BENJAMIN LEE WHORF

1897-1941

Benjamin Whorf was an intellectually gifted man whose insights elucidated the nature of language and its role in the cosmic order like no other before him or since.

"LANGUAGE in Capital Letters" is dedicated to Benjamin Whorf. The LANGUAGE model is an attempt to formalize the linguistic perceptions of this man. Although Benjamin has been represented by his detractors as a 'fire inspector' and ‘amateur linguist’, the truth is that Benjamin was expert in many subjects, including Einstein’s theory of relativity and linguistics. His linguistic mentor and colleague was Edward Sapir, an internationally recognized expert in his field. Benjamin turned down full-time offers of employment in linguistics, pointing out that his arrangement with Hartford afforded him the freedom to practice multiple professions, which he did.

WHORF'S EXPANSIVE DEFINITION OF LANGUAGE

- CODE OF WHATEVER KIND IN WHATEVER MEDIUM
  - All symbolism
  - All symbolic process
  - All process of reference and logic

Definition 19.42 (*Language*).

1. **Generically** [$\mathcal{L}$] – Structural specification in the abstract (the LINGUISTIC ORDER), irrespective of the medium or mode of symbolism. (See Working Definition 2)
2. **Specifically** [@Lng, ©Lng] – A particular system of scripting.

Prerequisite to an understanding of Whorf's writings is to take note of how HE defined `language.' In common usage, the term has reference to a system of arbitrary signals such as voice, gestures, or written signals. Benjamin Whorf saw such symbolism as merely the overt manifestations of a much broader and deeper phenomenon and expanded its definition to include ALL symbolism, regardless of the medium in which it manifests. Therefore, any code -- anyplace, anytime, and in any physical form fits into his model of "language." Most misunderstandings of Whorf stem from the failure of readers to apply HIS definitions to his writings.

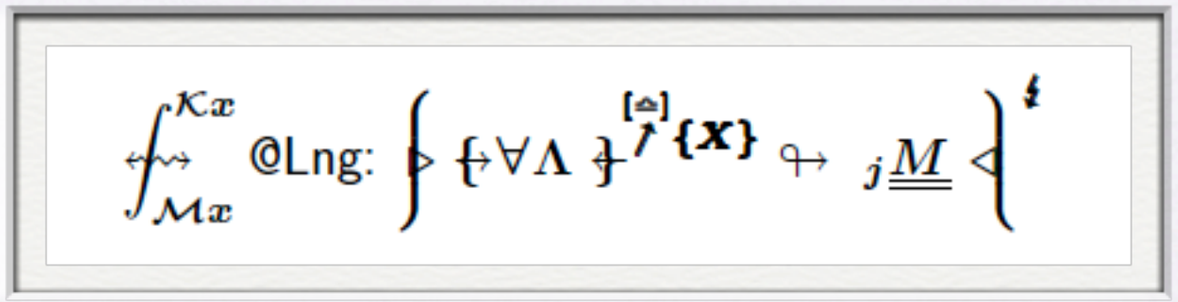
Whorf's Assessment of General Linguistic Awareness

- [The average individual] whether simpleton or scientist, knows no more of the linguistic forces that bear upon him than the savage knows of gravitational forces.

After studying language with Sapir and others in a variety of settings and circumstances, it became apparent to Whorf that people of all cultures and walks of life are disposed towards language like fish are to water -- essentially oblivious to it --- if not to the very existence of the resource which envelops and enables them --- then to the central, governing role that it plays in their lives.

WHORF'S FULL CONCEPTUAL MODEL

Figure 3: Whorf's Conceptual Model of the '*Linguistic Order*'



EXPRESSION AND REALITY ARE MEDIATED BY MIND

THIS IS FACT - NOT THEORY!

The foundational equation of calculus expresses the relationship between derivatives and integrals. The MINDMATH equation on the slide represents the relationship between MIND, LANGUAGE, and REALITY, and is therefore fundamental to Whorf's conceptual model of language in its expanded definition..

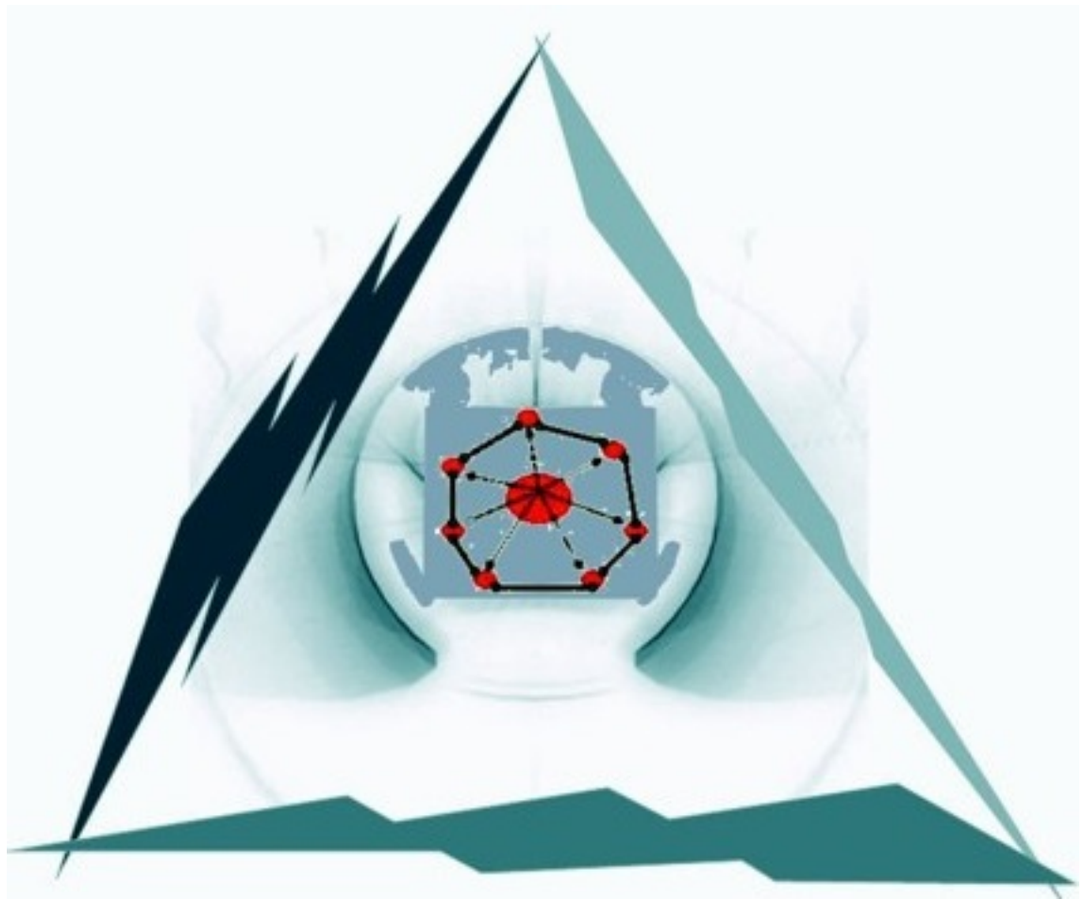
SUGGESTED READING

- "Fundamentals of Junction Grammar"
  - Lytle and Bush (Classroom textbook)
- "Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf" (Collection of Whorf's writings.)
  - Edited by John B. Carroll

Those who are familiar with the works cited on this slide will find it easier to read and understand "LANGUAGE in Capital Letters."

LANGUAGE in Capital Letters

UNITY IN NATURE



An eBook in PDF format at <http://www.language-icl.com> which formalizes Whorf's full model of language as per his definition. The book is entitled "LANGUAGE in Capital Letter's" to capture the all-inclusive nature of the definition. The shafts forming the triangle represent the three modes of scripting under LANGUAGE and enclose a 'unity' (population of similars) set gem-wise as the pupil of the '$\mathcal{K}$onscient Eye.' In this version of the ALL-SEEING-EYE, LANGUAGE is at the core of $\mathcal{K}$onscient intelligence and organization in the cosmos.

EBOOK FEATURES OF 'LANGUAGE in Capital Letters'

(1) A comprehensive Table of Contents is provided. Click any item to jump to it in the Book. Use the BACK function to return.

(2) Hyperlinks are used for internal cross-referencing. These are highlighted in color and consist of numbers identifying the chapter and section, axiom, or definition (e.g., 2.2) of the link target. Use the BACK function to return.

(3) Comments are placed in numbered footnotes at the bottom of the page upon which the comment occurs. These are not linked other than visually by the number. Use scrolling to read footnotes and return to your place in the text.

(4) Bibliographic References are inserted into the text using bracketed `AUTHOR/YEAR' format {e.g., [Lytle, 1972]}. Click on these to view the corresponding entry in the BIBLIOGRAPHY at the end of the Book. Use the BACK function to return to your place in the text.

(5) Permission is granted to print a copy and create a backup copy.

References to the BOOK by chapter and section are included in the commentary of the slides in this presentation.

LINGUISTICS in Capital Letters

- Definition: An expression employed to distinguish between conventional *linguistics* and the expanded discipline identified and advocated by Whorf.

- Adage: "There is nothing that the WORD does not COMPREHEND."

People generally do not yet know that the forces studied by linguistics are powerful and important, that its principles control every sort of agreement and understanding among human beings, and that sooner or later, it will have to sit as judge while the other sciences bring their results to its court to inquire into what they mean. (Whorf)

See Chapter 2. The term 'linguistics' is defined as the 'scientific study of human language.' For clarity and parallelism, the upper case spelling of the term, i.e, 'LINGUISTICS' in capital letters is used for reference to the expanded science marked out by Whorf. When he speaks of 'linguistics,' keep this broader perspective in mind.

SEMANTICS in Capital Letters

- The study of the mechanical/psychological effects associated with structural dynamics.
- The effects emerging from the use of LINGUISTIC operations which bind and join.
- Linguistic 'chemistry'

See Chapter 6. Corresponding to LANGUAGE and LINGUISTICS, we also must contend with SEMANTICS in capital letters. Inasmuch as inscription installs structuring in the physical domain, structural dynamics there now fall within the scope of SEMANTICS. We thus have a confluence of chemistry, physics ... and linguistics. The realization of this union is made explicit in the scripting signature featured by MINDMATH. Thus, while it is now customary to speak of the 'chemistry' of relations beyond the domain of chemistry proper, under LANGUAGE it is equally apropos to speak of the 'semanitics' of the elements comprising chemical compounds.

