
005	8
006	10
007	12
008	14
009	17
010	19
011	21
012	22
013	24
014	26
015	27
016	28
017	
018	
019	
020	
021	
022	
023	
024	
025	
026	
027	
028	
029	
030	48

032																					5 1	L
033																					53	3
034																					5 7	7
035																					66	•
036																					63	3
037																					65	5
038																					67	7
039																					76	•)
040																					74	1
041																					76	5

the repair(*)

it was like this every
morning ...

 $\text{mctavish} \qquad \qquad .. \parallel .. \qquad \qquad 2$

- ..|. the repairman rider passenger lone bird |..|
- .|_ grass blade dyke (our hero zero rider ze) |.
- ..|. left the throng of city depot
 |..| |.| arrived alone worn
 suitcase sandwich lukewarm coffee
 thermos ..- || tepid brown liquid
 greasy paper |+| +_+ rusted texaco
 station folded map #_# &=^ urgent
 mission || ..|. fix the system ^..
 |.| repair reclaim rebuild reweave
 restore &_& || this prairie meadow
 sequestration +0+

.|_ once again repeat again retie
retry reweave again _|. |.| a name
uttered speak again ..- || reclaim
restore correct |+|

mctavish .. $\| ..$

..... downward glance creased map marked path |..| |.| radio research building institute ..- || factory platform station |+| + + slant rusty hinge door sunlight # # &=^ spider housings metal glint antenna | | ..|. vines static deep dark corner silence ^.. |.| vinyl recordings specimen drawers & & || faded paper census sketchpad marks +0+ +_+ lost language fallen angels | | | &=^ frozen role enactments | .. | .. |. jukebox score ..- |.| piano rolls |+| || silent tattered scripts # # .| stored inside this moss bound station _|. | . | critical to the mission ..- || notes numbers data |+| + + handbook manual translation codes # # &=^ recorded pressed limbs reed blade stem seed ^.. | . | circuit diagram equations & &

.. |. this was the morning this was the place |..|

.|_ repairman rider passenger lone bird _|. |.| grass blade dyke (our hero zero rider ze) ..- || arrived on platform wasteland meadow track |+| +_+ worn suitcase sandwich #_# &=^ tepid brown liquid thermos || .|_ creased map ^.. |.| compass light &_& || lucky strike +0+ +_+ hat axle pocket knife ||| &=^ coins for the boatman _|. .|_ steam engine captain ..- |.| singer all aboard |+| || ticket agent paper #_# +_+ tin cup beggar thief ||

..|. electric magnet migrate
translate |..| |.| hero zero
suitcase clock map train nomad ..|| boat bird data airbase data
cube data curved space |+| +_+
prism lattice fabric timestamp
schema graph #_# &=^ reify untie
unfold unroll || ..|. electric
orbit ghost force ether spark ^..

|.| specimen drawer weather static wind-blown number station &_& || solar noise cloud formation storm titration wireless smoke-filled sky +0+

.| broke ground broke thatch broke net broke flow |. |.| telegraph rhizome circuit network junction ..- || flag siren point nutrient carbon tangle |+| + + broke ratio physics orbit fixedpoint evolution # # &=^ clue drawer box film parchment vinyl || .| blood feather stalk beak grass root ^.. |. | paper stamp store mark transect photo record image cell & & || before axe pick shovel hoe oxen plow +0+ + + before hard ground was broken ||| &=^ still woven yellow green ticker |. .| tape pulsed code transmission ..-|.| echo vacuum tube transistor |+| || circuit still electrified # # + + & living ||

..|. ignite ! |..|

```
..... the repairman rider passenger
lone bird |... | grass blade
dyke (our hero zero rider ze) ..-
|| looked back |+| + + not again
before # # &=^ but before that
long ago once upon a long away ||
.... far away geologic layered
canyon way back ^.. |. | glacial
pressed rock far back & & ||
urgent mission +0+ +_+ rescue
resurrection || | &=^ artifact
storage cave recording trace |..|
.... bones ..- |. | fossil tooth
|+| || once again repeat again
retie retry reweave again # # + +
a name uttered speak again || &=^
reclaim restore ^.. .. rewind
& & |.| redeem +0+ || correct |||
.|_ shattered glass cadenza |.
..|. industry(!) |..|
.|_ stop gear _|. |.| backspace
..... particle wave oscilloscope
|..| |.| rhythm beats tonal frame
```

mctavish ... $\| ...$

measure arc ..-

.|_ sanctify _|. |.| dance score action plan ..- || syntax grammar punctuate |+| + + formula method outline theorem proof # # &=^ silver set of slides || .| count map pulse ^.. | particles of speech & & || observe measure metric record journal data log +0+ +_+ structure filter draw blueprint box | | | &=^ cell lattice web net moth flame _|. .|_ formula physics flow heat ..- |.| electric gear locomotion transformation |+| II fold reduce fix mend undo redo sew sow # # + + archive find search echo || &=^ resonate release ^...

```
..|. fire ash carbon gone |..| |.|
nothing none empty not ..- ||
theory of null numbers |+| + +
vacant absent zero space # #
. _ theory of sparse matrix _ |.
|.| an absence ..- || exponential
decline |+| +_+ crash . # #
..|. holes in the matrix |... |..|
gap(s) ... - || column row |+|
+ + moth hole black hole # # &=^
space silence fact ||
.| theory of null values |. |.|
silence of null values ..- || neon
vacant blinking light |+| + +
empty storm-drain alley # #
..|. cell number table |... | ...
column thicket ..- || stream set
row |+| + + coordinates paths city
streets # # &=^ asphalt chess
board too-long fair || ..|.
halogen labyrinth playing cards
^.. | . | row boat row red turnstile
coins & & || subway memory map +0+
```

.| the problem of sparse matrices |. |. | absence ..- || not known |+| + + not values # # &=^ not said & & || empty cells +0+ + + blank hole gap ||| &=^ knot record |. .| not knot ..- |. | forget forgot |+| || never known # # + + not filled | | &=^ not asked ^... .| erase erasure & & | . | not zero not silence +0+ || a lack of air ||| + + a lack of mark _|. &=^ missing value(s) ..- .| something stolen |+| |.| not revealed not found # # || not thought of not dreamed of | + + not imagined ^.. &=^ not lost & & .| not lonely +0+ |. | not a huge hole in the ||| || sky |.

