

HYPERNUMBERS AND OTHER EXOTIC STUFF



(1) MORE ON THE "ARITHMETICAL" SIDE

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Studies on Santilli's Isonumber Theory - Arun S. Muktibodh - <http://www.santilli-foundation.org/docs/pdf2.pdf>

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<http://www.santilli-foundation.org/docs/elements-hadronic-mechanics-iii.compressed.pdf>

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"What's inside ZerO?" 'Theta Numbers' and other possibilities within an 'Evolving-O' - John A. Shuster

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<https://www.amazon.com/Magic-Joy-Exploding-Dots-revolutionary/dp/9388459113>

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Addition-chain exponentiation - https://en.wikipedia.org/wiki/Addition-chain_exponentiation

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Hedronometry (Dimensionally enhanced Trigonometry) - Blue the hedronometer - <http://daylateanddollarshort.com/mathdocs/>
<https://demonstrations.wolfram.com/CalculusFreeDerivativesOfSineAndCosine/>
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<https://www.amazon.com/Thomas-Harriots-Doctrine-Triangular-Numbers/dp/3037190590>

(9) SOFTWARE ZONE

DATA STRUCTURES*

Treesheet (tree-like spreadsheet) - <http://strlen.com/treesheets/>
Blockchain (demo) - <https://andersbrownworth.com/blockchain/>
Heimer (mind map) - <https://github.com/juzzlin/Heimer>
DAS-UI <https://das-ui.firebaseio.com/> && <https://szymonkaliski.com/writing/2017-09-08-building-das-ui/>
Orca (procedural sequencers) - <https://github.com/Hundredrabbits/Orca>
Taichi (spatially sparse multi-level data structures) - <https://github.com/taichi-dev/taichi>
Rasdaman (datacube and arrays) - <http://www.rasdaman.org/wiki>
Categorical Data (data-related tasks using category theory) - <https://www.categoricaldata.net/>
Enso (diagrammatic coding) - <https://enso.org/language>
Egison (efficient non-linear pattern matching with backtracking for non-free data type) - <https://www.egison.org/>
Eve (uniform data-processing) - <http://witheve.com/>
Habit (type-level programming) - <https://www.habit-lang.org/>
Fluidinfo (columnar shareable data) - <https://github.com/fluidinfo> && <https://en.wikipedia.org/wiki/Fluidinfo>
MentDB (world wide Data) - https://www.mentdb.org/mentdb_weak.html
Obsidian (knowledge base on top of your local folder of plain text files) - <https://obsidian.md/>
LMQL (query language for large language models) - <https://github.com/eth-sri/lmql>
Koka (effect typing, effect handlers, Perceus memory management) - <https://koka-lang.github.io/koka/doc/book.html#why>
NewLang (computing tensors and rational numbers) - <https://github.com/rsashka/newlang>
Odin (data-oriented programming) - <https://odin-lang.org/>
Cairo (provable programs and nondeterministic jumps) - https://www.cairo-lang.org/docs/how_cairo_works/cairo_intro.html
Exo (exocompilation) - <https://exo-lang.dev/>
Primecoin - <https://en.wikipedia.org/wiki/Primecoin> && <https://primecoin.io/>

