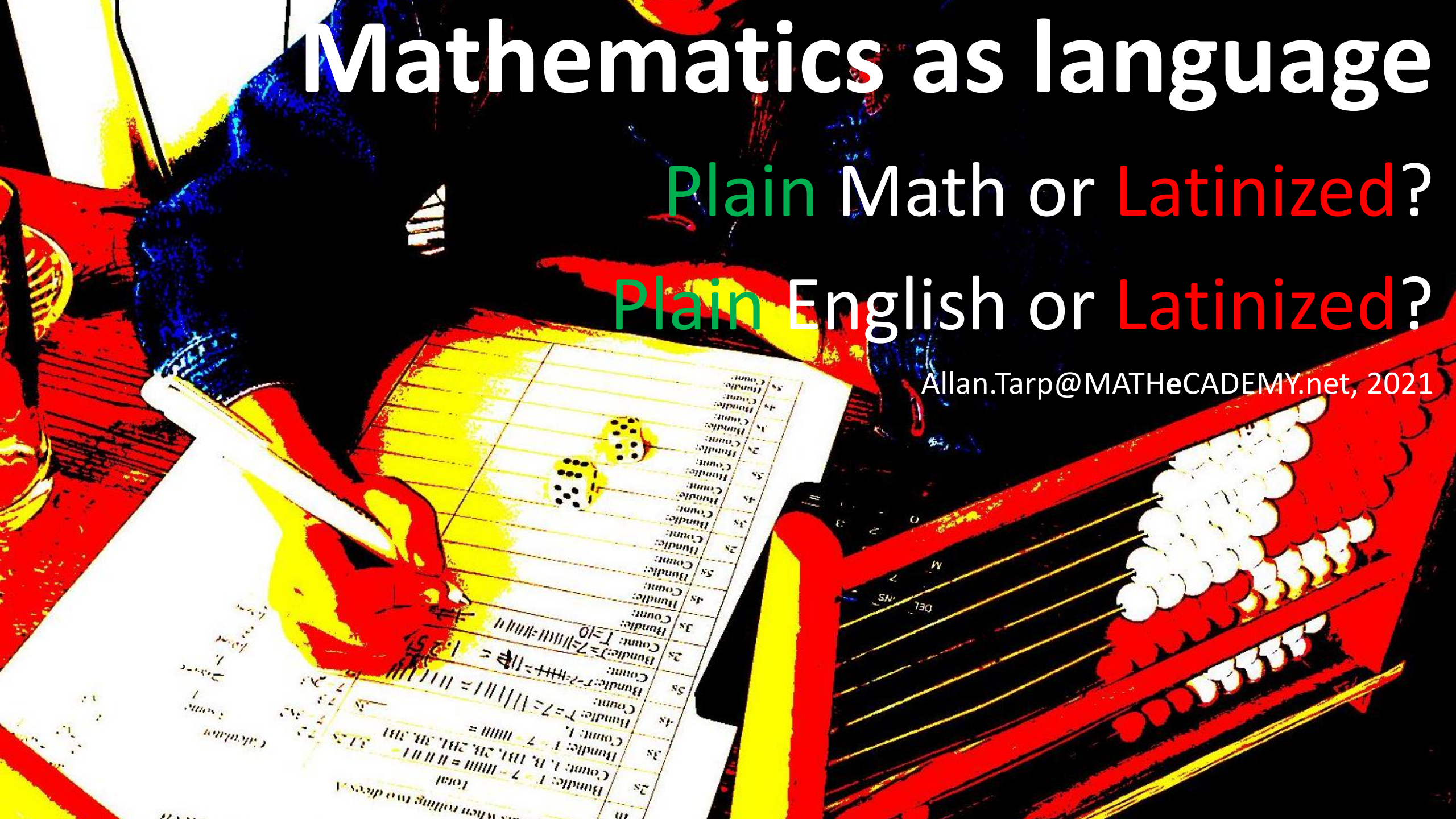# Welcome (Velkommen) Agenda

- Mathematics as Language - or Grammar?

- Trigonometry before Geometry - Probably Makes Every Other Boy an Excited Engineer

  (Pre-recorded presentation)

- Questions and Answers

Mathematics as language

Plain Math or Latinized?

Plain English or Latinized?