The META-Language

- *Definition:* The symbolic system upon which all other symbolic systems supervene for definition/meaning.
  - *Lemma:* Natural languages in the composite comprise the META-Language.
  - *Axiom:* There can be no synthetic symbolic system (mathematics, computer languages, formal logic, etc.) which is not defined in terms of one natural language or another.

See Chapter 16. Many linguists and logicians, distracted by the imperfections which it exhibits in its transposed, exported forms, still look beyond natural language in their search for the 'perfect' medium of expression. They seemingly harbor the expectation that the ultimate instrument of expressive perfection will be discovered among the explosion of synthetic languages spawned by computer science and mathematics. LANGUAGE recognizes natural language (in its Mind Language format, of course) as the META-system upon which all synthetic formulations necessarily supervene.

KEY TERMINOLOGY

- ‘Mind Language’ is a theoretical construct posited by Whorf and the Junction Grammar model.
- ‘MindMath’ is the algebraic notation used by classical Junction Grammar to represent Mind Language.
- ‘MINDMATH’ notation incorporates MindMath into the pragmatic scripting operations of the LANGUAGE model.

THE WHORF "SET"

- SIGNAL TRANSDUCTION & CONJUGATION
- LINKAGE
- PERSONAL AGENCY
- RELATIVITY / *K*O-OPTIONING
- MULTILINGUALISM

See Chapter 12.3. To construct a model of Whorf's conceptual perspective of LANGUAGE entails inclusion of the phenomena identified in this slide. "LANGUAGE in Capital Letters" refers to them as the Whorf 'set.' We return to them separately in subsequent slides.

GOVERNING DYNAMICS

- ***Definition: THE DISPOSITION OF FORCES AND/OR PRINCIPLES WHICH GOVERN BEHAVIOR AND OUTCOMES IN A DYNAMIC SYSTEM.***
  - MindMath [Definition 19.59] junction schemata provide governing dynamics for classical JG.
  - MINDMATH [Definition 19.60] scripting schemata provide governing dynamics for LANGUAGE (The 'JG Upgrade

Ogden Nash was exasperated by the rush of his collegiate associates to publish derivative material purely for the sake of getting into print (see movie "A Beautiful Mind."). He doggedly strove to penetrate the patterning of the topics which he choose to investigate and expose the 'governing dynamics' to which they were subject. The saga of Junction Grammar has followed a similar course. The first order of governing dynamics exposed were those which produce the patterning of the PCCS ('periodic chart of linguistic structures') and constitute the basis for *MindMath* [Definition 19.59] (Chapter 4.1.1.4). The second, higher order of governing dynamics are highlighted in this book and form the basis for the pragmatic use of language expressed by *MINDMATH* [Definition 19.60].

Natural Language -- The Gist of the Matter

- The shortfalls of natural language emphasized by logicians and mathematicians are an artifact of transposed, word strings exported for use in 2nd person, i.e. communication.
- Natural language in its originative, 1st person, MindMath mode, by virtue of the presence of EMS signatures for sememes, operators, and bracketing, is precise, unambiguous and supremely powerful.

See Chapter 16. Thus, while the derivative lexical strings we speak and write may be ambiguous and imprecise, the MindMath (J-trees) from which they are transposed suffers neither weakness (Chapter 15.2.11). Failure to understand this simple fact about natural language has caused multitudes of `linguisticians' to look past the mark in their search of the 'perfect/meta language.'

PLUGGING GAPS

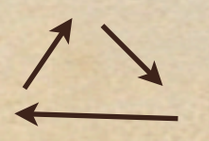
- No one would do mathematics without the use of addition, subtraction, and multiplication.
- But linguistics as a science has gone about its business without either writing or understanding the operations upon which linguistic calculations are based.
- LANGUAGE in Capital Letters addresses and then redresses this deficit on two levels.
    - MindMath -- Linguistic operations in phrases, sentences, paragraphs. (Classical Junction Grammar).
    - MINDMATH -- Linguistic operations which make pragmatic use of language for the management of life. (SCRIPTING OPERATIONS)

Perhaps because of the emergence of computers with languages based on combinations and permutations of words governed by rules of syntax, linguistic descriptions have been formulated in the same way -- as strings of words without operators. (Chapter 4.1.1.5) This is a flaw of the first magnitude and has cloaked the fact that natural-language structuring and calculation in the mind is the source of all mathematics.

COMPONENTS OF A FORMAL SYSTEM

- **Primitives**: Self-existent, primal, foundational phenomena.
- **Definitions**: Statements of the essential meaning of terms. (See Chapters 1.2.10 .and 19 [Appendix A.])
- **Axioms**: Principles constituting the coherence of a formal system whose truth is assumed and thus need not be proven. (See Chapter 20 [Appendix B])
- **Lemmas**: More `prosaic' concepts important in arriving at the acknowledgement and statement of formal axioms.

Some basic 'LANGUAGE' definitions

- Script: A functional *l*inguistic structure, e.g. a sentence, paragraph or larger ensemble of coherent *k*odification.
- Linguistic Root: The quintessence (content-wise) of a script.
  - Description (←): To express or comment on the meaning of a script.
  - Prescription (↗): To construct or extract a generic script (model, formula, law, blueprint, theme, etc.) to be used for replication or assessment.
  - Inscription (↘): To instantiate prescription.
  - *SCRIPTING CYCLE*: 

In order to understand LANGUAGE and its notation, MINDMATH, must must learn these definitions. Don't trip over the use of the term *root* as it applies to LANGUAGE equations. It simply expresses the fact that much of what we do as we use language --- whether it be translation or writing a book report --- centers on the identification of the *semantic base, root, or quintessence of words and scripts (Chapter 17)*. The lexical paradigm constructed around *-script-* captures three fundamental things we do with roots. Three distinct scripting events used sequentially constitute a scripting cycle. The lead scripting event in a cycle determines the purpose of the cycle. (Chapter 2)

FORMAL 'PRIMITIVES'

- In the context of LANGUAGE notation, foundational elements are referred to as <u>primitives</u>, or simply <u>primes</u>.
  - As <u>*non-derivative*</u> entities, *primes* simply presumed to *exist*.
  - *Primes* may be *described* in terms of the properties which they exhibit or the functions in which they participate but are not apparently otherwise <u>*formally definable*</u> except in terms of themselves as a system.
  - Other constituents in the system revolve around the core of *primitives*.

PRIMES OF THE `LANGUAGE' MODEL

- THE $\mathcal{K}$-FORCE - $\mathcal{K}$onscience
- THE $\mathcal{L}$-FACTOR - $\mathcal{L}$anguage
- THE $\mathcal{M}$-FACTOR - Material Media

$\mathcal{K}$, $\mathcal{L}$, $\mathcal{M}$

Primes

For any scripting event there is a <u>$\mathcal{K}$oder</u>, a <u>$\mathcal{L}$anguage</u>, and a <u>$\mathcal{M}$edium</u> of expression.

Repeat after me!

$\mathcal{K}$, $\mathcal{L}$, $\mathcal{M}$

$\mathcal{K}x$, $\mathcal{L}x$, $\mathcal{M}x$

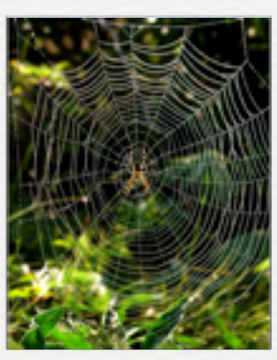
Variables

See Chapter 17. Omission of the $\mathcal{K}$-Force (intelligence) by Western science represents the ultimate form of 'self-denial.' Under its aegis the worth of the individual becomes purely a question of material utility and morality an exercise in 'management of the creature.' History witnesses that human societies which regard themselves as 'meat machines' self-destruct. See especially Chapter 3.6.6.

OCKHAM'S RAZOR

- All other things being equal, the simplest solution is to be preferred.
  - Intelligent life forms endowed with the $\mathcal{K}$-Force of their respective "kingdoms" apply $\mathcal{L}$(anguage) to engineer $\mathcal{M}$(atter) for their private purposes.
  - LANGUAGE assumes that $\mathcal{M}$aterial organization implies the presence $\mathcal{K}$onscient agency at work, whether we can identify it or not.






See Chapter 1.5.2. What could be simpler than a grand unifying theory which generalizes from recipes for cakes, to blueprints that raise up skyscrapers, to scripts that structure space stations, to LANGUAGE which informs worlds, solar systems, galaxies, etc. Nothing really changes except the domain and $\mathcal{K}$redentials of the $\mathcal{K}$ Forces wielding $\mathcal{L}$ in $\mathcal{M}$. This account of things is in perfect harmony with the progression of order and control observed on every hand in nature, from moss and skin mites, to wood ants to groundhogs, all conforming matter to their needs . . . a system which, by the way, we daily exploit for ourselves!

THE *K-FORCE PRINCIPLE OF INTELLIGENCE*

- SOME ORDERS OF *K*
  - *Kk - Fauna - Rational Kreatures*
  - *Kp – Flora*
  - *Km – Micro-organisms*
  - *Kc - Cellular Domain*
  - *Ke - Atomic Domain*
  - *Kq - Quantum Domain*
  - *KC - Komputers*
  - *KΨ – Telekinetic*
  - *KΦ – Remote Viewer*
  - *KΘ – Neutered Konscient*

We suffix *K* with various letters and define some plausible orders of intelligence (Chapter 17.8.1). This area, we must admit, is the phenomenon epistemology knows least about, having first covered it in a cloud of religious obfuscation before finally stipulating that it doesn't exist. As Pirandello puts it, "There is someone living my life and I know nothing about him."

*K*ONSCIENTIOUSLY SPEA*K*ING

- The letter '*k*' is used in place of the letter 'c' to emphasize the primacy of the *K*-Force and preclude slippage from Whorf's relativistic model.
- Pardon the *k*lutter, but don't forget its purpose!
  - *K*onscient, *k*reator, fo*k*us, cy*k*le, *k*ulture, s*k*riptor, *flok*, etc.

See Chapter 19.4.3.

MECHANICAL VS VOLITIONAL $\mathcal{K}$-DRIVEN EVENTS

- R-SIDE EVENTS ARE UNDER VOLITIONAL $\mathcal{K}$ONTROL
- $\mathfrak{P}$-SIDE EVENTS ARE ESSENTIALLY MECHANICAL
- MINDMATH SIGNALS THE CONTRAST ON $\mathcal{K}x$ OR ON THE BRACKETING.

