Thank you for your interest in aUI!

Here are copies of the PPt presentations, the worksheets we did, and two excerpts from the <u>Ersatz Academy</u>, the novel based on aUI by Andrea Weilgart.

Foreword

We are becoming more and more aware of the stark disparities in ways of thinking and even in what is deemed reality and truth – of what goes on in our mind vs. what actually happens out there in the material world. Ideally, these two spheres become congruent as we learn to see the world as it is. As a medium of our thoughts, language plays an integral role in this transfer of information into our mind, on the one hand, and the projection of our thoughts out onto the world, on the other. The extent of this role is not fully settled. But it is true that most languages are built from arbitrary signs that have no intrinsic relationship between signifier and referent. What if language could act as a facilitator of reality rather than a screen that tends to separate the inner and outer worlds? What if language were built on iconic pictographs that gave us an anchor in reality? And concepts were built from these primal, fundamental roots of our material and mental world? This story illustrates such a possibility: a language in which the microcosm of our mind mirrors the macrocosm of the universe.

It is this experiment with incorporating a language of internal as well as external congruency – that reflects external reality and includes a creative and spiritual dimension – that may offer a viable vehicle in our search for meaning at the ground level of communication.

PICTOGRAPH MATCHING TEST ROOTS

I. Elementary: *Star Child*

lo	1 room	<u>8</u> 0	16 the now/ present
	2 plant		17 to live
84	3 star	<u></u>	18 together
.	4 body	C4	19 near
©	5 to feel	P /	20 negative
L	6 to	Δ	21 to shine
80	7 living thing	of	22 alive
ľ	8 people	88	23 day
7	9 ball	18	24 other
T	10 down	04	25 food
۴۰	11 doubt	Δ۶	26 from
<u>₹</u>	12 to think	60 •	27 here
7	13 animal	5 0	28 who?
Po	14 to move	Pł	29 night

Ο 15 above CP 30 this

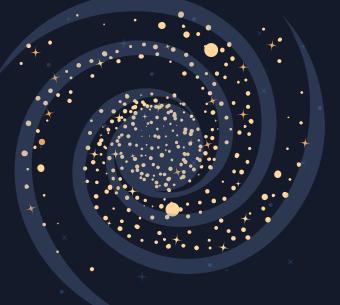
II. Intermediate: *Chewbacca*

1 friend	2	16 strong	
2 affection	<u>80</u>	17 beauty	₹
3 vehicle	19	18 to hear	180
4 parent	7.B	19 healthy	SQ
5 child	121	20 bright	ŦΔ
6 boss	\@O	21 silent	L □
7 I, me	Pe	22 doubt	
8 expectation	+%0	23 high	84
9 sight	子の	24 eye	<u>Θ</u> Δ
10 hope	+ <u>L</u>	25 air	₹ <i>P</i> 4
11 house	→ ∧	26 yesterday	1 0
12 knowledge	0Cł	27 same	\ \
13 today	ŦA	28 birth	40

14 to eat	19 3	29 peace	480
15 you	8	30 tomorrow	800

III. Advanced: *Yoda Crown*

+&	fast	己	anger
5	to fight	ρ⇒	school
<u>∧</u> ō	fear	lô ≁e	wheel
<u>7₹</u> 0	big	ΘΔΟ	much
△⊙•	solid	768	to have
4 PO	domestic animal	⇒ ∓e⁄	clothing
<u>ο</u> Δτ	sadness	₹ 0	good
+ ∆♡	school	77C4	trust
	jealousy	66 4	sex
6 /	electricity	To 70	hand
+ ∓♡	water	AP•	science
Î	book	10	egg
186	sleep	IO	conscience
Ğ ∆∓♡	hard	ŦŤŶ	wind
Δ + σ	sense	<u>e</u>	tree



On the Frontier of Universal Communication: aUI, The Language of Space



WORLDCON 2025 Seattle

Andi Weilgart

Why the search for Reality Based Semantic Universals?

- We keep being reminded of the stark disparities in ways of thinking and even in what is deemed reality and truth – of what goes on in our mind vs. what actually happens out there in the material world.
- Most languages are built from arbitrary signs that have no intrinsic relationship between signifier and referent – between symbol and meaning – between the word and exterior reality.
- Pictographies of the past originally depicted real objects, then some of them evolved to include ideograms and later, logograms, but none represented concepts at a very fundamental or universal level.

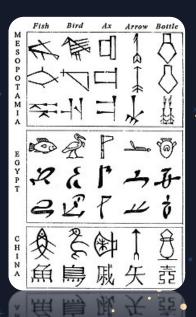
E.g. Egyptian hieroglyphs, Chinese characters, and Sumerian cuneiform stand for objects at a relatively complex level of meaning – requiring hundreds of symbols.

百 xiǎo qiān much / many 夫 我 男 女 王 主 你 fū nů wáng zhǔ he/she female 说 耳 闻 脚 見 shuō shŏu gōng 出 右 中 shàng zuŏ yòu yŏu rù xià 茶 饭 菜 牛 鸡 鱼 吃 肉 显 vegetable chicken rice (cooked) 学 家 校 狗 鸟 马 虫 xué niǎo chóng home horse 地 海 月 天 金 木 yuè

Luwian hieroglyphic logograms







Experimenting with an old/new alternative:

- What if language functioned less as an arbitrary medium and...
- facilitated alignment between inner thought and outer reality...
- using iconic primitives rooted in fundamental universal concepts?
- What if language were built on ideographs that gave us an anchor in reality?

