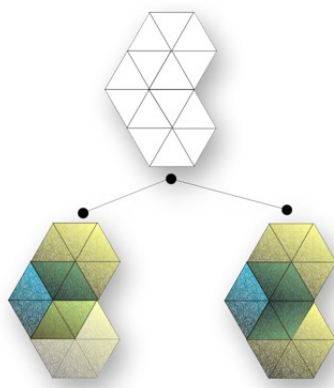


HUMANITIES APPLICATIONS OF MYRIAD CHARACTER SYSTEM

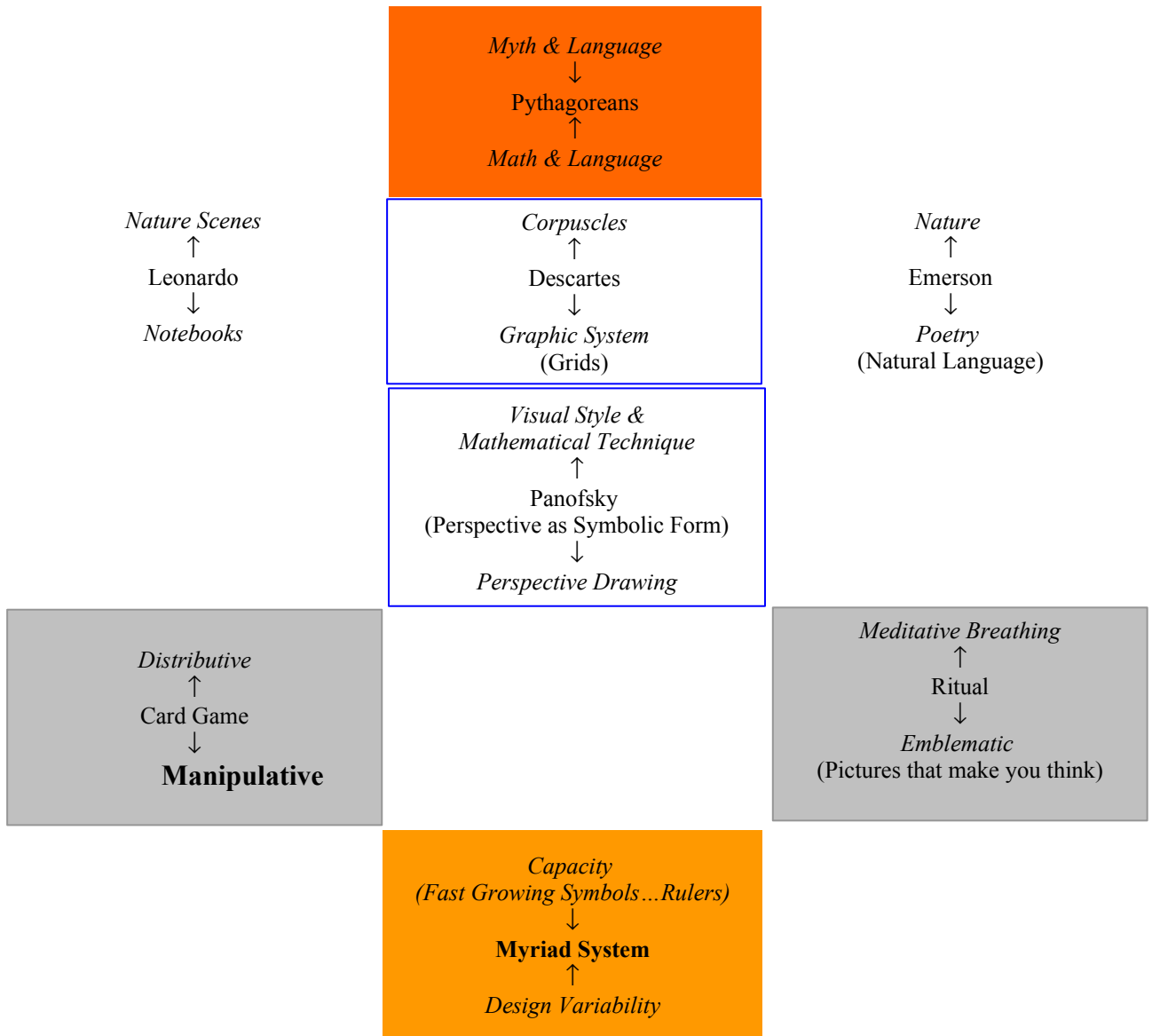
Collaboration Prospectus
(2006-2009)