- $\oint \mathit{Script} \oint_{1}^{n}$ – Unsigned scripting cycle.
- $\int \triangleright \mathit{Script} \triangleleft \int_{1}^{n}$ – Rational scripting cycle managed by the active $\mathcal{K}$onscient.

$\oint^{\mathcal{K}x}_{\triangleright}$ versus $\oint^{\mathcal{K}x}_{\infty}$

Much of what transpires in the organism between sensory perception and the mental registries is essentially automatic/mechanical. This is called '$\mathfrak{P}$-Side' because it forms the 'presentation' afforded by pure perception. 'R-Side' is during and after 're-presentation' of the original data, and comes under direct supervision of $\mathcal{K}$onscience. We thus have a transition from Pinocchio to the 'real boy.' (Chapter 10)

FACTORING IN THE ORGANISM

- To model a biological phenomenon without reference to its biological foundations does NOT inspire confidence in the outcome.
- Chomsky and many of his adherents have done and continue to do this, which appears to betray a preoccupation with Pinocchio (robotics) as opposed to the `real boy.'
- JG has always associated specific `tracts' with specific data-types (orders of $\mathcal{M}$) in living organisms.

The persistent neglect of conventional linguistics to address the integration of language with the organism may well be a reflex of `syntactic' thinking. In particular, why expend time and resources on 'meat machines' as the center of a phenomenon which ultimately transcends the organism, having its basis in a`universal essence of reason uncontaminated by anything at all.' The answers are still being sought among formal, synthetic language constructs akin to Chomsky's hierarchy of formal languages. It is partisans of this mindset, perhaps, who speak confidently of $\mathcal{AI}$ just around the corner which will upstage human linguistic capacity. This approach has earned Chomsky the utter contempt of nobel prizing winning Gerald Edelman, who condemns the model as a 'deviation of science.' (Chapter 8.3.5)

THE BODY ELECTRIC

- $\mathcal{M}$ (electromagnetic) signals constitute information for living organisms.
- Patterned energy defines content for and exerts control over both intrinsic and volitional organic processes.
- All forms of $\mathcal{L}$ operative within life forms consist of patterned energies imposed upon their respective orders of $\mathcal{M}$ *by* $\mathcal{K}$.

Researchers report EM patterning detectable with electronic gadgetry which can be matched with the topic occupying the attention of subjects, but a level of discrimination sufficient to parse patterned energy for specific linguistic structuring has not yet been achieved. (Chapter 1.2.8)

MODEL SCHEMATIC

PURE PERCEPTION

Raw Signal

NATURAL EXPRESION

↕

Sensors

↕

Pattern-Matching Networks

KO-OPTIONING

PTRI

REGISTRIES

𝔓-Reg

↓↑

R-Reg

MENTAL MODELING

Organization of Meaning

↕

SEMANTICON

↕

Ptri Networks

J-Koding

SCRATCH PAD

Pragmatics

Verbot

Speech-Writing

This collection of labels is a rough schematic of the subjects discussed in Chapter 10, 'From Script to Script.' It discusses the forms of data and traces their origins and destination within the model as they pass from presentation (inscription) to re-presentation (description).

DATA TRACE

- The 𝔉loks of Pure perception
- Parsed by neural networking
- *Intensional* (common) and *incidental* (unique) properties are identified.
- Registered in 𝔓-Side Registry
- Transposed to R-Side Registry
- Merged in SEMANTICON as sememes in *M*nd
- Integrated into the network of mental models.

Any coherent *collective* of sensation streams flowing from the *senses* to the Ptri which (whether *K*o-opted for inclusion in a @Language system or not) forms a '*fok*al point' in our *k*onsciousness we refer to acronymically as a 𝔉lok. 𝔉loks transport the sensory 'root' of observed phenomena to the Ptri. (Chapter 10.8)

TERMINOLOGY

- $\mathfrak{P}$-Side - Data areas trafficking in 'presentation/pure perception'
- R-Side - Data areas trafficking in 're-presentation' (secondary symbolism)
- $\mathcal{K}$-Side - $\mathcal{K}$ommunication channels using portable code formats.
- Ptri - $\mathfrak{P}$-Side to R-Side interface
- Registries - Dictionaries featuring entries in diverse orders of $\mathcal{M}$ utilized by sensation.
- SEMANTICON - Dictionary housing sememes in the 'unified data system' ($\mathcal{M}$nd) organized as a network of mental models.
- PAD - The 'scratch pad' where pragmatic structuring is synthesized and analyzed.

For detailed discussion, see Chapter 10.

SUMMARY OF *PTRI* EVENTS

- SCRIPTING-MODE CHANGE ($\mathfrak{P}$RESENTATION TO REPRESENTATION)
- REGISTRATION - REGISTRY ENTRIES
- CONVERGENCE WITH THE UNIVERSAL DATA SYSTEM ($\mathcal{UDS}$)
- CHANGE OF SCALE - spectral EMS to granular EMS or linear strings
- ONTOLOGICAL SHIFT (MECHANICAL TO VOLITIONAL)

PTRI is an abbreviation for the ‘presentation to re-presentation’ interface. The process of conversion from pure perception (inscription) to mental representation (description) entails the events outlined in this slide (Chapter 10). While these aspects of the model are purely theoretical (a top-down approach), they are reduced to MINDMATH in “LANGUAGE in Capital Letters” in order to make them sufficiently explicit to consider in the context of research conducted by those working from `the bottom-up.’ (Methodology discussed in Chapter 9.8.3)

J-$\mathcal{K}$ODING

- EXTRACTING *MindMath* FROM THE NEURAL NETWORKING OF THE PERCEPTION FIELD

$$(10.69) \qquad \boxed{\left(\frac{\{\underline{\mathbf{Sem}}\}_1^n}{{}_{\mathbf{x}}\mathbf{Network}}\right)^{\overset{\Upsilon}{\uplus}\{J\mathcal{K}|ode\}} \looparrowright {}_{x}Script_{Mnd}}$$

With respect to this formula, we add the relevant definition:

Definition 10.47 (To J-$\mathcal{K}$ode ($\overset{\Upsilon}{\uplus}$)). *To abstract from the effusion of sememes issuing from the* PTRI *the J-rule complexes comprising* MindMath *descriptive of the sensation which is stimulating it.*

This formula reflects the ability of any normal, speaking person to observe the environment and describe what is transpiring there. Note the chapter references in the formula and definition.

THE $\mathcal{L}$ FACTOR

- ORDERS OF $\mathcal{L}$
  - @English
  - @Spanish
  - @C++
  - @Calculus
  - Etc.

The traditional arena marked out by itself by linguistic science -- without delving deeply into what underlies and complements the diverse forms of outward expression, i.e., without orienting them with respect to a fully populated model of language extending into sensory perception and mental modeling. Behaviorism declared out of bounds any phenomena which could not be outwardly observed. (Search ‘behaviorism’ in the BOOK itself for cumulative references.)

KO-OPTIONING

- Definition: *The selection of options by $\mathcal{K}$ from $\mathcal{L}$ for the construction of language systems.*[**Definition 19.41**]
- Results in the myriad forms of both natural and synthetic languages.

> ... we are parties to an agreement to organize it in this way --- an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course, an implicit and unstated one, but its terms are absolutely obligatory; we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees. (Whorf)

Linguistic Relativity transpires within the domain of the language system *k*o-opted by individuals and *k*ommunities.

THE $\mathcal{M}$ FACTOR

- ORDERS OF $\mathcal{M}$ - **STRUCTURABLE MEDIA**
  - *$\mathcal{R}$/$\mathcal{K}$-Side*
    - *$\mathcal{M}$nd -- Classic JG algebra*
    - *$\mathcal{M}$lx -- Lexical mapping for printout*
    - *$\mathcal{M}$ph -- Phonological base for voice synthesis(articulation)*
    - *$\mathcal{M}$tr - Mapping of motorized units, e.g. robotic movement.*
  - *$\mathfrak{P}$–Side*
    - $_{Aud}\mathcal{M}$, $_{Vis}\mathcal{M}$, $_{Etc}\mathcal{M}$

There exist for all orders of $\mathcal{K}$ primal orders of substance $\mathcal{M}$ comprised of *materia* amenable to *k*ompatible forms of s*k*ripting in $\mathcal{L}$.

Every $\mathcal{K}$onscient has a domain in which to operate and $\mathcal{M}$edia upon which to write.

See Chapter 17.8.4. Whorf emphasized the forms of language operative inside the organism and the linkages between them and the external forms of language. Thus, English expression, while originating as electro-magnetic patterning in our heads, is routinely transposed into writing, speech, gestures, and so on. *MINDMATH* provides scripting operations which make such processes explicit.

REGISTRIES Reflect Orders of $\mathcal{M}$

- $\mathfrak{P}$–$\mathfrak{REG}$ – Presentation (Pure Perception)
- R-REG – Representation of sensory data types
- SEMANTICON – Universal, mediating data type

The registries (dictionaries) of the LANGUAGE model are strictly theoretical. It makes sense to assume that entries first occur in generic modes of pure perception, followed by orders of R-Side $\mathcal{M}$ corresponding to the specific sensory data streams and the constituents of which they are comprised. Unification takes place in the SEMANTICON, which uses the universal, mediating data type $\mathcal{M}$nd, which is that employed in conventional J-trees. (Chapter 10).

EXPERIENCING ORDERS OF $\mathcal{M}$

- RAW DATA OF PURE PERCEPTION - HI RES
- CANONICAL IMAGES - LOW RES
- `GHOSTLY,' EPHEMERAL - ARTIFICIAL

See Chapter 10.3.1. First, look around you and take note of the unadulterated presentation of your senses. This we refer to as `pure perception' and is assumed to be a continuation of unmodified signals as they impact the organism. (2) Now, close your eyes and visualize some object or animal. Compare this generic image with a corresponding item in your field of pure perception. (3) Keep your eyes closed and recall what you perceived somewhere sometime. Notice that what you now experience are ephemeral percepts of a 'ghostly' variety. Distinctions of this kind are part and parcel of the LANGUAGE model are reflected in the variable specifications of MINDMATH.