Basic Categories of aUI Meaning Elements

W. John Weilgart, PhD ©1979

O a SPACE	C e	8 i	Λu	P
		LIGHT	HUMAN person	LIFE
TIME	MATTER material-concreteness	SOUND SPIRIT mind, concept		FEELING sensation
POWER force, might	⊘ L ROUNDED	POSITIVE good, well	S Ø CONDITION proviso, if, state	Y NEGATION opposite un-, non-, anti-
f THIS thisness, haecceity	S THING conceptual- concreteness	EXISTENCE being, is	X RELATION	2 h QUESTION
ACTION verb, do, make	Z PART division	EQUAL same, even, level	QUALITY qualifier/modifier kind	QUANTITY much, many, plural, amount, number
BEFORE in front b TOGETHER	t TOWARD to, nearly d THROUGH	k ABOVE high, up g INSIDE		9 10 Û Ô
near, proximity	means, tool	within, container	0 Ŷ	ZERO

aUI Elements of Meaning

- *a priori* philosophical engelang
- pasilaly = phonemic ideography
- set of proposed universal semantic primes akin to the atomic elements of the Periodic Table
- 42 primes (31 concepts + 11 numerals)
- 1 phoneme = 1 morpheme = 1 sememe

Semantic Primes

- Primes: conceptually irreducible
- Proposed universality: fundamental concepts that we have in common as part of the human experience
- Form the foundation of human thought and communication
- Combine to form "molecules of meaning"



[D^6/64

kE-tog-vev











Intrinsic relationship between

- Sound Symbol Meaning
- Word Meaning Reality
- homonymous = synonymous





takEm

[Toward-Space-Above-Matter-Quality/Adj.] light



im [Light-Quality/Adj.] light



yim [Opp.-light-Adj.] dark



tYkEm [Toward-Opp.-Above-Matter-Quality/Adj.] heavy

Parts of Speech

Verbs	4	- V	[Action]	P4
Modifiers	3	-m	[Quality]	L
Concrete, entity	•	* -S	[Thing]	P.
Means, tool	1	-d	[Through]	Pł
Concept, abstract	Δ	-U	[Mind]	PA
Gerund, process	5	-Ø	[Condition]	P49

to live

alive

living thing, animal

food

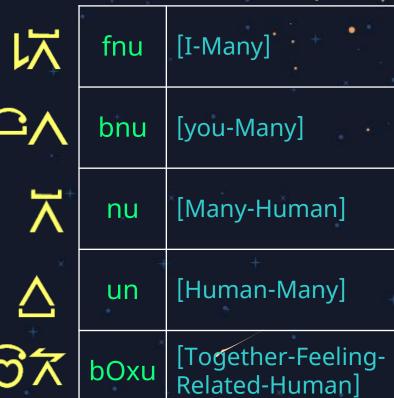
life concept

living ('is easy')

Pronouns

L٨	fu +	[This-Human] ×]
₹.	bu .	[Together-Human]	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
	cu	[Existing-Human]	
ر ۸	mu	[Quality (vessel)- Human]	+ 5
4/.	vď	[Active/Make (gametes)-Human	
•	+	•	~

I, me you she/he she he





Time

lo	fA	[This-Time] *	the present	180	∗fiA	[This]	today
le	fAm	[Adv.]	now	4180	pfiA	[Before]	yesterday
Te	YfAm	[Opp]	then ×	× ₩0	pfAm	[Before]	then
10	+ pA	[Before-Time]	the past	189	× fiAt +	[Toward]	tomorrow:
ತ	• × tA•	[Toward+Time]	the future	10	nA	[Much-Time]	long time
80	iA ×	[Light-Time]	day+	≟ 8	tYnAm	[Toward-Opp Much-Time-Adv.]	soon*

Simple Tenses

2	- V	* ? * ?	present	to move	ev
	Ec - vAm	[Materially-Be] [Active-Time-Adj. (participle)]	present continuous	is moving	Ec e-vAm
×	-pAv ×	· [-past-Verb] ·	past +	moved	e-pAv
	-tAv	* [-future-Verb]	future +	will move	e-tAv [×]

Questions

58	ham	[Question-Space-Adv.]	where?	bu'c ham?
28	hAm	[Question-Time-Adv.]	when?	bu tev hAm?
S □	hE	[Question-Matter] (prn.)	what?	hE'c fE?
× 5√	hu .	× [Question-Human] (prn.)	who	Ďu'c hu?
2 △ ∤	• hUd	[Question-Mind-Means]	how	hUd cu gUv?
?=△	hYtUm	[Question-from-Mind-Adv.]	why	hYtUm nu Uv fE?

冗1?❷?.

⊼ উদ ?৩?∙

?□'| └□?.

'' የ\?`

?=△ ⊼ △៛ ៤-? •



Vocab

80	iO +	[Light-Feeling]
* 804	iOv	[. _* -Verb]
+80°	riO	[Good]
* +88 r	iOm ×	[Adj.]
× 8P +	io	[Light-Life]
+80 86 ri	O-io ×	?

sight	
to see	
beauty	
beautiful	
plant	
flower	

[†] io	nam	[Quantity/Much-Space- Adj.]
= 8	Ynam	[Opp]
3P	tio	. [Toward]
4894	viov	[Make/CauseV.]
P	to	[Toward-Life]
189	kio *	[High]

big small sprout to plant seed. tree.



Practice

fAm fu iOv riOm riO-io Now I see beautiful flower.

pfAm fu iO-pAv Ynam tio. Then I saw a small sprout.

fu vio-pApAv YnYnam to. I had planted a tiny seed.

fu iO-tAv nam kio. I will see a big tree. fAm bu iOv hE?

pfAm bu iO-pAv hE?

bu vio-pApAv hE?

bu iO-tAv hE?

Le 7 804 ? =?

7 48P 40404 2□?·

% ४०°३५ २०?