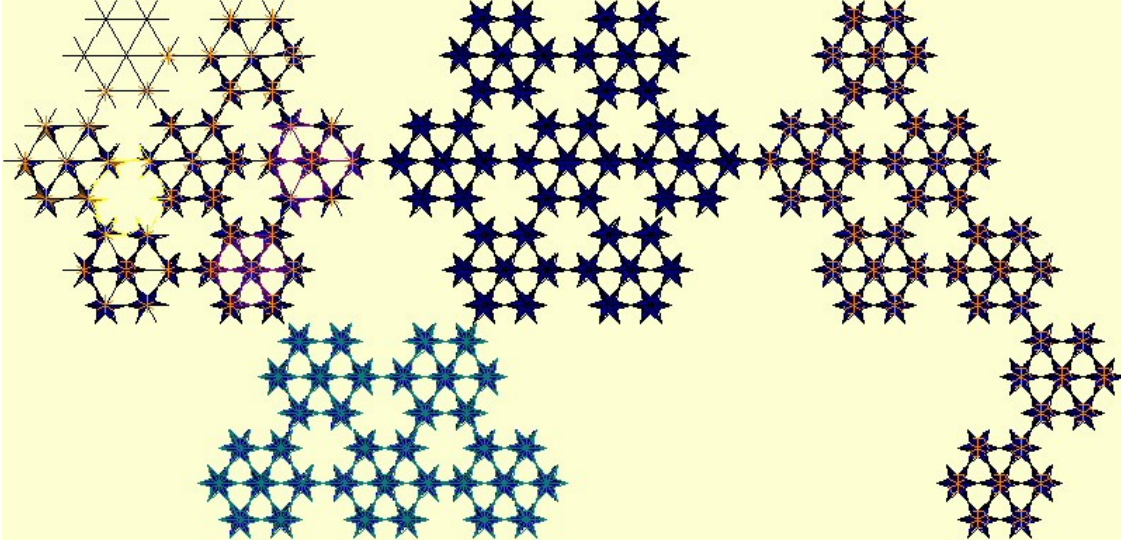
Nathaniel Bobbitt

flautabaja@hotmail.com * 541 968-5263 * NABSLAB.COM

BACKGROUND CHRONOLOGY



This language is a character writing tool which draws upon: the incised character (cuneiform) and reproduces a character set stacked, an animation of writing characters lodged in a visual index (crystallographic).