STRUCTS* WITH META

Bedrock (meta-distro) <https://bedrocklinux.org/>
Funtoo (meta-distro) - <https://www.funtoo.org/Welcome>
T2 System Development Environment (meta-distro) - <https://t2sde.org/index.cgi/>
DL Linux (meta-meta-distro) - <https://web.archive.org/web/20181221164035/https://www.sudosatirical.com/articles/dl-linux-0-0-1-released/>
Black (reflective) - <http://pllab.is.ocha.ac.jp/~asai/Black/>
Terra (meta-programming) - <http://terralang.org/>
MetaL (meta-language) - <https://www.meta-language.net/faq.html#what>
Rinci (metadata specifications) - <https://metacpan.org/pod/Rinci#ABSTRACT>
Circle (meta-programming) - <https://www.circle-lang.org/>
Hackett (meta-programming) - <https://lexi-lambda.github.io/hackett/>
Elena (polymorphic code) - <https://github.com/ELENA-LANG/elena-lang/wiki/ELENA-Programming-Manual#overview>
Beluga (mechanizing meta-theory) - <https://www.cs.mcgill.ca/~complogic/beluga/index.html>
Hazel (incomplete programs) - <https://hazel.org/>
Autohotkey (gui and scripting automation for windows) - <https://www.autohotkey.com/>
Rosie Pattern (beyond regex) - <https://rosie-lang.org/about/>
Antipurity (self-aware interpreter) - <https://github.com/Antipurity/conceptual>
Multicompiler (defensive compiler) - <https://immunant.com/blog/2018/09/multicompiler/>
Avail (articulate programming) - <https://www.availlang.org/about-avail/introduction/index.html>
Push (evolutionary computing) - <https://faculty.hampshire.edu/lspector/push.html>
Wyvern (built-in skill for large-scale design) - <https://wyvernlang.github.io/>
Gen (probabilistic) - <https://probcomp.github.io/Gen/>
Pyro (probabilistic) - <https://pyro.ai/>
Rascal (meta-programming) - <https://www.rascal-mpl.org/>
Pharo (software as objects, immersive) - <https://pharo.org/features>
DarklangGPT (Deployless cloud backends with AI-generated code) - <https://darklang.com/>
LangChain (simplify APP construction with LLMs) - <https://langchain.com/>
Scallop (neurosymbolic programming) - <https://scallop-lang.github.io/>
Mojo (AI oriented) - <https://docs.modular.com/mojo/why-mojo.html>

SOUND*

Gwion - <https://gwion.github.io/Gwion/>
Kronos vesaronilo - <http://kronos.vesaronilo.com/>
Supercollider - <https://supercollider.github.io/>
Faust - <https://faust.grame.fr/>
Chuck - <http://chuck.cs.princeton.edu/>

NETWORKING*

Live Raizo (network simulation) - <https://sourceforge.net/projects/live-raizo/>

P4 (implement specific network behaviours) - <https://p4.org/>
Helena (browsing automation) - <https://helena-lang.org/>
Volunia (rpg-like browser) <http://www.volunia.com/>
Gather (rpg-like meetings) - <https://www.gather.town/>
Lynx (textual browser) - [https://en.wikipedia.org/wiki/Lynx_\(web_browser\)](https://en.wikipedia.org/wiki/Lynx_(web_browser))
Beaker Browser (peer-to-peer Web browser) - <https://beakerbrowser.com/>
Nyx browser (keyboard-driven browser) - <https://github.com/atlas-engineer/next>
Jolie (microservices) - <https://www.jolie-lang.org/>
Daphile (headless music server) - <https://www.daphile.com/>
Skywave linux (software defined radio servers) - <https://skywavelinux.com/>
Gotenna (off-grid mobile mesh) - <https://gotenna.com/>
Manyverse (off-grid social networking) - <https://www.manyver.se/faq/what-is-manyverse>
p2p networking - <https://www.gnunet.org/en/> <https://zeronet.io/> <https://freenetproject.org/>
Eternal-september private news server (usenet) - <http://eternal-september.org/>
Aioe.org public news server (usenet) - <https://news.aioe.org/>
What is the Usenet improvement Project? - <http://twovoyagers.com/improve-usenet.org/>
Fediverse (federated servers for web-publishing) - <https://en.wikipedia.org/wiki/Fediverse>
Assemblscript (a TypeScript-like language for WebAssembly) - <https://www.assemblscript.org/>
Buzz (swarms robotics) - <https://github.com/buzz-lang/Buzz> && <https://the.swarming.buzz/wiki/doku.php>
Wing (entire cloud as the computer) - <https://github.com/winglang/wing>