NATURAL SEMANTIC META-LANGUAGE

cross-cultural research since the 1970s
 (at Australian National University by Anna Wierzbicka & Cliff Goddard)



- 29 of 65 NSM primes are closely related to or correspond directly to
 aUI primes = 44%
- 87% of 31 main aUI primes correspond to NSM (excluding numerals)

Centuries old search for a philosophical language based on "real characters" in *The Search for the Perfect Language*, by Umberto Eco, 1995:

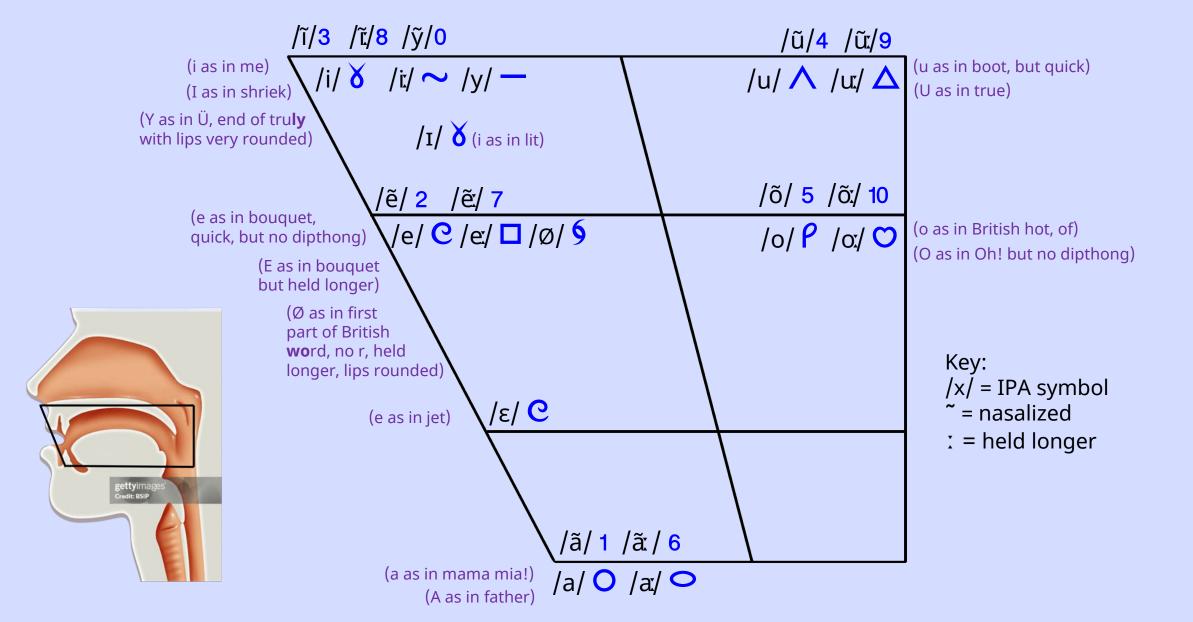
- Francis Bacon (1561-1626): destruction of false ideas due to the way language is used...'real' characters, not nominal, "express neither letters nor words, but things and ideas"
- John Amos Comenius (1592-1670): idea of an *a priori* universal language that would reflect the composition of reality; every word should have a definite and univocal meaning
- Rene Descartes (1596-1650): the lexicon of a universal language should consist of primitive elements
- George Dalgarno (1616–1687): Art of Signs, 1661 (to reduce equivocations, ambiguities)
- John Wilkins (1614–1672): *An Essay Towards a Real Character, and a Philosophical Language*, 1668
- Francis Lodwick (1619–1694): The Ground-word or Foundation Laid for the Framing of a New Perfect Language:

 and a Universal or Common Writing, 1652
- Cave Beck (1623–1706): *The Universal Character*, 1657 (4000 radicals vocabulary of essential words)
- Gottfried Leibniz (1646-1716): pictographic Alphabet of Human Thought (characteristica universalis) provides a universal way to represent and analyze ideas and relationships by breaking down their component pieces. All ideas are compounded from a very small number of simple ideas which can be represented by a unique character.

Motivation for aUI

- Peace through Understanding
- Parechesis in propaganda during the Nazi regime... (Reichsministerium für Volksaufklärung und Propaganda)
 - _o Ein Volk, Ein Reich, Ein Führer! ('das Volk folgt dem Führer', the folk follows/obeys the Führer)
 - 。 *Heil Hitler*: healing, salvation, safety
 - White Pride: World Wide (adopted by neo-Nazi and white supremacists)
 - 。 Stop the Steal! Too big to rig! Make America Great Again!
- Research on semantic conditioning (Razran, G, 1961; Luria, A. R., & Vinogradova, O. S., 1959)
 - $_{\circ}$ $_{\times}$ "conscious (alert) mind thinks in synonyms whereas the subconscious (compromised) mind associates in assonance"
- 'Rhyme as reason' effect (Eaton–Rosen phenomenon; McGlone, M. S.; J. Tofighbakhsh, 2000)
 - "What sobriety conceals, alcohol reveals" was rated as more accurate than its non-rhyming counterpart, "What sobrjety conceals, alcohol unmasks" or "woes unite foes" vs. "woes unite enemies" or "misfortunes unite foes"

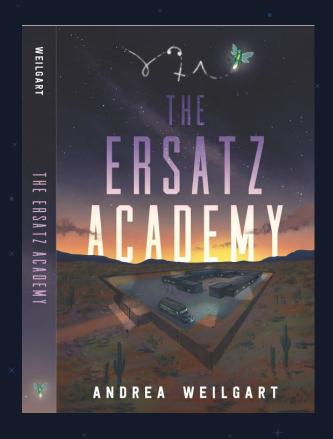
aUI Vowel Diagram



aUI Consonant Diagram

	Bilabial	Labiodental	Alveolar	Postalveolar	Palatal	Velar	Uvular
Plosive: voiced	/p/ <mark> </mark>		/t/ 			/k/ 「	
unvoiced	/b/ 🙃		/d/ 🕇			/g/ 🗿	
Nasal	/m/ 🔾		/n/ 📥				
Trill			/r/ +				/ _R / +
Tap or flap			/r/ +				
Fricative: voiced		/v/ /	/z/ (/3/ =		/x/ 	\r\ +
unvoiced		/f/ L	/s/ •	/ʃ/			(nonbolded r: allophones)
Approximant			/ _\ / +		/j/ —		
Lateral approximant			/١/ 👴		(preceding vowels)		

Thank you for your interest!