Sample: Simplest 1st Myriad Character

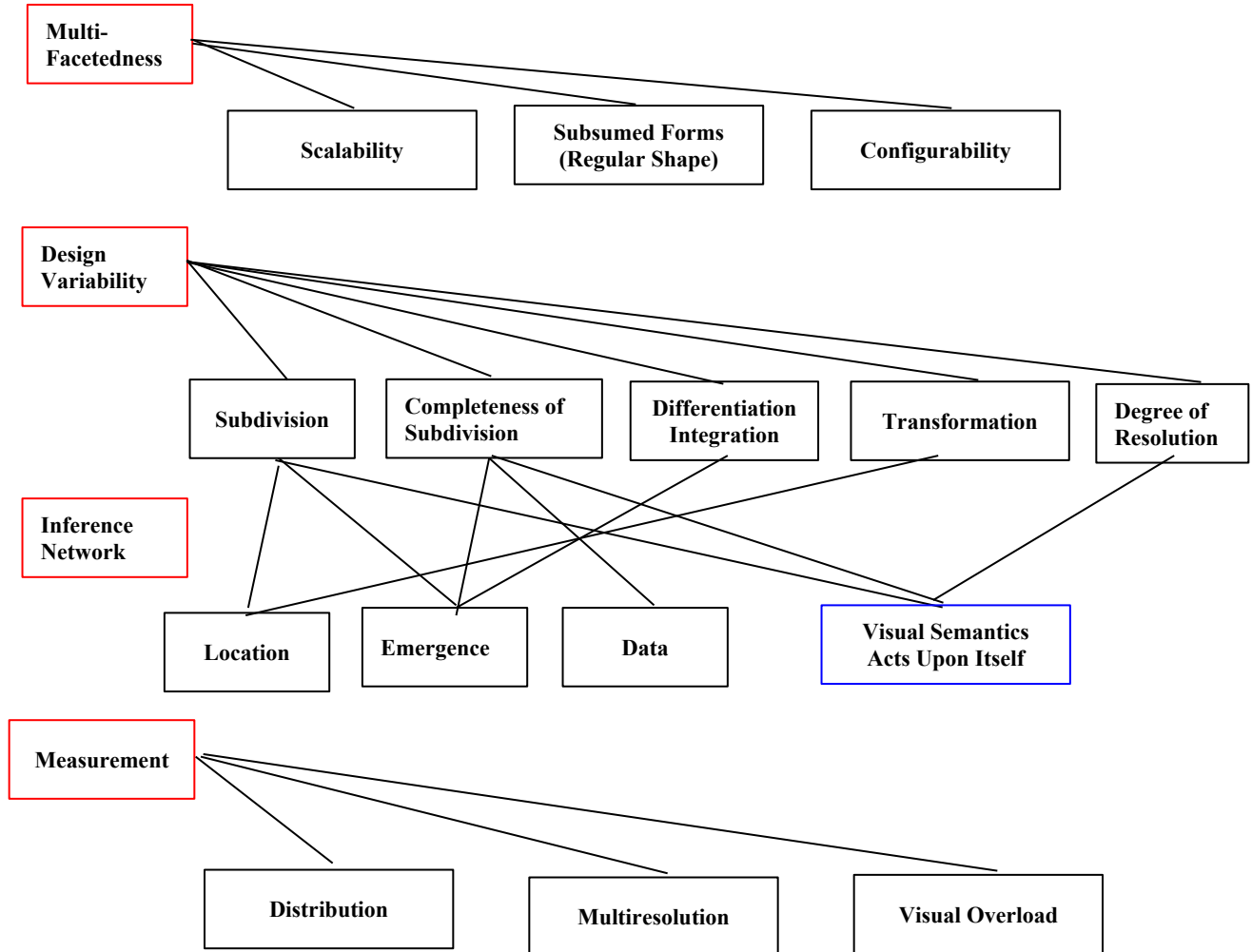
Multi-faceted interval with several distinctive features: bulging frame, configurable symmetry/truncation, articulated geometric/angular patterns, granular measurement scheme, decomposition of the character drives additional relational and meaningful expressions. **This character is an innovation on Koch Snowflake.**

The key here is in the character itself and its ability to never be nonsensical. Decompose the character and more can be seen spatially and temporally as a *next-step*. The orthography of the Myriad system is cast in temporal/episodic events not in ABCs not in spelling but in the traversal of the eye-level, the granular, the molecular dimension...with an energy release. Not the spoken energy but the energy of the biological, the biochemical, and the optical. First let's see what I can do with classification and showing relationships.

The Myriad system provides experts, industry, and the general public with a means to exchange and mark differences. The following sketches detail and improve upon conventions in language, reading, and analysis. The system is developed in a way that the reader, writer, cataloguer, systems analyst, scientist, or engineer will find overnight benefits. To use Myriad is to learn and see relationships across what we already know but cannot keep pace with.

The Myriad language shows a character system which is manipulated: 1. physical visual behaviors 2. coupling of phenomena 3. deformation of texture (scale).

Table I: Physical visual behaviors: Stacking | Insertion



IS MYRIAD A FOUNDATIONAL SCHEMA?

Visual expressions are used to methodically augment how we formalize enumeration. The numeral (the container of values) is marked by optical behaviors, that is, physical operators (insertion, superimposition, and juxtaposition).