..|. the lattice the ladder the
sky |..|

.|_ queer isocline bent contour curve _|. |.| topographic skew ..- || blue green florescence rush |+| +_+ wide-hipped hue #_# &=^ the morning light chlorophyll || .|_ rubbed blades rain or dew ^.. |.| hush suspended ready electric &_& || whispered static light +0+ +_+ the lattice the ladder the sky |||

..|. slender stem blade .&. meadow
|..| |.| harmonic structures
ladders heavens ..- || tonality
ecology dynamics systems weather
|+| +_+ synthesis loom radio sky
#_#

..|. photosynthetic fusion carbon pool |... | ... | sequester sequester bury deeper ..- || down & under & soil & fossil & black oil |+| +_+ ink memory frozen fire # #

.| this then this a ritual grassland reclamation |. |.| (re)enactment ..- || action painting action coding |+| + + abstract insurrection # # &=^ repair sound reverberate | .| thrum thatch call ^.. | . | a bird blade leaf stem & & || frequency vibration +0+ + + signal short wave | | | &=^ modulation resonation |. .| radio photo destination ..- | . | a photosynthesis |+| || transfer raw vertex junction pivot pools # # + + food web weights & likelihoods || &=^ circle orbit cycling need ^... | birth growth death decay & & |.| de compose release +0+

..|. faint signal pale wave slow current faraway transmission |..|

|.| faded recording ..- || long ago the far away a t-cell twist like this it goes |+| +_+ that jukebox love song jukebox archive jukebox dance song #_# &=^ rusty turnstile chance song billiard dice song co2 roulette || ..|. trophic past text particles of speech ^.. |.| trophic cascade light water steam then ghost & &

.|_ corner bar stool _|. |.| the repairman rider passenger lone bird ..- || grass blade dyke (our hero zero rider ze) |+| +_+ napkin blueprints cipher curves & codes #_# &=^ beer-stained formula calculations configurations || .|_ phase plane transformations ^..

..|. trace erosion fragment shadow window time |..| |.| season shifted local sundial noon-line fragment ..- || blueprint blue light paper pressing |+| +_+ chronometer opacity odometer silent breath grass blade whisper #_# &=^ vapor ghost carbon cycle chlorophyll bone detrital join

uptake || ..|. weight rhizome tent
matrix building frame ^..

.|_ dyke blade flame night graffiti gesture neon brandish flight _|. |.| for each map filter fold list railway table ..- || (off || on 0 || 1) |+| +_+ repairman rider passenger lone bird #_# &=^ grass blade dyke (our hero zero rider ze) || .|_ thatch radio signal static dial clock pulse receiver ^..

```
..|. database of tools |... | |.|
inventory manuscript ..- || shadow
cave projection |+|
```

```
.|_ grassland reclamation _|. |.|
archive parchment traveler rider
repair(*man) blade ..- || a
solitude of vastness vibrant
vertiginous chlorophyll tinged hum
|+| +_+ birds insects clouds #_#
&=^ young queer slender deer ||
.|_ a glowing noise a unity a
collision a confluence ^..
```

```
..|. time bends forward leans back
|..| |.| circles like a bird of
prey ..- || tensile stem ::: a
cellular conductance |+| +_+
electric neural circuit blood #_#
&=^ windswept dream of flight ||
..|. vessel heart rib & loom ^..
|.| taut sinew vein &_&
```

.|_ a knot a sailor _|. |.| a
sparse insect count ..- || clear
windshield |+| +_+ bee by bee
sparse matrix #_# &=^ once wild

swarm buzz now || .|_ a one by one
flower hover ^.. |.| sparse set
pollen heat &_&

```
..|. no rain again last night |..|
|.| humidity swallowed by air ..-
|| suspension |+| + + no release
# # &=^ dry river dry soil ||
..|. bucket after bucket carried
^.. | . | cold well .map(water =>
pasture) & & || long cold spring
&. then +0+ + heat came with
bone not water || |||
. _ only _ . this vessel this
gallery these ribs ..- || a cage
|+| +_+ for birds # # &=^ an
absence only lonely ||
..|. attention swings ::: an
acrobat |... | .. | an aerial artist
..- || trapeze circus |+| + +
3-ring digits # # &=^ clickable
texts | | .. | . shining neon ^..
. pawn shop blinking & & ||
payday loans +0+ + + apoplectic
news | | | &=^ heavy rain | . . |
.| cast projections _|. |.
shadows along ..- || interior
walls |+| + + the mind's # # &=^
```

```
ceiling || .|_ vowels ^.. |.| a hollow echo &_& || text +0+ +_+ &. white ||| &=^ space _|.

..|. i mean a |..| |.| blank ..- || echo |+| +_+ gravity #_# &=^ word orbit ||

.|_ suspended minutes _|. |.| blackhole now-ness ..- || careening weeks |+| +_+ eye of the hurricane #_# &=^ in its stillness || .|_ drew in whole ^.. |.| years &_&
```

mctavish ... || ... 20

```
..|. solitude |... | .. | not silence
..- || every morning |+| + + heat
rises # # &=^ in this || ..|.
basin ^.. |. | these bones & &
.| polar landscapes |. |. | melt
..- || colonists of wind |+| + +
dust storms # # &=^ settle the
globe ||
..|. no rain |..| |.| longing ..-
|| thirst |+| + + drought # # &=^
it was like this || ...|. every
morning ^...
. _ watering can _ . | . | metallic
echo ..- || pale green |+| + +
drip # #
..|. industry! |..| |.| empty
hands ..- || vacant skull |+|
```