INTERFACING
BRIDGES BETWEEN ORDERS OF $\mathcal{M}$

- LINKAGE BETWEEN SIGNIFIED AND SIGNIFIER
  - ARBITRARY (AS PER SAUSSURE)
  - ICONIC (AS PER PRAIRIE DOGS)

See Chapter 10.6

LINKAGE COMPARED

PRAIRIE DOG

$$(10.70)\quad \int_{\mathcal{M}ix}^{\mathcal{K}pd}{}^{\infty} \mathbb{@}\{\mathsf{Ss}\}_1^n : \left(\left(\left(\left(\left(\left(\{\mathfrak{S}_s\}_1^n \sqrt{\odot}^{H} \looparrowright {}_{I}\mathfrak{F}\right)^{\bowtie_R \mathcal{M}}\right)^{\bowtie \mathcal{M}nd}\right)^{\bowtie \mathcal{M}lx}\right)^{\bowtie \mathcal{M}ph}\right)^{\bowtie \mathcal{M}tr}\right)^{\mathcal{K}} \looparrowright {}_{H}Cry$$

HUMAN

The equation for humans, therefore, takes the following modified form, wherein the sweep of exponentials is interrupted by the $\mathcal{K}$o-option of @Lng with its arbitrary linkages from @LNG forward. Exponential and arbitrary sequences are divided between lines:

$$(10.71)\quad \int_{\mathcal{M}ix}^{\mathcal{K}hm}{}^{\triangleright} \mathbb{@}\{\mathsf{Ss}\}_1^n : \left(\left(\left(\{\mathfrak{S}_s\}_1^n \sqrt{\odot}^{Hawk}\right) \looparrowright {}_{x}\mathfrak{F}_{p\mathcal{M}}\right)^{\bowtie_R \mathcal{M}}\right) \mathbb{@}\mathsf{Lng} : \ldots$$

$$\left(\left(\underline{\underline{Hawk}}^{\mathcal{K}k}_{\mathcal{M}nd}\right)^{\bowtie\infty\mathrm{CGL}} \looparrowright \left(\mathrm{Hawk}^{\mathcal{K}k}_{\mathcal{M}lx}\right)^{\bowtie\infty\mathrm{CGF}} \looparrowright \left(Hawk^{\mathcal{K}c}_{\mathcal{M}ph}\right)^{\bowtie\infty\mathrm{CGM}} \looparrowright \boldsymbol{Hawk!}^{\mathcal{K}e}_{\mathcal{M}tr}\right)$$

$$(10.72)\quad \boxed{\triangleright\underline{\underline{Hawk}}^{\mathcal{K}k}_{\mathcal{M}nd} \overset{\mathrm{SMC.LEX}}{\parallel} \mathrm{Hawk}^{\mathcal{K}k}_{\mathcal{M}lx} \overset{\mathrm{LEX.FON}}{\parallel} \mathrm{Hawk}^{\mathcal{K}c}_{\mathcal{M}ph} \overset{\mathrm{FON.MTR}}{\parallel} Hawk^{\mathcal{K}e}_{\mathcal{M}tr}\infty \longrightarrow}$$

Note the references to Chapter 10 on the equations.

INSCRIPTION--
WHEN MIND 'QUICKENS' MATTER

$$\int_{\mathcal{M}30}^{\mathcal{K}.\mathcal{H}.} \text{@L|ng:} \left(\int \underline{V}^{i} \Big\langle_{1}^{n} \leftrightarrow V \right) = \{{}_1v,\ {}_2v,\ {}_3v \ldots {}_n v\}$$

- Definition: <u>Reflexive symbolism</u> -- When objects represent themselves (Chapter 1.2.9).
- Consequence:
  - Structured physical objects and processes are also a form of symbolism under LANGUAGE.
  - LINGUISTICS becomes the super-science for the simple reason that all science is preoccupied with structured phenomena 'quickened' by language in one form or another.
  - MINDMATH notation has facilities for making all forms of scripting explicit.

See Chapter 17.11.2. The *inscription* (instantiation) of *prescription* results in the structuring which permeates the physical domain. Whenever you take it in mind to do something and then do it, you are --- from the LANGUAGE perspective --- transferring the structure of the idea into action or form. Inscription is the portal exploited by MIND to enter PHYSICAL REALITY, as it were. Scientists, therefore, in attempting to construct formulas for physical phenomena are in effect attempting to recover their source in prescription. *MINDMATH*'S purpose is to make this scenario explicit.

The '*SCRATCH PAD*'

- A hypothetical area of MIND used by $\mathcal{K}$onscience to en*k*ode and de*k*ode MINDMATH symbolism.
- The *S-PAD* purports to be the mental facility where you formulate what you want to say or write.
- The *S-PAD* may correspond to what is often referred to as *short-term memory*.
- Absent the intelligence exercised by $\mathcal{K}$, the PAD would remain forever and always a blank slate.

See Chapter 10.27. Little wonder that computer simulations which entail programmatic formulation of conversation make little sense. Lacking an active perception field, the network of mental models representing virtually every recurring object and concept, plus the ability to surmise and model the state of mind of others, the chances of mechanically assembling anything that makes sense are miniscule. While Hollywood has its Hal and *AI* dreamers have their fantasies, machines simply lack the essential ingredient, namely, the *principle of intelligence* ($\mathcal{K}$) --- which happens to be nontransferable.

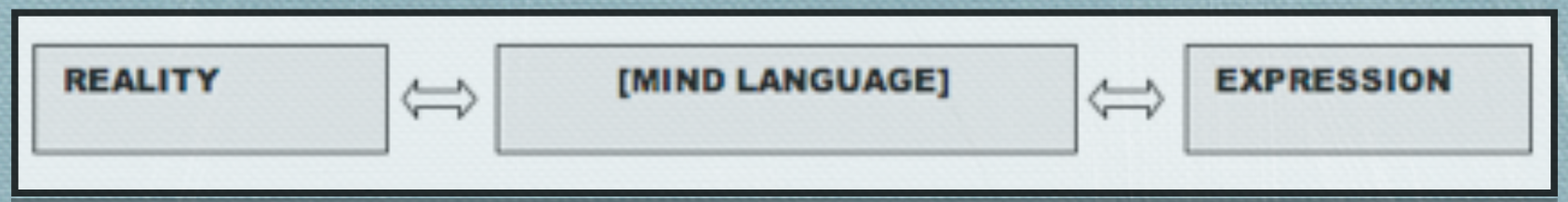
WILSON VS WHORF

- *CONSILIENCE Versus KONSCIENCE -- Monist or Triple*
  - *MECHANICAL REDUCTIONISM -- Deriving ephemeral`meat machines'*
  - *PRIMAL AGENCY -- Certifying eternal `K-Forces' which exercise agency.*

THE `BEHAVIORISM' OF SKINNER AND WATSON WAS MERELY THE MANIFESTATION OF DARWINISM IN THE SOCIAL SCIENCES. THE PRINCIPLE OF INTELLIGENCE PROACTIVELY AND TELEOLOGICALLY APPLIED IS DISPLACED BY CONDITIONING -- RECALL PAVLOV'S SALIVATING DOGS. TO TEACH IS TO PROGRAM A 'CARBON UNIT' WITH CONDITIONED RESPONSES.

Chapter 2 begins by juxtaposing Whorf and Wilson, a champion of mechanical reductionism. Behind the science of Wilson and like-minded practitioners is a monist agenda which would bring all 'meat machines' under control of an intellectual elite. To Wilson, all apparent individual differences are a function of DNA. To Whorf, individual differences stem from agency. The divide between the two perspectives has no bridge nor room for compromise.

FLOW OF SCRIPTING TO AND FROM MIND LANGUAGE IN WHORF'S FULL MODEL



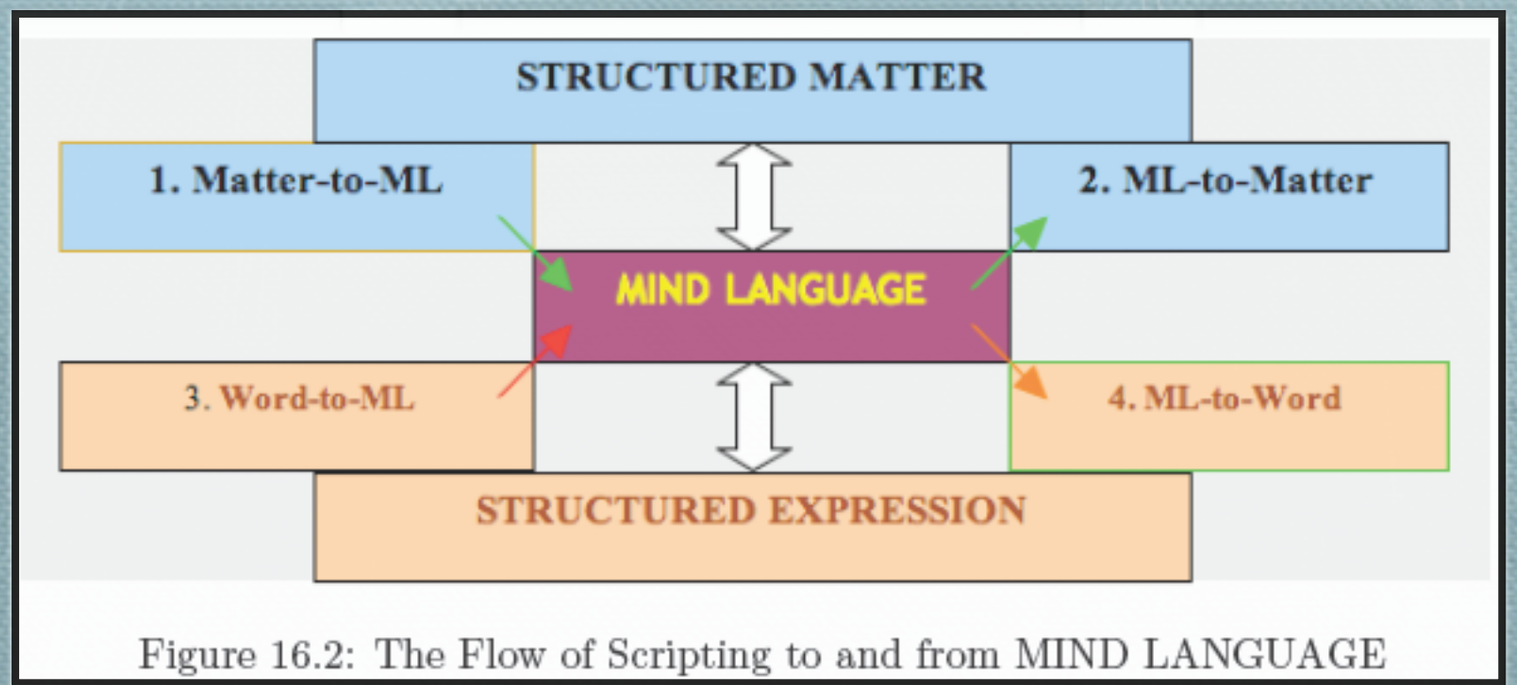


Figure 16.2: The Flow of Scripting to and from MIND LANGUAGE

$\mathcal{mtM}$

$\mathcal{Mtm}$

$\mathcal{wtM}$

$\mathcal{Mtw}$

The flow depicted in the diagram implies linkages between orders of $\mathcal{M}$ which are not explicitly identified here. MIND LANGUAGE itself, of course, is in the universal data type $\mathcal{M}$nd.