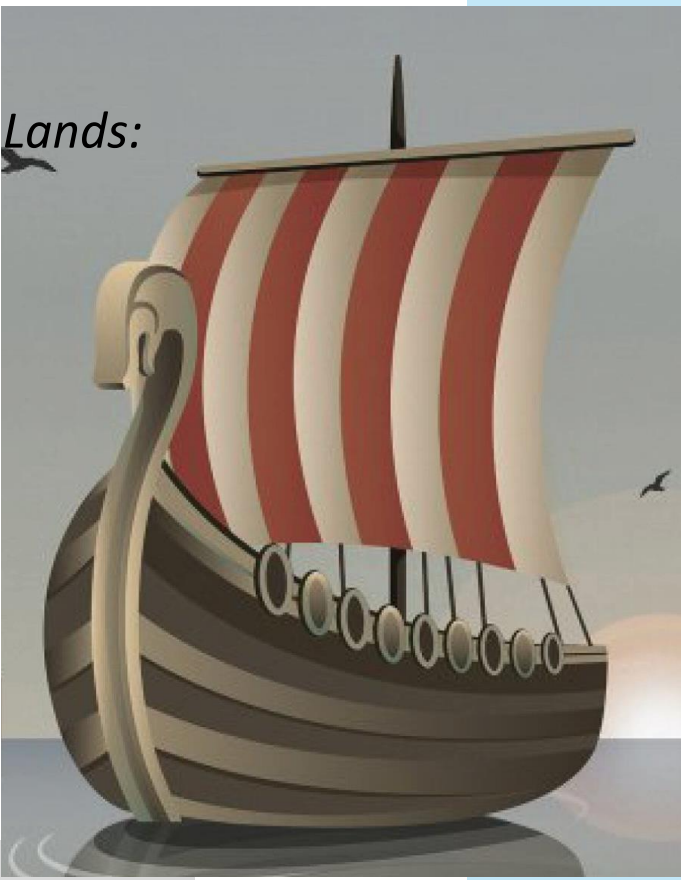Allan.Tarp@MATHeCADEMY.net, 2021

In the United States the Sea is OUTSIDE
In the United Lake-Lands it is INSIDE

Living on the shores of 406 islands, the ocean is
not outside but inside as a lake (sea in Danish).
Easy to sail on from *Harbor city*
to settle in new lands.

1021 Viking Lands:

- England
- Scotland
- Ireland
- Shetland
- Iceland
- Greenland
- Vineland

Shore line
9 Mm   20 Mm

Halland

Thyland
Harbor city

Himmerland

Nørrejylland

Djursland

Skåne land

Sjælland

Fynsland

Langeland
Lolland

Sønder -jylland

LAND HO

The United Lake-Lands became Denmark
(German insult for Outskirt with no Danes to tax)
The Big North-Atlantic Empire (Russian)

1021: The United Lake-Lands of North Europe

2021: The same approximately except for Brexit I

Greenland is a funded home ruling land.

English: still a western Danish dialect
            with Norman Latin words added

Two (*Tve*), Ten (*Ti*)

Eleven = one left after ten (*en levnet efter ti*)

Twelve = two left after ten (*tve levnet efter ti*)

Twenty = two tens (*tvende ti*)