.|_ repairman rider passenger lone bird _|. |.| grass blade dyke (our hero zero rider ze) ..- || arrived on platform wasteland meadow track |+| +_+ suitcase sandwich coffee thermos #_# &=^ tepid brown liquid greasy paper || .|_ folded map ^.. |.| worn matchbook &_& || lucky strike +0+

..|. illumination recitation
number sequence radio station |..|
|.| urgent message scrawled

location ..-

.|_ this was the day the time the place _|. |.| last chance prairie recitation reclamation ..- || stop the gears bend the tide |+| +_+ stitch mend reweave restore rewind # #

```
..|. homeostasis functions script
energy production |..| |.| flows &
motion ..- || minerals carbon |+|
+ + produced consumed released # #
&=^ the mill || ..|. the body :::
a federation ^.. |. | web loom
constellation & & || temporary
boundary of skin +0+ + +
stoichiometric polyphony | | &=^
chorus set of strings |..|
.| chemistry & light |.
.... reading |... | ... physical
traversal ..- || visceral
traversal |+| +_+ repeat repeat
loop #_# &=^ link pause dwell leap
|| ..|. hypertext state machine
^.. |. | railway navigation & & ||
photosynthetic bit flow +0+ + +
binary twist ||| &=^ one zero
distance field |..| ..|.
microscope telescope ..- |.|
molecular astronomy |+| ||
infinite between # #
.|_ a hare moves _|. |.| half the
```

distance ..- || repeat repeat loop |+| + + never stop never loss never last measure last chance # # &=^ last breath last half last ^.. | . | 2d telegraph & & | | duration plot staccato rhythm pattern +0+ + + stochastic cyclone cluster noise chance score ||| &=^ sonic braille morse code stream sound |. .| alphabet word phrase sentence time paper scroll ..- |.| lattice graph network web tree [+] || link join conjunction semicolon latch hinge # # + + doorway portal ^... | place or point of union & & |.| two or more railway lines +0+ || junction meet or cross |||

```
.... data modeling ecosystem
transcription | . . | | . | contour
core motion ..- || stripped down
|+| + + essential form # # &=^
arc distilled | | ..|. abstraction
^.. | . | line drawn & & || color
form shape +0+ + + context seed
dynamics ||| &=^ phase plane
essence | . . | . . | . naked mirror
silhouette ..- |.| skeletal moving
gears |+|
.| translation filter |. |.|
transformation ..- || map bait
lure tackle |+| + + spinning wheel
# # &=^ rapunzel wizard magic fish
|| .| chutes & ladders ^.. |.|
connection conjunction sentence
& & || necklace +0+ + + purl one
..- |. | sticky spider silk |+| ||
relations table entry # # + + time
stamp seal or wax ||
..|. transact system |... |.|
query language ..- || row by row
relation |+| + + containment
```

category

category rope bind #_# &=^ join ||

015

..|. fact ::: hyperspace |... | |.|
a cube an axe ..- || enter
retrieve deliver swift |+| +_+
data knowledge reconstruct #_# &=^
reach link traverse || ... |. node
to node abandon ^..

.|_ latch hinge _|. |.| door
subway turnstile entrance arrow
..- || knot connection not
reversal |+| +_+ subject verb
object stop #_#

..|. food web vertex |..| |.|
consume / uptake / feed / decay
..- || pool to pool transmission
|+| +_+ mycorrhiza fungus root #_#
&=^ stoichiometric filter map ||

.|_ collision confluence fusion
|. |.| dissonant echo ripple ..|| fission waves |+| ++ node to
node connection #_# &=^ reified to
predicate || .|_ a measurement ^..
|.| unveiled revealed made plain
& &

```
..|. lexicon of relations |..| |.|
linguistics language ..- ||
shifting drawer |+| + + predicate
proclaim declare affirm assert # #
&=^ text stream interface || ..|.
pipeline filter map fold ^.. |.|
density of links & & ||
connectance metrics +0+ + + flows
& form ||| &=^ web network branch
tree graph | .. | . extensible
modular composable construction
..- |.| shape shifting flow
emergence change [+]
.| infinite series |. |.|
calculus of motion calculus of
change ..- || physics of angles
angels |+| + + sound waves light
# # &=^ inflection reflection ||
.| convergence to fixed point
orbit loop or cycle ^.. |.|
convergence to zero & & || absence
silent slope abyss +0+ + + shape
shifting flow emergence change |||
..|. associative trail path spline
```

mctavish $.. \parallel ..$ 28

index jump |..| |.| graph

traversal heat diffusion fluid
flow ..- || night mail railway
saturn sky |+| +_+ shape shifting
flow emergence change #_#

.|_ semantic nets systems frames
rules _|. |.| automated reasoning
engines ..- || ontologies schemas
|+| +_+ inference machines #_#
&=^ classifiers theorem provers ||
.|_ maps ^..

```
..|. us / them / ze / I |..| |.|
the body plural the collection the
ecology of I ..- || constellation
tonal set |+| +_+ commutative
diagram #_# &=^ vector pillars
basis set || ..|. fire bison ^..
|.| microfiche &_& || memex
landscape archive +0+
```