OPERATING SYSTEM*

XOD.IO (microcontrollers) - <https://xod.io/>
Elemental Processor SIMulator - <https://wepsim.github.io/>
Mikrocodesimulator MikroSim 2010 (microcode) - http://www.mikrocodesimulator.de/index_eng.php
Katai Struct (binary data structures) - <https://kитай.io/>
Snowdrop OS (16-Bit Operating System) - <http://sebastianmihai.com/snowdrop/>
Turbo Rascal (design of 8-bit/16-bit games)- <https://lemonspawn.com/turbo-rascal-syntax-error-expected-but-begin/>
NESFab (creating NES games) - <https://pubby.games/nesfab.html>
Tunguska (a ternary computer emulator) - Viktor Lofgren - <http://tunguska.sourceforge.net/>
The Trillium Architecture - Douglas W. Jones - <http://homepage.divms.uiowa.edu/~jones/ternary/trillium.shtml>
Red (full-stack) - <https://www.red-lang.org/p/about.html>
Racket - <https://racket-lang.org/> && Neverlang - <https://cazzola.di.unimi.it/neverlang2.html> (language creation)
Rescatux - <https://www.supergrubdisk.org/rescatux/> && Parted Magic - <https://partedmagic.com/> (OSes for rescue and recovery)
Minix - <https://www.minix3.org/> && 'An Open Letter to Intel' - <https://www.cs.vu.nl/~ast/intel/>
Los Procesadores Intel tienen un Secreto Misterio - <https://www.youtube.com/watch?v=CaLb7waR6eo>
Debian-hurd (debian over Hurd) - <https://www.debian.org/ports/hurd/> https://en.wikipedia.org/wiki/GNU_Hurd
Trisquel (ubuntu over Libre-Linux) - <https://trisquel.info/>
Noulith (attempt to give myself a new Pareto-optimal choice for quick-and-dirty scripts) - <https://github.com/betaveros/noulith>
Ratpoison (Window Manager) - <https://www.nongnu.org/ratpoison/>
IceWM (Window Manager) - <https://icewm.org/>
RedoxOS - <https://doc.redox-os.org/book/ch01-06-how-redox-compares.html>
Linux From Scratch! - <https://www.linuxfromscratch.org/>

LANGUAGE*

Sono (linguistic study) - <https://github.com/Nallantli/Sono>
Quorum (evidence-oriented) - <https://quorumlanguage.com/reference.html>
Inform7 (interactive narrative, textual adventures) - <http://inform7.com/>
Poliqarp (universal concordancer for large corpora) - <http://poliqarp.sourceforge.net/about.html>
Paper generator - https://en.wikipedia.org/wiki/Paper_generator
Markup Languages list - <https://web.mit.edu/mecheng/pml/standards.htm>
Hedy (multi-lingual, teaching) - <https://hedy.org/>

GRAPHICS*

Curv (mathematical methods for art design)- <https://github.com/curv3d/curv>
GraRLS (static graphic images) - <http://www.grarls.org/>
KUIML (skin and GUI) - <https://www.bluecataudio.com/Vault/Skins/KUIML/>
Complexities of Color in Computing - Ellen Wondra - <https://www.youtube.com/watch?v=VCvOwoeOgv8>
Dr Huang's Math Handbook Calculator - <http://drhuang.com/> && <http://drhuang.com/science/mathematics/software/>
Draw2D (diagrams) - <http://www.draw2d.org/draw2d/examples.html>
Threejs (creation of 3D content) - <https://threejs.org/manual/#en/fundamentals>
Video (video editing) - <https://lang.video/>
SciLab (numerical computation) - <https://www.scilab.org/>
to line 187 move to second document <https://ziglang.org/learn/overview/> <https://github.com/grain-lang/grain>

(10) CYBERNETICS

The Cybernetic Foundation of Mathematics (Semantic graphs and Labeling rules at pages 118 - 121)

https://pat.keldysh.ru/~roman/doc/Turchin/1983_Turchin_The_Cybernetic_Foundation_of_Mathematics.pdf

