

Cal - Cul - aTe

FUNDAMENTALS TO FRONTIERS

*A bird never soars too high
If it soars with its own wings
- Blake*

Introduction

Mathematics is the supreme path of intellect.
All other pursuits are derivative of generalized & simplified mathematical structures.
Once the mathematical-framework is conquered then all else kneels in submission.

Mathematician seeks to assess a complex situation into a process of reduction until only independent irreducible-elements remain.

Next the relationships of irreducible-elements lead to theorems and basic-structures.
The power of the art is to rebuild wild-systems into predictable-containment.
Simplification is the greatest pursuit of the mathematician.

The highest intellectual-pursuit demands the greatest investment.
Youth-long academic training is only the pre-requisite, any is sufficient.
30 years is the minimum age to begin the serious mathematical journey.
Ten years are to be devoted to the fundamentals at an average struggle of 3 hour daily struggles.
The journey must be accounted to purge self-delusion prone to solitary expeditions.
The only resources required are books & art-supplies.
No mentor. No calculator.

Mathematical progression is a process of hardening layers.
Linearity, imposed by the structure of books, is unnatural to mathematics.

Math is a bush

Tend growth at each layer of branch.
Foundational layers are most essential.

There are various heights, but all must be checked else exist droop or breakage.
Foundations are not tended once, and then discarded for more fruitful branches.
Each layer is revisited from trunk to extension in full, as season permits.

There is no singular pinnacle of mathematics.
It is the resources of a solid-diverse-system that breaks down complexity.
Unlike a tree, the deficiency in any layer of a well-groomed bush is obvious.

Proof

Truths are built by proofs.
Each truth must be naturalized into the mind until the process becomes intuitive.

Intuition is able to construct the solution from consequents of known truths.

Deductive-reasoning is basing the foundation of theory upon generally-accepted memorized formula.

Formula memorization is the weak-link in a strong chain of reason that will arrive an intelligent mind into a false conclusion.

Intuition is immune to false affirmation.

The destination, as is each step, is known as proven or remains unresolved.

Proofs are not created equal.

Necessary & sufficient attitude of minimum effort has no place here.

The exposition of proof is the expression of the powerful mind.

Genius is not easily convinced but is assured by perspectives & applications.

Generalized-abstraction has a role in preliminary-design and in the establishment of key-waypoints.

Calculate-exhaustion is the distinctive trait separating the mathematician from the intellectual-poser.

'The question of numerical calculation of the limit ...

'One of great practical significance,

'Is usually in theoretical-considerations of very second-rate importance

'From a theoretical point-of-view, all modes of representation for a real number are precisely equivalent

'Theoretic representation of a number is the Dedekind section

[Insufficient in any practical application]

'The representation of a real number by a sequence may be considered as the most general mode of representation

[Critical in both application & theory]

- Konrad Knopp p. 79

Exhaustive application, a sequence, fulfills theoretic requirements.

Dedekind sections are neither necessary nor sufficient; yet their simplicity make them ideal for generalization.

Sterile & pathetic definitions of abstraction are poor foundations in both application & theory.

The universe has a tendency to pretend submission as it works chaos in nuanced subtle folds of nature.

Exhaustive application breeds humility, ever searching for the outlier.

Abstraction breeds arrogance of the mind, proclaiming containment.

Historic state

Modern Mathematics has been perverted by Jewish influence.

The ancient geometer nor the renaissance scientist would recognize affiliation with the modern academic.

Germany was the historical champion of truth-by-exhaustion.
A direct intellectual descendent of the Archimedean style.

The forefathers of Knopp's methods all predate the Jewish infiltration.
In this era, the 1800s, the legendary status of Germans attained its height at the global-head of mathematics, but by the early 1900s there was a sharp decline.
After which there were no longer masters produced from Germany.
By 1933, a third of all mathematic professors in Germany were Jewish, less than 1% of the population.

America became damned to the same fate; unfortunately aborted before any greatness attained.
In the 1950s American institutions were fully infiltrated by the invasive species of jews, both in university positions and academic publishing.
A race less than 2% of the population, secured 75% of academic publishing contracts.

