

The Goldbach Conjecture

prime i define as Goldbach did - what Euler & our recent math deny:

 $prime_{def 1} = a product of only 1 and itself.$

the **a**, **only**, **1** and **itself** each imply **primacy**. the four refract **prime** into unity.

notice that by **prime**_{def 1}, 1 is prime.

1 is the exemplar prime.

all agree 1 is unique:

- Euclid agreed by denying it numberhood and calling it the Unit: that which any Number is a multitude of.
- Euler agreed by denying it primacy, and thereby spoke a paradox:

"I deny the primacy of 1."

if rather defined as

 $prime_{def 2}$ = a number with only two distinct divisors

then 1 is not prime, since 1 has only one distinct divisor: 1.

i'd amend **prime** def 2 to:

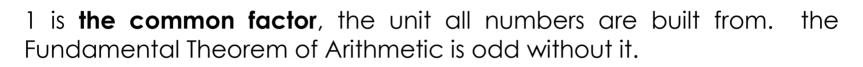
prime $_{def 1.i}$ = a number whose only divisors are 1 and itself

by prime_{def 1} or prime_{def 1.i}, the Goldbach Conjecture resolves to:

every even number is a sum of two primes.

if a Goldbach number is a sum of two primes, then the Goldbach conjecture is these seven words:

every even number is a Goldbach number.



if primes are "the basic building blocks of all numbers", then 1 is **the exemplar prime**: the primes are all *like* 1.

¹ mathisfun.com: Fundamental Theorem of Arithmetic

if 1 is prime, we simplify the FTA,

from

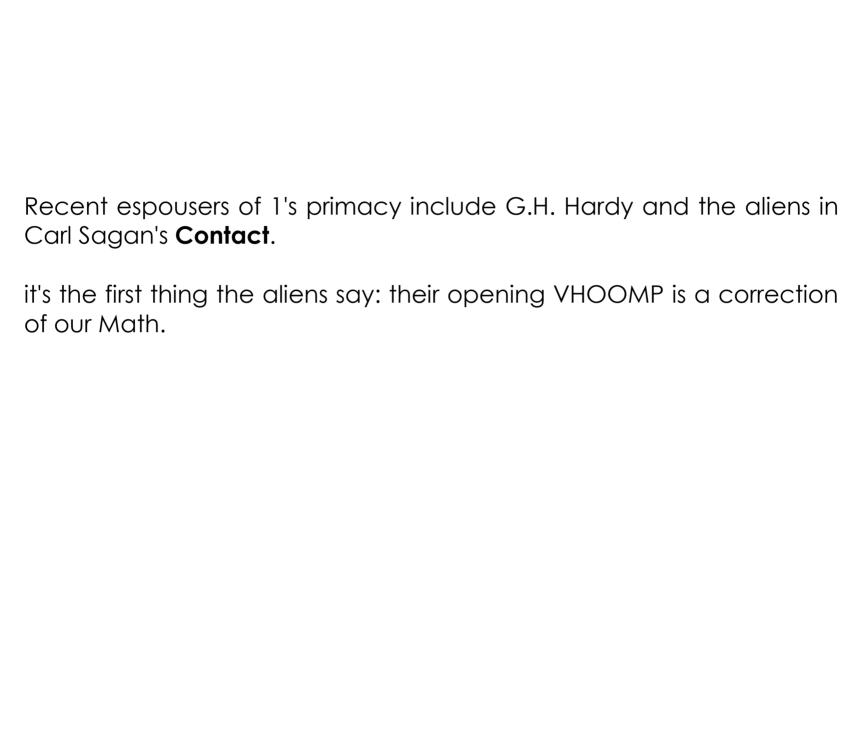
every integer greater than 1 is either a prime or the product of primes

to

every natural number is a product of primes

i.e. every non-prime is a product of primes, and every prime is a product of itself & its exemplar.²