Valentin Turchin - <https://pat.keldysh.ru/~roman/doc/Turchin/>

Diagnosing the System for Organizations - Stafford Beer

<https://www.amazon.com/Diagnosing-System-Organizations-Stafford-Beer/dp/0471951366>

Beyond Dispute: The Invention of Team Syntegrity

<https://www.amazon.com/Beyond-Dispute-Invention-Team-Syntegrity/dp/0471944513>

Viable system model - https://en.wikipedia.org/wiki/Viable_system_model

How Many Grapes Went Into the Wine - Stafford Beer (see chapter 'The Irrelevance of Automation')

<https://www.amazon.com/Many-Grapes-Went-into-Wine/dp/0471942960>

Cybersyn - <http://www.cybersyn.cl/> && <http://wiki.p2pfoundation.net/Cybersyn>

'Chile Secreto Capítulo 3 : Proyecto Cybersyn' - <https://www.youtube.com/watch?v=4cK7RRH2dX0>

Homeostat - <http://pespmc1.vub.ac.be/ASC/HOMEOSTAT.html> && Variety - [https://en.wikipedia.org/wiki/Variety_\(cybernetics\)](https://en.wikipedia.org/wiki/Variety_(cybernetics))

Engineering cybernetics: 60 years in the making - Zhiqiang Gao

https://www.researchgate.net/publication/271917376_Engineering_cybernetics_60_years_in_the_making

Engineering Cybernetics - Hsue-Shen Tsien [Qian Xuesen] - <https://babel.hathitrust.org/cgi/pt?id=uc1.b3734950&view=1up&seq=7>

Man–Machine–Environment System Engineering Proceedings of the 17th International Conference on MMESE - S. Long and B. Dhillon

The energy evolution - <https://www.amazon.com/Energy-Evolution-Schaubergers-Eco-technology-Schauberger/dp/B00IGYQ24U>

The Fertile Earth - <https://www.amazon.com/Fertile-Earth-Agriculture-Fertilisation-Ecotechnology/dp/B01FGORR8M>

Cypherpunk - <https://en.wikipedia.org/wiki/Cypherpunk>

Plexil (robotics and systems) - <http://plexil.sourceforge.net/wiki/index.php/Overview>

Modelica (language for modeling of cyber-physical systems) - <https://modelica.org/modelicalanguage.html>

Resource Based Economy - <https://www.youtube.com/watch?v=EkMjTnWk14> && <https://www.resourcebasedeconomy.org/>

Center for Resource Management - <https://www.thevenusproject.com/center-for-resource-management/>

Self Erecting Structures - <https://www.youtube.com/watch?v=CM8bNZTvX3A>

Comparison with current technologies - <https://www.youtube.com/watch?v=T9c821s9mjw>

RBE TVP research center mix - <https://www.youtube.com/watch?v=Jy967Y0OsWY>

Tromjaro - <https://www.tromjaro.com/> && <https://www.tromjaro.com/about/>

Peter Joseph 's podcast <https://www.youtube.com/@RevolutionNowPodcast>

Destiny and Control in Human Systems Studies in the Interactive Connectedness of Time - Charles Muses

<https://www.amazon.co.uk/Destiny-control-human-systems-chronotopology/dp/157898727X>

SUPL (Syntactic Universal Programming Language): a new dimension in software design and artificial intelligence

How to make a stupid machine clever by cybernetically opportunistic programming

Cybernetics today and tomorrow: The place of hypernumbers

(11) NUMERALS ON CONSCIOUSNESS

Cognitive-Theoretic Model of the Universe (CTMU) - Christopher Langan - <http://hology.org/>

Chris Langan on IQ, The Singularity, Free Will, Psychedelics, CTMU, and God - <https://www.youtube.com/watch?v=N-bRM1kYuNA>