.|_ moth flame fuel _|. |.| what angel whose wings which bird ..- || tightrope perilous torch gas flight |+| +_+ filament neon halogen light #_# &=^ solar spectra halo || .|_ semisynthetic polychromatic light ^.. |.| harvest net gap spark &_& || every angel every bird every fire +0+ +_+ every light |||

mctavish ... || ... 30

- ..|. volcanic eruptions colossal
 explosive summer of night |... | |... |
 cloud of ash eternal winter sky
 ..- || sublime vastness |+| +_+
 clap of thunder #_# &=^ dark sky &
 rim of light ||
- .|_ die cast astronomies
 astrologers oracles neural net
 forecast _|. |.| summary synthesis
 archive copy ..- || deductions
 cloudy inference pale sky dusty
 glass |+| +_+ cloud forest mist
 #_#
- ..|. chlorophyll inception
 resinous extension |..| |.| oxygen
 production carbon-bound reduction
 ..- || transfer bury sequestrate
 |+| +_+ atmospheric storage #_#
 &=^ soil archive biomass || ..|.
 sky writes to earth ^.. |.| clouds
 turn to grass &_& || glass leaf
 snail fish +0+ +_+ bone & soil &
 log |||
- .|_ linear regression _|. |.|

inversion inflection ..- ||
rollercoaster shift |+| +_+
velocity force change #_# &=^
approach zero || .|_ axis of gone
the axe ^..

..|. dust bowl prairie loss |..|

mctavish ...||... 32

```
..|. handbook of codes (1938 :::
4th edition) |... |.. | corner
ledger entry ..- || creased marked
stained |+| + + unsteady hand page
48 # # &=^ pointer to drawer 89 ||
..... swiftly culled collection ^...
|.| quickly scrawled notation & &
|| hike knapsack specimen +0+ + +
salutation | .. | . . | . pale & rising
leaves ..- |.| slow tango |+| ||
archer & the doe # # + + deftly
spun golden silk || &=^ ecstatic
synthesis ^.. ..... snapshot & &
|.| drawing sky to soil +0+ || a
rhizomatic broadcast | | + +
joyful ode electric pulse |...|
.| that day the hiker struck &
gathered _|. |.| stamped &
scrawled ..- || a description the
day |+|
..|. flash drive |... |.. | cellular
recollection ..- || slowly fading
|+| + + casting of a day # # &=^
```

field notes .. <> .. 33

plant companion | | ... | . pulsing

network ^.. |.| etched on vinyl
&_& || voice wind chorus meadow
chord +0+ +_+ a sound restated now
||| &=^ perhaps could permeate the
ether |..|

..|. a cast back cellular recording |..| |.| etched on vinyl record number 43 ..- || still intact the voice & windy chordal chorus meadow |+| + + vinyl pulsing network # # &=^ perhaps if sent through radio wave & echo || sound reclaimed restored restated ^.. |. | ghostly sonic vapor could elicit in its hearing & & || a tender recitation (re)creation reclamation restoration reformation +0+ + + redemptive grass reenactment transmigration | | &=^ root-toroot transmission | .. | .. | . & a material transfer flux & flow equation ..- |.| formula calculation run through |+| || wrung through monte carlo iterations # # + + stochastic rinse residue distillations oscillations || &=^ chord progressions ::: rhythmic titrations ^.. .. an ideal polyphony this vital web & & |.| (re)creation would be difficult &

risky +0+

.| repairman rider passenger lone bird _|. |.| grass blade dyke (our hero zero rider ze) ..- || reviewed the course the notes the goal |+| + + clock cycle nutrient cycling handbook codes # # &=^ algorithms generative recipes diagrams flow probabilities coupled difference equations score || .| recorder of all things pigeon stone database journal records catalogue ^.. |. | ordered voices trophic chain biome web ::: a cycle & & || the goal to roll back first conditions +0+ + + frames loom gears tangled strands | | &=^ particles iron flint filing receivers long echo curvatures orbits |. . | compass paths elliptical earth lines sky threads hertzian waves ..- |.| maxwell electromagnetic radiation spark gap transmission signal smoke |+| || moth-wing chaos cyclone silence thermal currents prairie noise # # + + stochastic resilience robust fractionated

adaptable evolving noise || &=^
particles beats rhythms
frequencies dissonant resplendent
symphony ^... |_ verdant song
radar language rubbed wings &_&
|.| quickening pulse through stalk
& reed +0+

..... downward glance creased map old building vacant transmission |..| |.| radio station cement wire wood vinyl recordings ..- || grass forgotten language roles enactment script score reading glass |+| + + stone paper vinyl microfiche transmission reception receiver sensitive # # &=^ convergent frequencies overlayment sine wave addition sums sound score recording | ..|. many languages multiple dimensions C N P frequencies ^.. |. | some below the threshold of hearing & & || others short fast high all at once +0+ + + different scales different velocities different currencies materials markets of exchange ||| &=^ it would be hard to put this back together information lost sent number station | .. | .. |. codes plurality of transmissions ghost radio ..- |.| put the sound back put back transects seasonal constellations geometries probabilities |+| || catalysts

circulations taut dependencies
resilience arithmetics liminal
clocks #_# +_+ the eco-polyphonics
of all living systems ||

```
..|. faded animations faded colors
green yellow brown => gray |..|
|.| plant specimens stamped time-
stamped the walker rider passenger
..- || collector observer marks
down weather rain heat cold dry
piano rolls |+| + + score movement
slows to snapshots # # &=^ pinning
clothes recording transects counts
| | ... |. footnotes footnotes
footnotes ^.. |. | sets & grass to
find the trophic structure & & ||
problem of scale reference static
object product state +0+ + +
broken rhythm boxed number tables
| | | &=^ frozen vertex chalk body
outline fixed |..|
. | time step nutrient cycle
handbook of codes |. |.|
algorithm recipe diagram flow ..-
|| now back but then not now but
perhaps |+| + + maybe just ||
nothing # # &=^ rectify & join ||
```

```
..|. layers of heaven |... |..
cardinalities ..- || threshold
probabilities |+| + + levels of
possible quantum # # &=^ paths ||
..|. knots ^.. |. | countable & &
```

. a lattice lash tied taut |.