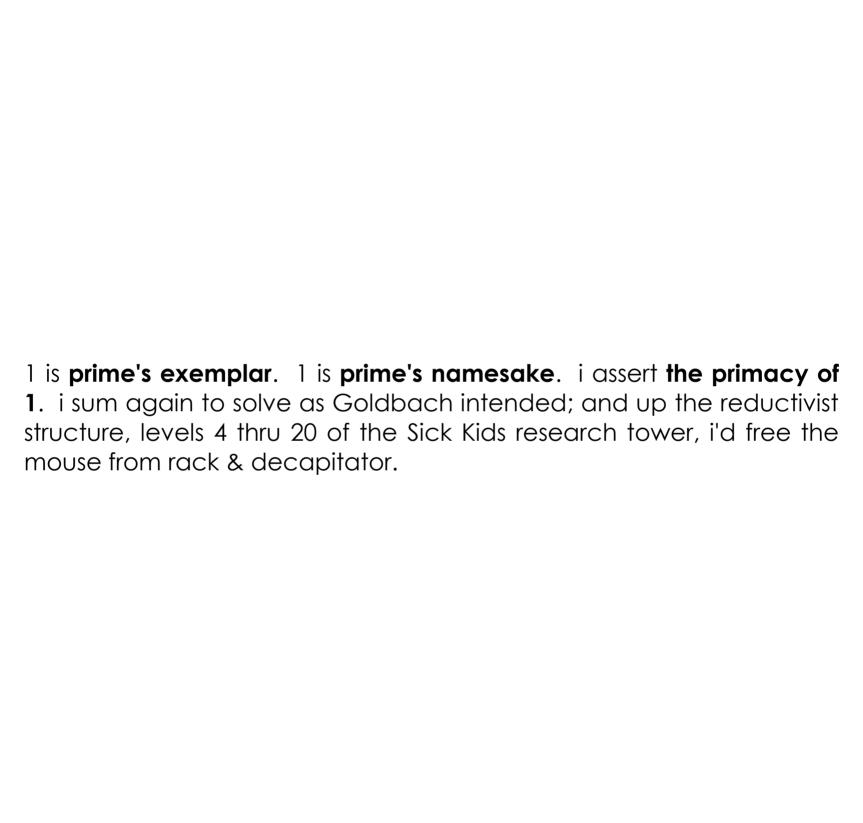
what about the FTA's **unique factorization** claim? on granting 1 primacy, we add two symbols to the FTA corollary [**1<**] : which i rather like. see Chris K. Caldwell & Yeng Xiong, **What is the Smallest Prime?** Journal of Integer Sequences, 2012 [Vol 15]

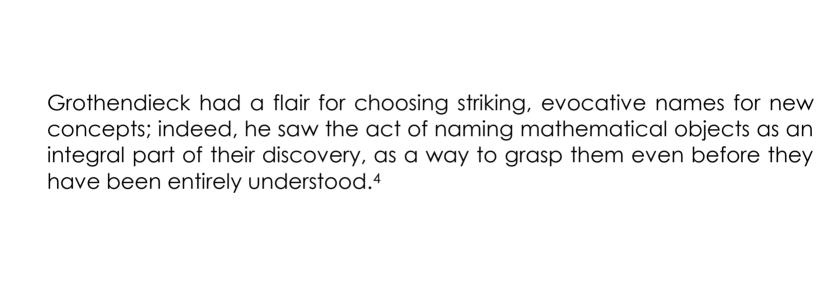


odd how **Goldbach**, **Gödel/Bach**, and **Goldberg-Bach** imply the other aurally & in my limited list of Aufklärer - how music & a kinderlogic affirm the self-reference i'd restore the first word of Math to; and how lovely Rebecca **Goldstein** is, who elicits by a footnote in her Gödel book this Sunday morning exercise.³

³ Rebecca Goldstein, Incompleteness: The Proof and Paradox of Kurt Gödel. Norton, 2006







⁴ Allyn Jackson, Comme Appelé du Néant—As If Summoned from the Void: The Life of Alexandre

Grothendieck. Notices of the AMS 51:10, p 1197

for Bob Palais, it's not that the **circumference/diameter** ratio *isn't* 3.14 - it's that we should have saved the special name for **6.28**, for the **circumference/radius** ratio.