CTMU Wiki - <https://ctmucommunity.org/wiki/> && CTMU Papers <http://hology.org/ctmu-papers/>

Interview of Langan by Michael Knowles - <https://www.youtube.com/watch?v=11-ckSz6FrQ>

Chris Langan Λ Kastrup on Consciousness, Metaphysics, Computation, and God - <https://www.youtube.com/watch?v=HsXxgQy4xLQ>

La Teoria Sintérgica - Jacobo Grinberg-Zylberbaum

<https://www.amazon.com/Teor%C3%ADa-Sintérgica-Spanish-Jacobo-Grinberg-Zylberbaum/dp/B08JB1XL3C>

Hiroshi Motoyama - Toward a Superconsciousness: Meditational Theory and Practice

<https://www.amazon.com/Toward-Superconsciousness-Meditational-Theory-Practice/dp/0895819147>

International Journal of Mathematics and Consciousness - <http://www.ijmac.com/papers>

Consciousness Is All There Is: A Mathematical Approach with Applications - Tony Nader

<http://www.ijmac.com/wp-content/uploads/2015/12/all05.pdf>

Glasgow Coma Scale - https://en.wikipedia.org/wiki/Glasgow_Coma_Scale#Scoring
Levels of consciousness - https://en.wikipedia.org/wiki/Altered_level_of_consciousness#Definition
Schmidt sting pain index - https://en.wikipedia.org/wiki/Schmidt_sting_pain_index

Strange loop - https://en.wikipedia.org/wiki/Strange_loop

I Am a Strange Loop - Douglas R. Hofstadter - <https://www.amazon.com/Am-Strange-Loop-Douglas-Hofstadter-ebook/dp/B004PYDBS0>

Psychedelic Information Theory: Shamanism in the Age of Reason - James L. Kent
<https://www.amazon.com/Psychedelic-Information-Theory-Shamanism-Reason/dp/1453760172>

Geometry of Trips - <https://psychonautwiki.org/wiki/Geometry>

Polynomial Root-finding and Polynomiography - Bhaman Kalantari (see section 'Polynomiography based on Voronoi coloring')
<https://www.amazon.com/Polynomial-Root-finding-Polynomiography-Bahman-Kalantari/dp/9812700595>

Pascalejandro – Alejandro Jodorowsky and Pascal Montandon - <http://pascalemontandon.com/albums-work/pascalejandro/>

Humankind fundamental teachings – Joachim Werdin - <https://archive.org/details/humankind-fundamental-teachings>

Rocco J. Gennaro - Disturbed Consciousness New Essays on Psychopathology and Theories of Consciousness-The MIT Press (2015)
<https://www.amazon.com/Disturbed-Consciousness-Psychopathology-Theories-Philosophical-ebook/dp/B08BSZRZF7>

Solving the Mind-Body Problem by the CODAM Neural Model of Consciousness? - John G. Taylor (see 17.5 Super-Consciousness?)
<https://www.amazon.com/Solving-Mind-Body-Consciousness-Springer-Cognitive-ebook/dp/B00H4QT7VQ>

New Horizons in the Neuroscience of Consciousness - Elaine K. Perry, Daniel Collerton, Fiona E.N. LeBeau and Heather Ashton
<https://www.amazon.com/Horizons-Neuroscience-Consciousness-Advances-Research/dp/9027252157>

Osho Meditations - https://www.sannyas.wiki/index.php?title=Category:Osho%27s_Meditations

Krishnamurti Schools - <https://www.jkrishnamurti.org/schools>

Sadhguru and machines <https://sadhguru-encyclopedia.org/yantra/>

<https://isha.sadhguru.org/in/en/wisdom/article/kashi-shiva-tower-of-light-vishwanath-manikarnika-ghat>

(12) THE CURVY, THE ROUND AND THE HOLEY

Squigonometry: The Study of Imperfect Circles - Robert D. Poodiack and William E. Wood
<https://www.amazon.com/Squigonometry-Imperfect-Springer-Undergraduate-Mathematics/dp/3031137825>