..|. between zero & one |... |..| infinity ..- || countable rational salt & pepper mesh |+| + + or an uncountable irrational sea # # &=^ unbroken surface || ..|. lifetime & extinction ^..

.| angels birds grassland constellation |.

```
..|. seemingly infinite =>
countable |..| |.| 2 (not many)
..- || 1 (one => zero) |+| + +
abstraction reduction # # &=^
trace contour | | ..|. subtraction
^.. |. | collapse & & || absence
```

```
..|. industry! |..| |.| gears
machines efficiency ..- || plow &
yoke |+| +_+ breaking ground #_#
&=^ carbon cycling || ..|. bound
flow ^.. |.| tensile vectors &_&
|| release capture +0+ +_+ web
cycle graph system lattice ||| &=^
plumes & spills |..|
```

mctavish .. || .. 42

..|. on the afternoon of the 8th day |... | ... | repairman rider passenger lone bird ..- || grass blade dyke (our hero zero rider ze) |+| +_+ only a bird not a god #_# &=^ only an old sewing machine ||

.|_ treadle & thread _|. |.|
stitch back repair repair ..- ||
lace prairie weave roots |+| +_+
pump light well bind #_# &=^
animate turn breathe || .|_
circulate & mend ^..

```
..|. stitch |... |.. | carbon cycle
..- || back |+| + + intact # #
&=^ structure function || ..|.
sink & source ^.. |. | sink &
source & &
.| theory of null values _|. |.|
problem of null values ..- ||
hollow sound |+| + + sparse matrix
# # &=^ initial conditions
external || .|_ parameters
landscape weather ^.. |.| bee
flower pollen lit pollen wings & &
..|. parts of speech sets thought
|..| |.| categories cages ..- ||
language archive (memory tables
data pollen noise) |+| +_+ quest
voyage counting # # &=^ physics
web grassland sea net trophic ties
traveler | | ..|. gears ^.. |.|
repair(*) rider lone bird & & ||
grass blade dyke (our hero zero
rider ze) +0+ + + illuminate
restore resurrect reweave
```

field notes .. <> .. 45

ecosystem length & breadth

rebreathe | | | &=^ trophic chain

harmonic series |..| ..|. swings & orbits ..- |.| collapse & chaos |+| || dynamic state constant flux #_# +_+ climate nutrient cycling community structures evolution ||

. $|_$ no time now time soon time $_|$.

028

..|. how is this night different
from all other nights? |... | |..|
short trophic chains ..- || webs
constrained |+| +_+ nutrient
enrichment enigma #_# &=^ nutrient
paradox nutrient cage bind limit
|| ... |. stable state dream fragile
balance ^.. |.. | weather heat rain
flood fire &_& || orbit cycle
chaos +0+ +_+ hydrogen oxygen :::
so hard to fuse ||| &=^ weld spark
twist |... | ... |. ecosystem metrics
gears & struts ..- |.. | evolution
adaptation |+| || form(s) of
change #_#

mctavish .. || .. 46

```
..... why is this night this day
this hour this moment different
from all others? |... | stable
state equilibrium ..- || mirage
|+| + + set of gears & struts # #
&=^ form change adaptations ||
.... choreography mathematics
theorems ^.. | . | natural law
physics stars & & || tonal
signature nutrient profile +0+ + +
language alphabets symbols ||| &=^
drawing cave drawing sky drawing
skull | ... | ... flux flow rise ..-
. difficult to capture |+| ||
carbon currency # # + + mineral
^.. ..|. efficiency & & |.| short
ladder +0+ || polyphony topology
||| + + C N P basis vectors |..|
&=^ weather ... tides light
plow |+| |.| poison shattered # #
|| maps fractured || + + space
faster ^.. &=^ time spinning & &
..|. gears +0+
```

..|. tuning discontinuity
fragmentation |..| |.|
multiplicity assemblage blur ..|| distance metrics near / far
this-ness |+| +_+ frequency
instruments theory #_# &=^ narrow
limited constrained || ..|. drawer
paper file grass specimen stalk
leaf root ^.. |.| instrument
network transmission system &_& ||
sensitive antenna chlorophyll
swarm +0+ +_+ body axes mapped
static system structure ||| &=^
food chain length & flow |..|

mctavish .. || .. 48

.... on that day that hour researcher | . . | lab-coat gatherer archive net bird memory ..- || had the bird sing one last song |+| + + (carefully recorded) # # &=^ after singing breathing trembling casting tonal net || ..|. once last sweetly ^.. |.| tender night remembered dawn & & || the bird the singer was then collected +0+ + + marked with capture date time label stamp ||| &=^ vinyl voice specimen body bones feather cell lock drawer |..| ..|. more precious for its absence last glimpse species culture ..-

.|_ slender threshold beat => tone (frequency wave) _|. |. | particle rhythm synthesis ..- || sea matter light |+| +_+ redfield 1958 strange ratio #_# &=^ woven fabric green & || .|_ flight ^.. |.| the bird sang one last song &_& || bird singer song +0+ +_+ dated stamped labeled || &=^ vinyl

voice specimen body bones feather
|. .| lock drawer archive ivy
building room ..-

mctavish ... $\| ...$ 50

..|. the passenger left & wandered to the river edge |..| |.| tall grass abandoned plot slope tangled bank ..- || electric passenger |+| +_+ feathers against the ripe pale blades & reedy fishers #_# &=^ spark filament poetry orchestration animation || ..|. memory storage bank ^..