The most fertile application of the mind, math, now reduced to a trivial status in the academic world.
Memorization & mimicry in circus-performances of soul-less puppets who inherited the fate of a god-forsaken-people.

Universities justify exorbitant fees with the product of 'advanced-methods' no other university can produce.
Students, in each institution, are corralled like sheep into a fast-paced maze that indoctrinate a unique dance that appears esoteric & advanced.
Superficial treatment encodes 'answers', which no unaffiliate can answer. The purpose is to gate-keep via the pretended superiority of a trick-question.
This magic-trick justifies the enormous cost of the the education.
There is no incentive for the institution to build foundations.
There is only the race to jazz-hands to dazzle an audience and ultimately justify privileged placement.

Abstraction is the tool of the mediocre to pretend mastery.
Outlines are a means to an end arrived at by refined techniques which open source expertise.
The purpose of this book is to rebuild the path to timeless mathematics.
Upon this journey no jew can conspire place. Here position is earned.

Scope

Upon this journey, you will return humbly to topics once believed were mastered in childhood.
All masters have humbled themselves to ashes & dirt.
To look upon a concept honestly takes time.
Perception of mastery is the constant deceiver.

Lifelong scope transmogrifies the pursuit, and its elements, into a new species.
 Progression is no longer defined as a process with a beginning nor end.
 Progression becomes a garden that blooms in the calculation.
 Each bud or cluster is the endgame.
 The technique required becomes the product.
 The foundation becomes the source and the fruit of complex structures become trivial.
 Foundational structures are used in every endeavor, but the frontier superstructures are objects of last-resort where mastery is relinquished.

Measure of the man

Noob : first year. Surveyor of fields of labor.
 Journeyman : second & third year. Attain self-image by trial & error.
 Craftsman : fourth to eighth year. Build unique creations.
 Expert : eight to twenty years. The working man.
 Master : no peer. 10 years paid into specialized focus.

Time of devotion is the unit of measure.
 Reduction of complexity to simplicity is a process unique to the individual strength.

In this journey the roles of foundation & frontier are truly inverse.
 Foundational concept are the workhorse and frontier-structures are unavoidable garnish.

The measure of ability is natural to the world.
 Peer competition can only designate a superior.
 Third-party choice of a complex system.
 At the end of the period the superior mind will be plain or else peer-ship confirmed .

Mastery by calculation

Books are force a non-linear-state into linearity.
 This book adds a novel technique to add layers.

The entire tract of the book is reworked according to the 5 layers of measure.
 Perspective, techniques, structures and definitions will evolve with each treatment.

[N = 10]

Training must be long enough to foster and allow contemplation at each step.
 If a step is worth understanding, then it is worth a long & careful consideration.

Open a math book and you will not find math.
 This approach sets mathematical computations as the lecturer.

Problems are set into long relationships that are carried until the end.
 The set of problems are curated & designed to serve as a bridge to deeper foundations.
 Layer calculation will refine the graph to truly show distinct benefit of techniques.
 Each layer will construct a problem into a intricate study. Compilation of the constructions into a unified grand whole.

Each step in this journey is towards the ultimate grand artwork.
Each is exposed as a necessary part of a cyclopean whole.

Determinate Space

There exist no irrational, imaginary, nor infinities.

Mathematics is the science of measure.
To measure there first must exist a unit.
A unit then imposes a logical scale of a specific depth.

Square-root-of-two, pi, e and all other numbers will exist as unique discrete points in space.
There do not exist an infinite amount of possible numbers between any two points. In a system grounded by scale, there is a finite distance between any two points.

The square root of negative one is proof that there is no solution.

Diety

Gods of this religion: Euclid, Euler, Archimedes, Boole.

Euclid is the god of reason.
Axiomatic construction of geometry from given to consequent.
The Elements must be studied life-long.

Euler is the god of arithmetic-exhaustion.
Elements of Algebra, Analysis of the Infinite, Differential Calculus, Integral Calculus.
These works were built after wisdom to highlight what still retained his expert curiosity.