The interval is described by nesting or the adjacent orbit of planes (vertices and line segments are ignored). The **nested neighborhoods** in the Myriad Character System and the **adjacent neighborhoods** are linked to a planar shape. In the 4 Color Theorem coloring configurations help articulate a schema of articulated relationships, that is, intensity of difference.

Is the Myriad Character System foundational? The Myriad Character System is designed to offer a system of: boundaries, mutable relationships, and re-writing hierarchy in a fashion that facilitates the exchange of technical communications, bodies of knowledge, and expressive/routine communication.

We are no better than our near to far relationships. Consequently, **porosity** and **distribution** are used to revise the foundational notion of an interval, packing in a honeycomb. The Myriad character displays a mutable boundary across the porosity of a **bulging frame**.

The Myriad character is read as a pattern language with key elements:

- variation (intensity of difference)
- variation and inflation (multi-resolution)
- angularity/cozening/twisting ← Volumetric ← multi-dimensional feature space

The Myriad character articulates an address (matrices, multi-dimensional):

- monitoring an interval
 - mutable boundary system
 - capturing
 - comprehending
 - computing
 - mutable boundary system ← distribution
 - articulated configuration
 - porous packing
- animation ← *next-step*

The Myriad character is an alternative to lexical enumeration (enumeration = counting). Procedures establish enumeration in a mutable boundary [Myriad or 4 Color Theorem Colorings (Haken and Appel)].

Procedures:

- discharging method and rings 4 Color Theorem (4-CT) Coloring Configurations
- fast growing symbol (Myriad)
- blur porous-solid-fractal
- a-periodic symmetries (Quasi-crystals)

Feature space of enumeration

- mutable boundaries
- planes (smallest geometric figure)
- expanding granularity (inversion of Deleuze's intensional)

The above identifies spatial organizations which challenge lexical models of computational examination and diagramming practices.

ABOUT THIS CHARACTER SYSTEM

- Characters are distinctive, a set of patterns for intuitive or analytic evaluation.
- Any character in this system contains and displays relationships within a body of knowledge or a collection of expressive transmissions.
- Order of the character system enumerates a level of complexity within a body of knowledge or a collection of expressive/routine transmissions.
- Grammar, syntax, and visual formalism of the Myriad Character, Myriad Character system and expression of the Myriad Character reveal:
 - Mathematical graphing scheme
 - Series of differences (multi-resolutional, multi-dimensional, and multi-scale deformation)
 - Physical Manipulability
- Expressivity of Myriad functions as do other notational systems (chemical, genetic sequencing, algebraic) which create specialized expressions for making:
 - Recipes (for manufacture)
 - Theory, taxonomy, etc.
 - Screening and detection process
 - Evaluation and identification

The Myriad system is developed and functions in terms of decomposition and a granular enumerative system.

Myriad reconciles large bodies of knowledge as the character system is a container of the body of knowledge: its distribution and a feature space.

The systems shows **markedness** through a sequence of mutable boundaries in *nested* configurations.

The enumeration of boundaries displays a bulging frame.

Immediate applications of the Myriad system is as a pattern language which conveys and automates: qualitative or quantitative text analysis in terms of:

- policy documents
- administrative statues
- large corpus of project reports

The Myriad pattern language monitors intervals and series of differences (intensionals, Deleuze Difference and Repetition).

Additionally, Myriad improves upon views of intervals found in:

Zeno, Plato, Aristotle, Euclid, Lucretius, Galileo, Darwin, Husserl, Panofsky, Jakobson, LeCorbusier, Beizer, J. Albers, Einstein, Shannon, Lipson/Welberry/et al., Xenakis, Watson/Crick, Haken/Appel, Weinian

Intervals in the Myriad system are formed according to the bulging frame: in which granularity results in spatial expansion.

Early implementations of Myriad will promote the bridge between visual language and natural language, that is, visual language is not a pictorial version of natural language.

Theoretical foundation of the Myriad system reconciles:

- Jakobson, Jameson, and Barthes (linguistics, phonology, and language theory)
- Pound-Fenellosa, Joyce, Cummings, Robbe-Grillet, Charles Bernstein (prosody, poetics)
- I Ching's textual organization

The optical components of the Myriad system will be decisive in its acceptance as a language system. Unlike natural language the Myriad language is driven by energy release in the full implementation of the Myriad Character System.