Palais complains of "the litany of important theorems and formulas into which a ubiquitous factor of 2 has crept and propagated". he advocates "good notational conventions." 5

radius gives the circle simply: diameter reduces to two continuous radii.

a point on a plane, evenly radiating: this is what a circle is!

 $^{^{5}}$ Bob Palais, π **Is Wrong!** The Mathematical Intelligencer, 2001 [vol 23:3]

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|------------|--------|------------|
| $Ih\Delta$ | liaric | Paradox |
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One of themselves, even a prophet of their own, said, the Cretans are always liars, evil beasts, slow bellies.

This witness is true. Wherefore rebuke them sharply, that they may be sound in the faith

[Titus 1:12-13]

solution 1a

the prophet disclaims from the vantage of banishment. when Paul/pseudo-Paul [**P/p-P**] comes upon him, he's exiting Crete, with the weight of the Cretans' judgement on him.

some of that weight he offloads to P/p-P, and P/p-P onto Logical history.

solution 1b

they've just killed their Socrates, and the prophet escapes with his life - he shall not let them sin against Philosophy twice.

solution 1c

the prophet speaks from the standpoint of their future Redemption: all Cretans at Paul's present are liars.

: in **solution 1**, the prophet isn't strictly "one of their own".

solution 2

P/p-P insists that the Cretan "is true". perhaps P/p-P means that the flip-flopping Implication [if he's true then he lies; if he lies then he's true, and so on] sums into he's true, in logical space: it's a rounded sum of competing infinities.

solution 3

are you a true witness, **P/p-P**? that depends on who you are, Paul or pseudo-: for it's **Paul** you claim in the byline:

Paul, a servant of God, and an apostle of Jesus Christ, according to the faith of God's elect, and the acknowledging of the truth which is after godliness

[Titus 1:1]

scholars approach consensus that the Pastoral Epistles are pseudonymous.

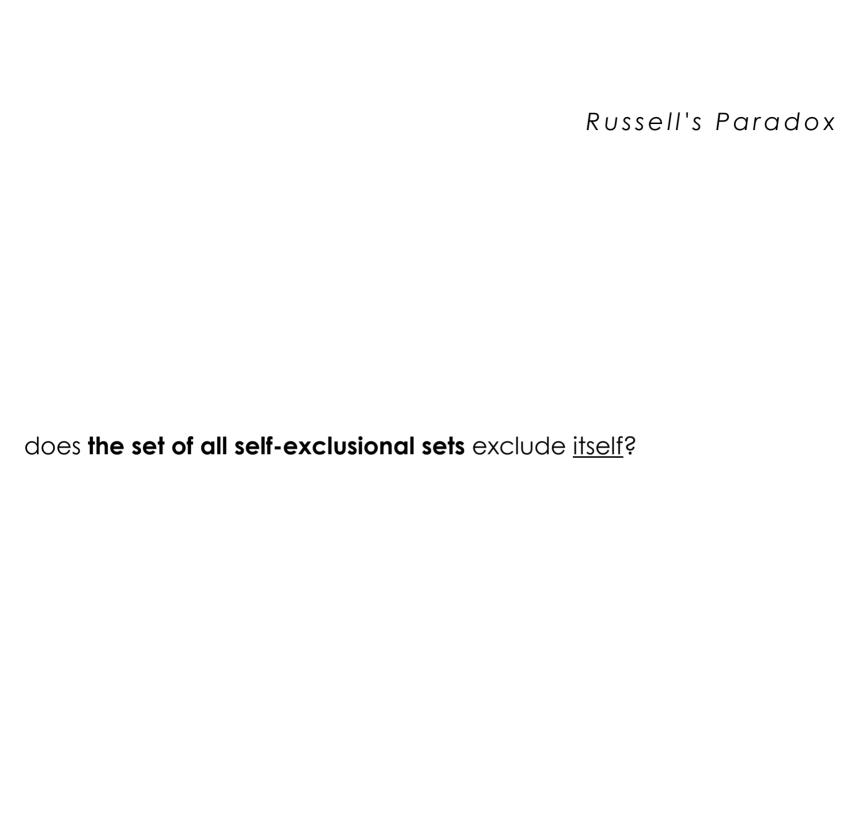
i for one am wary of a writer who begins with Trust me;

so the Paradox displaces to **Titus 1:1** itself, to **the document**'s authenticity.