. after 8 days on the 8th day at 3:48 |. |. | the passenger left the building & wandered ..- || towards river edge past tall grasses abandoned plots |+| + + down sloping entangled bank worn burdened electric passenger # # &=^ lay down feathers against the ripening pale blades & watched || .| the reedy fishers bent stalks headed trousers folded ^.. |.| pail in hand to shore chlorophyll surging through limbs & & || pulsing turning in the yellow light +0+ + + late summer day dusty strands of light ||| &=^ taut against the very ether of air

& day |. .| particles stretched into waves cast from far away ..-. circle orb fire dusty filaments tied against |+| || strong limbs drawn nets from sky they pulled # # + + muscled down & in these nets these baskets they gathered invisible dinosaurs ^... . their bones now atmospheric ghosts & & |.| of all released dead matter sources of their gathering +0+ || a hallelujah of photosynthetic abandon | | + + a transference a miracle accumulation a sink a _|. &=^ grabbing & bending & forcing deep underground ..- .| a conversion a reclamation a redemption |+| |.| a deep cellar window of light # #

```
..|. electricity insight action
|..| |.| poet singer cantor coder
..- || rhythm rhyme repetition |+|
+ + invoke evoke circle # # &=^
paper poetry storage machine
(memory printed symbols space)
..... spoken textile poet singer
living animation ^.. |. | electric
insight action text encoded
incantation & & || rhythm rhyme
recitation circle invocation +0+
+ + tape magnetic pitch sound
frequency modulation ||| &=^
transcription translation voyage
|..| ..|. a river a boatman a coin
an oar ..- |. | a knapsack a
shortwave radio |+| || receiver
transmitter signal # # + + voice
frequency on / off ||
. _ pulse antenna alphabetic _ .
. graph glyph string ..- ||
linear spline space |+| +_+
sequence pages spine spline # #
&=^ approximation map one route ||
.I one journey electric geo ^...
|.| route road reenactment context
```

```
& & || devoid absent world
generating physical +0+ + +
attention listening seeing | | &=^
gaze cross sensory skull |. .|
skeletal memory echo machine ..-
. | pulse current blood |+| ||
sinew vinyl gramophone => radio
# # + + moment (re)creation past
time || &=^ modulation frequency
^... (un)synchronize the clocks
& &
..|. architecture of flows |..|
|.| chain web sparse or dense ..-
|| multi routed multi threaded |+|
+ + brilliance resilience
resplendent # # &=^ abundance
complexity || ..|. iron glass &
noise ^.. |. | weft & warp & &
.| 4 string landscape |. |.|
infinite between ..- || bendable
tonality |+| + + fretless beast
# # &=^ gravitational pulls ||
.| orbit & deviation ^.. |.
delay / echo tape chance & & ||
degrees of freedom +0+ + +
map palette arcs _|. .|_ across
```

mctavish ... $\| ...$ 54

found sound canvas ..- |.| spill pour grid |+|

..|. night crow no time graffiti angel |..| |.| icarus ghost bird ..- || radio pluto |+| +_+ washington avenue #_# &=^ bridge subway warehouse || ..|. symphony of metal ^.. |.| concrete & glass &_& || blades grass +0+ +_+ blades accordion ||| &=^ sheet music |...|. sheet metal ..-

.|_ watches for sale _|. |.|
circus hawker ..- || projected
image alley |+| +_+ film alley
lamp #_# &=^ shadow night ink ||
.|_ pool found object ^.. |.|
theater company sound &_& ||
foundry sound factory +0+ +_+ new
polyphony alienation ||| &=^
intersections junctions _|. .|_
friction resolution ..- |.| chords
ropes sails |+|

..|. geographic information
systems layers maps |..| |.|
routes destinations ..- || vectors
fields pixel web join caught

number cells facts |+| +_+ dense
matrix #_# &=^ sparse sky ||

- ..|. city of sleep city of masks city of subway & turnstile |..|
 |.| too close stand back headlights ..- || tracks nyx boat coin chaos birds |+| +_+ stain permeate imprint drench spill #_# &=^ illuminate transcribe prime stretch nail ||
- .|_ theater of the very small theater of passions theater of stairwells _|. |.| theater of windows of doors of bus stop shelter of boat of wind of oar & effort ..- || railway roadway highway meadow |+| +_+ this place this platform this vacant #_# &=^ iowa small tool shed top hill grave field ||
- ..|. field notes double reed
 hollow log |..| |.| breaking hard
 ground ..- || thatch root
 millennia ruptured disrupted |+|
 +_+ buffalo fire & the fire
 tenders #_# &=^ lace boots & =>
 functions of lists reduce / fold

filter map || ..|. irretrievable calculation distillation contours
^.. |.| physics of oars physics of rope & gears &_& || physics of taut independence bound inter dependence +0+ +_+ cycling time flow graph calculus of change & motion ||| &=^ tangents & intersections flux weather elements wind |..| ..|. there exists an x a y a maybe just nothing ..- |.| suppose this |+| || not silence exactly # #