Welcome, good day, fare well, thank you

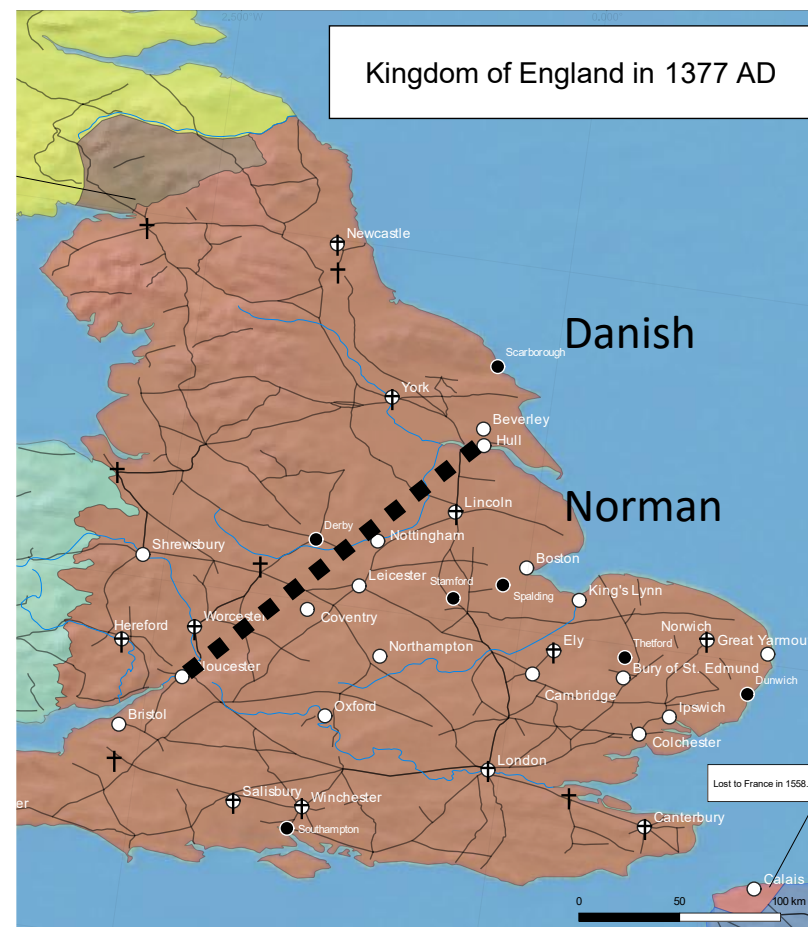(*Velkommen, god dag, farvel, tak do*)

England, North and South

We speak English, but which English?

- Northern plain Danish, or Southern latinized Norman

1000 years ago, all spoke northern Danish English,
   locally governed by an ealdorman (aeldermand)

After 1066 England was divided along the Trent river.

Later, the enclosure act took the land away in the North,
   so they sailed to North America, still speaking some Danish.

- Yea - Nay (Ja - Nej) in the congress
- Yuletide (juletid) instead of Christmas
- Counting in scores
  - Lincoln's Gettysburg address: "Fourscore and seven years ago"
- Sometimes saying "3 and twenty" instead of "twenty 3"?

Kingdom of England in 1377 AD

Danish

Norman

Lost to France in 1558.

With a Plain & Latin English, is there also a Plain & Latin Math?
Let's look at 'a Tongue House' (a tunge hus)

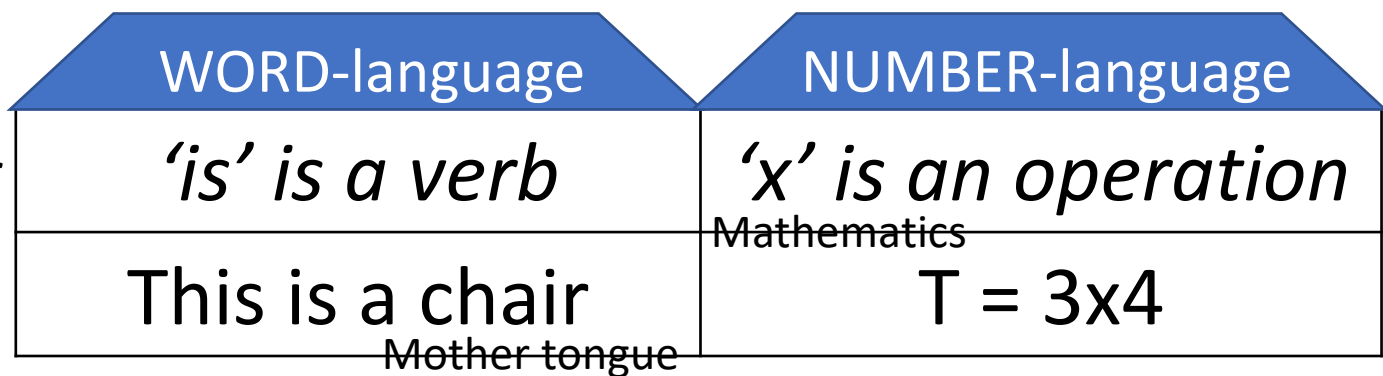| The **WORD-language** assigns words in sentences with	• a subject
The **NUMBER-language** assigns numbers instead with	• a verb • a predicate

Both languages have a META-language, a grammar, describing the language, that is learned before the grammar. Why does mathematics teach language after and not before grammar?