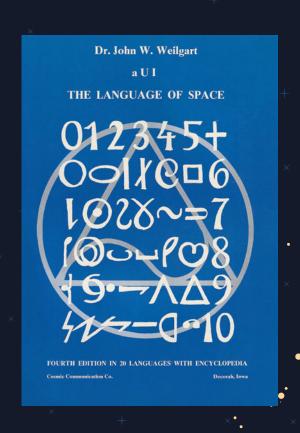


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New aUI book, The Ersatz Academy





aUI, the Language of Space Workshop Practice



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Andi Weilgart

Basic Categories of aUI Meaning Elements W. John Weilgart, PhD @1979

O **SPACE MOVEMENT** LIGHT LIFE **HUMAN**

□ E
MATTER
material-
concreteness













sensation





















NEGATION

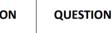
opposite

un-, non-, anti-











verb, do, make

BEFORE

in front

TOGETHER

near, proximity

TIME



PART

division



EQUAL

same, even, level









QUANTITY much, many, plural

amount, number



to, nearly

THROUGH

means, tool

means, tool



O

INSIDE

within, container

within, container









Numbers











O Y ZERO

aUI Elements of Meaning

- a priori philosophical engelang
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- 42 primes (31 concepts + 11 numerals)
- 1 phoneme = 1 morpheme = 1 sememe





Greeting Roots



84	iv	[Light-Action/Verb] *	
80	+ iO °	[Light-Feeling/Sense]	•
४०५	iOv	[sight-Action/Verb]	
80	iA	[Light-Time]	•
80	yiA	[Opposite-day]	
1810	pikA	· ·[Before-Light-High-Time]	
	Ec	[Materially-Be]	•

to light,	shine
sight	
to see	
day ×	
night +	
mornir	ng
not	

÷ .	tev	[Toward-move]
:	Yt	[Opposite-Toward
4	Ytev	[from-move]
) +	rO _×	[Positive-Feeling]
×	rU +	[Good-Mind/Spirit
•	rUm	[good-Quality/Adj.
	UI	[Mind-Sound]

to come
from
not
pleasure
goodness
good · ·
word



Greetings!

• Welcome! +cocc



Good-bye

Good night

Greeting Phrase Roots



LA	fu ×	[This-Human]	I, me	,×	+
L	fum	[I-possessive/Quality]	my * + 5	Øc	[Condition-Be]
	fums	[my-Concrete/prn.]	mine <u></u>	yØc	[Not-Be]
\sim	bu	[Together-Human]	you ⁺ ? △	hU	[Question-Mentally]
\bigcirc	bum	[you-poss./Quality]	your × 2	+ hUm	[what-Quality/Kind]
LĄ∙	fUI	[This-word] ×	name C4	bev	[Together-Movement-V.]
180	fiA +	[This-day]	today Key	tubev	[Toward-Person]
180	fiAm	[today-Adverb]	today +∆⊙	rUg	[good-Inside/Containing]
	Uc .	[Mentally-Is]	is P+DO	orUg	[Life] *
• +		×	+ 1	<u> </u>	·

is not what

move together meet ·

пеес

well

well*

Greeting Phrases



Pleasure to meet you

How are you today?





Introduction Roots

58	ham	[Question-Space-Quality]
500	haYt	[where-from]
lo	·fA	[This-Time]
.0	fAm	[present-Quality/Adv.]
PF.	•0V.	[Life-Action/Verb]
04	Ŏv	[Feeling-Verb]

where?
whence?
the present
now
to live
to feel

コ	YrO	[Opppleasure]	pain ×
o	ag	[Spatially-Inside]	in/side
5	Yg	[Opposite-Inside]	out/side
5	* tYg	[Toward-outside]	out/ward
3 ×	kab	[Above-Space- Together] +	on
,	Yk ,	[Opposite-Above]	below



Introduction Roots con't

Š	bam	[out-Round-Movement]	near
<u>5</u> Q	Ybam	? ×	far
± ₩ ₩	nYbam	[Together-Spatially-Adj.] ×	distant
	• bEn +	[Together-Matter-Much]	earth
lo	ca	[Existence-Space]	world
	bEn-ca	[earth-world]	Earth

[8	
et 8	
Δ6	
<u></u>	
<u>[Ā</u>	k
<u>ਰ</u> ੋਂ	

_			
)	Eca	[Moving-High-Light]	world
,	ki	[High-Light]	star
+	· eki ×	[Moving-High-Light]	planet:
× .	UĽ	[Mentally-Around]	about
	tYgLe	[outward-Round-Move]	spiral
×	kin-tYgLe+	[stars-Manyspiral] +	galaxy

Introductions



19 7 P4 79? fAm bu ov ham?

Where do you live now?

LA Of T∓S AG □IO VS!
fu Ov Yk-YrOm UL Eca fiAm!

I feel depressed about (the) world today!

fu tev Yt ki ag nYbam kin-tYgLe.

I come from (a) star in (a) distant galaxy.

FAm fu ov kab eki bEn-ca.

Now I live on planet Earth.

Feelings: 💟







Δ+8	+ UrOm +	[Spiritual/Mental- Good-Feeling-Adj.]		
1 9+8	kØrOm ×	[High-Conditional- Good-Feeling-Adj.]		
1 ∆+8	kUrOm	[High- Spiritual/Mental- Good-Feeling-Adj.]		
1 08	kOem ×	[High-Feeling- Movement]		
Δ T Ω	UYrOm ×	[Spiritual/Mental-bad-Feeling-Adj.]		
イヤリー wydOm		[Powerful-against- Feeling-Adj.]		

happy, loyful	<u>X</u> 29
happy	₹ 8
oyful	\$3±0
excited	아
sad ×	○ 4+0
angry	○ 4 <u>∓</u> 0

3	tUwOm	[Mind-Toward- Power-Feeling- Adj.]	courageous ×
3	tYrOm	Toward-bad-FAdj.]	afraid
+)	× AthYrO +	AthYrO [Time-Toward-Question-bad-F.]	
)	• ApO	[Time-Before-F.]	anticipation
)	AprO	[Time-Before- Positive-F.]	positive anticipation
))	ApYrO	[Time-Before-bad-F.]	foreboding