VOCALIZATION

MIND TO Matter -- Mtm

$$(10.64) \quad \int_{\mathcal{M}nd\ldots_{Au}\mathcal{M}cn}^{\mathcal{K}h\ldots\mathcal{K}e} \left[\frac{\text{@English}}{_{Au}\mathcal{M}cn}\right] : \left\{ \text{SCRIPT}^{\text{Y}} \ \rightsquigarrow \ {}_{x}\mathfrak{Script} \right\}$$

This formula is a schematic (simplified) representation of the process of articulating verbally a collective of English thinking.

SPEECH RECOGNITION

Matter To MIND -- mtM

$$(10.65) \quad \oint_{{}_{Au}\mathcal{M}cn \ldots \mathcal{M}nd}^{\mathcal{K}e \ldots \mathcal{K}k} \left[\frac{\text{@English}}{{}_{Au}\mathcal{M}cn} \right] : \left\{ \mathfrak{Script}^{\mathsf{Y}} \leftrightarrow {}_{x}\mathsf{SCRIPT} \right\}$$

This formula is a schematic (simplified) representation of the process of capturing mentally a collective of English audible expression.

PURE PERCEPTION

- Physical Continuity
  - Physical stimuli penetrate the sensors in their 'raw' form.
  - Bergson called this **pure perception** -- *'the lowest degree of mind, which is in reality a part of matter, as we understand matter.'*

Is the immediacy of what one sees and feels real or merely an illusion stemming from the elegance of mental re-presentation? There is a polemic between '*representationalism'* and *direct 'perceptionism'* which opposes polar views of this issue. The truth be told, the verbal dichotomy itself is specious and dissolves in the context of the LANGUAGE model, which assumes continuity of the external signal as it penetrates the organism followed by subsequent conversion to representative coding. (Chapter 9)

Transposition/Linkage in Multi-Tract Systems

"The non-motor processes that are the essential thing are, of their nature, in a state of linkage according to the structure of a particular language . . . " (Whorf)

- Transformational Grammar is 'derivational,' transforming formatives stepwise from 'deep structure' to 'surface structure.'
- Junction Grammar introduced multiple `tracts' (or 'levels') employing distinct data types and (de)coding grammars to transit the linkages between them.
- Linguistic structures having the same Mind Language base could thus appear as `transpositions' of that base in related tracts (vocal, graphic, gestural, etc.), some of them coded less explicitly than their source.
- Mind Language coding is explicit and ambiguous, but reflective of its natural language connections at the same time.

To say anything, we must transpose it from its *MindMath* mode in the MIND Tract, into lexical strings, which must in turn be transposed into a format which will support either articulation or the motor processes involved in writing. (Chapter 10)

PRODUCTION GRAMMARS

- Systems which generate structure within an Order of $\mathcal{M}$
  - Categories
  - Operators
  - J-Rules

Production grammars and production rules are the central aspect of ‘generative’ grammars. They normally consist of ‘rewrite’ or ‘phrase structure’ rules which generate branching diagrams with linguistic formants assigned to their terminal nodes. Nodes in the trees are labeled to reflect the category of the constituent subtended by the node. JG departs from this tradition by giving production rules as linguistic operations based on both operators -- junctions -- and operands. Consequentially, JG structures are distinctly ‘algebraic.’

CODING GRAMMARS
TRANSIT LINKAGES

- *Transposition* (↔) between `orders of *M*' (*materia*)
- `Mind Tract,' `Vocal Tract,' 'Video' Tract, Etc.
- Classical JG -- Distinction Between *Data Types*
- 'WORDS' in many guises -- sounds, shapes, gestures, EM patterns, etc.

The coding grammars of JG strive to capture the fact that linguistic patterning occurs both inside and outside of the organism in many forms, each reflecting the material nature of the medium which is being used to 'write upon.' Conventional linguistics is essentially 'tongue tied' and 'hand bound' in that it has arbitrarily limited itself to phenomenon revolving around lexical forms. JG follows the lead of Benjamin Whorf in removing this artificial constraint. The result is LINGUISTICS.

FUNDAMENTAL RELATION OF `LANGUAGE'

...we define with respect to *LANGUAGE* a three-place relation such that, given $\mathcal{K}x$, $\mathcal{L}x$, and $\mathcal{M}x$ as discrete $\mathcal{K}$, $\mathcal{L}$, and $\mathcal{M}$ values for a particular scripting event:

(17.0) $((\mathcal{L}x \ltimes \mathcal{K}x) \rightarrow \mathcal{M}x)$ ('$\mathcal{L}x$ is a script of $\mathcal{K}x$ in $\mathcal{M}x$')

- THESE ELEMENTS ALSO FORM THE BASIS FOR THE ***SCRIPTING SIGNATURE***

In set theory, the fundamental relation is 'x is an element of X' -- a two-place relation between element and set. The LANGUAGE theory, the fundamental relation is a three-place one between $\mathcal{K}$, $\mathcal{L}$, and $\mathcal{M}$ variables, as depicted in the slide. $\mathcal{K}$x is the author; $\mathcal{L}$x is the script; and $\mathcal{M}$ is the medium `written upon.' (Chapter 17)

Thus, analogous with the two-place, set-theoretical relation ...

(17.1) $\boldsymbol{x} \in \boldsymbol{X}$ ('x is an element of X')

...we define with respect to *LANGUAGE* a three-place relation such that, given $\boldsymbol{\mathcal{K}x}$, $\boldsymbol{\mathcal{L}x}$, and $\boldsymbol{\mathcal{M}x}$ as discrete $\boldsymbol{\mathcal{K}}$, $\boldsymbol{\mathcal{L}}$, and $\boldsymbol{\mathcal{M}}$ values for a particular scripting event:

(17.2) $((\boldsymbol{\mathcal{L}x} \ltimes \boldsymbol{\mathcal{K}x}) \Rsh \boldsymbol{\mathcal{M}x})$ ('$\boldsymbol{\mathcal{L}x}$ is a script of $\boldsymbol{\mathcal{K}x}$ in $\boldsymbol{\mathcal{M}x}$')

...where '$\ltimes$' expresses the relation of a script to its $\boldsymbol{\mathcal{K}}$onscient author and '$\Rsh$' denotes their relation to the $\boldsymbol{\mathcal{M}}$*aterium* in which the scripting transpires. Alternatively, depending upon the relative focus of primes (and taking care to maintain proper orientation of relational symbols), we may similarly write:

(17.3) $((\boldsymbol{\mathcal{K}x} \rtimes \boldsymbol{\mathcal{L}x}) \Rsh \boldsymbol{\mathcal{M}x})$('$\boldsymbol{\mathcal{K}x}$ is the author of $\boldsymbol{\mathcal{L}x}$ in $\boldsymbol{\mathcal{M}x}'$)

(17.4) $(\boldsymbol{\mathcal{M}x} \Lsh (\boldsymbol{\mathcal{K}x} \times \boldsymbol{\mathcal{L}x}))$('$\boldsymbol{\mathcal{M}x}$ is the materium employed by $\boldsymbol{\mathcal{K}x}$ to script $\boldsymbol{\mathcal{L}x}'$)

(17.5) $(\boldsymbol{\mathcal{M}x} \Lsh (\boldsymbol{\mathcal{L}x} \times \boldsymbol{\mathcal{K}x}))$('$\boldsymbol{\mathcal{M}x}$ is the materium in which $\boldsymbol{\mathcal{L}x}$ is scripted by $\boldsymbol{\mathcal{K}x}'$)

In the context of a$\mathcal{K}$tive s$\mathcal{K}$ripting, this ensemble of variables is written with $\boldsymbol{\mathcal{K}x}$ as the 'power' (exponent) and $\boldsymbol{\mathcal{M}x}$ as the index (subscript) of $\boldsymbol{\mathcal{L}x}$. The rationale for this arrangement will be given as the discussion proceeds:

(17.6) $\boldsymbol{\mathcal{L}x}^{\boldsymbol{\mathcal{K}x}}_{\boldsymbol{\mathcal{M}x}}$

See chapter 17.

THE SCRIPTING SIGNATURE

17.7.8 The Scripting Signature

Consider again the trio of primal specifiers $\mathcal{L}x$, $\mathcal{K}x$, and $\mathcal{M}x$, such that, as stipulated, "$\mathcal{L}x$ is a script of $\mathcal{K}x$ in $\mathcal{M}x$." To represent this primal *LANGUAGE* ensemble in equation form, we elect to use a *signature* (cf. music notation) which consists of the integral ($\int$) crossed by the symbol for the *language kontinuum* ($\leftrightsquigarrow$), which together signify the summation of an event on the 'kontinuum' ($\int\!\!\!\!\!\!\leftrightsquigarrow$). These are coupled with $\mathcal{K}x$ as an exponent (the *power*, or $\mathcal{K}$o-efficiency of the $\mathcal{K}$-Force (author), to which the script is raised), medial $\mathcal{L}x$ (an expression of the 'linguistic order') preceeded by @Lng (or ⓒLng for 'self') as a language identifier and $\mathcal{M}x$ as an index (a subscript specifying the active *materium*). This disposition of primes constitutes the signature adopted to initialize *active*[12] *MINDMATH* scripting segments:

$$(17.20)\quad \int\!\!\!\!\!\!\leftrightsquigarrow_{\mathcal{M}x}^{\mathcal{K}x} \langle @;\ ⓒ\rangle \mathsf{Lng}\colon \left(\mathcal{L}x \right)$$

See Chapter 17.