The Twin Tongue Houses

	WORD-language	NUMBER-language
META-language, grammar	*'is' is a verb*	*'x' is an operation* Mathematics
INSIDE Language	This is a chair Mother tongue	T = 3x4

OUTSIDE World
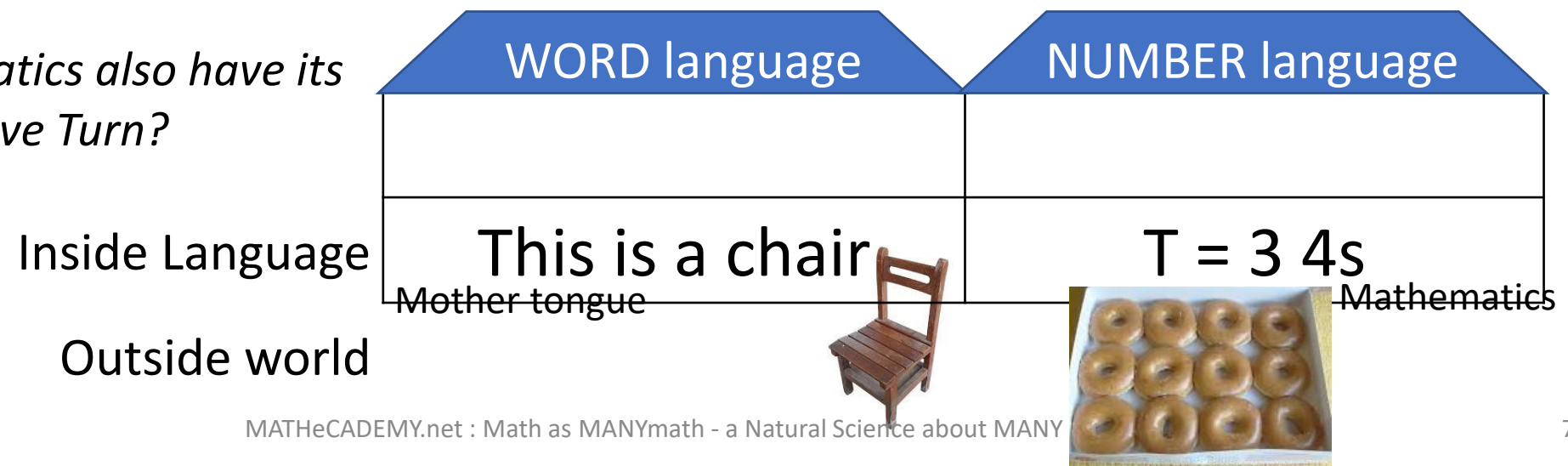
The Communicative Turn in Language ed.

Before 1970, foreign language was taught as an example of its grammar.

Then a reaction came with **The Communicative Turn.**

Halliday: "A functional approach to language means investigating how language is used: trying to find out what are the purposes that language serves for us."

Likewise, **Widdowson** adopts a "communicative approach to the teaching of language" allowing more students to learn a language through its use for communication about outside things and actions.

Can mathematics also have its Communicative Turn?

WORD language	NUMBER language

Inside Language

This is a chair	T = 3 4s

Mother tongue   Mathematics

Outside world

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Is there a Plain Math communicating about Many? Let's ask a 3year old: How Old Next Time?