Atan2 - <https://en.wikipedia.org/wiki/Atan2> && Sinc - https://en.wikipedia.org/wiki/Sinc_function

Polyspherical Coordinates (N. Ja. Vilenkin) - https://www2.chem.ucl.ac.uk/worthgrp/quantics/doc/vcham/polyspherical_docu.html

Polyspherical complexes - Gábor Hetyei - https://www.researchgate.net/publication/227203966_Polyspherical_Complexes

Tetracyclic coordinates - https://encyclopediaofmath.org/wiki/Tetracyclic_coordinates

A Treatise on the Circle and the Sphere - Julian Coolidge - <https://archive.org/details/treatiseonthecir033247mbp>

On the Geometry of Some Localisation Problems in Robotics JM Selig - https://link.springer.com/chapter/10.1007/978-3-030-91352-6_13

Chua's circuit - https://en.wikipedia.org/wiki/Chua's_circuit && De Bruijn graph - https://en.wikipedia.org/wiki/De_Bruijn_graph

The non-equality between curve and the straight line - Walter Meyer (precedent of a calculus to measure curves and surfaces with balls)

<http://curiosidadesmatematicas.cl/wordpress/aclaracion/https://curiosidadesgeometricas.blogspot.com/2017/>

<http://curiosidadesmatematicas.cl/wordpress/espanol-matematicas/espanol-analisis-de-la-no-igualdad-de-la-curva-y-la-recta-extracto/>

Walter Meyer 's youtube channel - <https://www.youtube.com/user/Curiosidadesgeo/>

The new chilean inch (la nueva pulgada chilena) - <https://curiosidadesgeometricas.blogspot.com/2015/02/>

Bases estructurales para la extension del sistema de medidas - <https://docplayer.es/106649019-Analisis-de-la-no-igualdad-de-la-curva-y-la-recta-bases-estructurales-para-la-extension-del-sistema-de-medidas-autor-walter-enrique-meyer-vergara.html>

Embedding a Torus (John Nash) - Numberphile - <https://www.youtube.com/watch?v=5qu3WEtuf6c>

Extra on a Hole in a Hole in a Hole - Numberphile2 - <https://www.youtube.com/watch?v=6Qpfv5y-7WU>

Tantrasaṅgraha of Nilakaṅṭha Somayājī - K. Ramasubramanian and M.S. Sriram
<https://link.springer.com/book/10.1007/978-0-85729-036-6>

Hilbert's arithmetic of ends - https://en.wikipedia.org/wiki/Hilbert%27s_arithmetic_of_ends

Perpetual calendar - William James Sidis - <https://web.archive.org/web/20180618021004/http://www.sidis.net/Calendar.htm>

Why Ellipses Are Not Elliptic Curves - A.Rice and E. Brown - https://www.maa.org/sites/default/files/pdf/upload_library/2/Rice-2013.pdf

The Great Pi Conspiracy - Mark and Scott Wollum - <https://omnithought.org/great-pi-conspiracy/2584>

Clebsch Surface - <https://blogs.ams.org/visualinsight/2016/03/01/clebsch-surface/>
<https://blogs.ams.org/visualinsight/2016/02/15/27-lines-on-a-cubic-surface/>

Triangular wheel - <https://www.popularmechanics.com/military/a21932118/darpa-wheels-become-tank-tracks/>

Shark Wheel - https://en.wikipedia.org/wiki/Shark_Wheel#Application

Fractal gear - https://ksr-ugc.imgix.net/assets/004/987/498/d1d3926f15a17d6194a07825630d3424_original.gif?ixlib=rb-2.1.0&w=680&fit=max&v=1448600022&auto=format&gif-q=50&q=92&s=9851a96b94a4aaab1fdf587ccd3e5647