术 존 ?♀? bu tev ha-Yt?



ryl
<u></u> <u> </u>

.<u>5</u>9 △0

kion *	[High-Light-Life-Much]		
najĚn	[Much-Space—Even-Matter-Much]		
^b bEn	[Together-Matter-Much]		
bEk	[Together-Matter-High] +		
Yf ca	[Not-This] [Existence-Space]		
Ygam a	[OppInside-Space-Adj.]		
jEL-bE	[Even-Matter—Around-solid]		
Ybam × una	[OppTogether-Space-Adj.] [Human-Many-Space]		

woods ocean · earth mountain other world outer space island far country



fAm fu ov ____



		• ∨	+ ×			
Veţo	ue-da	[Human- Move-way] *	street	ይልነ	kion	[High-Light-Life-Much]
	nam uga	[big] [Human- Inside-Space]	big house	* L	kEn	[Above-Matter-Much]
. =8 √00	Ynam uga	[Oppbig] °	small house	· 🔁 ,	+ × jEn +	[Equal/Even-Matter- Much]
· [\00	kuga	[High]	tower	. <u>글</u> o	jEnan	[sea-Much/Mass]
. ☐ → □ ̂. • 6 \ 0 0	j E wE- × Luga ×	[water-hard— Round]	igloo	e ľ ∃ło	ek-jE-da	+ [Move-Above—+ -Thru-Space]

woods

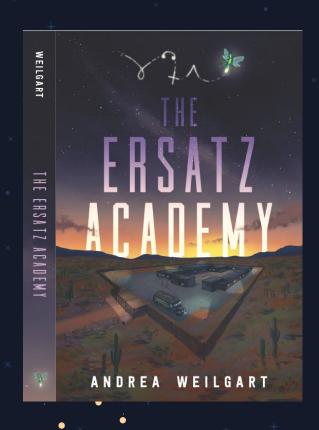
air

water

ocean

bridge

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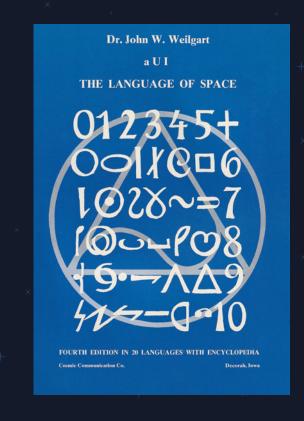




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THE ERSATZ ACADEMY

ANDREA WEILGART

Cosmic Communication Foundation | Long Beach, WA

Patten 14P.indd 5 11/18/22 8:19 AM

PROLOGUE

The sky up there is full of stories just waiting to land." Grandpa pointed with the tip of his cane.

Over Silas's head, the stars gleamed with mystery. Their stories had been millions, billions of years in the making. Stories that traveled to Earth only in the form of tiny pinpricks of light.

"I met one, once..." Grandpa smiled at the thought, reveling in his memories. "It changed the course of my life."

Grandpa's tales never disappointed, and Silas glanced over at his older sister Verity in hope that she was listening intently as well. But she was sleeping, her head slumped against the arm of Grandpa's porch swing. Silas hunkered down in the tattered armchair he always claimed for himself.

"It arrived with a spark like a shooting star and shared a way of thinking and communicating that reshaped everything I thought I knew about language and meaning. It showed me that understanding and peace are a circle flowing together seamlessly, like a river meets the ocean . . ."

Grandpa trailed off, lost in thought, a contemplative look on his face.

İX

"Was . . . it made of light?" asked Silas, fascinated by the constellations overhead and the possibilities they held.

"In a sense. It drank from the suns of the universe and carried what we might call a light within it—a philosophical light, anyway. And it carried a philosophy of peace to every planet it visited using an unearthly language designed to convey these very thoughts. A cosmic speech for truth and wisdom that sang with inner harmony between sound and symbol. Meaning could become visible, like through an open window. And its symbols reflected the whole universe in the miniature world of our mind. Keep an eye on the sky, my boy, because what you take to be a shooting star might just be something more profound . . ."

Silas propped his chin on his hands, searching the sky for shooting stars or evidence of Grandpa's language of light. But it was late, and sleep beckoned. Overcome by a feeling of calm, he felt his eyelids drooping, and soon he was asleep, his dreams vibrant with thoughts of an otherworldly being and a language that just might change everything.

Patten 14P.indd 10 11/18/22 8:19 AM

he retreating day was gray above the reaching arms of the forest. Beneath the fragrance of the pines and ferns was the sense that the world was waiting for someone to look closely enough to discover its secrets.

Fourteen-year-old Verity Truman often had this feeling, but this evening it was especially strong.

"Earth to Verity! I guess you left this one for me?" Silas, Verity's younger brother, pointed to a morel mushroom peeking out from beneath a felled tree she'd missed. A founding member of the Wild Boys, Silas was an aspiring outdoorsman whose lifelong goal was to live off the land. This was one of the side effects of growing up with earth-loving parents who thought that rescuing food from supermarket dumpsters was a more ethical way to shop. Verity didn't mind foraged food, but she did like having an actual roof over her head most of the time. And running water.

Verity cut the mushroom from the ground.

"Last one. We should head back before it gets too dark."

Silas led the way, his perfectly honed internal compass telling him when and where to turn or double back. Each tree or rock or clearing was

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like a signpost for him. Verity loved trees as much as the next person, but after a while, they all started to look alike.

"Wait." Silas pulled up. "Do you see that?"

A light flickered and danced, accompanied by an intense whirring sound, kissing the leaves it touched with white and gold. It was vivid against the dusky sky, resembling the narrow beam of a flashlight.

"Is that a giant lightning bug? Or firefly?" Verity had never been clear whether there was even a difference between the two.

But the iridescent green-winged creature was far too large for that: it was the size of a robust dragonfly, only it hummed more sonorously. Even so, Verity cringed as it zoomed overhead. Anything that fast and flashy made her feel vulnerable. "Or maybe it's an exotic hummingbird-bug hybrid?" She thought her bird expert brother might be amused by her terminology.