GENERAL *LANGUAGE* PROBLEM

- How might the $\mathcal{K}$, $\mathcal{L}$, and $\mathcal{M}$ specifications of MINDMATH scripting signatures be used to create a general scheme of scientific classification?

Once ‘language’ is redefined to incorporate structuring in all domains, all scientific endeavor falls becomes pertinent to LINGUISTICS and SEMANTICS. The formal mechanism of MINDMATH which offers itself as a potential tool for expressing unity among the sciences in a principled way is the SCRIPTING SIGNATURE. This slide states the problem which emerges as a challenge is this context.

SIGNATURE -- POTENTIAL FOR UNIFICATION UNDER LINGUISTICS AS THE SUPER-SCIENCE

- THE SPECIFICATION OF $\mathcal{KX}$, $\mathcal{LX}$, AND $\mathcal{MX}$ FOR SCRIPTING SIGNATURES EMPLOYED IN ANY SCIENTIFIC ENDEAVOR CAN LIKELY BE USED AS THE BASIS FOR ORIENTING THEIR SUBJECT MATTER WITH RESPECT TO SCIENCE AT LARGE.

`People generally do not yet know that the forces studied by linguistics are powerful and important, that its principles control every sort of agreement and understanding among human beings, and that sooner or later, it will have to sit as judge while the other sciences bring their results to its court to inquire into what they mean.' (BENJAMIN WHORF)

For futuristic discussion, see Chapter 8.6.

LINGUISTIC RELATIVITY

- **HOW MANY VARIATIONS ON A THEME ARE THERE?**
- We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated. **(Benjamin Whorf)**
- These automatic, involuntary patterns of language are not the same for all men but are specific for each language [AND person] and constitute the formalized side of the language, or its ``grammar'' -- a term that includes much more than the grammar we learned in textbooks of our school days. From this fact proceeds what I have called the "linguistic relativity principle," which means, in informal terms, that users of markedly different grammars are pointed by their grammars toward different types of observations and different evaluations of externally similar acts of observation, and hence are not equivalent as observers but must arrive at somewhat different views of the world. **(Benjamin Whorf)**

See quotations from Whorf in Chapter 11.

THE LANGUAGE KONTINUUM -- OVERT RELATIVITY

- Definition:The spectrum of linguistic similarity and difference extending from person to person, from dialect to dialect, from people people, from continent to continent, etc.

- *Linguistic resistance* (friction and *k*onflict) occurs as a function of differences.

See Chapter 11.1.1. `Linguistic relativity' is the inevitable result of the primacy and agency of *K*onscience. Each *k*onscient intelligence garners a unique perspective of its surroundings through sensory perception and hearsay. Diverse perspectives often result in *k*onflict of one form or another as a function of *linguistic resistance*, when their sponsors endeavor to establish their individual primacy. To deny the reality of LINGUISTIC relativity is to deny the realities of our day-to-day *k*ommunal lives. Use of upper case, i.e. LANGUAGE KONTINUUM and LINGUISTIC RELATIVITY simply incorporates inscription into the picture. Thus, not only do we think differently, but we act differently in transferring scripts from MIND to matter.

MULTI-LINGUALISM

- Overt - Many individuals speak more than one *k*ultural language - English, Spanish, German, Chinese, etc.
- Covert - Everyone individual has the intellectual capacity to *k*reate multiple languages within MIND.
  - In this case, the *l*anguage *k*ontinuum may be viewed as breaching cranial walls to extend within the myriad domains of MIND.

What makes it possible to 'think about thinking' is the capacity for covert multi-lingualism. It is this phenomenon which also underlies such phenomena as multiple personalities as well as the *k*reation of new languages for scientific and technological use. (Chapter 9.5)

INTERLINGUAL RESISTANCE RELATIVITY IN ACTION

- Whorf emphasized that interlingual resistance among scientific sublanguages would become an obstacle to progress in science.
- Language systems 'resist' one another in the sense of evoking discord between their users.
- Resistance is a function of differences in *k*o-otioning, as well as the meaning of words, which stems from the disparate content of ordinary mental models and the perceptions associated with them.
- At a higher level, the political and religious prescription constructed by diverse *k*ultures in their languages collides.
- The same resistances translate to the level of the individual because of personal usage and intra-cranial multilingualism.

See Chapter 11.3.4.

QUANTIFYING LINGUISTIC RELATIVITY - LANGUAGE PROFILES

- THE LINGUISTIC FINGER PRINT
- GENERATED BY *WORDMAP* AS A DATA MATRIX CONSISTING OF A DOZEN DATA SETS.
  - AUTHOR ID
  - GROUP ID

See Chapter 17.10.1; 17.10.2.1.

SIMILARITY ASSESSMENT

- INDIVIDUALS
- GROUPS
- LINGUISTIC DIFFERENTIAL - $\mathcal{LDF}$

By the same token, a web-search equation would return least-different/most-similar from a field of candidates for $\underline{\textbf{SearchModel}}_j$, plus a matrix of proximity for each, which, in this case, would also facilitate ranking the search results:

$$(17.27)\quad \left\{ \leftrightarrow \quad {}_j\underline{\underline{SearchModel}} \quad \overset{\{WMP\}}{\lightning} \quad \left\{ \begin{array}{c} {}_3Site \\ {}_1Site \\ {}_2Site \\ \ldots \end{array} \right\} \quad \leftrightarrow^{[Rank]} \quad \left\lfloor \begin{array}{c} {}_{Site\,3}LDF \\ {}_{Site\,2}LDF \\ {}_{Site\,1}LDF \end{array} \right\rfloor \leftrightarrow \right\}_1^3$$

When we assert that *x* is like or unlike *y* we are assessing similarity and difference. Similarity assessment is pervasive in mental functionalities of virtually every kind. The above equation captures what the *WordMAP* software would do in assessing the similarities of web sites to the search model entered by a the user. (See Chapter 17.10.2.1)

CLASSICAL JG

- OPERATORS
  - CONJUNCTION (&)
  - SUBJUNCTION (*)
  - ADJUNCTION (+)
- GOVERNING DYNAMICS
  - J-RULES - $X \circ Y(/M) \cong Z$

See Chapter 8. Conjunction joins similars; subjunction effects subordination of operands to prescriptive constituents which determine their properties; adjunction bonds formants when they enter into a relation or process together.

CHAPTER 2 - HIGHER ORDER OF GOVERNING DYNAMICS

- SCRIPTING OPERATORS AND THEIR MODALITIES
  - PRESCRIPTION - JG ↘
  - DESCRIPTION - JG ↗
  - INSCRIPTION - JG ←

$\mathcal{K}$-*Forces* are depicted as employing these three modes of scripting cy$\mathcal{K}$lically for the accomplishment of specific structuring and epistemological purposes:

-**The Autonomic Cy$\mathcal{K}$le**: Prescription is *a priori* and the cy$\mathcal{K}$le is employed to maintain stability between it and its instantiations (inscriptions).

- **The Empirical Cy$\mathcal{K}$le**: Inscription is used as the basis for abstracting prescription (formulas), which is then utilized for scientific purposes.

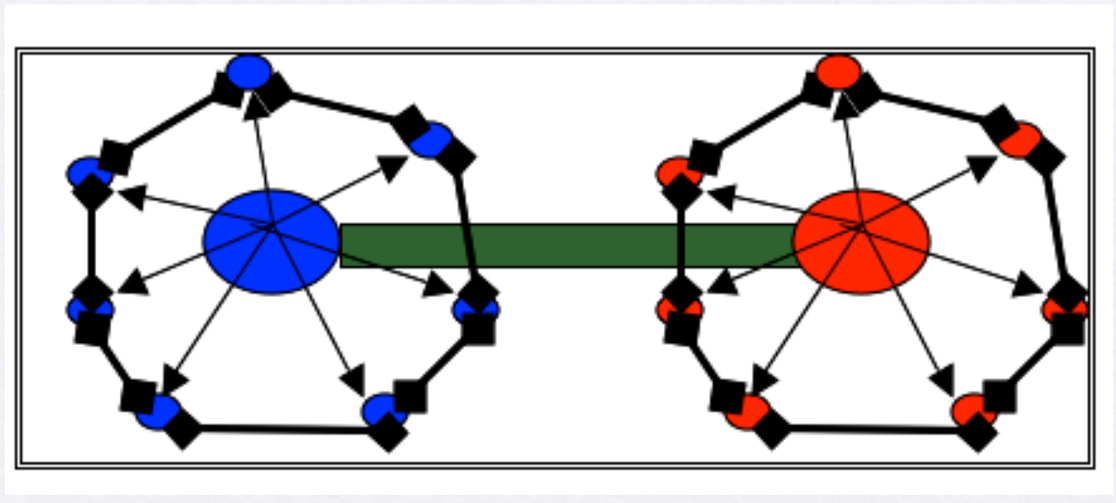
- **The Text-based Cy$\mathcal{K}$le**: Linguistic roots are abstracted from description or written from prescription for academic and $\mathcal{K}$ommunication purposes.

CHAPTER 17 - DERIVING CLASSICAL JG FROM MINDMATH

- Conjunction holds between instances of a unity -- elements linked around the rims.

- Subjunction holds between a prescription and its inscriptions -- shown by the spokes.

- Adjunction holds between entities which enter into a relation or function together -- shown by the green axle.



Deixis is a Function of *K*ustomized *K*ode *K*reated
on the PAD
For a Discursive Multiplex

CLASSICAL JG PROBLEMS

- Consider the sentence: 'It was John <u>who did that</u>.'
  - Is '<u>who did that</u>' a restrictive or non-restrictive modifier -- Prove your answer.
- Consider 'As ye sow, so shall ye reap.'
  - Solve for the intersection of the clauses.

See Chapter 8.3.5.

LINGUISTIC 'ROOTS'

The *primal roots* of any script correspond to its LANGUAGE primes, namely:

Konscient ID
Language ID
Material ID

The *working roots* of scripts, regardless of their primal roots correspond to a shared quintessence of meaning. Thus, for example, in analyzing text, we deal with working roots when focusing on:

The *unifying premises* (themes) of essays.
The *abstract* of an article.
The *topic sentence* of a paragraph.
The *commonality of url content* which establishes relevance in a web search.
The *statistical coherence* of a sublanguage definition.

See Chapter 17.7.