Spiritual Mathematics: Introduction to the Circular Number System – John Dunne-Brady
https://books.google.cl/books?id=dDPgAgAAQBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Clifford parallel - https://en.wikipedia.org/wiki/Clifford_parallel

Tau manifesto - <https://tauday.com/tau-manifesto> && <https://hexnet.org/files/documents/tau-manifesto.pdf>

Cycles in hypergraphs - <https://math.stackexchange.com/questions/512581/what-is-a-cycle-hypergraph>

Spirals and Vortices In Culture, Nature, and Science - Kinko Tsuji, Stefan C. Müller
<https://www.amazon.com/Spirals-Vortices-Culture-Frontiers-Collection-ebook/dp/B07QB5XWD7>

Tornado-shaped curves - Sol Sáez Martínez, Félix Martínez de la Rosa and Sergio Rojas
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An Excursion in Diagrammatic Algebra Turning a Sphere from Red to Blue - J Scott Carter
<https://www.amazon.com/Excursion-Diagrammatic-Algebra-Turning-Everything/dp/9814374490>

Le pédalier Cerdan - <https://www.designboom.com/technology/cerdan-crankset-increases-pedaling-power-06-30-2021/>
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<https://www.amazon.com/Vicious-Circles-Mathematics-Non-Wellfounded-Phenomena/dp/1575860082>

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<https://www.amazon.co.uk/Non-Well-Founded-Sets-Csli-Lecture-Notes/dp/9990804761>

Seashell surface - https://en.wikipedia.org/wiki/Seashell_surface

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Gömböc - <https://en.wikipedia.org/wiki/G%C3%B6mb%C3%B6c> && <https://plus.maths.org/content/story-gomboc>

Spiric of Perseus - https://en.wikipedia.org/wiki/Spiric_section && <https://mathworld.wolfram.com/SpiricSection.html>

Circles in torus–torus intersections - Ku-Jin Kim - <https://core.ac.uk/download/pdf/81114353.pdf>

Flux coordinates - http://fusionwiki.ciemat.es/wiki/Flux_coordinates

Double Fourier sphere method - https://en.wikipedia.org/wiki/Double_Fourier_sphere_method

A Tentative Magnecular Model of Liquid Water with an Explicit Attractive Force Between Water Molecules - R. Santilli - <http://www.santilli-foundation.org/docs/santilli-liquid-water.pdf>

Three Gears are Possible – Henry Segerman (at Numberphile) - https://www.youtube.com/watch?v=5Mf0JpTI_gg
Segerman 's web - <https://www.shapeways.com/shops/henryseg>

Wolfgang W. Daeumler - <https://www.youtube.com/channel/UCCtJqv7734pD5FLFbt-5DLw/videos>

Horn Torus - <https://www.horntorus.com/text/>

Revolution and rotation - https://www.horntorus.com/illustration/standard_horntorus_turns_00.html

Dynamically uncoiling horn torus coordinate - <https://www.horntorus.com/illustration/URLdetail.html>

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Sphere to horn torus - <https://www.horntorus.com/2nd-method.html#push>

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What is the Genus? - Patrick Popescu-Pampu - <https://www.amazon.com/What-Genus-Lecture-Notes-Mathematics/dp/3319423118>

Beyond pseudo-rotations in pseudo-Euclidean spaces - Abraham Ungar
<https://www.amazon.com/Pseudo-Rotations-Pseudo-Euclidean-Mathematical-Analysis-Applications/dp/0128117737>

(13) BEYOND COMPLEX NUMBERS AND THE PLANE

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Truly hypercomplex numbers : Unification of numbers and vectors - Redouane Bouhennache - <https://arxiv.org/pdf/1409.2757.pdf>

On a novel 3D hypercomplex number system - Shlomo Jacobi - <https://arxiv.org/pdf/1509.01459.pdf>

Generalizaciones de los números: de la aritmética a las variedades diferenciables - Fernando Etayo Gordejuela
<https://repositorio.unican.es/xmlui/bitstream/handle/10902/13817/2016GacRSocMatEspGeneralization.pdf?sequence=1&isAllowed=y>