But he said nothing, too intent on his mission. Beckoning Verity, he followed the zigzagging passage of the light as it leapt from bough to bough and leaf to leaf, then somersaulted a series of elongated loops into the air.



With each upward loop, it produced what sounded like a bright "ee-ee-ee!"

They chased the creature into a clearing, but just as they drew closer it leapt up, vanishing from sight. Silas slumped in disappointment. Verity, too, felt she had somehow missed out on something amazing.

"Maybe it'll come back," she said optimistically.

"Maybe . . . " said Silas. He began to add something, then decided against it. "At least we're right by the camp."

A turn at a moss-smothered tree and they were back in the clearing they'd spent the day setting up. The fire crackled merrily, warning the evening to back off a bit. Dad was seasoning a pan over its dancing flames.

"Look at all this!" he called approvingly as he took in the goods Verity and Silas carried. "We're in for a feast tonight."

"This is going to be your father's best pilaf yet." Mom was reading by the fire. She had decided long ago that reading in poor light was worth ruining your eyesight over. She would never have climbed the ranks at the museum otherwise.

Verity and Silas diced the zucchini and morels while Dad sauteed the onions. He tossed in the vegetables, stirring them in the sizzle of oil.

"It's so nice to be out here, away from it all." He waved his wooden spoon. "No newspapers, no angry talking heads on television, no people yelling hateful things entirely unsupported by evidence. If we're lucky, the world will still be there when we get back."

"I hope so." Mom was still nose down in her book. "We have the new museum exhibit opening, and I, for one, plan to be there for the launch."

Dad tasted a caramelized onion. "Mm! The green energy exhibit? That's my wife, stirring up trouble wherever she goes."

"Well, museums aren't just about collecting things to put on display. We have a social responsibility."

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"Now more than ever, I'd say." Dad drained the saucepan that had been burbling away at the side of the fire. "Especially with that whole thing about blocking the new solar array venture. Coal, in this day and age! It makes no sense at all. That's what happens when you're more interested in the money you get from the big coal lobby than the future of the planet."

"That's always great to hear," said Verity wryly. "Silas and I will be the ones who'll be trying to stay alive when the oceans overflow and we start burning up."

"Ideally we'll be around for some of it as well," pointed out her dad. "We're not *that* old, you know."

"Well, not as old as Pleistocene megafauna," Silas said deadpan, focused on the piece of wood he was whittling.

"Or dinosaurs," added Verity with a grin.

Mom put down her book and dug her toes into the moss. She looked nostalgic. "Remember that time during college when we broke into the city council member's office and covered his desk with buckets of salt water and seaweed because he refused to get behind sustainable fisheries?"

Dad chuckled. "I think some tins of sardines were involved, too."

Mom wrinkled her nose. "The stench was *incredible*. But he deserved it. Besides, you have to stand behind what you believe in. I know everyone has the right to a voice, but sometimes people are just wrong, and they need to be shown."

"Without using violence, of course," added Dad.

Verity and Silas exchanged a look. They had a protest of their own planned for the night they got back home. Both were active members of goEco, a local grassroots group for environmentally aware kids led by college students concerned about their future and fed up with political

inaction. Over the years, they'd petitioned for smart water meters and recycling bins, but they'd started to set their sights higher. After all, the adults weren't planning on doing anything about climate change. They were too busy thinking about making money and how to spend it.

"Ready spaghetti?" whispered Silas as their parents started plating up dinner.

Verity nodded. The plan was to tape up black trash bags painted to look like solar panels all around the neighborhood. There was no way the city representatives could keep ignoring the problem with the solution staring them right in the face.

"Here you go." Dad passed over a plate of luscious-looking pilaf, and Verity happily dug in her fork.

Mom raised a glass of water in a toast. "To good food!"

"And good people," added Verity, sharing a meaningful look with Silas.

The moon's giant eye was gazing down at Verity when she awoke in the middle of the night. She wasn't sure what had roused her—maybe a passing animal or her dad's famously eardrum-shattering snores. But she did know she needed to use the "facilities." Finding somewhere to go was one of the downsides of camping.

Her sleeping bag crinkled as she slithered out and found her bearings. The fire had simmered down to coals; other than the moon, there was barely any light. She rummaged around for a flashlight but remembered Mom had borrowed it to read with. She'd just have to hope for the best.

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Verity tiptoed across the camp and over to the trees, arms held out like a zombie. Stumbling on a protruding tree root, she cursed Mom's campfire reading habits and her lack of a flashlight.

Suddenly, the path before her lit up with a flickering light—just like from the creature she'd spotted earlier that evening. Thrilled to be privy to another sighting, she kept her eye on it as she found a log that would serve as a perfect lean-to.

Verity marveled at the light emanating from the sprite-like creature and the clear, rich sound that accompanied its movements. She knew lightning bugs lit up to signal their mates but even as showy and attractive as these signals appeared, there were no others around that she could see.

There was something warm and comforting about the calm, repetitive loops it traced in the air. These left a lingering afterglow trail like a New Year's sparkler dancing against the dark of night:



Then a new set of figures appeared—these not as connected as the former.



After a minute or so, the creature shot up into the sky, disappearing among the stars. Now it was just Verity and the moon, and Verity wasn't inclined to hang out alone in the woods.

Back amid the muddle of sleeping bags and cooking utensils, she groped around for Silas's stargazing notebook. With only the moonlight to guide her, she drew the loops the creature had made, hoping her scrawl would be recognizable in the morning.

Verity awoke to Silas's insistent shaking. His stargazing notebook was pressed uncomfortably close to her face.

"Is this you?" he asked, jabbing at the loops Verity had dazedly scrawled in the middle of the night.

Verity blinked blearily. "I saw that bug again. It was making those shapes over and over."

His expression intent, Silas slowly flipped through the notebook, revealing other similar forms:

ex~PONA?+1

"How about these?" he asked.