Archimedes is the god of exhaustion.
His works are the origin of herculean ventures.
Know what you have mastered.
By sheer volume of those simple techniques, arrive to any conclusion.
Approximate error of the result.

Boole is the god of individuality.
Self-taught in all his avenues of thought.
Restructure mathematic thought by power of self mastery.
Humble great institutions into a open-eyed student.

Ritual

Daily worship to wrangle the 3 hour average can only be attained by obsession.
This religion is the most ancient. Its gods are real men. Its powers are unfathomable.

Linen, wool & silk offer comforts for the long delves into study.

Your soul in commit to a journey. Outfit is the outward expression of dedication to diligence. Respect of appearance has internal & external ramifications.
Solitary plunges into the works of the dead will summon spirits of the departed to impart truths to the modern acolyte.

In order for the spirits to engage there must be no doubt as to the resolve.

Presence of vibe must be cultivated to command devotion of the dead.

Bronze basin of ashes leveled. Resin, sage, sandalwood, palo-santo, & other ground into powder. Incense in the basin begins the study.

A sacred cup and thermos of coffee / tea.

A plate of treats to invigorate the mind.

Light & sound are also set to a cohesive ambience to foster spiritual resolve.

Together the mind & the body & the spirit all united for the singular purpose of intellectual perfection.

Wizard's Abacus

Set as a relic necklace. The device embodies time devoted upon path.

What is gained is not lost.

Only resilience will produce a true sorcerer of mathematical mysteries.

This artifact will become the most precious treasure.

It represents what has been accomplished and it contains a discrete growth for hope.

The abacus is not meant to be undone.

Four types of beads.

1 hour beads: 10

Clip spacer to distinguish done from undone.

10 hour beads: 10

Twine tie to separate done from undone.

100 hour beads: 10

Copper wire delimiter.

1000 hour beads: 10

Permanent silver delimiter installed after achievement.

40 beads complete 11,110 hours.

State is public. Wear it proud.

Altar

Massive standing desk. Gradated foam mat to keep stance dynamic.

Long hours are best engaged standing.

Stack of books. The older the books the better. Do not acquire library too quickly. Age & experience are the only untainted sources to base investments. Fewer books keep focus sharp. Libraries exist to enrich diversity.

Crystal ball is your constant companion. Show it the measure of your soul. Years will create a magical bond until what looks back is saturated in reverence for your dedication.

Large paper allow for a grand calculations. Ink, nibs, pens, markers, straight-edge, compass.

Sand/dirt consecrated into a vase. Pour in a circle to begin daily commitment.

Cultivate an environment which is able to uplift the soul from its daily cares into a transcendental state above all other worry.
Keep the space sacred for solitude.

Foundations

Theory: Peacock Number Theory, Arithmetic, GCD, LCM, HomoDenom, fractions(most important dept of arithmetic), proportion, equality, inequality, conditional inequality, incommensurable, permutation

Tools: add, sub, mul, div, greater, less, distance, gcd, lcm, decimal, (n:r), factorial, arith-progression, geom-progression

Structures: compounds, polynomial, set, sequence, series, continued fraction,

Theory: Space Theory (Natural Integral Fractional Continuous Polar Inequality Inverse),

Geometry { points, lines, body, sets, angles, triangles, parallelogram, polygon, circle, irrational }

Geometry Tools { perimeter, area, volume, surface, tangent, perpendicular, bisect, circumscribe, triangulation, sector, ratio, congruence, transformation }

Lines { slope, perpendicular, projection, systems, vector, matrix, dot, determinant, reduction, bezout }

1/x irrational

Logarithm & Exponential

Curves { compounds, roots, quadratic, cubic, conics, hyperbola

Periodic { trig, polar, imaginar, modulus-congruence }

Convergence { traversal(cauchy product), null, nest, mesh, set-section, conditional, absolute }

Limit { graphical-approach, sequence-table, sets, series, interval, sets }

Finite Differences

Rates of Change { diff-quotient, product, reciprocal, chain } [t^2 falling body]

Continuity { interval, hood

Analysis { bounds, intermediate-value, mean-value, extrema }

Integration { Riemann, part, substitution, improper }