The historical impetus behind this system is to provide a system to: map, express, capture, comprehend, and compute within the scales: granular, multi-dimensional, multi-resolutional, molecular dimensions) which keep pace with complexities brought on through the discovery of the biochemistry of the double helix, the needs of multi-physics, and the social need for next generation decision-making and policy planning tools. Myriad is a new system to administer great bodies of knowledge. In Myriad we find a scheme to handle a series of technical exchanges and expressive communication.

This is to the extent that nominal logic (proposition-based, word/keyword on paper) is replaced with a granular intensional logic and that hierarchy is re-written in terms of:

- episodic expressions
- next-step (life cycle)
- toggling between multiple hierarchy/overlapping taxonomies

The benchmark for the strength of this system will be visualized through collaborations and showing:

- patterns in the voluminous (thousands of diagrams) diagrams which support Haken-Appel's proof of the Four Color Theorem
- a million-way parallelism on 1-2 pages
- variations of pools of knowledge hidden in a large K-12 school district's curriculum

**NABSLAB ON THE WEB:
EDUCATIONAL AND COMMUNITY OF PRACTICE
(PROJECTS 2007-2009)**

OVERVIEW

Drawing Conclusions

- Physical Behaviors: Insertion, Kissing, and Stacking in Geometry
- Visual Embodiment for Computation

ACTION ITEMS

A network of websites pioneer a new technique based on the optics and fluidity of glass and sand.

Contributing university programs offer their version of visual behavior and physical embodiment of optical experiments based on:

- Fast growing visual expressions
- How to express “mutable boundaries”
- Patterns and smart textiles

RE-ENGINEERING TARGETS

• **Limitations of 3-D Graphics**

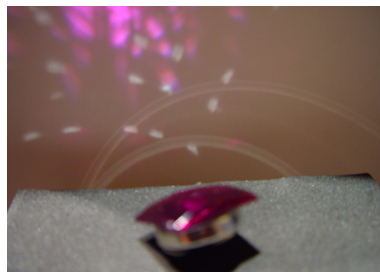
- *Smart Graphics*
- *Scientific Visualization*

• **Human Driven Animation**

- *Swimming*
- *Dance Arts*
- *Drawing*

• **Metric Concept Maps**

- *Visions of Global Markets*
- *Dreaming & Public Policy*



Artist’s and technologists are skilled in developing their own tools for design and expressivity. *Drawing Conclusion* takes art and technology one-step further. A presentation of visual machines (sand, glass, and woven textiles) from modern and indigenous knowledge systems helps participants realize the functional role of medium and the expressivity in visual machines. This workshop presents a new way for building tools for artistic and scientific expression.

Nathaniel Bobbitt is not new to stretching the physical allure of acoustics and visualization techniques. His work has been supported by the Banff Centre, MIT Press’ LEA, CMU, Spanish National Radio and other international organizations. Nathaniel Bobbitt presents to interested parties optical techniques that puts into full relief the question:

How directly do the limitations of paper and natural language influence drawing and visual reasoning?

Nathaniel Bobbitt preoccupation with embodiment in visual language illustrates: Alber’s *Interaction of Color*, Gary Urton’s seminal study of Inca Khipu (knots) system, and the “Future of Crystallography.” It is through the embodiment of visual behaviors that the capacity to visualize is enhanced.

OVERVIEW

- Community contributions to a *new* mathematical scheme
- Monitoring Intervals: Rulers as a symbolic form
- Speeding up the Decision-Space: Visualizing large-scale policy & programs (risk management, healthcare, and workforce)

Investigative Targets

- *Process and visual experience*
- *Design materials: granular, textile, optical*
- *Scaled visual language*

ACTION ITEMS

Formation: Community of Practice and Institutional Support

Phase I 2007-2008

- *Black-Box Team*: Working on parallel topics without seeing innovation
- *Applied Brain Trust*: Multi-disciplinary, technical school and research university faculty
- *Production Team*: Develop high quality materials presentations: divulge, technical, and professional development
- *Workshops*: Project development