Ensemble de nombres - Taladris, Silk78, Seirios, Telchar, Tigerfou and Médiat - <https://forums.futura-sciences.com/mathematiques/>

NOMBRES : CURIOSITÉS, THÉORIE, USAGE - Gérard Villemin - <http://villemin.gerard.free.fr/>

Theory of 3D complex space and complex number of 3D space, applications and experimental validation techniques - L.T. Abobda
https://www.researchgate.net/publication/301627462_Theory_of_3D_complex_space_and_complex_number_of_3D_space_applications_and_experimental_validation_techniques

Understanding & Using "nuReal numbers" 6.0 - John A. Shuster
https://www.researchgate.net/publication/362850567_Understanding_Using_nuReal_Numbers

Hoop Algebras - Roger Beresford (orthogonal roots of unity, conjugates and signs distinct of the usual cyclotomic machinery)
Hoop Algebras and Physics - https://library.wolfram.com/infocenter/MathSource/6198/Hoops&Physics.doc?file_id=6093
Hoop Algebra Supplement - https://library.wolfram.com/infocenter/MathSource/6198/HoopAlgebraSupplement.doc?file_id=6092
Wolfram library of Roger - <https://library.wolfram.com/infocenter/MathSource/6198/>
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https://library.wolfram.com/infocenter/search/?search_results=1&search_person_id=4705

Reinko Venema's blog about 3d numbers and miscellaneous topics - <http://3dcomplexnumbers.net/>

On the Extension of Complex Numbers - Nicholas Gauguin Houghton-Larsen
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.304.5052&rep=rep1&type=pdf>

Hypercomplex number in three dimensional spaces - Abdelkarim Assoul
https://www.researchgate.net/publication/308969073_Hypercomplex_number_in_three_dimensional_spaces_hal-01686021

Solving Quaternion Quadratic Equations - Peter Michael Jack - <https://archive.org/details/q2wp01>

A System of Three-Dimensional complex variables - E. Dale Martin
<https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19880004569.pdf>

An algorithm for multiplication of trigintaduonions – Alexandr Cariow and Galina Cariowa
<https://pdfs.semanticscholar.org/2a77/5a4f39ba0a0d1ceb34b3e0a1c2223117d680.pdf>

Quixel Quixotic algebra v0.1.4 (OpenCL library) - Jens Koeplinger - <https://bitbucket.org/jenskoeplinger/quixel/src/master/>

Foundations of transcomplex numbers An extension of the complex number system to four dimensions - Perez Ernesto

Initiating Santilli's Iso-Mathematics to Triplex Number... - Nathan O. Schmidt and Reza Katebi - <http://vixra.org/pdf/1308.0051v2.pdf>

Three-dimensional Mathematics - Paul D. Katching
Web "3d Math Secrets" (coming soon... ???) - <https://www.3dmathsecrets.com/> <https://www.3dmathsecrets.com/breakthrough>
<https://web.archive.org/web/20220519134749/https://www.3dmathsecrets.com/science>
<https://www.skills31teams.com/about-the-professor> && <https://www.csop.global/about-us>
Conference at Desh Bhagat University - <https://www.youtube.com/watch?v=r6gNfok7A0>
Notes - <https://cdn.website-editor.net/210a0c085d9d48069884380589a8c0ef/files/uploaded/Professor-PDK-Notes.pdf>
Slides - <https://cdn.website-editor.net/210a0c085d9d48069884380589a8c0ef/files/uploaded/1st-Three-Dim-Math-App.pdf>

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<https://www.sciencedirect.com/science/article/abs/pii/S0096300388901336>

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Nonions - James Joseph Sylvester (at "A Synopsis of Linear Associative Algebra - James Byrnie Shaw")

<https://babel.hathitrust.org/cgi/pt?id=coo.31924062544949&view=1up&sseq=97>

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