The answer is 4, showing 4 fingers   **| | | |**

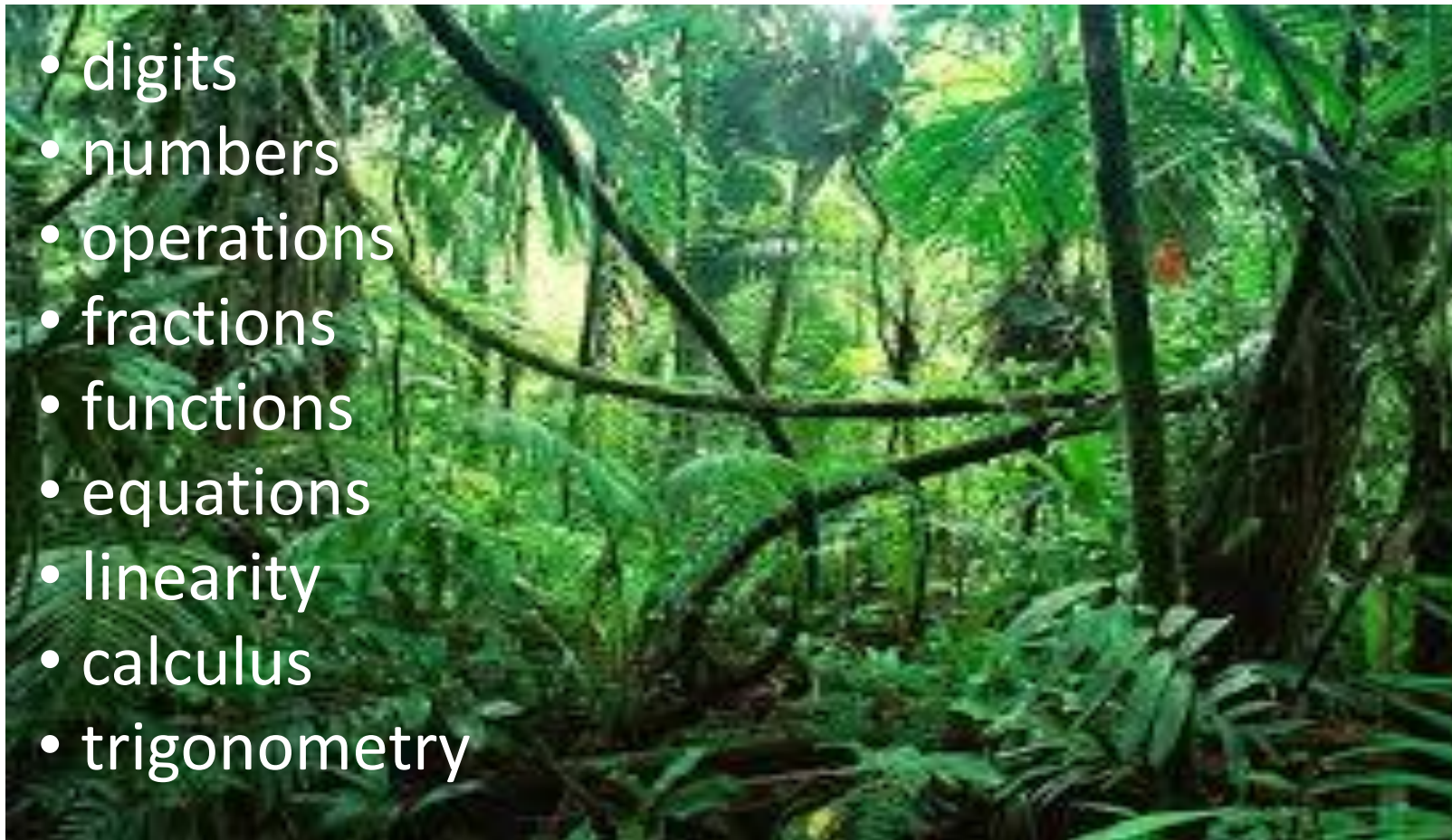But, reacting strongly to 4 fingers held together 2 by 2:

"That is not four, that is two twos"   **|| ||**

- Observation 01: Outside, children see what exists, and with units: bundles of **2s**, and 2 of them. So children use **BundleNumbers**

- Observation 02: Inside, children use full number-language sentences as in the word-language with a SUBJECT, a VERB, and a PREDICATE:

  "That is two twos", shortened to "T = 2 **2s**".

Exploring the Plain Math growing from children's own Bundle-Numbers, we soon find: All is different

- digits
- numbers
- operations
- fractions
- functions
- equations
- linearity
- calculus
- trigonometry

MATHeCADEMY.net : Math as MANYmath - a Natural Science about MANY

Why Teach Children if they Already Know?

With education **curing** the diagnose **un-educated** we ask:

To **CURE**, be **SURE** the diagnose is not

- already cured
- self-referring: ***I teach math so you learn math***

Core Questions:

- What Mastery of Many does children develop when adapting to it?
- What is a Child-Grounded-Curriculum in Plain Math?

  Question-guided, please, to be used for home education in a virus situation.

- Will Plain Math make every other boy an Exited Engineer?