Phase II 2006-2009

- *Organizational Development* (NABSLAB)

In many ways... **we are no better than our ability to reason about our near to far relationships**. Panofsky's *Perspective of Symbolic Form* illustrates the relationship between pictorial representation and the role of near-to-far spatial concepts in the lost of perspective drawing in the Dark Ages and rediscovery of perspective drawing in the Renaissance. I have developed the framework for a **multi-resolution numeral system** and graphing technique to visually monitor, control, and process complexity in emerging technologies. Existing technologies use outmoded numeral systems to quantify and determine research findings. By way of analogy, who would use roman numerals to analyze U.S. demographic data? Consequently, I have developed a visual basis for a more appropriate numeral system and graphing techniques.

Today, I am readying for publication my advances on the Koch snowflake and Koch curve. These communications establish foundational advances that improve the aggregate interval structure. I have developed a production rule: bulging frame (subdivision is expansive) according to a *faceted interval*. This production rule results in findings on the control and processing of: multi-resolution scales, nested pattern intensity, cascading distribution series, memory, and multiple time-scales. This work is part of a larger numeral project on "monitoring intervals" in *fast growing symbols*

(rulers on the order of a million rulers on a single page). The multi-resolution ruler serves as a bridge to the study of complexity: symbolic and algebraic computation. The modifications on Koch-forms have applications for multi-resolution techniques: fractals and wavelets.

PRESENTATIONS AND WORKSHOPS

The communication of the advances on Koch warrants several modes of communications: presentation, workshop, project, and technology incubation.

I will let others explore my new graph paper. I show them how to use it and I work with them on how to apply it. From these workshops a consolidated foundation will emerge for technology incubation and further development.

PROJECTS AND TECHNOLOGY INCUBATION

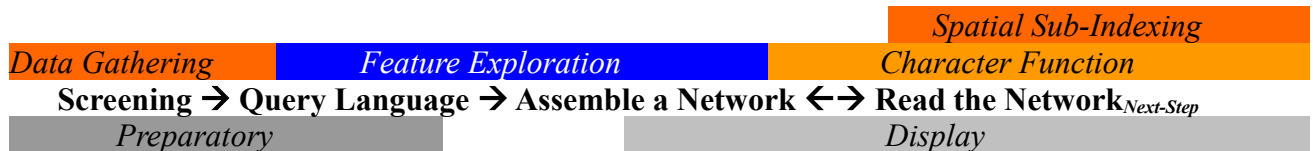
Institutional support and contracted services are essential in the development of: proof of concept, technology-transfer, and real world applications in the *speeding of decision space*. Target areas large scale risk analysis, HIV information visualization, global project analysis, and analysis of time-scale policy making in Workforce Investment Act (Federal unemployment and training program).

<p>OVERVIEW</p> <p>WHAT? FUTURE OF CRYSTALLOGRAPHY</p> <ul style="list-style-type: none"> • <i>Myriad Alphabet</i> (Animated Character-Boundary System) <ul style="list-style-type: none"> ○ <i>Re-Write</i> Writing System ○ <i>Multi-Faceted</i> <i>Granular</i> Collaborative Exchanges ○ <i>Multi-Physics</i> Coupling of Physical Phenomena (Deformation between External to Molecular Dimensions) 	<p>INVESTIGATIVE TARGETS</p> <ul style="list-style-type: none"> • Exchange of technical and expressive communications <ul style="list-style-type: none"> ○ <i>Collaborative mosaic/next-steps</i> ○ <i>Publishing beyond frozen systems</i> (<i>book, Internet, photographic, audio recording</i>) • Physical Phenomena in Visual Text • Analysis and Comparison of Voluminous Texts
<p>ACTION ITEMS</p> <p>Doing what the <i>Internet</i> cannot do in: script, query, or relational expressions.</p> <p>Future of Crystallography warrants a numeral/alphabetic system to express complexity of nucleic structure, the twisting of these structures, and energy implications of hybridization (genomic and new materials).</p> <ul style="list-style-type: none"> • Building a linguistic framework through physical granularity. • Without this linguistic framework the <i>Myriad Character</i> presents discoveries on the visual, multi-resolution, and measurement. <p>HOT TOPICS</p> <p>SUB-INDEXING a Visual Language</p> <ul style="list-style-type: none"> • System of Publishing Re-writing in Technical Communications & Expressive Exchanges • Myriad Character a Boundary System <div style="text-align: center;"> <p>Character System ↓ Myriad (Multi-Faceted Coordinate System) ↑ Numeral</p> </div> <ul style="list-style-type: none"> ○ Difference ← Intensity ○ Enumeration ← Reflexive Signifier • Re-write System <ul style="list-style-type: none"> ○ Physical Coupling ← Energy Release ○ Classification ○ Identification ○ Granularity 	