.|_ particles of speech particles of sound particles of exchange _|.
|.| molecular transfer diagrams schema ontologies syntax relations
..- || punctuations blank space lines unfolding hollow tunnel echo static dial |+| +_+ encode translate transform (re)cover uncover reverse #_# &=^ verb => noun => past tense || .|_ neural net language drip radio wave resilience ^.. |.| co2 => biomass => soil &_& || the deep & tangled dark sea horizon wind sail blades of grass +0+ +_+ sky to earth to

mctavish .. || .. 58

text texture textile |||

..... physical laws governing theorems systems form & function |..| |.| n-body species interaction multi lingual multi scale stoichiometric ..- || molecular spectral choral networks |+| + + multiple frame rates multiple scales projections synchronized moments colliding # # &=^ separating departures arrivals hydrology of energy & material & landscape & time (clocks) || ...|. meeting at a time at a table in a cafe in a town on a specific day ^.. | . | a moment specific coordinates & & || exchange of goods voyage of goods transference encounter +0+ + + chance the niche habitat fractal niche | | | &=^ harmonic series resonating sympathetic vibrating stable tonal isotopic | .. | .. |. ladders chutes pipes circuits ..- |.| currencies carbon nitrogen phosphorous rain |+| || ladders pipes circuits energetic exchange system currency commerce # # + + transformation

mctavish ... $\| ...$

conversion manufacture of material information transmitted || &=^ synthesis of data production efficiency nutrient use economy ^...|. intelligence craft gears assembly pipelines factories blueprint &_& |.| conservation of energy expenditure of energy conflagration carbon +0+ || coal bones oil organics drilled excavated broken harnessed released |||

.| goal ::: a net for capture seismograph of wind knowledge graphs monads |. |. | cybernetics books boat numerical recipes algorithms formulas dictionaries ..- || structures grammar syntax dynamics choreographies |+| + + configurations changes chord progressions # # &=^ harmonic sets heterotrophs producers fungal nutrient pools | . | weather self-organizing clockworks ^.. |.| a computing machine gears the mail a cloth & & || checkerboard abacus a network of relations +0+ + + attracting orbit counting mapping

computing ||| &=^ navigation a
compass the ocean _|. .|_ a sailor
ropes & tackle wind & helm ..-

..|. it was like this every
morning |..| |.| every night ..|| every afternoon |+| +_+ every
hour every day every particle
every sweep #_# &=^ of hand every
nuclear click digital + & || ..|.
watches for sale for locomotion
^.. |.| for steam oil coal crash
&_&

.| knapsack traveler nomad grazer quest pollinator pathways routes |. |. | corridors migrations disrupted interrupted poisoned clock stop last page ..- || extinction countable few zero gone |+| + + fragmentation no chute no ladder no path no way through over under # # &=^ bridge collapsed railway fallen circuit broken echo dulled | | . | tape erased ^.. | . | invisible map red-sky morning red mourning red warning & & || self assembly +0+ + + the art of ||| &=^ steering listening |. .| reception feedback ..- |.| fluidity response |+| || count

back count back #_# +_+ systems cognition circuits learning emergence flux flow || &=^ code embedded deep in cell in memory in twisted strands an alphabet a code ^...

mctavish .. || ..

..... memory motel memory text textile knots |..| |.| memory prayer memory fair memory microscope ..- || counted collected collated stored |+| + + clouds the cloud circuits wireless # # &=^ electromagnetic flux & flow electron tubes & spark knots & tables columns & graphs || ...|. syntax vowels & minerals rhythm transactions exchange ^.. |.| elliptical pathways & & || orbits sea of memory navigation colliding waves +0+ + + across along space rope | . . |

.|_ re-listen record past voice wind grass bird _|. |.| a re enactment an inhabitance embeddedness ..- || past landscapes topologies geologies cellular matrix |+| +_+ diorama of exquisite detail alive stilled waiting silent #_# &=^ animate breathe illuminate turn the rusty gears wind the clock || .|

alternating currents push zero pull rise level fall accelerate ^.. |. | pivot turn tangents of rest inflections & & || oars a boat receiver transmission +0+ + + copper wire & air release the signal like icarus to sky | | | &=^ earth surface invisible tracks |. .| 1906 triode tube (last voice) ..- |. | sensitive receiver ::: electromagnetic waves |+| || ocean of chatter information signals beats sound # # + + modulate frequencies cathode ray relay amplify || &=^ resonate signal expansion dial tune voice ^.. . |_ spider silk taut web spinning affixed to slender stalk & & |.| root stem leaves flowerhead +0+ || culm (blade & sheath) inflorescent splendor |||

..... honored listeners present & absent today (yesterday) |..| |.| honored receivers future reception ..- || audion circuit |+| + + grid-leak detector diode || grid => cathode # # &=^ regenerative form | | ... |. telephony radio talking newspaper ^.. |. | text => speech => signals => waves => recording => radiation => distillation & & || electrons through a vacuum wireless bodyless +0+ + + space without a filament without a spark without a fire | | | &=^ morse code => speech => music => flight |...| ...|. thermionic emission liberation ..-|.| electrode release electron temperature (heat => leap) |+| || thermal energy => charge carrier material work function catapult trapeze # # + + electromagnetic waves through a gap => light || &=^ electromagnetic fields are a filament not a plow ^.. radio frequency identification of goods & & |.| markers of heat of

movement +0+

.|_ supermarket radio _|. |.|
carbon isotope detection trophic
code ..- || visceral magnetic
gravity pulse |+| +_+ arterial
electrical currents light #_# &=^
static noise || .|_ the message
^.. |.| metal surface heat &_& ||
thermoelastic bend & flow +0+ +_+
ions eons millennia ||| &=^ vinyl
disk _|. .|_ labeled iron shelf
..- |.| dustlit volume |+| ||
dancehall volume #_# +_+
phonograph telegraph || &=^
braille ^.. .|_ spinner &_& |.|
feedback +0+