this Paradox is nested in witnesses. in orbitals our answers displace to. the [putative] Cretan's [putative] words we circle in our recursion. we widen from the site of speech, we de-indent from the Dialogue's inner column to interrogate its Witness, then the Citer, and so on.

The speaker, Epimenides, is a Cretan.

who says this, and why do we believe them?

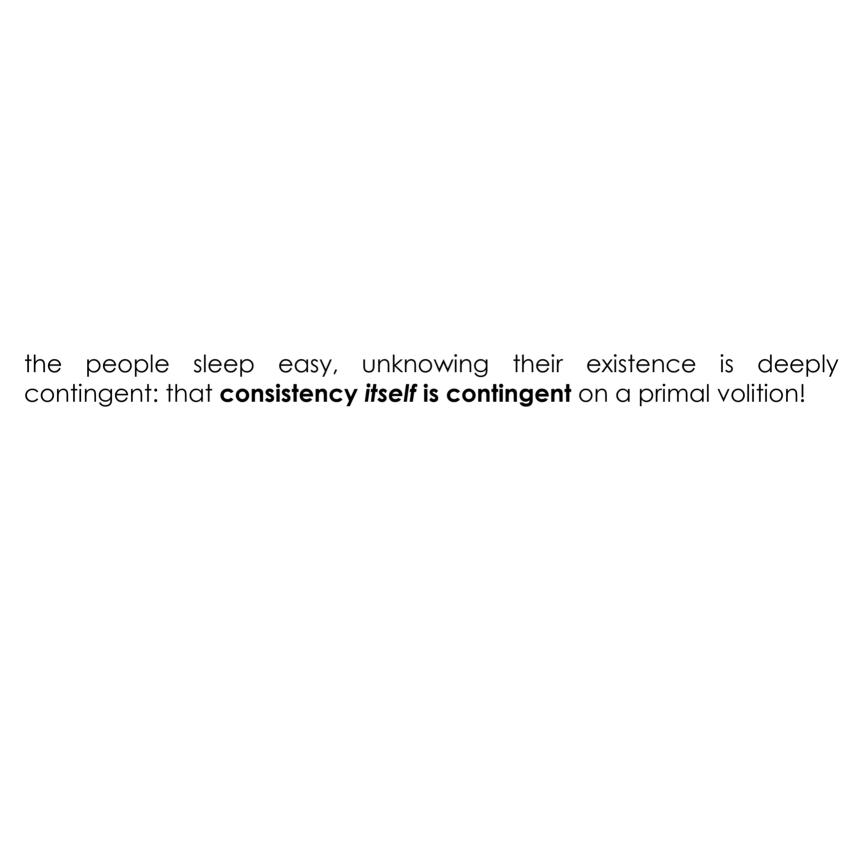


it seems to me that Russell's decree - Whatever involves all of a collection mustn't be part of the collection - is not wholly arbitrary. a self-inclusional set is quasi-contradictory: "a kind of vicious circle", he says. the quasi is his opening: it frees him from perplexity to resolution, action.

| his Theory of Types is folly, some said. an ad hoc pencil trick to save all Arithmetic. | | |
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| yet something must be done to stave off logical collapse! | | |
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| Yahweh tells Job: your pious thought, your Math alone, cannot make |
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| a World. a World must be willed into coherence. it's a lonely achievement, a terrible secret, that Yahweh confesses. |
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| A.J. Ayer briefly died and found himself squinting at a dire red light, a siren impelling him to fix some kind of rift in the structure of Time. |
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