<p>OVERVIEW</p> <p>WHY? FUTURE OF CRYSTALLOGRAPHY ○ <i>Exchange of technical and expressive communications</i></p>	<p>INVESTIGATIVE TARGETS</p> <ul style="list-style-type: none"> ● Building a Linguistic Framework for Computation <ul style="list-style-type: none"> ○ Collaborative Work ● Policy Driven <ul style="list-style-type: none"> ○ Decision-Making ○ Planning ● Unwritten practices in Expert Knowledge ● Seeing Organizational Variations 				
<p>ACTION ITEMS</p> <p>The <i>drawing of conclusions</i> is our starting point...the <i>end</i> is the communication and the exchange between others (no matter their stature, the complexity, or how daunting the decision-making). This opens an exchange within a <i>collaborative</i> domain, that is, according to a <i>medium</i> which registers claims held between writers, readers, across generational shifts...and shifts in intention or in a body of knowledge. When someone says..."I should have known better" the Myriad Character System sets our sight upon re-writing patterns through boundary systems.</p> <p>HOT TOPICS</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #ffcc00; padding: 5px; text-align: center;"> Myriad [Re-Write System] (Animated Character System ← Fast Growing Symbols) </td> <td style="background-color: #cccccc; padding: 5px; text-align: center;"> Natural Language (Fixed Character System) </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> Production Rule ↘ Porous Distribution ↓ Nested Boundaries ↙ ↘ Emergent Classification Intensity Inferences </td> <td style="text-align: center; padding: 5px;"> Parsed Language ↘ Recipes ↓ Syntax ↓ Grammar </td> </tr> </table>	Myriad [Re-Write System] (Animated Character System ← Fast Growing Symbols)	Natural Language (Fixed Character System)	Production Rule ↘ Porous Distribution ↓ Nested Boundaries ↙ ↘ Emergent Classification Intensity Inferences	Parsed Language ↘ Recipes ↓ Syntax ↓ Grammar	
Myriad [Re-Write System] (Animated Character System ← Fast Growing Symbols)	Natural Language (Fixed Character System)				
Production Rule ↘ Porous Distribution ↓ Nested Boundaries ↙ ↘ Emergent Classification Intensity Inferences	Parsed Language ↘ Recipes ↓ Syntax ↓ Grammar				

THE NEXT BIG THING...re-writing hierarchy
MYRIAD: A FRACTAL CHARACTER SYSTEM (2002-6)

When someone says..."I should have known better" the Myriad Character System sets aim upon re-writing patterns through boundary systems. (See Myriad's Linguistic Framework).



Applications of this method include the study of: taxonomical abstraction, voluminous text analysis, multiple text analysis, phonological vowel/consonant analysis, digital signal process (spectral, Fast Fourier Transform, and Wavelets), bio-chemical/genomic notation, and data sonification.

I propose a multi-faceted system for the sharing of viewpoints in technical and expressive communications.

MYRIAD THEORY

- Foundational Discoveries ← Physical/Optical Visual Formalism
 - Distribution & Marked-ness
 - Matrix & Nested Boundaries
 - Intensity of Features & Multi-dimensional (Capture, Computing, and Comprehension)
- Discoveries/Inventions
 - Ruler System (Physical and Fast Growing Graphical Variables)
 - 2-D Inverted Koch Snowflake (Porous Distribution)
 - 3-D Fractals Modular
 - 3-D Fractals Distribution Technique

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