..|. microscope observatory tiny
vial |..| |.| tiny xylophone tiny
ribcage ..-

.|_ tube => transistor cathode ray
tube _|. |.| raster digital pixel
knowing ..- || language drawing
vector contour lost |+|

..|. cloud of pixels probabilities
clump densities likelihood noise
|..| |.| boltzmann entropy

analogue encoded signal
computation ..- || digit swarm
translation |+|

.|_ literature science novel science poetry science _|. |.| narrative past text pollination ..- || picture science syntax metaphor diagram |+| +_+ divine static steady state #_# &=^ mythic science || .|_ evolving ever changeful circle science ^.. |.| taut self-organizing orbit science &_& || geometric atmospheric light nitrogen +0+ +_+ nutrient profile adaptation ||| &=^ mineral light weather water _|. .|_ vial drop science ..- |.| torn curtain broken window chaos science |+|

```
..|. skull telescope |..| |.|
recorded playback frame ..- ||
incomplete phonetics |+| +_+
extinct past taxon gap #_# &=^
cipher thrivance teeming whole ||
..|. an awkward re assemblance ^..
|.| blank missing vertex node &_&
|| absent click track metrics
scale & score +0+
```

.|_ archive junk drawer weather babel chaos din _|. |.| vinyl recordings musical notations ..- || frequencies harmonics rhythm velocities |+| +_+ charges changes coupled difference equations #_# &=^ probabilistic time series snapshots samples pressings indices || .|_ the symbols were known but the phonetics were lost ^.. |.| the clocks were out of phase &_& || pulse & counting skew +0+

..|. breathe animate spark |..|
|.| pollination proliferation
mineralization ..- || green

pigment chlorophyll carbon water weaving milling spinning |+| +_+ oxygen energy light #_# &=^ moment ratio cello ratio orchestra ratio choir ratio grassland ratio || ...|. wetland ratio ocean redfield ratio broken stick vibrating string ^... |. | eigenvalues slanted towards instability collisional cycling &_& || lack of continuance certain chaos +0+ +_+ queer nonlinear signal skewed ||| &=^ bent |...|

.|_ incompatible not computable indecipherable inscrutable _|. |.| interval of change flux charge exchange transition evolution dynamics ..- || flow bifurcations unbound untied |+| +_+ sudden cloud break asymptotic stable stillness center #_# &=^ an orbit a continuance a vector field exuberance || .|_ neon vibration computation geologic carbon spilled across the sea ^.. |.| deep beneath the surface roots shredded ancient bones past sink store archive lock & & || zero

hero carbon sink pivot tangent steady drop +0+

...|. cloud upside down root
sequestration |...| |..| stop hold
bar block this avalanche of loss
..- || skeleton machine skull
writing ceiling wailing keening
siren howl feedback broken |+| +_+
wire cricket friction klezmer
waltz reed membrane wind bone
mallet hollow stem #_# &=^ a
regiment of meadow || ...|. circus
tent swirling dendrite dervish
dance cybernetic helm storm mast
mass ^.. |.| sunless subway depth
&_&

.|_ horsepower wind dams & mill harness velocity reactant _|. |.| nutrient use production efficiency industry! rhizome microbes bacteria ..- || soil rushes moss wing drawers files books tape press type ink compression & encodings |+| +_+ digital transcriptions vinyl pressings drawings equations journals samples collections bodies #_# &=^

filaments antenna wing skull vertebrae jaw hand stalk leaf flower pollen | . | route cellular trace remnants residue ^.. |. | film plaster fossil cave ochre & charcoal forms contours the hunt the relation the web & & || pins papers stamp data survey study researcher walking catching pulling recording retrieving +0+ + + net knapsack bullet glove transect count map compare average mean value | | | &=^ variation noise signal caught taxonomy of system observation of change |. .| record function deduction of web

...|. fires wind walls cross the plains |...| |..| siberian methane craters epoch ice mass glaciers melted ..- || carbon water torrents spew |+| +_+ glaciers plastic castles plastic wasteland acid death zone #_# &=^ tsunami mass breadth depth force physics || ...|. pandemic fascist prisons state-blue murder ^... |.| homeless ghosts plywood window &_& || cafe stalled railways vacant buslines +0+ +_+ emergency crisis full wards breathless death |||

.|_ hunger walks through newsprint clickbait _|. |.| advertisement-laced bad news ..- || devastating news unprecedented news every-day cataclysmic criminal leader news |+| +_+ felon leaders moloch leaders consuming leaders devouring leaders marrow sucking leaders #_# &=^ maskless faithless villains bearing flags & spewing venom ||

..|. & citizen knapsack bandaged wanderers |..| |.| greasy coughing last-legs diner masked ghosts ..-

...|. why is this day unlike any other day? |...| |...| this moment this view this inflection bending curve like no other ..- || or why is this day like an other once upon a time dinosaur last-day meteorite explosion |+| +_+ dusty smoke-filled orange sky #_#

.|_ start again empty chalkboard
_|. |. | wound tape deck of cards
..- || blank recording unpressed
vinyl unengraved metal open cave
|+| +_+ an equation computation
restoration symphony #_# &=^
incantation animation last stop
grassland texaco station || .|_
origin of species perfect ratio
entanglement bank fragile web
steady state ^.. |. | forever
abundant resplendent frictionless
eternal energy oxygen machine & &

..|. repairman rider passenger hero (ze)ro lone bird |..| |.| the blade the dyke the bird (our hero zero rider ze) ..- || arrived on

platform wasteland meadow track
|+| +_+ worn suitcase sandwich
coffee thermos #_# &=^ tepid brown
liquid greasy paper || ..|.
creased map ^.. |.| compass light
& & || lucky strike +0+