TREATMENT OF PRIMAL ROOTS

- OPERATOR SURD (√):
  - RELATIONS

$$\boldsymbol{Izabel} = {}^{\mathcal{K}x}\sqrt{\boldsymbol{Script}} \text{ (Izabel is the operative } \boldsymbol{\mathcal{K}} \text{ Force of } \boldsymbol{Script} \text{ – AUTHORSHIP)}$$

$$\boldsymbol{PigLatin} = {}^{@\mathrm{Lang}}\sqrt{\boldsymbol{Script}} \text{ (}\boldsymbol{PigLatin}\text{ is the language of } \boldsymbol{\mathcal{L}} \text{ in which } \boldsymbol{Script} \text{ is written.)}$$

$$\boldsymbol{\mathcal{M}nd} = {}^{\mathcal{M}x}\sqrt{\boldsymbol{Script}} \text{ (}\boldsymbol{\mathcal{M}nd}\text{ is the } \boldsymbol{\mathcal{M}} \text{ medium in which } \boldsymbol{Script} \text{ is written.)}$$

  - EXTRACTION

1. ${}^{\mathcal{K}c}\sqrt{\boldsymbol{Vis.Inscription}} \looparrowright \boldsymbol{\mathcal{K}.Force\ Operative}$ (In visual perception.)
2. ${}^{@\mathrm{Lng}}\sqrt{\boldsymbol{Vis.Inscription}} \looparrowright$ @Language.Employed (In visual perception.)
3. ${}^{\mathcal{M}x}\sqrt{\boldsymbol{Vis.Inscription}} \looparrowright \boldsymbol{\mathcal{M}aterium.Employed}$ (In visual perception.)

See Chapter 17.87.

MINDMATH EXPONENTS

Axiom 17.1 (Quintessence). *There exists a common 'root', or quintessence of sense/meaning, which* $\mathcal{K}$*onscience endeavors to preserve (maintain as a constant) during all stages of scripting, be it modal cycling, mental modeling, transposition, or other operations centering on* semantic *stability.*

Table 17.1: Arrow Symbol Exponents

$\mathcal{L}x^{\nearrow}$	$\mathcal{L}x$ prescribed (see Working Definition 6.)
$\mathcal{L}x^{\lightning}$	$\mathcal{L}x$ inscribed (see Working Definition 8.)
$\mathcal{L}x^{\leftarrow}$	$\mathcal{L}x$ described (see Working Definition 10.)
$\mathcal{L}x^{\circlearrowright}$	$\mathcal{L}x$ in Autonomic Cycle (17.11.1)
$\mathcal{L}x^{\circledast}$	$\mathcal{L}x$ in Empirical Cycle (17.11.2)
$\mathcal{L}x^{\circledast}$	$\mathcal{L}x$ in Text-based Analysis Cycle (17.11.3)
$\mathcal{L}x_{\mathcal{M}lx}^{\leftrightarrow\mathcal{M}nd}$	$\mathcal{L}x$ transposed from $\mathcal{M}lx$ to $\mathcal{M}nd$ (10.6)
$\mathcal{L}x_{\mathcal{M}nd}^{\leftrightarrow\mathcal{M}lx}$	$\mathcal{L}x$ transposed from $\mathcal{M}nd$ to $\mathcal{M}lx$ (10.6)
$\mathcal{L}x^{\overset{\Upsilon}{\Downarrow}}$	$\mathcal{L}x$ F-koded (see 10.14).
$\mathfrak{F}\mathfrak{F}^{\overset{\Upsilon}{\Uparrow}}$	$\mathfrak{F}\mathfrak{F}$ S-koded (see 10.15).
$\mathcal{L}x^{@A\rightsquigarrow@B}$	$\mathcal{L}x$ Translate from @A to @B (bilingual see 17.5)
$\mathcal{L}x^{@A\Leftrightarrow@B}$	$\mathcal{L}x$ Transvert from @A to @B (see 17.6)
$\mathcal{L}x^{@A\leftrightarrow@B}$	$\mathcal{L}x$ Konversion from @A to @B (see 17.4)
${}_{x}Key \mapsto @\mathbb{R}egistry$	Register ${}_{x}Key$ in $@\mathbb{R}egistry$ (10.8.1)
${}_{x}Key \leftarrow\!\shortmid @\mathbb{R}egistry$	Lookup ${}_{x}Key$ in $@\mathbb{R}egistry$ (10.8.1)
${}_{x}Sc^{\Upsilon[{}_{@}\mathfrak{S}\mathfrak{c}]}$	$\mathcal{K}$-*Side* Infusion (e.g., voice) in ${}_{x}\mathfrak{S}\mathfrak{c}$ carrier (17.12.6)
${}_{x}Sc^{\Upsilon[{}_{@}\mathfrak{S}\mathfrak{c}]}$	$\mathcal{K}$-*Side* Extraction (e.g., voice) from ${}_{x}\mathfrak{S}\mathfrak{c}$ carrier (17.12.6)
$\mathcal{L}x^{\nearrow\nearrow}$	$\mathcal{L}x$ Remotely viewed (see 17.8 .)
$\mathcal{L}x^{\lightning\lightning}$	$\mathcal{L}x$ Telekenisis (see 17.7.)

$$\nearrow Game.Plan^{\lightning} \looparrowright Game^{\leftarrow} \looparrowright Newspaper.Reviews$$

$$\left(\nearrow Game.Plan^{\lightning} \looparrowright Game\right)^{\leftarrow} \looparrowright Post.Game.Review$$

Note the chapter references in the slide for the axiom and table.

FORMULA FOR GAME

$$\boxed{\nearrow Game.Plan^{\lightning} \looparrowright Game^{\leftarrow} \looparrowright Newspaper.Reviews}$$

Depicts the execution (inscription) of a game plan (prescription) and the description of the game itself by newspapers.

$$\boxed{\left(\nearrow Game.Plan^{\lightning} \looparrowright Game\right)^{\leftarrow} \looparrowright Post.Game.Review}$$

The parentheses indicate that an evaluation of the game vis-à-vis the game plan is carried out in the post-game review.

See Chapter 17.8.16.

MUSICAL PERFORMANCE

$$\left(\nearrow Musical.Score^{\lightning} \looparrowright Performance\right)^{\leftarrow} \looparrowright Critical.Reviews$$

The critics take the score (the music as written by the composer) into consideration when rating the performance in their reviews.

$$\nearrow Musical.Score^{\lightning} \looparrowright Performance^{\leftarrow} \looparrowright Layman.Comments$$

Laymen do not take the score (the music as written by the composer) into consideration when rating the performance in their post-concert comments.

See Chapter 17.8.16.

MINDMATH WITH `WORKING ROOTS'

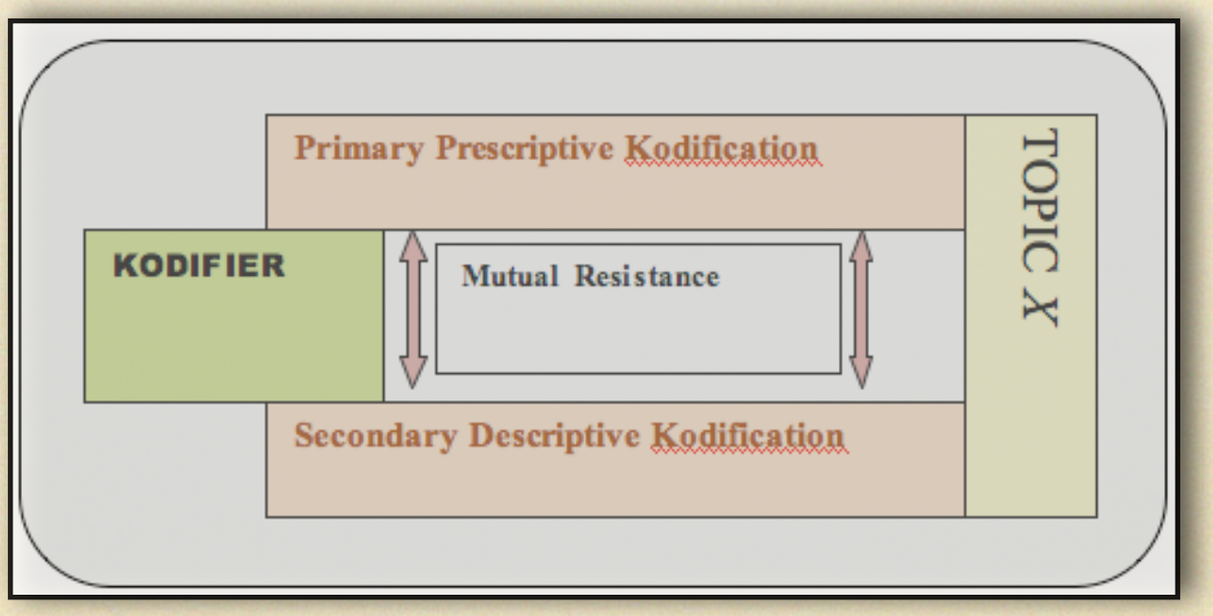
- WRITE EQUATIONS FOR: (Chapter 17, p.336)
- Preparing a book report
- Outlining an article
- Keeping lecture notes
- Choosing an effective title
- Writing a topic sentence

SAMPLE PROBLEMS

- Write an equation which expresses the planning of a surgical procedure, its execution, and the post-op evaluation of the surgical team(Chapt. 17 p. 346).
- Write an equation which depicts the review of a case by the Supreme Court(Chapt. p. 345).
- Write an equation for the preparing and evaluating the outcome of recipe.

STRUCTURE OF MENTAL MODELS

- **DEVELOPING THE `ROOT' OF AN OBJECT OR CONCEPT.**
- **The UNIPLEX (MENTAL FIXTURE).**



$$(10.38)\quad [SHD] = \begin{bmatrix} H.Ct \\ H.Ds \\ H.Ov \end{bmatrix} \quad \text{(Elements of the } \underline{\underline{\textbf{Sem}}} \text{ HEADER.)}$$

$$(10.39)\quad [\mathrm{MSET}] = \begin{bmatrix} Orn & Emot & Def & [Sns] \\ TNET & TXN & \mathrm{ISET} & \lceil WMP \rceil \\ SLST & IWEB & CORP & \mathcal{KF} \end{bmatrix} \quad \text{(Components of } [\mathrm{MSET}]\text{.)}$$

Every recurrent phenomenon of our experience stimulates the *ḱ*reation of a *mental model*, which is subsequently used to anticipate behavior and outcomes as well as serving as the source of 'meaning' for the common terms selected to name the models. Chapters 10 and 12 expand upon the makeup and functionality of mental models.