"Wow, some busy bee, huh?" Verity was impressed. But as Verity mused over the figures, she felt a memory stirring. She vaguely recalled being perched on Grandpa's lap, enthralled by the story he was telling. But the details escaped her. She frowned, wondering precisely why that memory had surfaced—and why now.

he bus jolted to a stop, jerking Verity awake. She had no idea what time it was, but it seemed late: the sky was dark and lit with a confetti of crisp stars. She shivered.

"Home, sweet home." Huff killed the engine. The violins of the Vivaldi that had been playing over the speakers abruptly faded to nothing.

"Where *is* this place?" whispered Verity to herself. She was looking out at a compound consisting of a cramped handful of buildings surrounded by a tall mesh fence. There was no grass or vegetation within the perimeter, only dried out asphalt and faded concrete. But even that seemed less daunting than the expanse of surrounding desert scrub lit up by the floodlights that blazed across the site.

Silas had perfectly described her situation with his word of the day: exile. She could only hope she wouldn't end up serving out a life sentence here.

"Welcome to Ersatz Academy," announced Huff, not sounding particularly enthused.

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"Who's Mr. Ersatz?" asked Verity, who had wondered about the Academy's strange name. "Or Ms.?"

Huff chuckled. "Interesting question. I wondered that myself when I started work here, so I looked it up. It actually means 'substitute' in German, but here we use it to mean 'fake.' Got your stuff?"

Verity held up her mostly empty duffel bag. She wished she'd smuggled her phone in one of its pockets: she could at least let her family and Lila know she'd arrived safely.

"Nothing wrong with traveling light. It's good for the soul. Back in my day, I spent more than a few years in a van chasing bands around the country. Nothing but a gas stove, a backpack, and a stray dog to my name. But that was then. Now there's bills to pay. Come on."

Huff directed her off the bus and across the asphalt to one of the few buildings. The entire surface was crisscrossed with variously colored lines studded with arrows.

"Directional," explained Huff. "They'll tell you where to go. Mind you don't go straying off them. That's a no-no."

"What, because I'll ruin the grass?"

Huff chuckled. "Something like that."

In front of the building stood a massive moth-smothered sign that reminded Verity of the kiosk displays at the entrance of national and state park campgrounds. But a lot less welcoming.

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ERSATZ ACADEMY

Where Discipline Rules: The Tools for a Better Future

- 1. STAY IN LINE
- 2. THINK WITHIN THE BOX
- 3. WEAR YOUR UNIFORM
- 4. LISTEN TO ADULTS
- 5. OBEY ALL RULES

Verity swallowed. She had a feeling she and Ersatz Academy weren't exactly going to get along. She wasn't averse to rules per se. Just the ones she didn't agree with. Like basically all the ones listed on the billboard.

Huff pressed a buzzer, and a door swung open, revealing a huge brute of a man who took up most of the frame. The man's jaw was disconcertingly wide, and he wore a bristling statement mustache shaped like a hairy horseshoe.

"And who's this, then?" The man sounded like a rabid Rottweiler.

"Verity . . . Truman. I'm a new student here, I guess."

The man slapped the door frame with enough force to send a tremor through the room. "Not a student. A subject. You'll learn the difference soon enough."

Verity wasn't sure how to respond to that, so she didn't.

"I'm Payne. Crenshaw Payne. Aptly named, so they say."

"Do they?" asked Verity.

"They do!" snapped Payne. "Right. You, through here for processing. Huff, I'll take it from here."

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Huff gave a lazy and slightly ironic-looking salute and loped off into the dark. Verity suddenly felt very ill at ease.

Payne reached out a meaty hand. "Bag."

Verity handed it over for Payne to paw through. Wordlessly, he unzipped every compartment and reviewed every item. "Won't be needing this," he said, taking out a book she'd packed just in case. "Or this. What's that sloshing around in there, anyway?"

Verity's mom had apparently snuck a jar of preserves into the duffel bag.

Jamming the book and preserves into a large plastic tub bursting with contraband, he haphazardly threw everything else back in Verity's duffel bag, zipped it up, and tossed it to Verity. "Any electronics?"

Verity shook her head.

"No phone?"

"No phone. You can ask Huff."

"I will." Payne yanked open a cupboard door. Inside was a stack of plastic-wrapped clothes, all in lifeless gray. He dragged out a set and handed them to Verity, along with a pair of matching gray sneakers.

Verity supposed this was her uniform, although it looked more like a very dull version of prison garb than the uniforms she'd seen private school kids wear. At least it didn't have a tie or those long socks that had to be held up with knotted elastic.

Payne gestured at an undersized door that apparently led to a changing cubicle. "Get dressed in there. Then we'll go meet Lawson."

Verity did, managing to bruise both an elbow and a knee against the wall of the cramped cubicle. She was lucky she was petite for her age; a bigger kid could easily have gotten stuck. Judging from the scuff marks on the walls, more than one had.

Payne took her old clothes and tipped them into a plastic drawstring bag, which he hung up in another closet. Dozens of bags, all presumably filled with other kids' street clothes, swung there like meat on butchers' hooks. Verity suppressed a shiver. The whole situation made her think of the phrase "like a pig to slaughter." She hoped she was reading too much into things.

"Right, let's get on with it. Lawson doesn't like to be kept waiting. He's a busy man. Important, do you hear me?"

"Sure," said Verity, although she wasn't sure being busy and important were necessarily connected.

Payne led Verity across the quadrangle, following a dashed yellow line. At the line's end was an arrow pointing to an old brick structure painted over in what was becoming a familiar gray. The building's thick windows were covered over with bars on the outside and black-out curtains on the inside. Its door had the forbidding density of a medieval table turned on end. To its right was posted another copy of the Academy Rules.

Ignoring the doorbell, Payne rapped on the door so firmly that his knuckles came away scraped. He didn't seem to notice. He'd probably raised his fists often enough in his life that they had no feeling left in them.

From the other side of the door came a screech that seemed to tear the night open. Startled, Verity stumbled backward, landing a solid foot away from the dashed yellow line.