AXIOM OF UNITY

(The basis for non-restrictive modifiers)

- Be what it may there is something that it is like.
  - The collective attributes of any object include as a subset the `intensional' properties of one or more prescribed unities (groups, sets, categories, etc.).
  - INTENSION

The information provided by nonrestrictive modifiers is common to all similar entities, having been written by prescription at their genesis. Common properties are often referred to as 'intensional,' as opposed to the `incidental' properties not written by prescription. (Chapter 8, 17)

AXIOM OF DISPARITY

(The basis for restrictive modifiers.)

- Be what it may, it differs in some respect from all else, i.e. there is nothing exactly like it.
  - The collective attributes of any entity include as a subset individuating, incidental properties not prescribed by its unity, which differentiate it from all other objects.
  - INCIDENCE

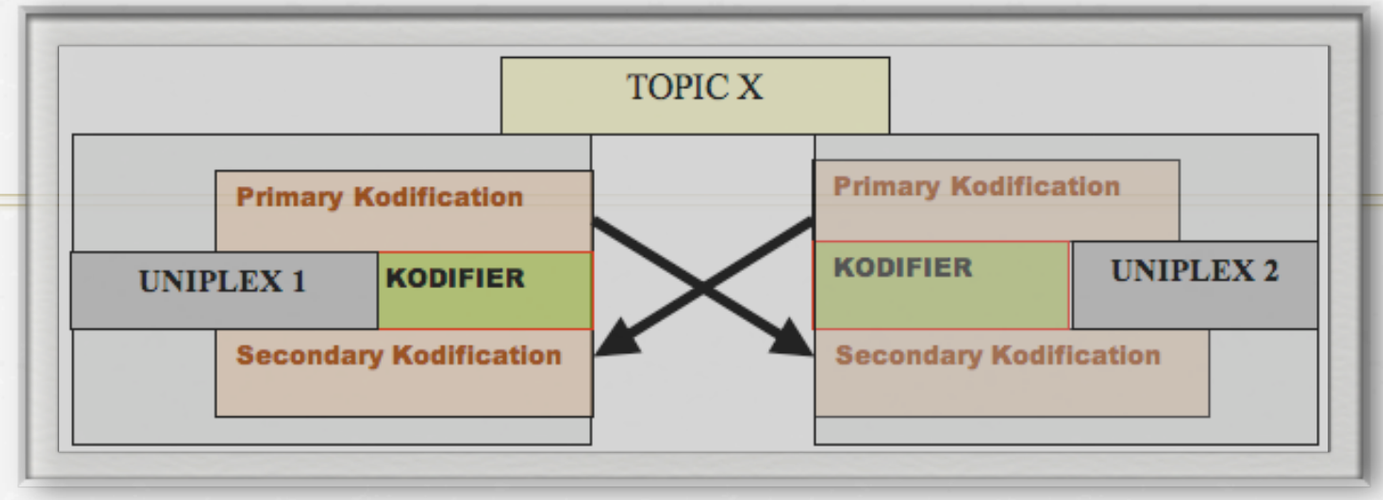
This principle forms the basis for restrictive modification (Chapter 8, 17). It enables us to single out individual entities by citing their distinctive properties -- without referring to them by name. Such properties are sometime said to be ‘incidental,’ as opposed to ‘intensional’ or shared properties.

THE LOGIC OF NAMING

- NAMING PATTERNS
  - UNIQUE MEANING ∴ UNIQUE NAME
  - *KP-1* ONE FORM ∴ ONE MEANING
  - *KP-2* DIFFERENT SENSE ∴ DIFFERENT FORM
  - *KP-3* INTEGRATED STRUCTURE ∴ INTEGRATED *K*ODING

Naming reflects the manner in which the perception field is segmented and understood in language systems. Once in place, we interpret the world about us those terms. Once *cemented* in place, it is extremely difficult for adults to alter the organization of the system. The individual psyche resists change (remember the adage about 'old dogs' and 'new tricks'), as does the *k*ulture husbanding the system. Phenomena not named tend to be disregarded or not perceived at all. The logic of naming is a crucial aspect of 'linguistic relativity.' See the latter part of Chapter 10.

THE DISCURSIVE MULTIPLEX



(12.20) $\left(\left(\underline{DMT}^{[=]}_{\mathfrak{f}}\{MENU\} \right)^{{}_{\mathfrak{m}}\mathcal{K}\Upsilon}_{Mx} \looparrowright {}_{x}\{\Upsilon\mathcal{K}\} \right)$ 'Dynamix' of dis$\mathfrak{Z}$ussion group and topic

(12.21) $\oint^{\mathcal{K}h\ldots\mathcal{K}\Upsilon^{1st}}_{\mathcal{M}nd\ldots\,{}_{Au}\mathcal{M}cn} \left[\frac{\text{@English}}{{}_{Au}\mathcal{M}cn} \right] : \left\{ \text{SCRIPT}^{\Upsilon} \looparrowright {}_{x}\mathfrak{Script} \right\}$ Vo$\mathfrak{Z}$alization – 1st-Person

(12.22) $\oint^{\mathcal{K}e\ldots\{\mathcal{K}\Upsilon^{2nd}\}^{n}_{1}}_{{}_{Au}\mathcal{M}cn\ldots\mathcal{M}nd} \left[\frac{\text{@English}}{{}_{Au}\mathcal{M}cn} \right] : \left\{ \mathfrak{Script}^{\Upsilon} \looparrowright {}_{x}\text{SCRIPT} \right\}$ Re$\mathfrak{Z}$ognition – 2nd-Person

(12.23) $\oint^{\{\mathcal{K}\Upsilon^{2nd}\}^{n}_{1}}_{\mathcal{M}nd} \underbrace{\{\text{SCRIPT}\}}_{\mathcal{K}\Upsilon^{1st}}{}^{[\approx]}\nearrow^{[MSet]} \looparrowright \underbrace{\left\{ \frac{{}_{x}\underline{\underline{Topic}}}{\underline{\mathcal{K}\Upsilon^{1st}}} \right\}}_{\{\mathcal{K}\Upsilon^{2nd}\}^{n}_{1}} \Big|^{\mathfrak{f}}$

To model conversation where the number of participants is arbitrary, it is necessary to include provisions for assigning first/second person roles to specific persons in the discussion group and write MINTHMATH equations which simulate the dynamics of the exchange. In this slide, an exchange between two parties is represented, including vocalization and voice recognition. The equations are from Chapter 12 of "LANGUAGE in Capital Letters," where the rationale for the arrangement and its working parts are discussed.

THE ACTION MULTIPLEX

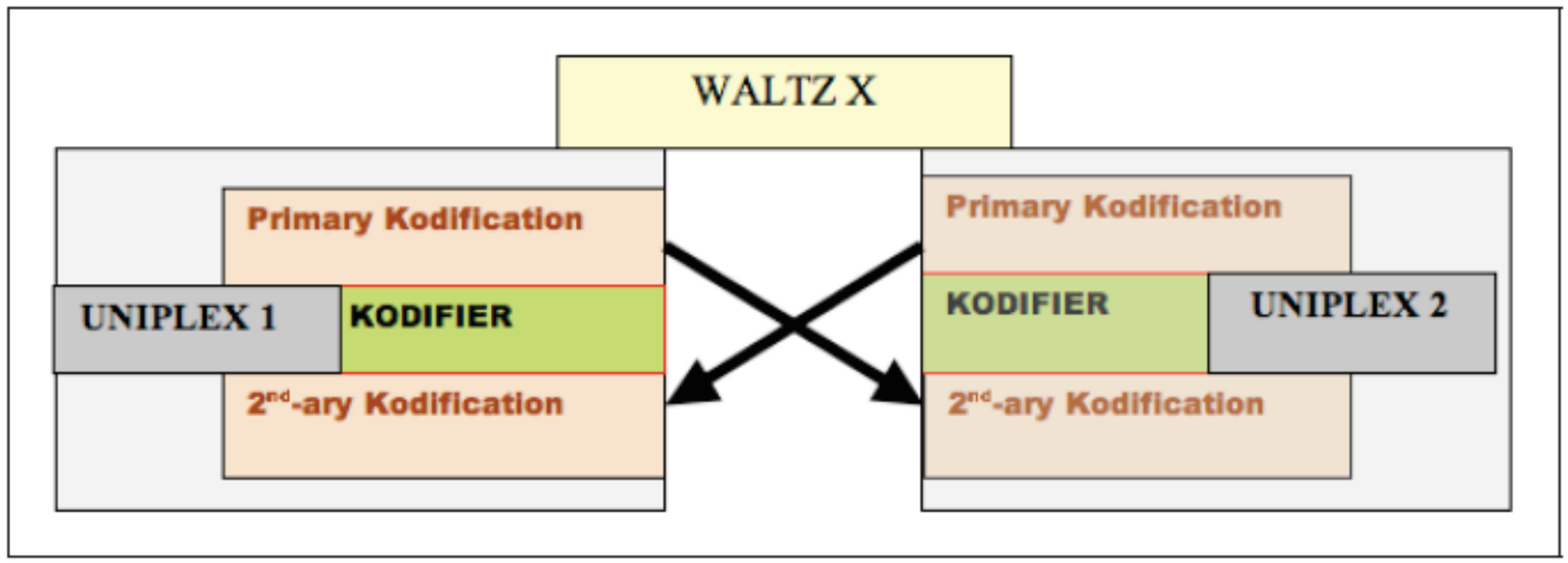


Figure 12.5: Action Multiplex for a Waltz requires its own unique DMX driver to 'dynamix' the moves of the dancers.

THE QUESTION of particular interest to us, of course, is not 'how to waltz,' but whether *LANGUAGE* and*MINDMATH* harbor the flexibility and power necessary to describe effectively what waltzing — and a host of other coordinated, 'multiplectic' activities — are 'all about.'

See Chapter 12.13 . Exchanges of any kind between *K*onscients qualify as forms of '*kommunication*' under LANGUAGE. For example, boxers alternate between 1st and 2nd persons as the punches fly back and forth. Dancers do the same, not to mention the 'turn taking' in a multitude of games. The slide depicting the ACTION MULTIPLEX portrays this concept graphically. Put differently, *k*ommunication may well employ the delivery and reception of a diversity of `moves' (action messages), not just scripts verbally articulated or written.

#2 MINDMATH PROBLEM

- Write the equation for a discursive interchange in which one participant submits to domination by another.

See Chapter 14.4.