The door opened, revealing a man whose face was half covered in scar tissue. It bloomed over his right cheekbone in waxy ridges resembling a brain. Verity knew she shouldn't, but she flinched.

"This subject is off the line, Payne," came the man's very precise, fastidious voice. He prepared and spoke every syllable with great care, as

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though each word were a culinary delicacy. Verity had a feeling that they weren't going to be to her taste.

"So she is, sir. Back on the yellow, Subject."

It took Verity a second to figure out what rule she'd broken, but she quickly corrected herself, planting her feet back on the line. Ersatz Academy was going to take some getting used to. She had never been asked to literally toe a line before.

"Well, then, come in, Subject. You are to be up at 0500, so I would not waste any more time."

Verity nervously followed Lawson over the threshold and into a tidy but nondescript apartment most notable for the scarlet macaw perched in one corner. The bird screeched, and Verity realized it was the source of the earlier blood-curdling scream.

"I see you have met Pyrite." Lawson ceremoniously seated himself on a plush office chair behind his formidable desk. It was free of clutter except for a single photo frame holding a page that marched with ominous text: "Orders Lead to Order. Subordination Builds Nations. Followers Make Better Fellows." Brian Lawson was cited as the author.

There was nowhere else to sit, so Verity remained standing. She supposed this was by design. Lawson apparently wanted to make people understand where they stood with him. "I s'pose so, sir. Lucky me."

A pair of flat, fishlike eyes regarded her. "It will behoove you to behave, Subject. There is no room for impertinence here, understood? I surmise you know why you are at Ersatz Academy?"

"I was involved in a protest, sir."

Lawson raised his remaining eyebrow. "Breaking and entering, destruction of property, and unlawful politicizing, I hear."

Unlawful politicizing was a new term for Verity. She had a feeling that it wouldn't be the last she'd learn at Ersatz Academy.

Lawson picked a fleck of invisible lint from his perfectly pressed shirt. "But I did not mean for what *reason*. I meant for what *purpose*. Two very different things. The reason for your admission here is your insubordination. Your purpose here is to be reformed."

"I see, sir," said Verity, although she didn't really.

Lawson pressed on: he appeared to have his welcome speech memorized. "Ersatz Academy exists both *because* of young delinquents like you and *for* the benefit of young delinquents like you. Ultimately, our purpose is to benefit society as a whole. We take that youthful arrogance and determination and constructively redirect it to create fine, upstanding, contributing members of society . . . ones who understand the value of established boundaries."

"But I already am one of those." Verity actually felt very upstanding—standing up to what was wrong, anyway.

"You are the *opposite* of that. You question authority. You seek power. You mobilize the uninformed and uneducated. You corrupt the basic institutions of our society."

This was exactly the sort of screed Verity might expect to hear from the mayor's cronies or in a particularly awful subreddit. No wonder the mayor had been so invested in sending her here.

"But the role of citizens isn't to behave," she pointed out. "It's to participate in democracy, to get involved in society, and create a better world for everyone . . . sir."

"Such a familiar tune you sing." Lawson spoke with a touch of amusement. "I have heard the same from hundreds of others as they first step through these doors. But never fear. I believe that every individual

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has the capacity to become productive and well behaved. To create a better world, yes, but the right kind of better world. One of order, efficiency, and discipline. It is my job as HeadMaster to facilitate exactly that. Our outcomes are excellent. We have impeccable graduation rates. Exceptional job placement results. And a recidivism rate of almost zero. A recidivist is a repeat offender," he explained, patronizingly.

Verity was aware. It had been the Truman word of the day a month or so back.

"Fortunately, we got ahold of you early. The younger you are, the more reformable. With some reeducation you will not need to worry about your future or how you will find your proper place in society." He smiled crookedly, one side of his face frozen by scar tissue. Eerily, he seemed completely earnest, as if he expected Verity would find the idea of becoming someone completely different a good thing. So this is what was meant by "Ersatz."

Pyrite screamed, and Verity clapped her hands over her ears.

"See?" said Lawson. "We have already begun."

Payne directed Verity along a dotted line that led to a looming cinder block building. Its porous sides seemed to suck up any light that touched them, and its tiny barred windows resembled toothy mouths. Verity's initial impression of the Ersatz Academy had not improved one iota.

The dotted lines continued inside, running the length of the squeakyfloored corridors. Once over the threshold, however, the lines broke off into an array of new colors and patterns.

"For navigation." Payne, like Lawson, apparently thought Verity was extremely dim. Maybe he was projecting. "Each one goes to a specific bunk room or classroom. There's no excuse for being lost here. Or for straying off the path. Orders lead to order, see?"

Verity was too exhausted to argue. She had no watch or phone to check, but the clock must be creeping toward one or two in the morning. She was ready to just climb into bed and be done with this day.

"This is you," said Payne momentarily. "The white dot room. You can tell—"

"Because of the white dots." Verity pointed to the floor and then the sign next to the door.

"Fast learner. Might serve you well here. I've seen my fair share of things over the years, believe me." Deep in reflection, Payne smoothed his walrus-like mustache. He passed Verity a dull silvery key fob. "That's yours for the room. It'll get you into here, the bathroom, and whatever's on your schedule. Don't even try flashing it around anywhere else. The system will register it, and then I'll be the one writing up the report. Reports are work, and I don't like working. Got it? Good. Now I've got some monitors to monitor. Good luck, kid."

Payne lumbered off, mumbling into a walkie-talkie. As he turned a corner, Verity noticed a blank screen mounted on the wall above his head.

Wondering what its purpose was, she let herself into her bunk room, waiting for her eyes to adjust to the darkness. There were three other girls in there, all sound asleep. One was snoring worse than Verity's dad. Another tossed and turned, while a third lay completely motionless on her back, like a mummy.

The bunk below this girl was the only one free. Pulling Silas's carving from her bag, Verity crawled beneath the sheets, willing sleep to come.

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Instead, she spent what felt like hours staring up at the slats above her, her only company the comforting figures of the firefly creature dancing through her memory:



They flashed in front of her eyes, before transforming into the squiggles Silas had drawn on his window:

