Principles

for Selecting a

Universal Auxiliary Language (UAL)

Script

by Bruce Beach

for the World Language Process (WLP)

It is possible that a
world authorized language selection committee
will simply accept and designate
some existing language
with its existing script
as being the UAL and script.

However, should they wish to consider the ***advantages*** of one type of script over another the WLP has for many years sought to determine '***principles***' regarding what should be the **characteristics** of a UAL script.

Surprisingly, we have found little guidance elsewhere on this subject.

There is a marvellous collection of samples of the scripts in the world at:

http://www.omniglot.com/

but no clear direction is given there as to principles of what would make a desirable UAL script.

Two separate tasks

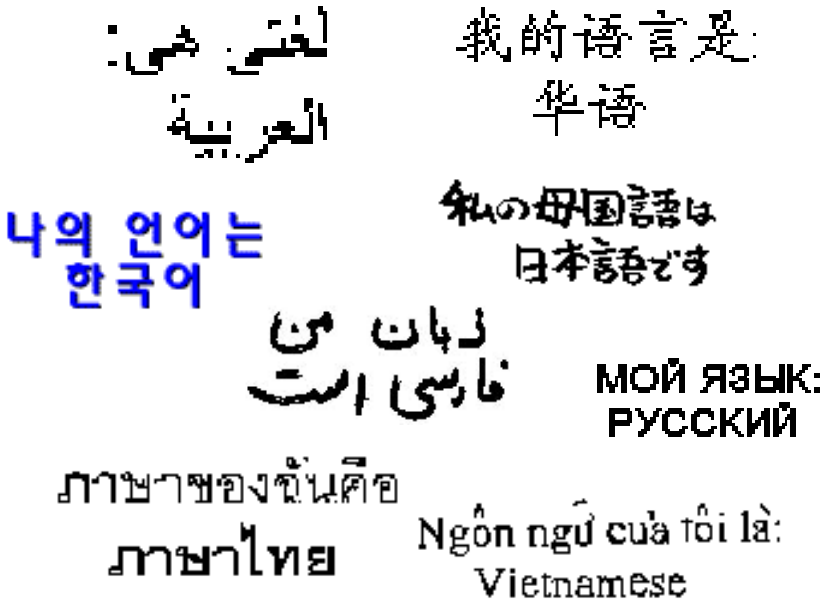
One is the selection of a UAL.

The other is selection of a Universal Script.

The selection of the UAL must of necessity come first and the selection or design of the script must be made to conform to the needs of the UAL.

Writing and calligraphy have been around for many centuries before what we currently view as typesetting.

The selection of a script has some considerations for writing / calligraphy but technical considerations **must override** those of a calligraphic aesthetic nature.



There are many beautiful calligraphic scripts in the world - but beauty is in the eye of the beholder and if one is not able to read the script then it fails at its primary task which is communication.

The **principles of calligraphy** can be applied to most any script as to

* **adornment,**
* **illumination,**
* **characterization,**
* **emphasis and**
* **aesthetics.**

These attributes **need never cease** to be added and improved upon.

However,

*** the set of characters of a script,**
*** defining characteristics of each character**
(that makes it that character),
*** the sounds associated with a character**

must be clearly delineated.

Scripts that were developed hundreds and thousands of years ago reflected the nature of their cultures and what were then the current understandings about the nature of language. They were also **developed in accordance** with the needs and **capabilities of the technologies** that were available to represent them.

Knowledge about many things has greatly advanced in recent centuries and even in recent decades and this applies to our **understanding** of the nature of **language** and as to ***how it should be represented***. Currently, we are in a **digital age** of communication and while the machinery of communication may change drastically there is no indication that the underlying digital nature will not be **around for a long time**.

The **first requirement** of a UAL and a UAL **script** is that it needs to be **universally usable** and **comprehensible** and therefore in the design of the script we wish to eliminate as many barriers as possible that would prevent it from being so.

First – a brief examination of the status of languages at the time this study is being developed.

The top 6 world languages by millions of primary speakers

		Primary	Secondary	Total
1.	**Mandarin***	882	178	**1060**
2.	Arabic	422		422
3.	Hindi	366		366
4.	Spanish	358	50	408
5.	**English**	341	850	**1191**
6.	French	260	240	500

** One question here is whether the number represented by Mandarin is actually a single dialect.*

The top 6 world languages by millions of total speakers

	Primary	Secondary	Total
1. **English**	341	850 *	**1191 ****
2. **Mandarin**	882	178	**1060**
3. French	260	240	500
4. Spanish	358	50	408
5. Arabic	422		422
6. Hindi	366		366

**When we add just the 850 population of countries where English is an official language the total English speakers becomes 1191 surpassing that of Mandarin.*

***The number of people in the world claiming English as a second language would press the number well over 1,500 million.*

There are by far more speakers of English as a second language *than there are native English speakers*.

But the *real issue* concerning the importance of present international languages is the **number of people** who are **literate** in the language and the **quantity** of scientific and humanistic **literature available** in the language.

Because **English**, among **secondary speakers**, is often a language of professions, academics, science, technology, and commercial communication, it has a much **higher degree of literacy** among its speakers than the other languages.

The top 4 world scripts

	Primary	Secondary	Total
• English	341	850	1191
• French	260	240	500
• Spanish	358	50	408
			-----
1. **Total Roman Script**			**2099**
2. **Mandarin**	882	178	**1060**
3. Arabic	422		422
4. Hindi	366		366

There are almost as many different scripts as there are languages, although the writer has performed a count and has determined that at least **22** languages use **Arabic** script, **65** use **Cyrillic**, and **217** use **Latin / Roman** script.

Adding the rest of the total of 217 languages using Roman characters to the previous table (along with the actual second language use of English) may well press the use of the **Roman** characters (used even in some Chinese notation) to a level ***equal to all the other scripts in the world combined***.

Pros and Cons to Using the Roman Script

- **Pro:**

  The Roman Script is already recognized in about one half of the world.

- **Pro:**

  The typesetting equipment for the Roman Script is almost universally available and choosing anything else would greatly impact everything from newspapers and typewriters to computer and digital displays throughout the world.

Con:

The Roman Script is totally inadequate for single character phonemic representation of most any language that may be selected as a universal auxiliary language.

Con:

For persons coming from a substantial number of cultures the Roman Script has legacy concepts that are detrimental to perceiving and associating different phonemes with its letters as may be required by a UAL.

Con:

The Roman Script is lacking a number of features that would be desirable in a universal language script.

Some **Principles** of Desirable Script Features:

a. That the **written characters** can be **easily formed** by the hands of children.

b. That the characters be **topologically unique** so that the will not be confused in any position.

c. That the characters be **distinguishable** from a **distance**.

d. That the characters **not** be confused with other scripts - so that they **DO NOT** hold **legacy interpretations**.

e. That the characters be suitable for **signing** by the **deaf**.

f. That when the characters are presented in a raised form they will be **distinguishable** to the **blind**.

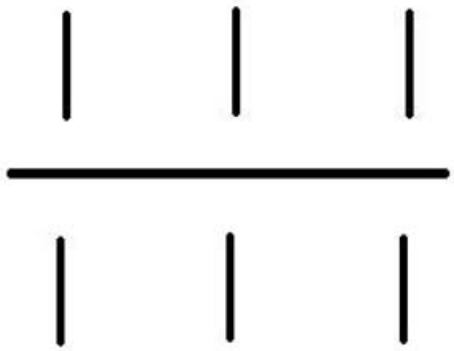
After reviewing hundreds of scripts we have located and offer the **Brasseur** script as a standard against which to **measure** other candidates for a universal auxiliary language script.

While the offered **Brasseur** script may not be the one chosen by a world authorized script selection committee, we do suggest that two questions be asked -

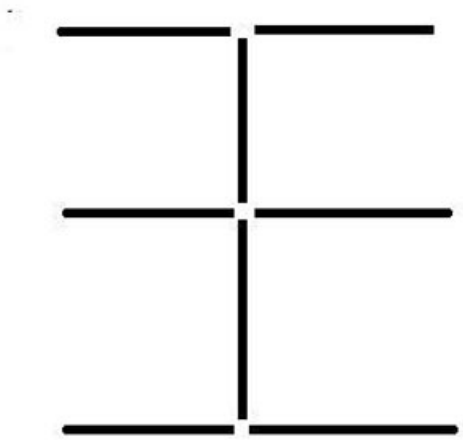
1. Does the selected script have all the benefits of the Brasseur script?

2. Does the selected script have benefits that the **Brasseur** script does not?

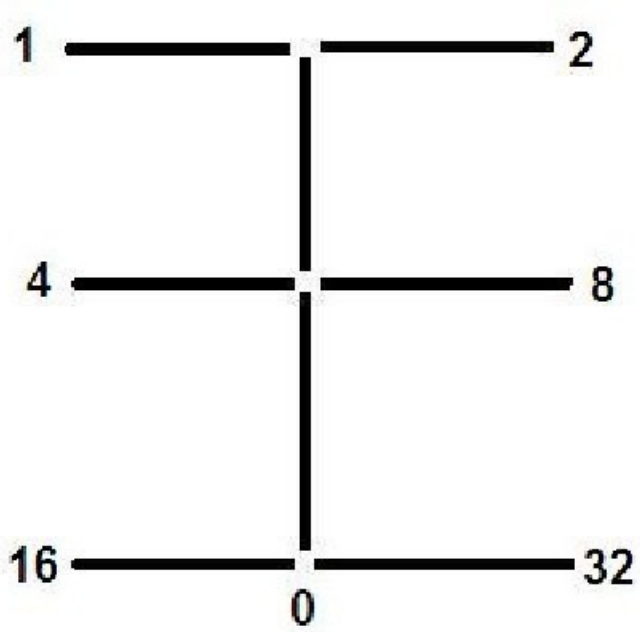
Description of the Brasseur Script



The **Brasseur** Script is a matrix-based *binary system*. The matrix consists of six lines (which we shall call nodes) - three each on opposite sides of a dividing line. It bears some semblance to the ancient **Iching** pattern:

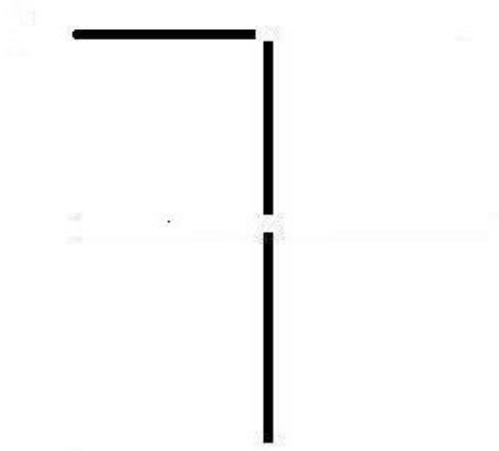


The **Brasseur matrix** is turned vertically to the more traditional appearance of a number of oriental systems

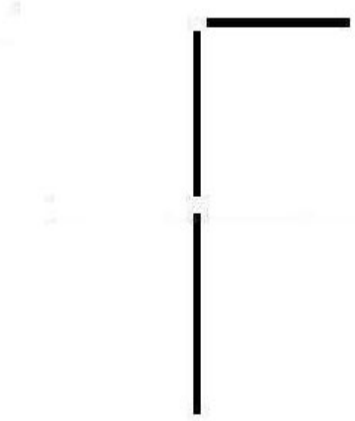


Each of the nodes has a binary value

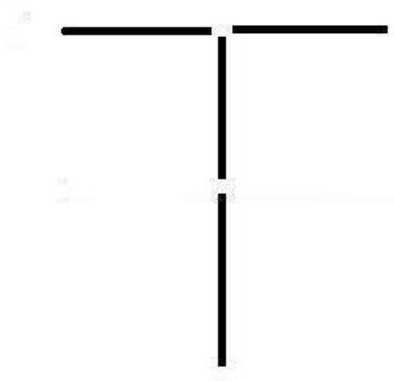
The **empty vertical line** has the value of **zero**



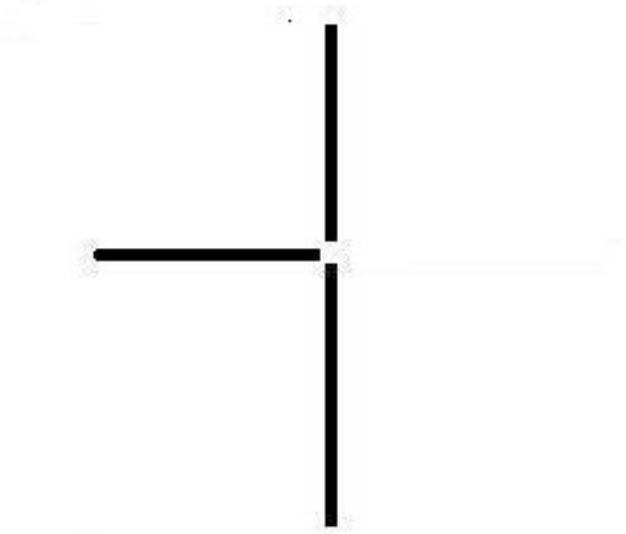
This is the number ‘one’ or ‘1’ which coincidently / intentionally – has the same value of the character – which is the ***value of the node***.



This is the number ‘two’ or ‘**2**’ which coincidently / intentionally – has the same value of the character – which is the ***value of the node***.

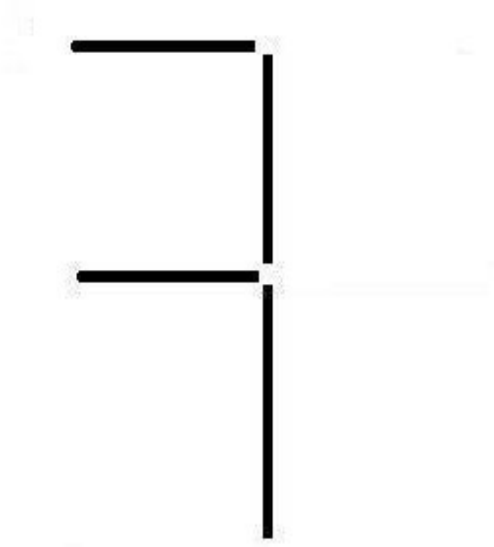


This is the number ‘three’ or ‘**3**’ which coincidently / intentionally – has the same value of the character – which is the value of the ‘**1**’ and ‘**2**’ ***nodes added together***.



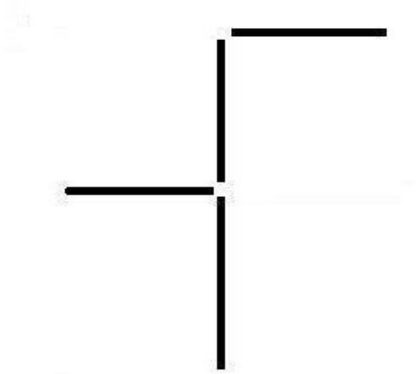
This is the number
‘four’ or ‘**4**’

which coincidently / intentionally – has the same value of the character – which is the ***value of the node***.

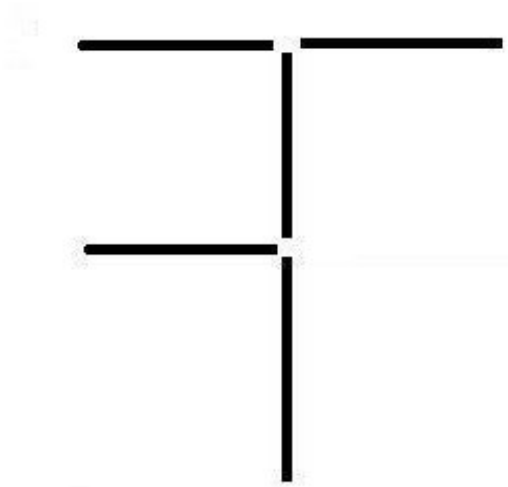


This is the number ‘five’ or ‘**5**’

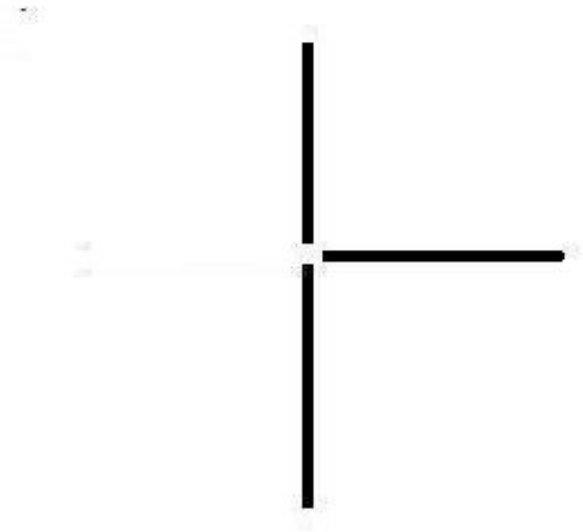
which intentionally – has the same value of the character – which is the value of the ‘**4**’ and ‘**1**’ ***nodes added together***.



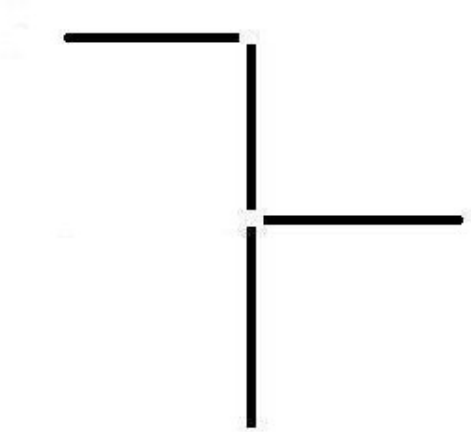
Six or ‘6’



Seven or ‘7’



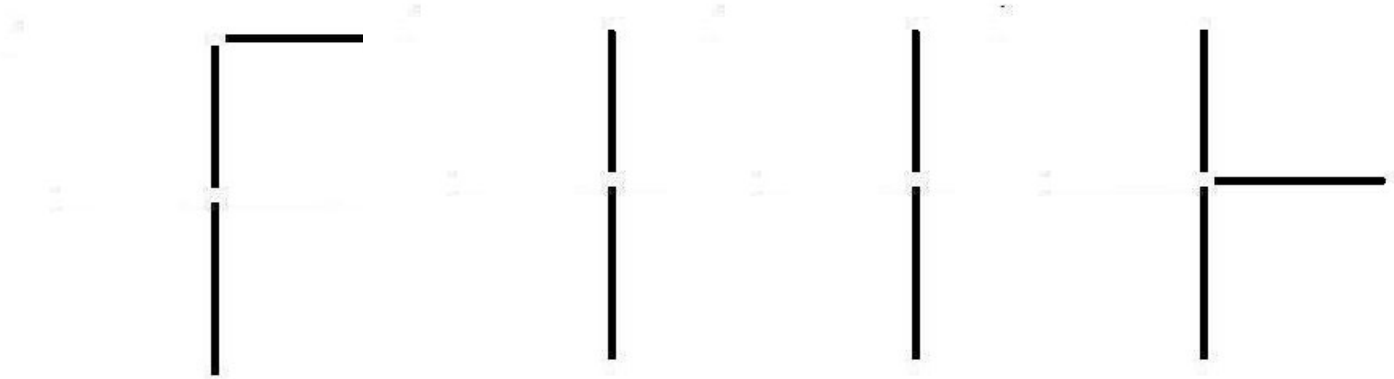
8



9

So this is the way that we represent the digits **0** to **9**. They can then be strung out in a line to represent any digital number.

The number **2008**



Suffice it to say that there are ***64 unique symbols*** that can be represented within the matrix and ***each symbol can be used to designate a value or sound***.

While we use the first symbols to represent **numbers**, we use the others to represent *consonants* and **vowels**.

The following uses English as an example –

But –
it is only an example

because the script could be used with almost ***any*** language.

Consonants

B (bee)
D (dee)
F (fee)
G (gee)
H (hee)
J (jee)
K (key)
L (lee)
M (me)

Since this is an explanation and not a tutorial we will give only a few examples.

These might be the first nine consonants of a language.

B (bee)

D (dee)

F (fee)

G (gee)

H (hee)

J (jee)

K (key)

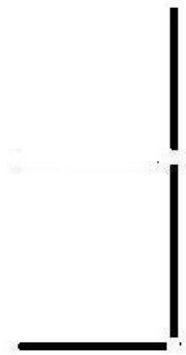
L (lee)

M (me)

Consonants by themselves do not have a sound and must be combined with a vowel to be sounded.

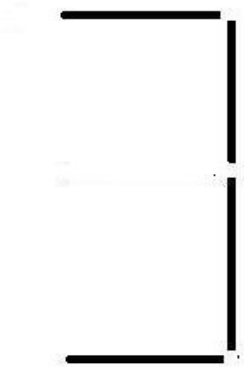
Here we combine them with the vowel **long E** but they could as well be combined with any other vowel to create a **name for the consonant**.

While we show an English representation for the consonant it must be clearly understood that the ***ONLY*** symbol associated with consonant would be the **Brasseur symbol** itself.



This then would be the **first consonant**. We begin the consonants with the **value '16'** so that they may distinguished from the decimal numbers 0-9.

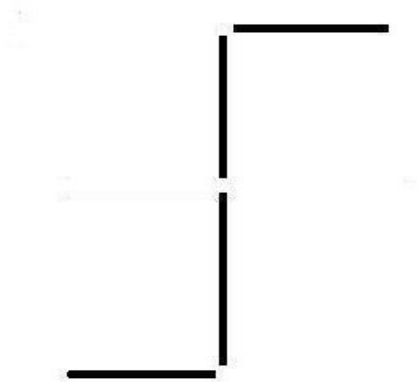
In English it would represent the name 'B' but in the UAL that value would just be seen as the symbol of the first consonant having whatever name it may be assigned.



This then would be the **second consonant**. ***All*** the **consonants** include the value ’16’ so that they may distinguished from the decimal numbers 0-9.

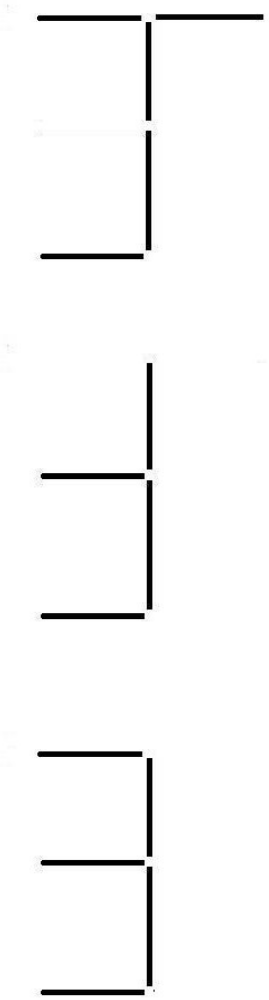
In English this would represent the name ‘D’ but in the UAL that value would just be seen as the symbol of the second consonant having whatever name it may be assigned.

The **second consonant** would have the **value of sixteen plus one** – or ***seventeen***.



This then would be '**Fee**' the **third consonant** – *having the value of '18'*.

While we do not actually think in terms of the numbers – still the left part of the brain in the left/right brain function may take note of the progression and that will help in the identification / recognition of the letters.

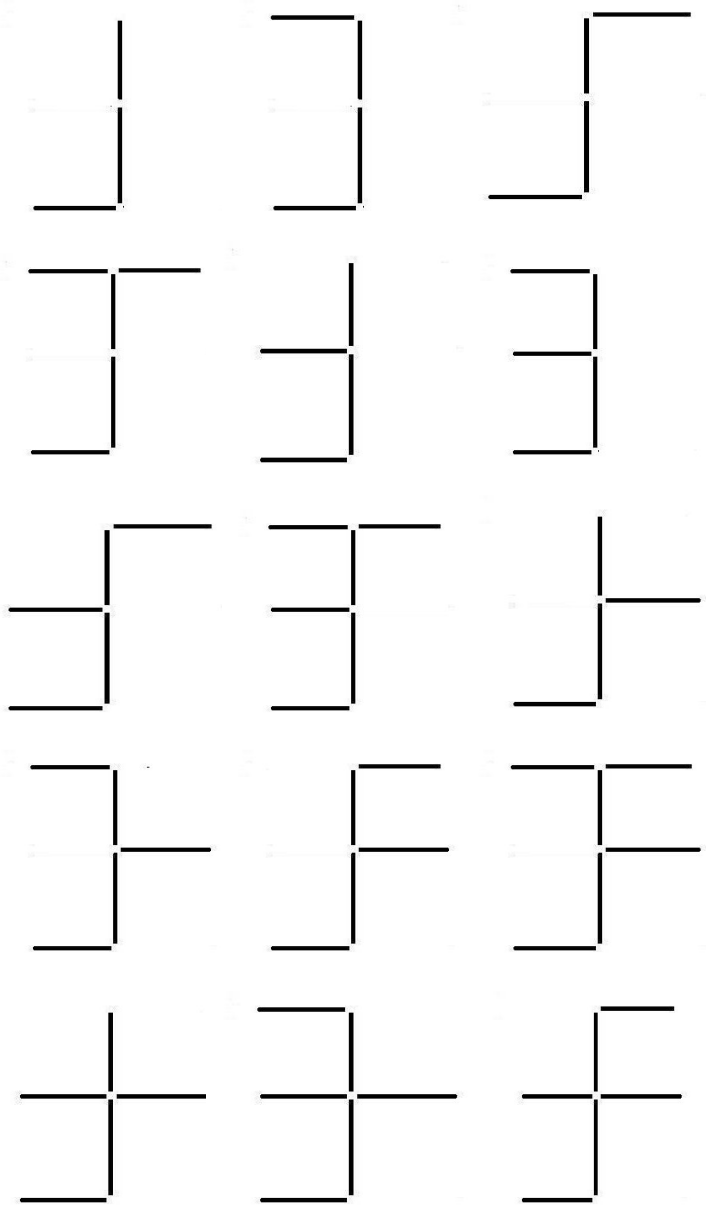


“Gee”

“Hee”

“Jee”

It is important to note that while the decimal numbers **0 to 9** are ***NEVER*** represented by a character with **a '16' node** that the **consonants** shown following ***ALWAYS*** have **a sixteen node**.



B D F

G H J

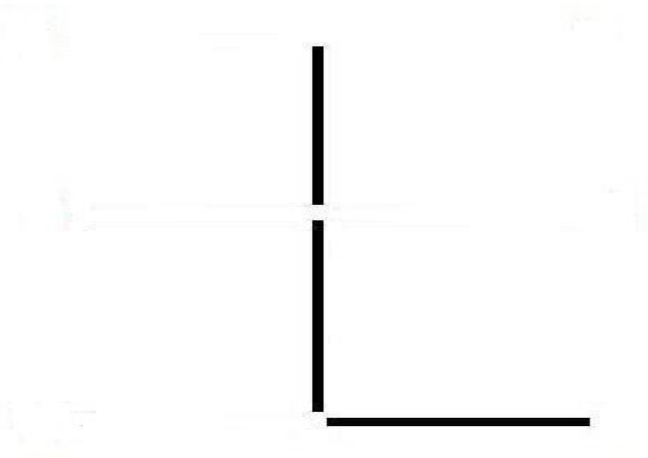
K L M

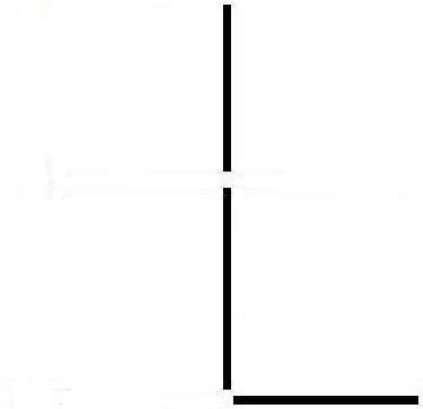
N P R

S T V

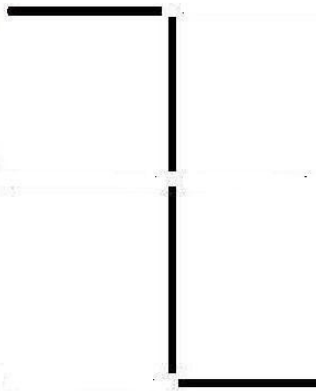
VOWELS

Let us now consider the vowel characters. The **vowel** characters ***always have a '32' node***. The first vowel represented in our example is that of the long E.

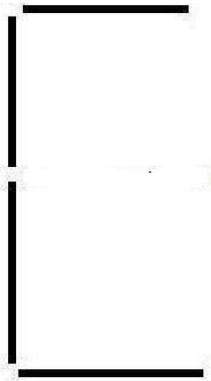




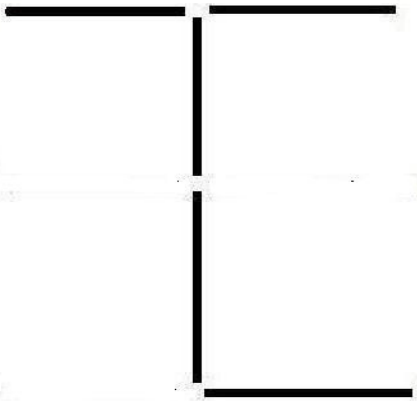
32-E



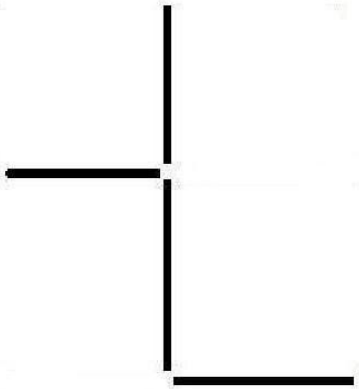
33-A



34-I



35-O



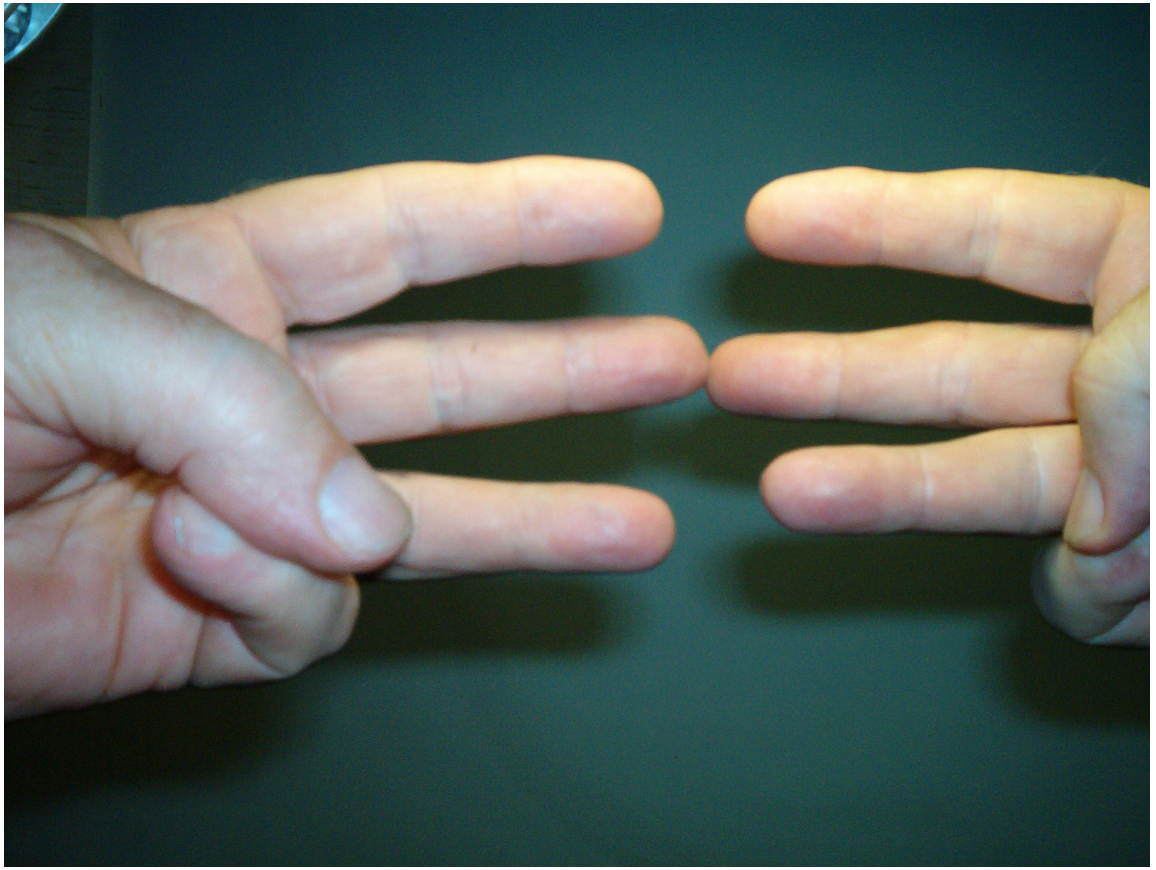
36-U

Starting with 32 Each vowel is one number higher and each vowel *has a '32' node* to distinguish it as a vowel.

Because this is just an example -
the examples are just examples -
and what vowel would be represented by each character would be up to the language selection committee –
as would be the decision as which vowels themselves would be a part of the language.

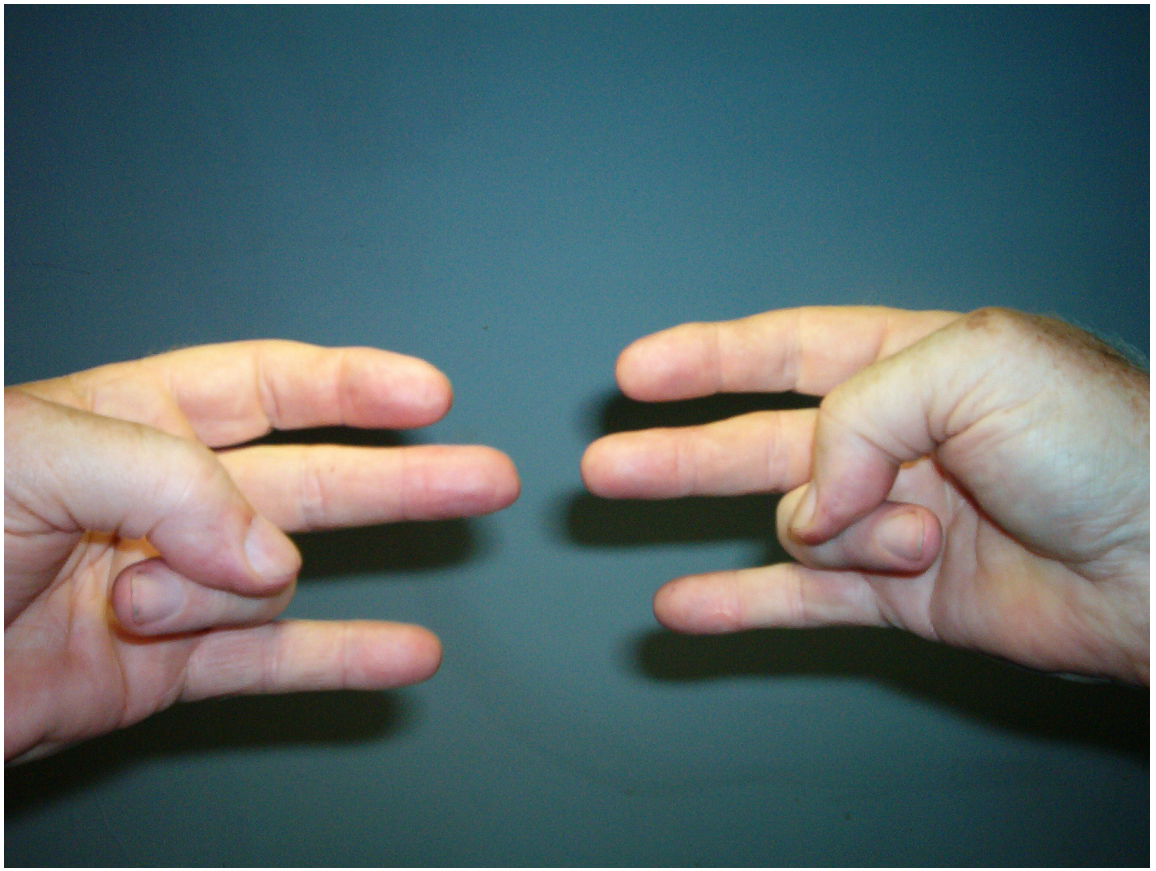
We will now examine how the Brasseur **Script** would work for a **sign language**.

The fingers represent the nodes

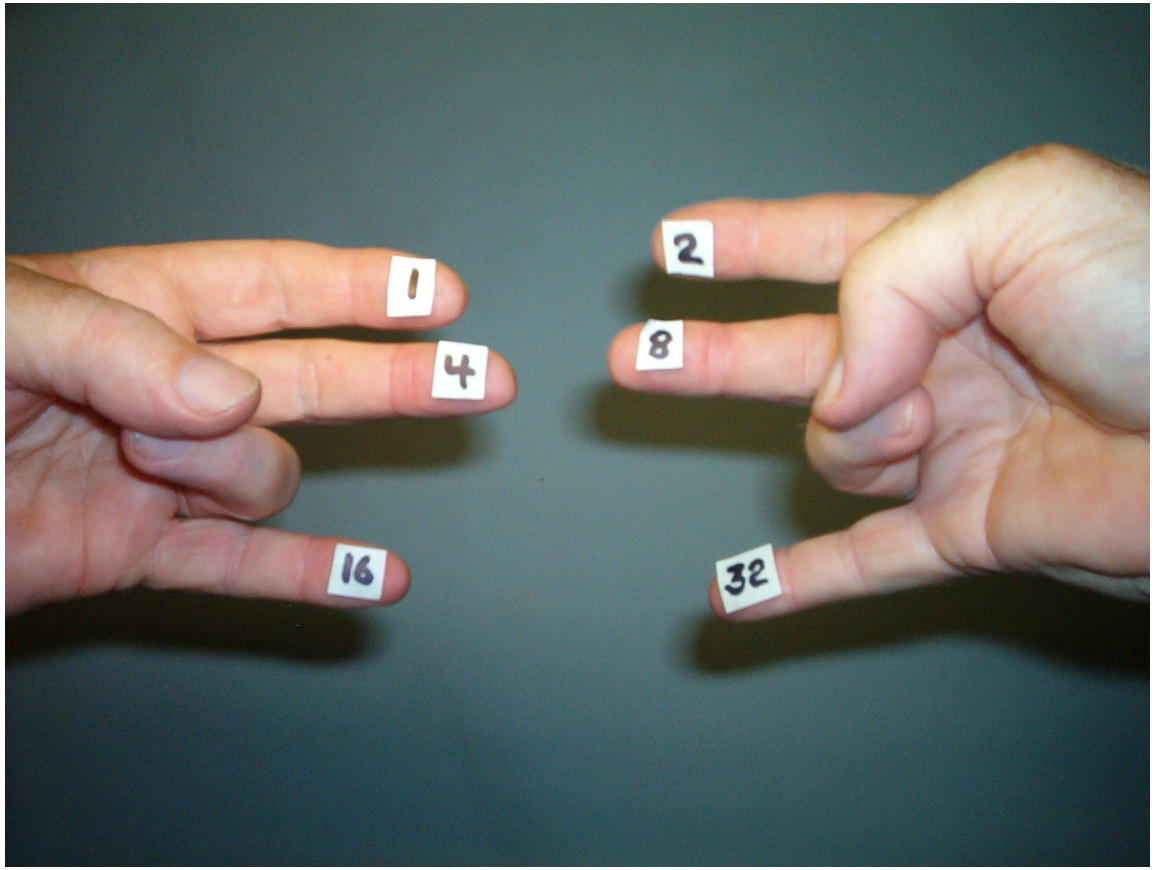


The ring fingers are **not used** for ergonomic reasons

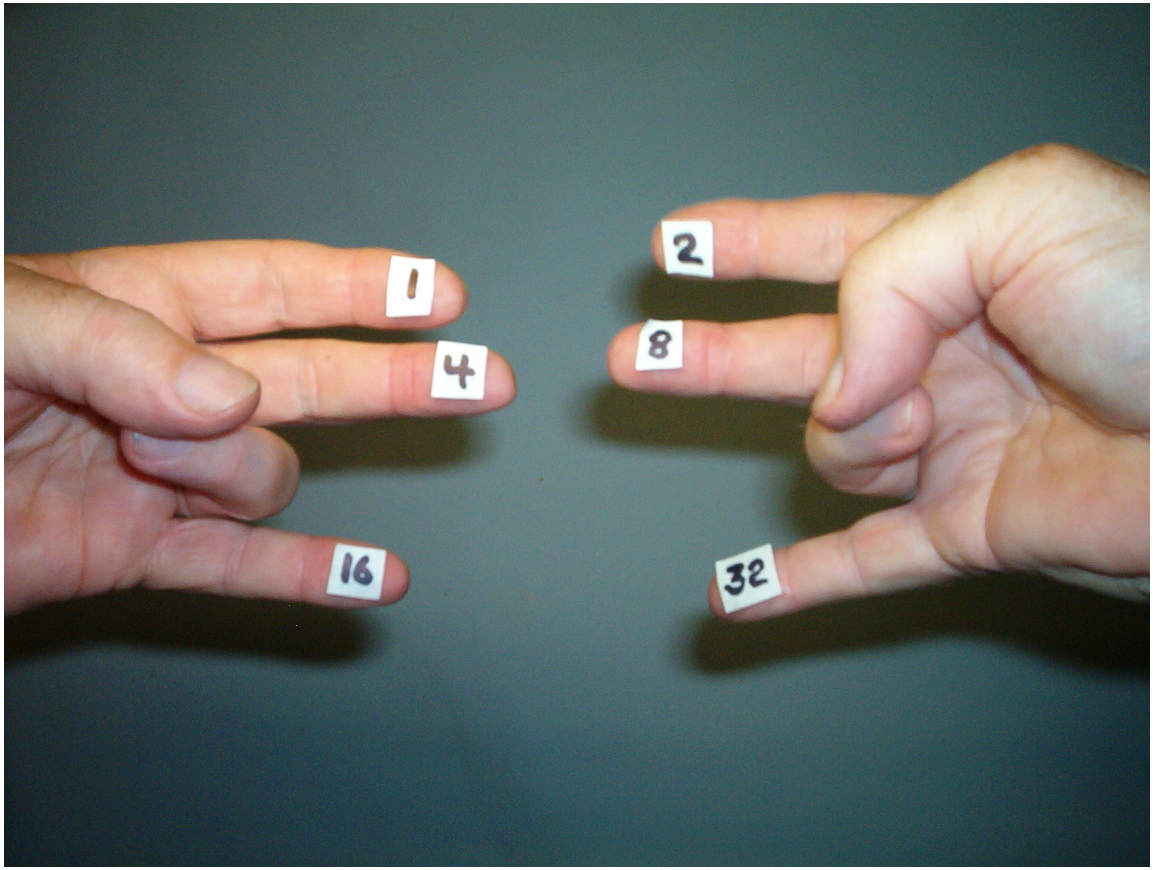
and ***the little fingers are used instead***



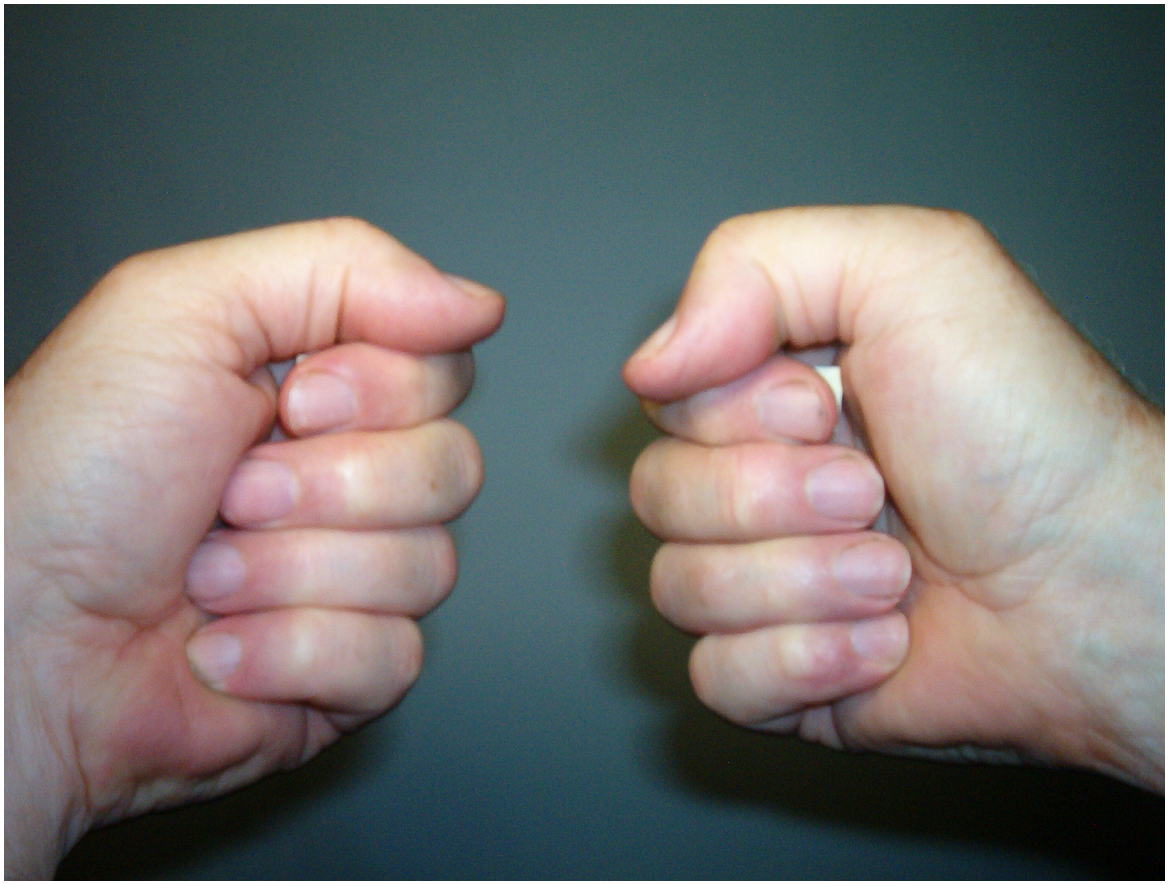
We see here the *full matrix* represented by the hands.



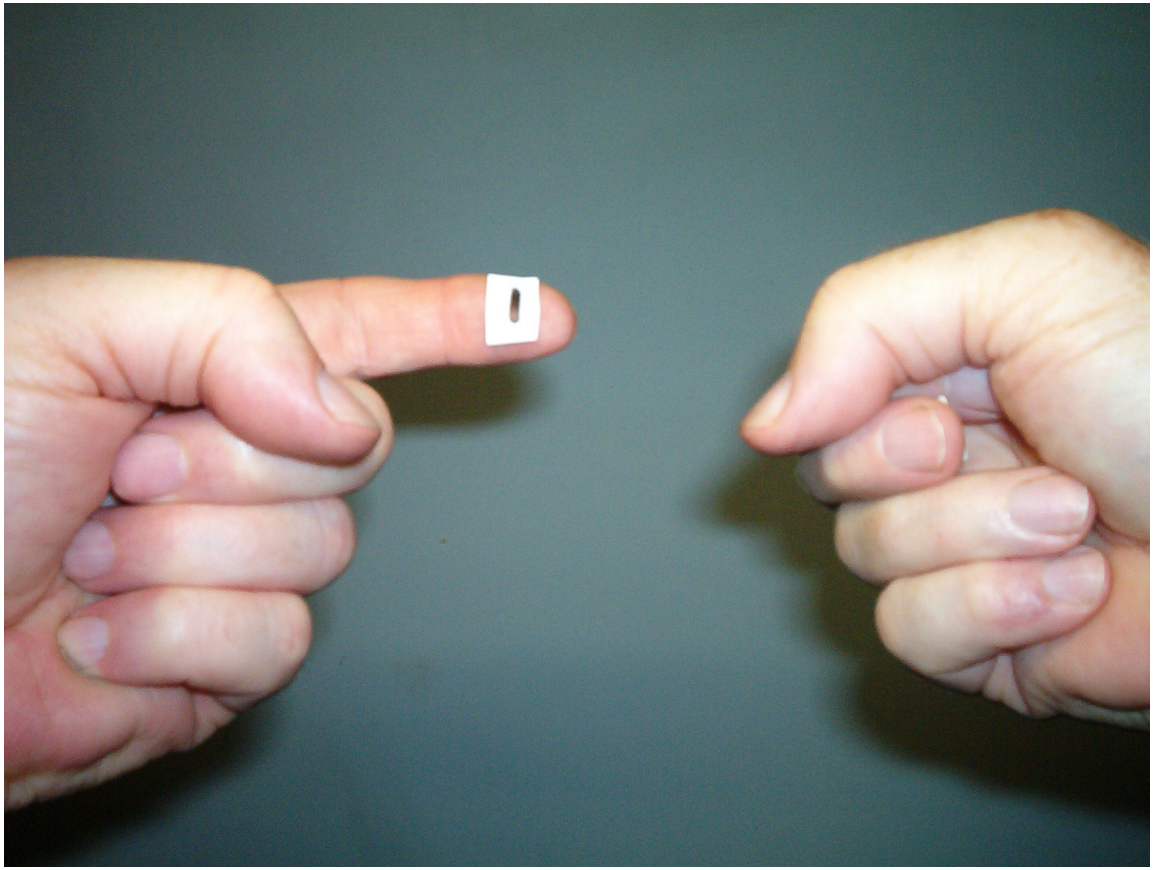
For teaching purposes only– we show the finger values



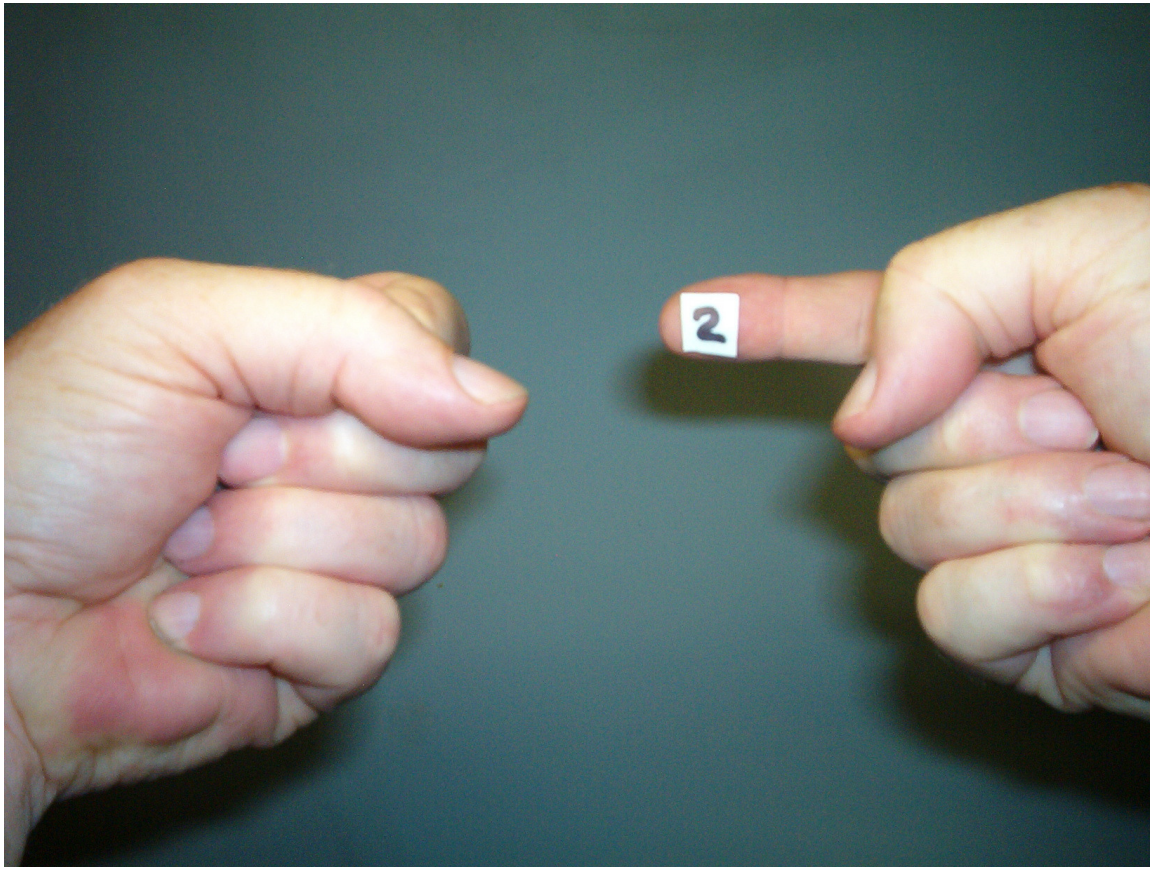
The zero
is the *space between* the hands



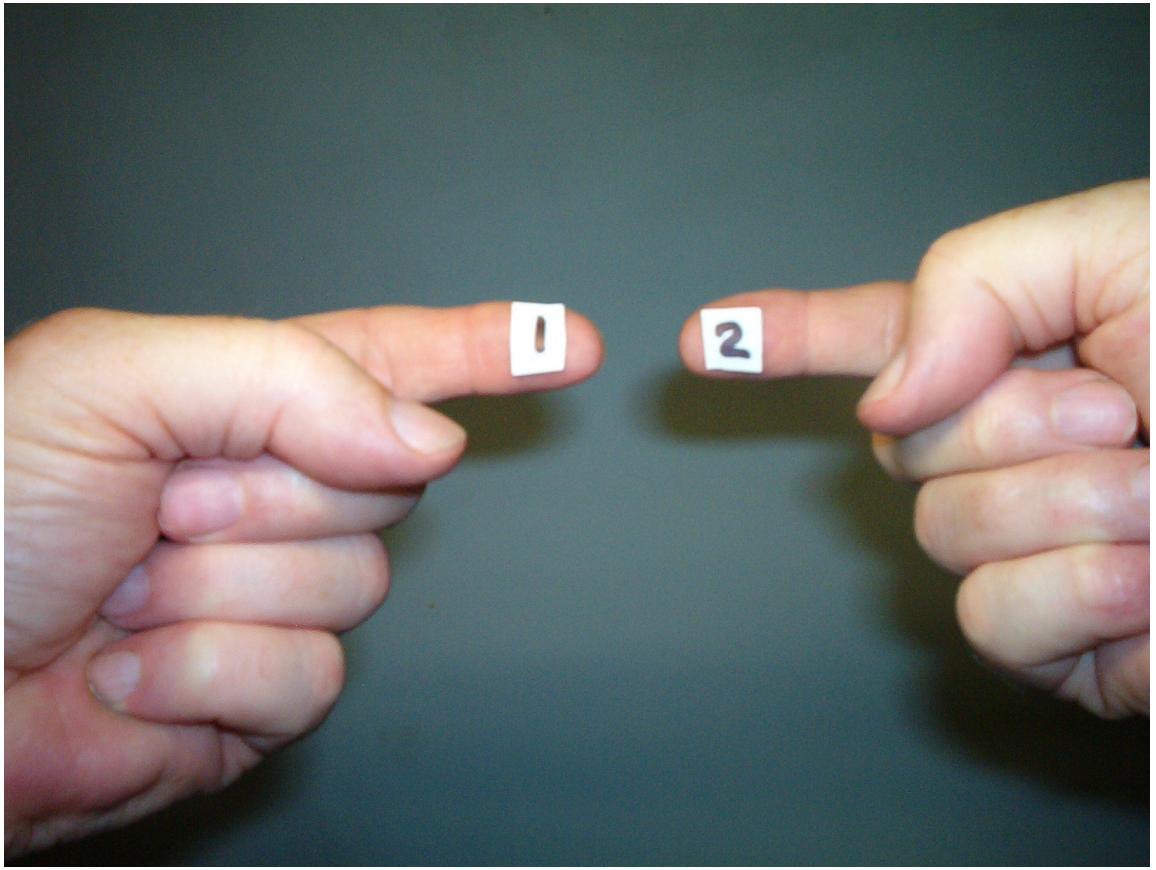
One



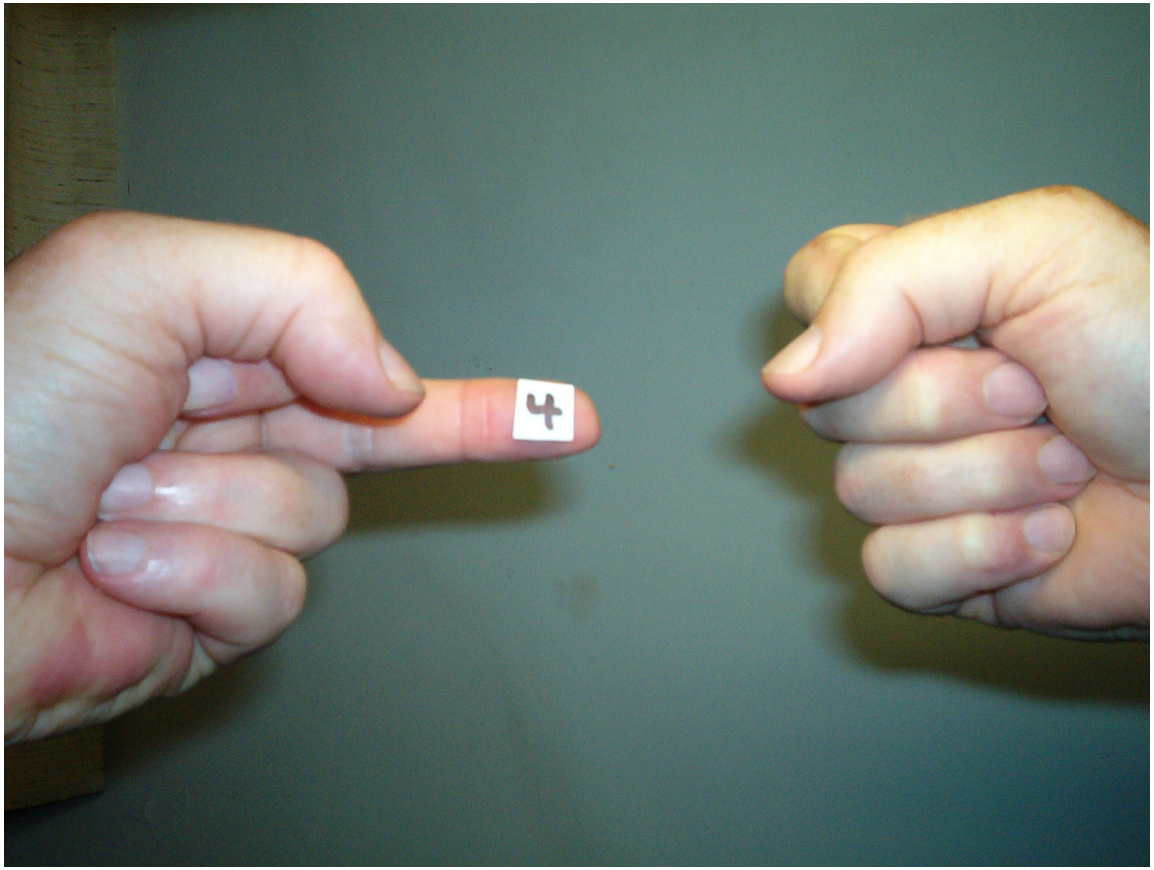
Two



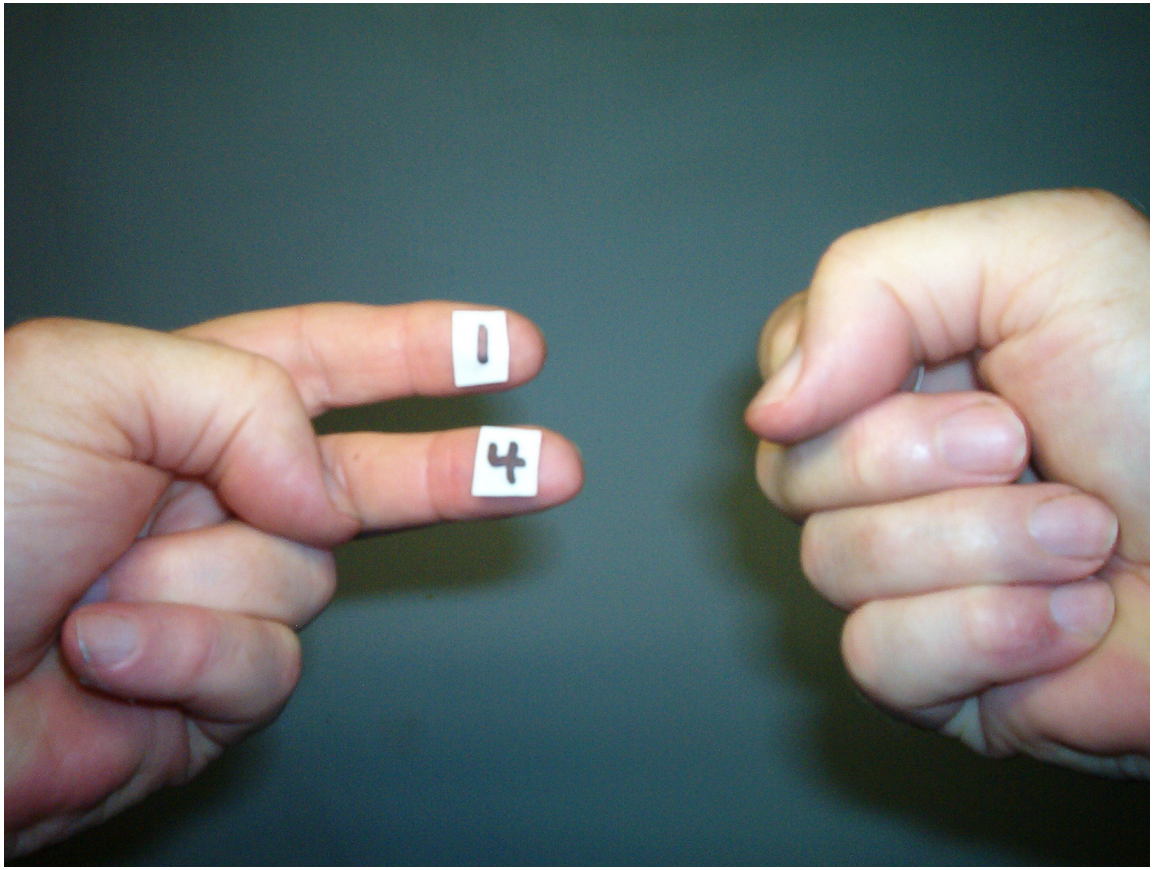
Three



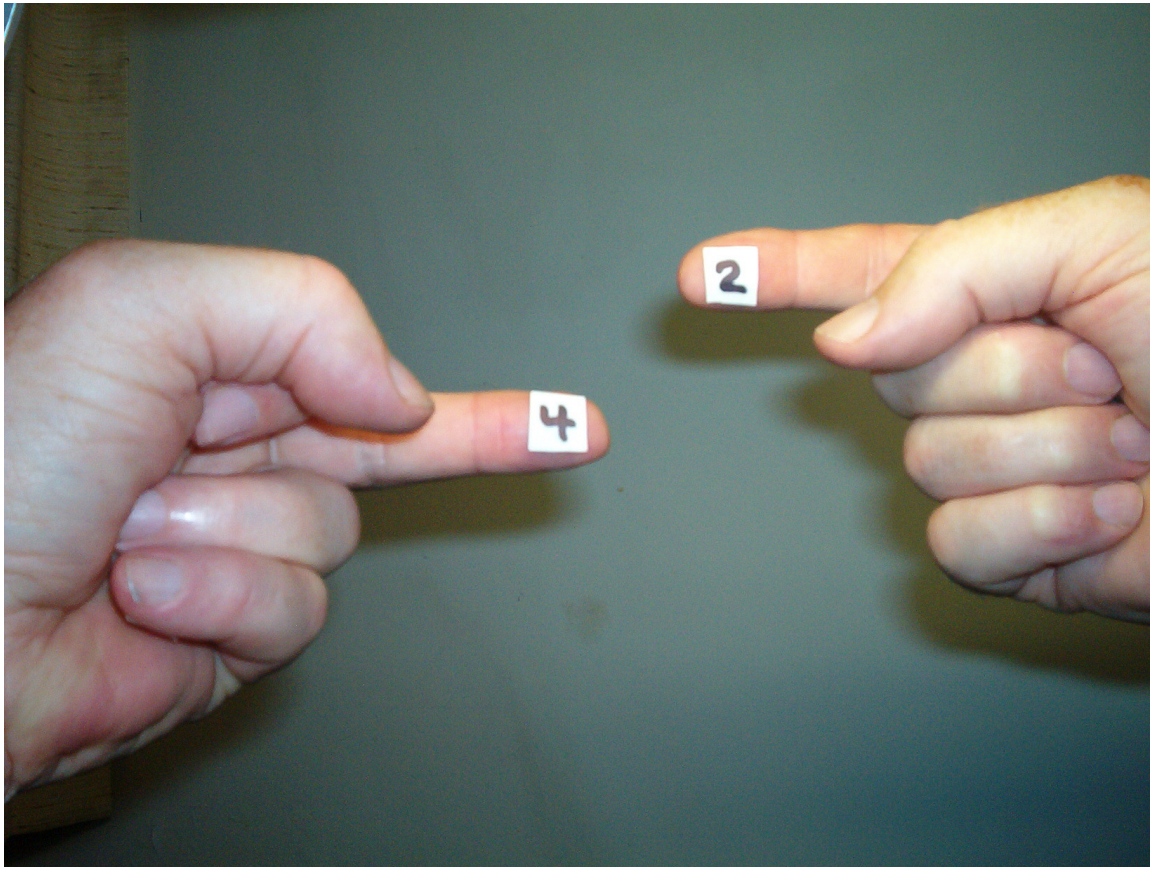
Four



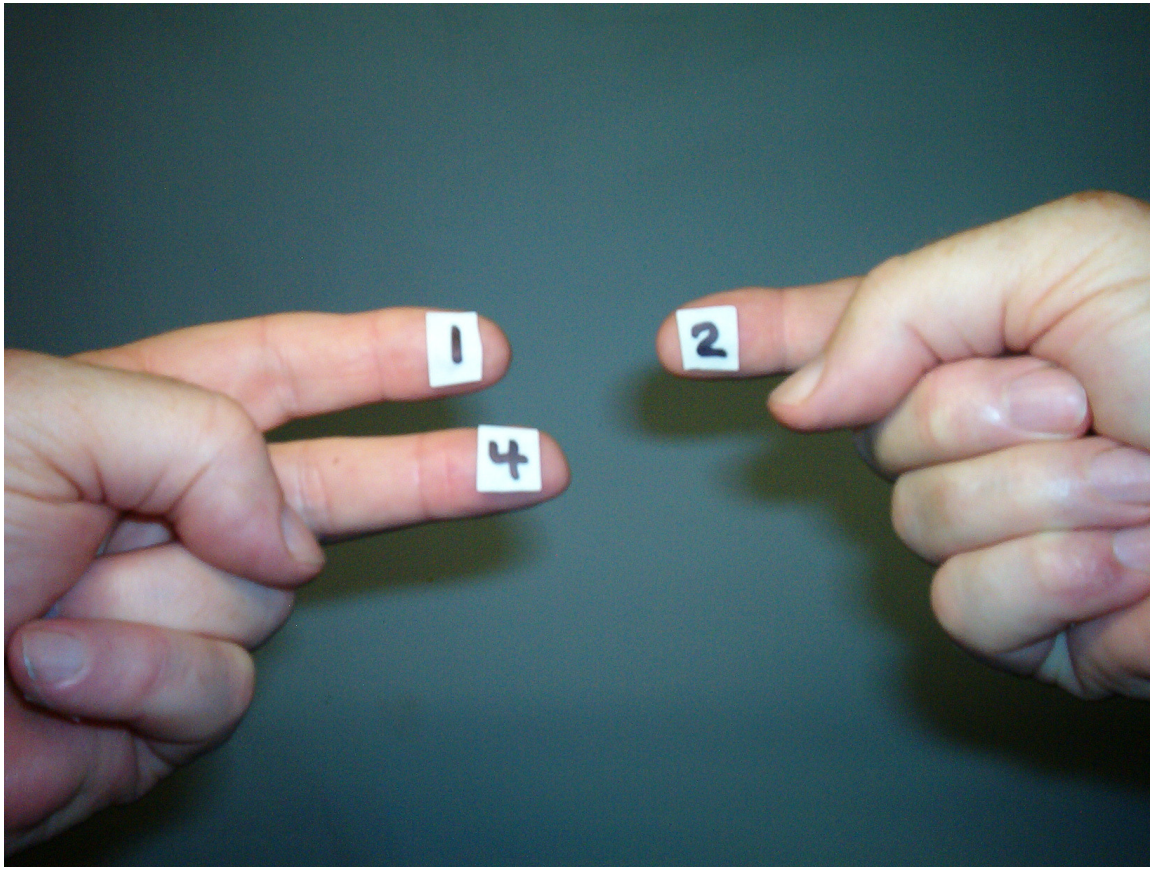
Five



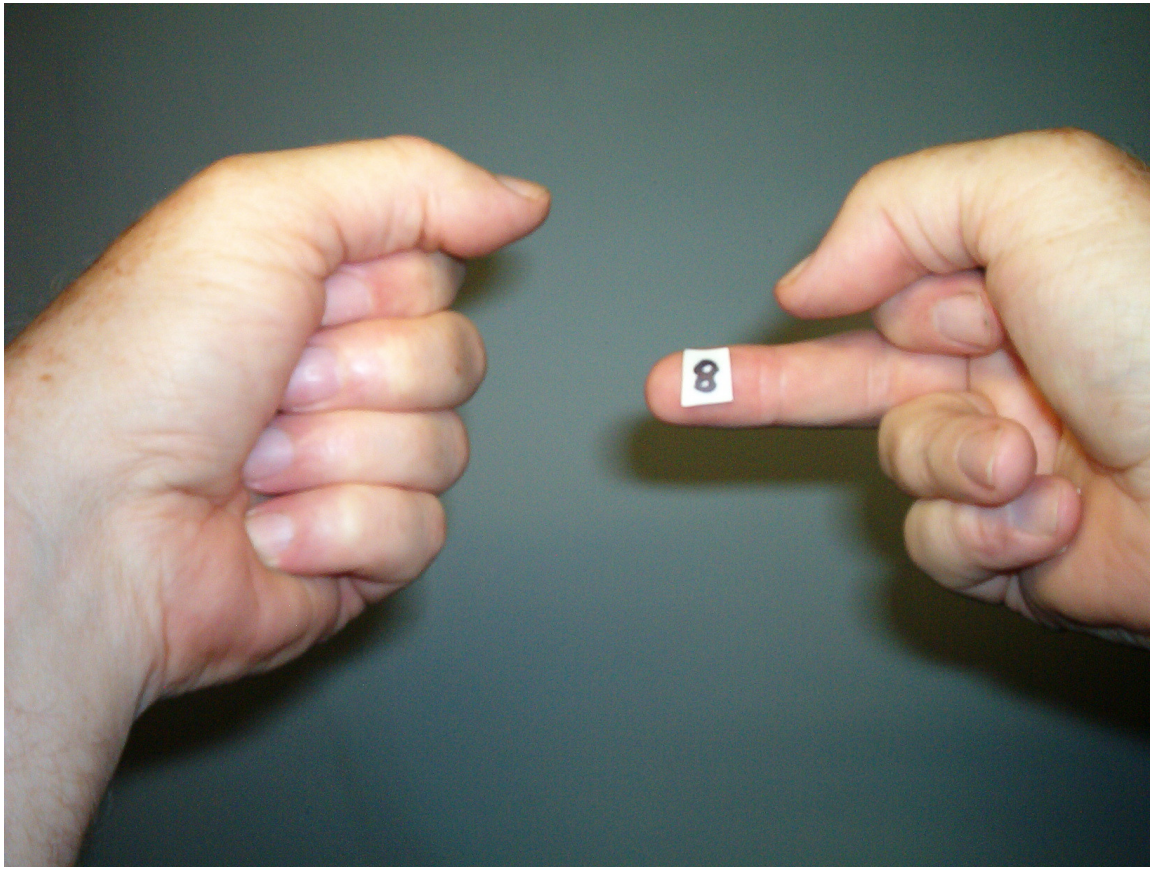
Six



Seven

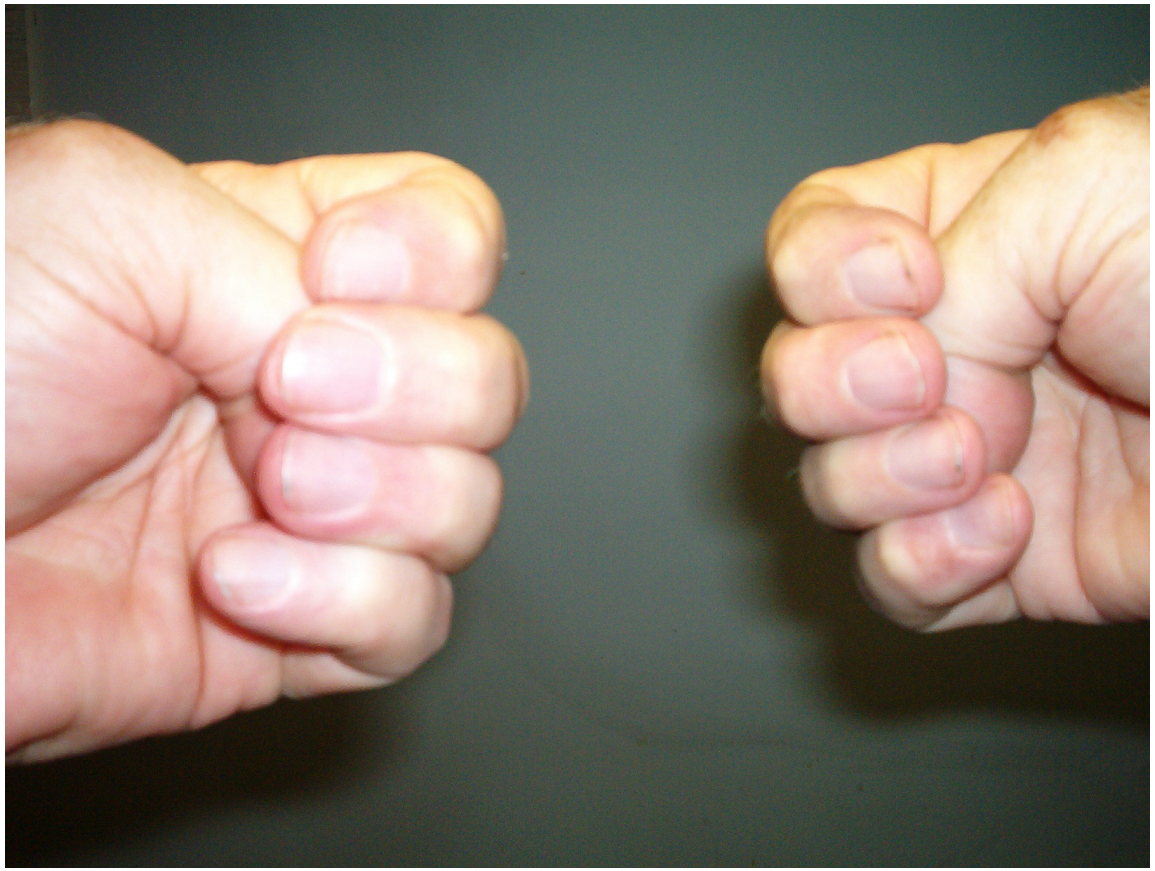


Eight

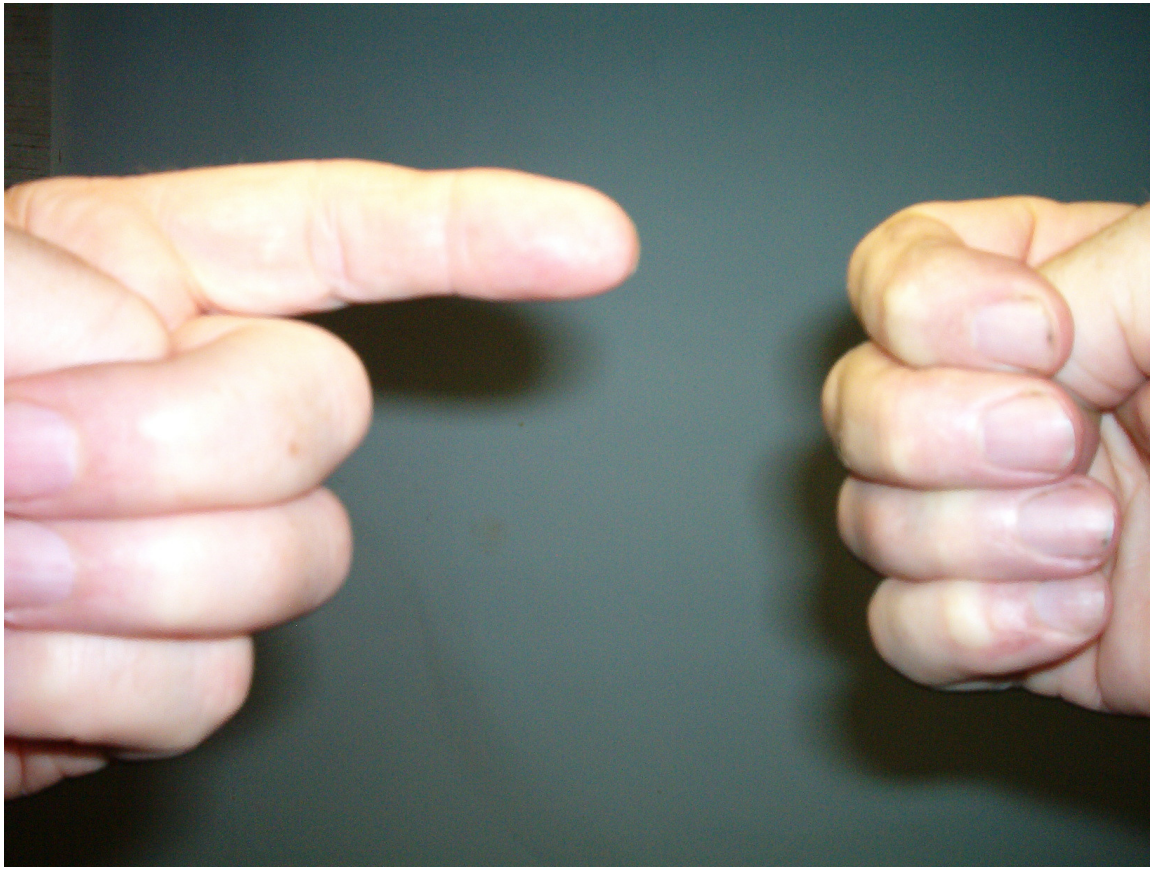


In actual practice
we of course do not
put numbers on our hands

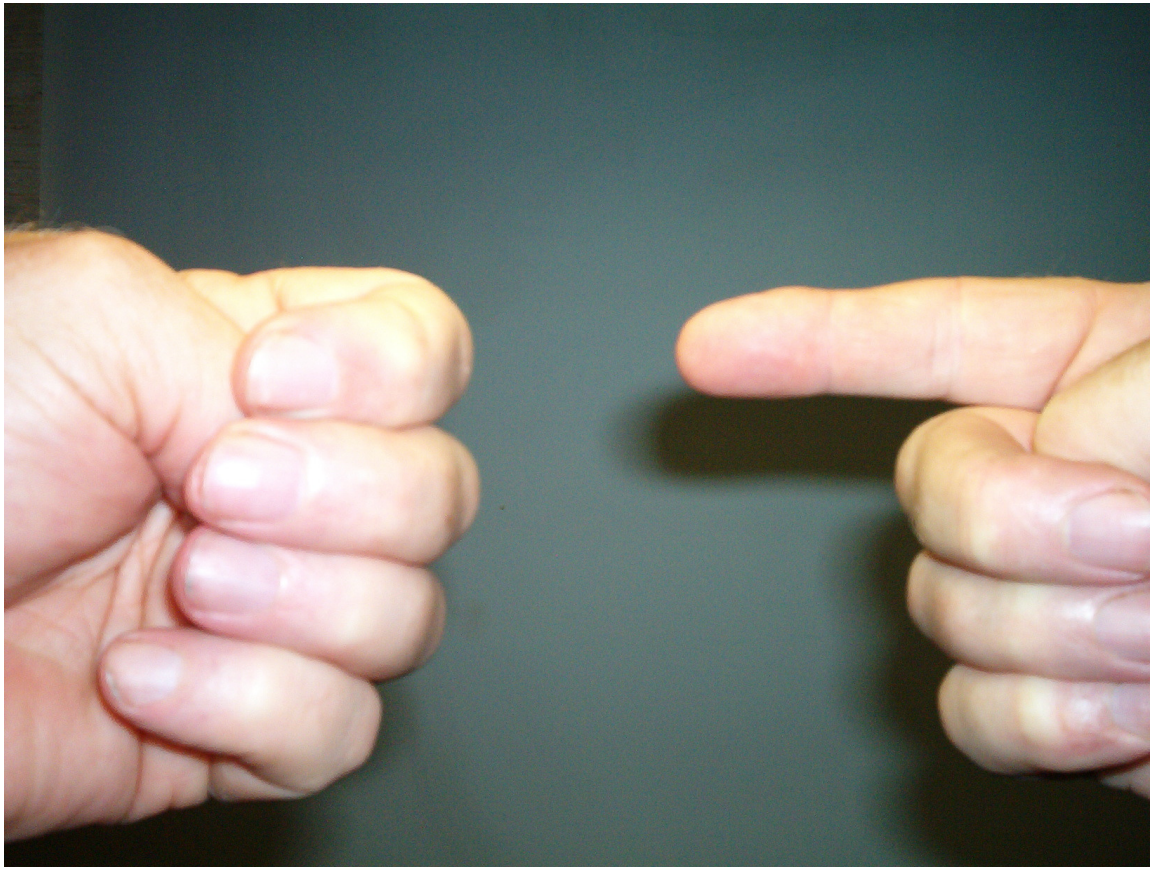
Zero –
it makes no difference
whether thumbs are in or out



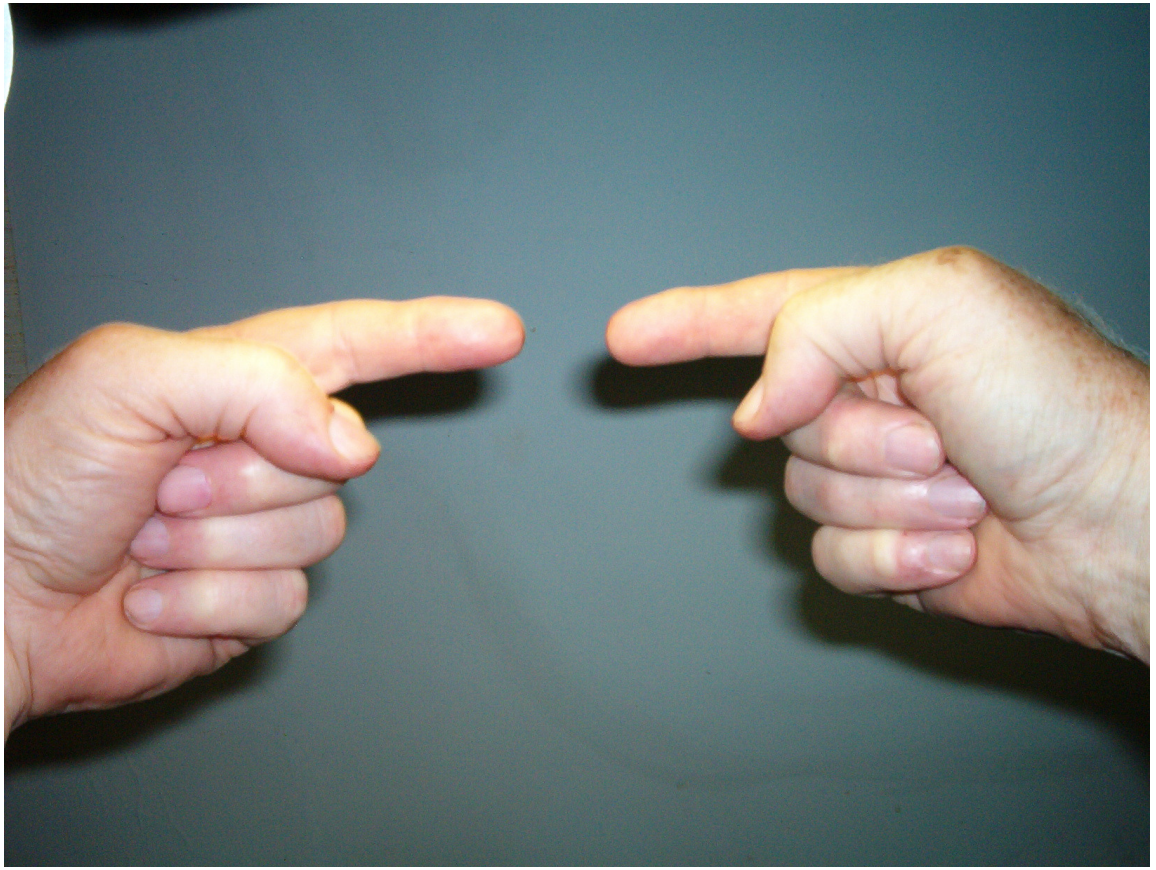
One



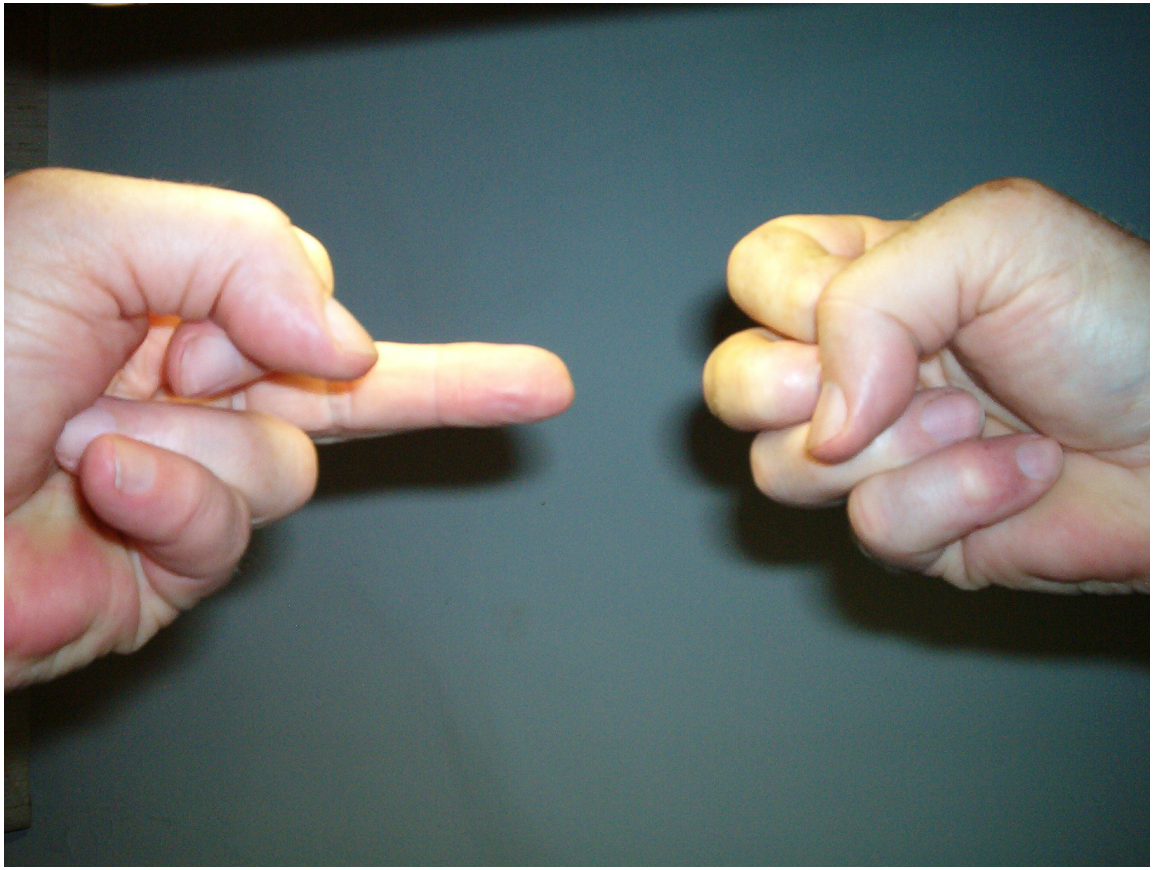
Two



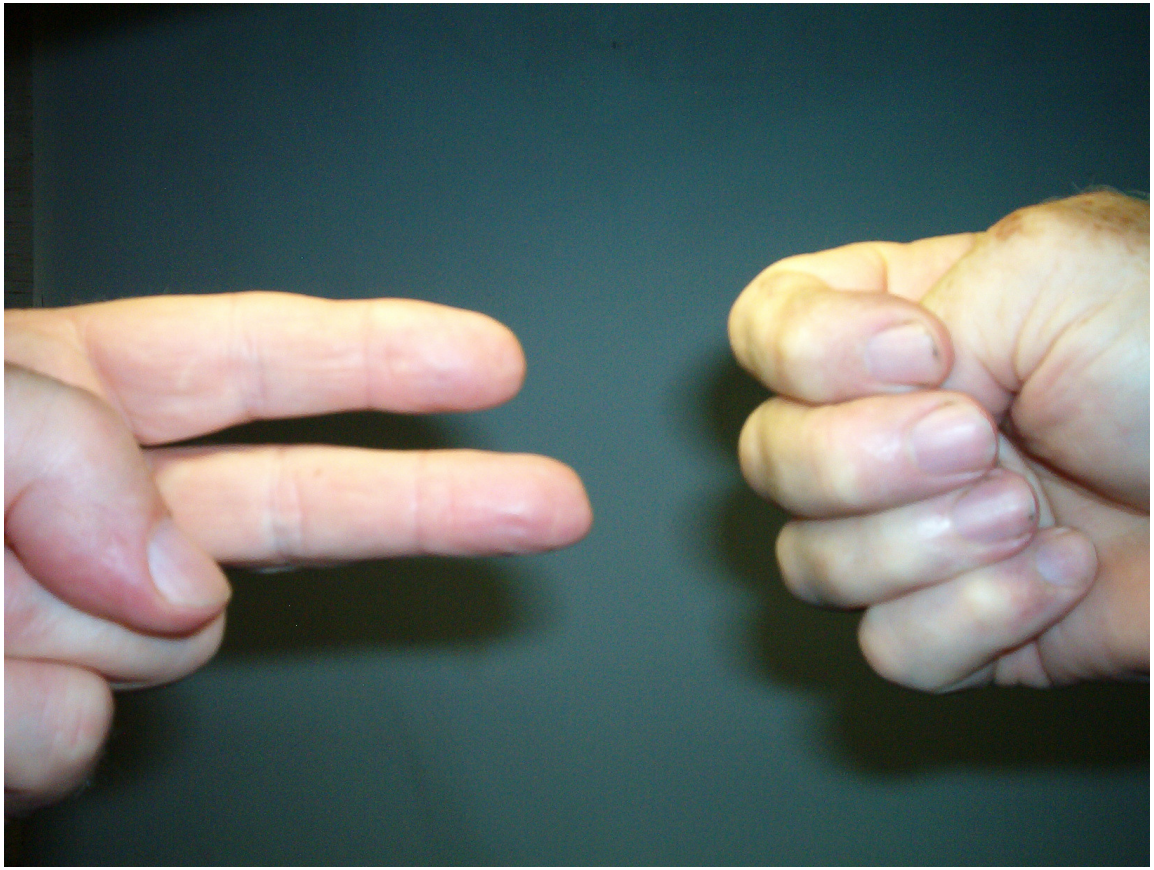
Three



Four

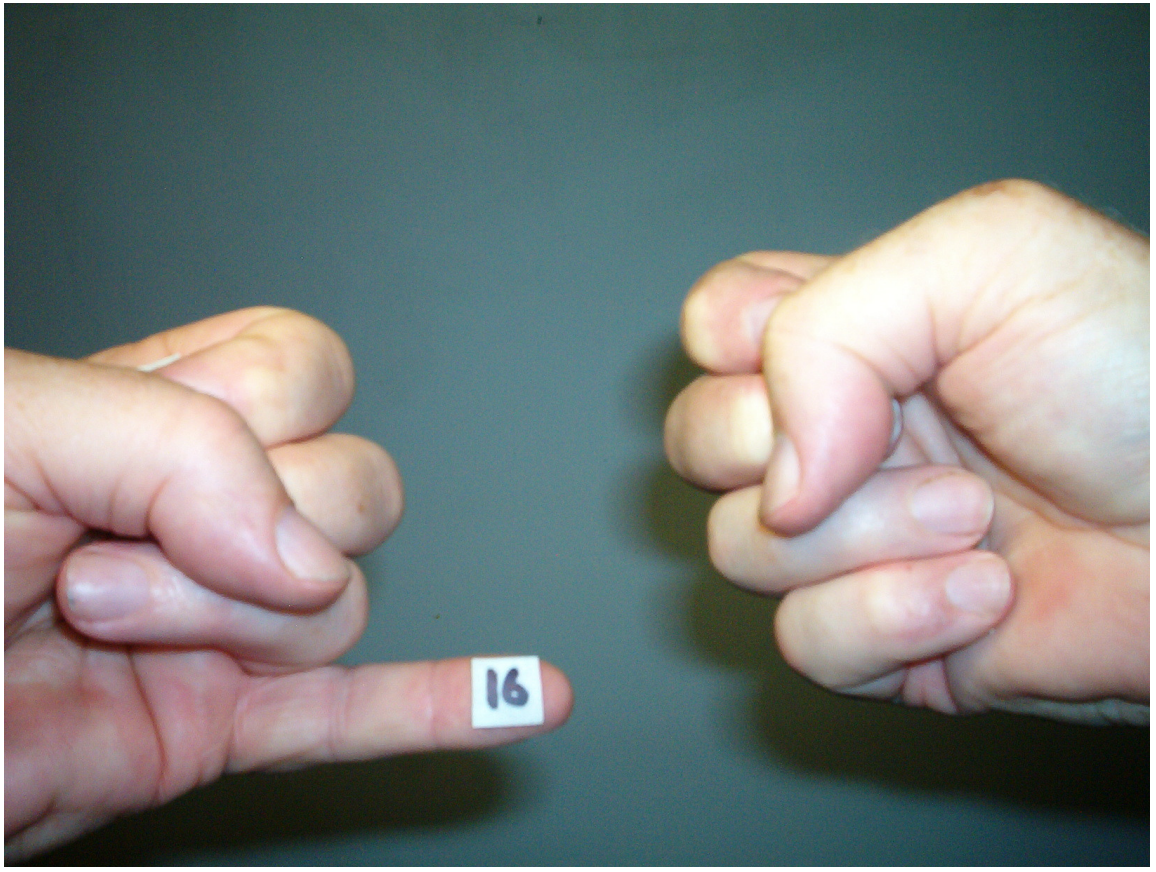


Five

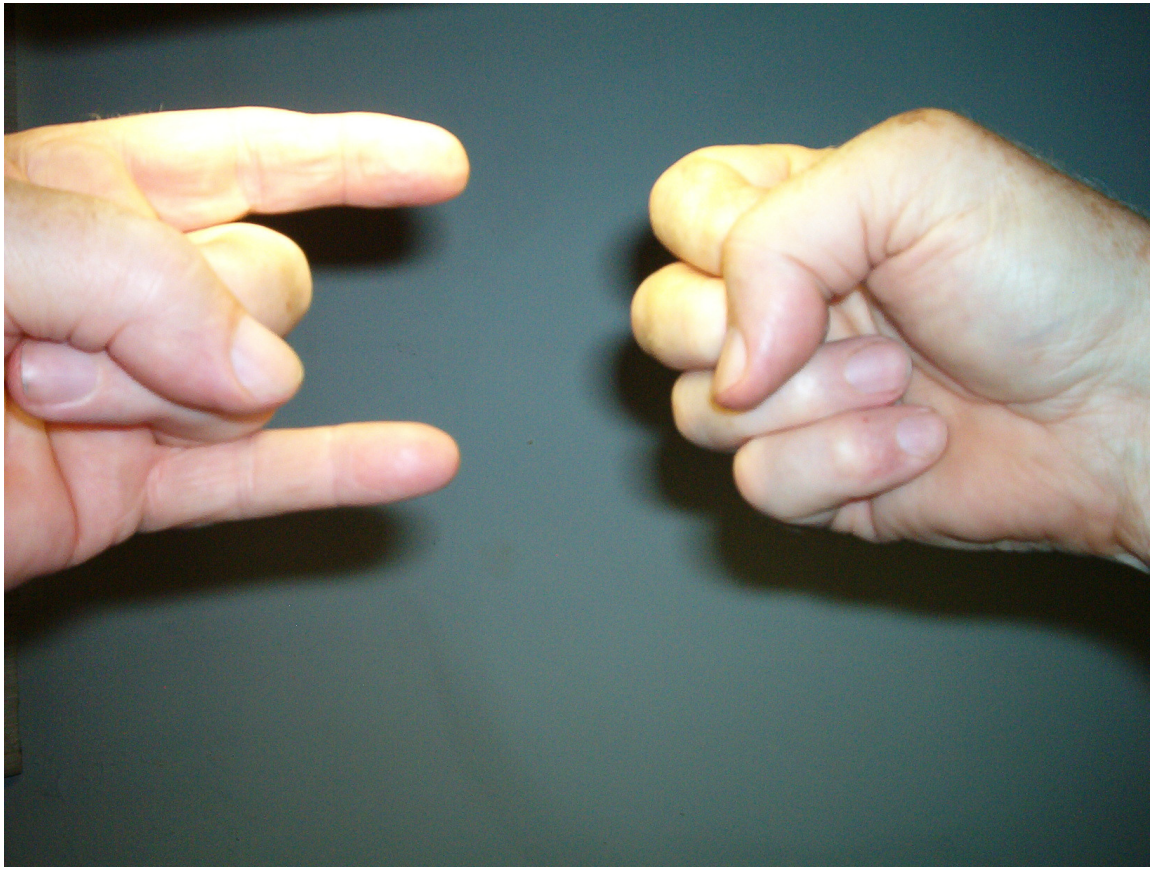


And so forth

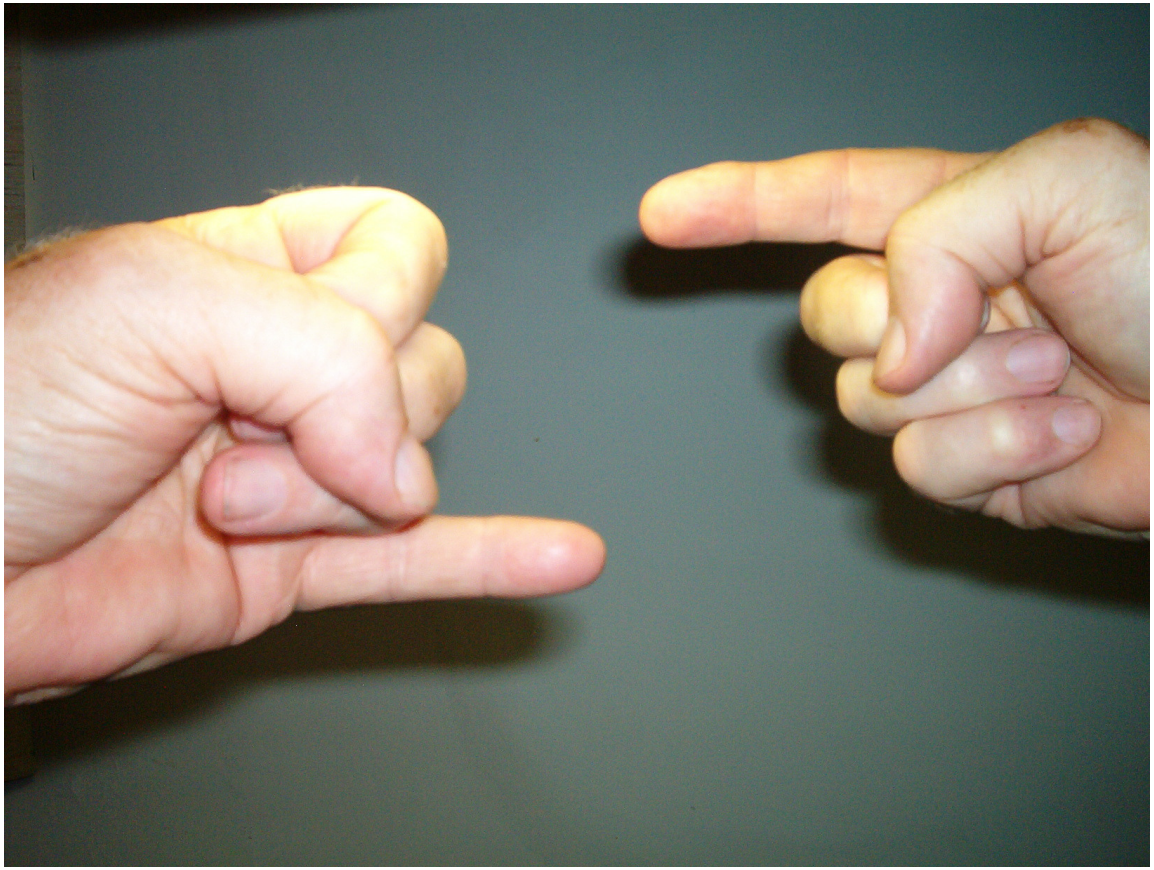
Sixteen
B – the first consonant



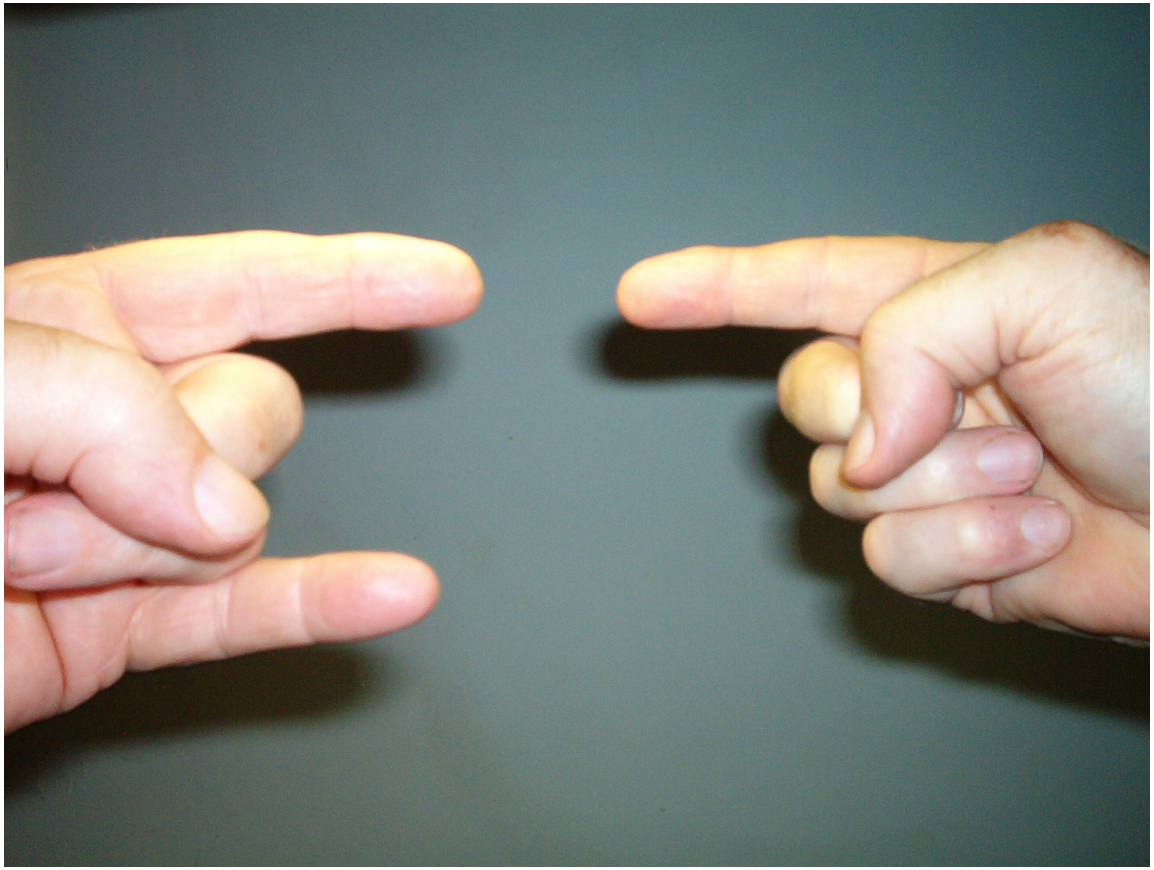
17
D – the second consonant



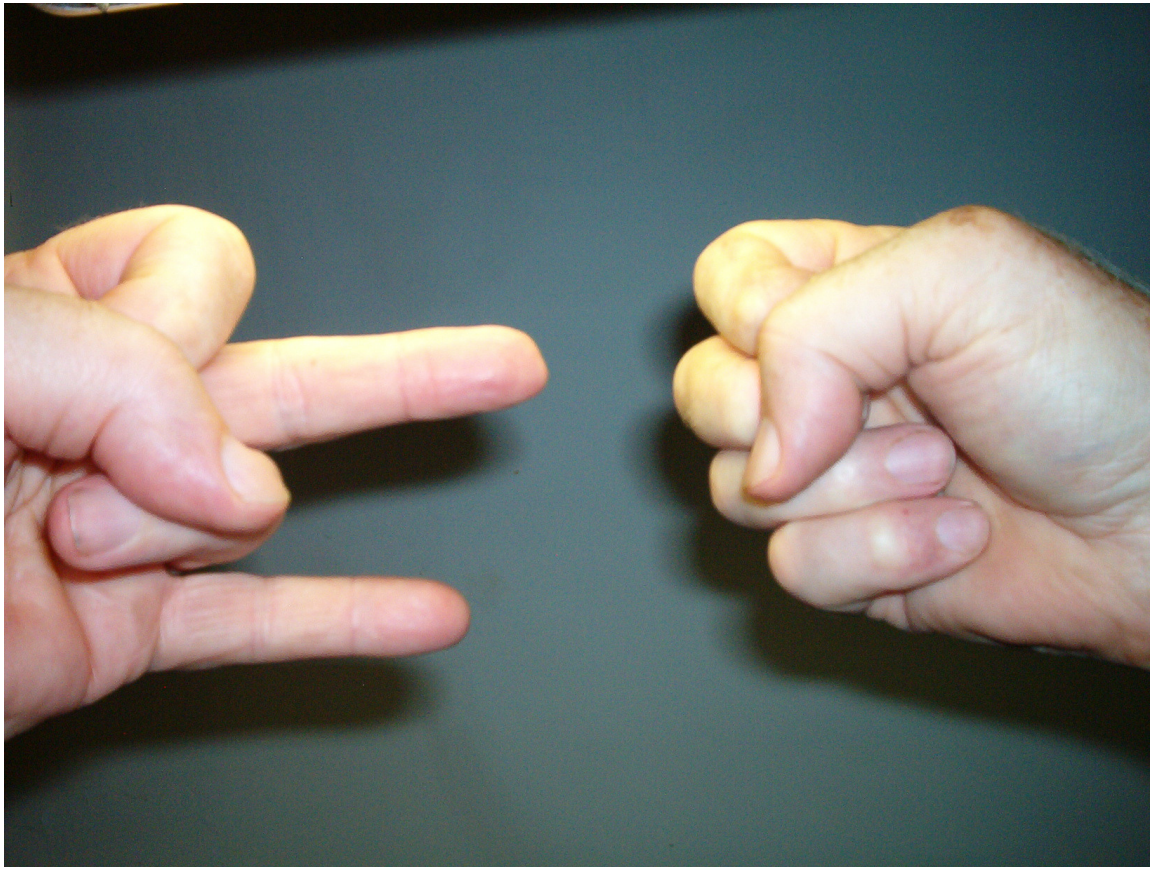
18
F-the third consonant



G



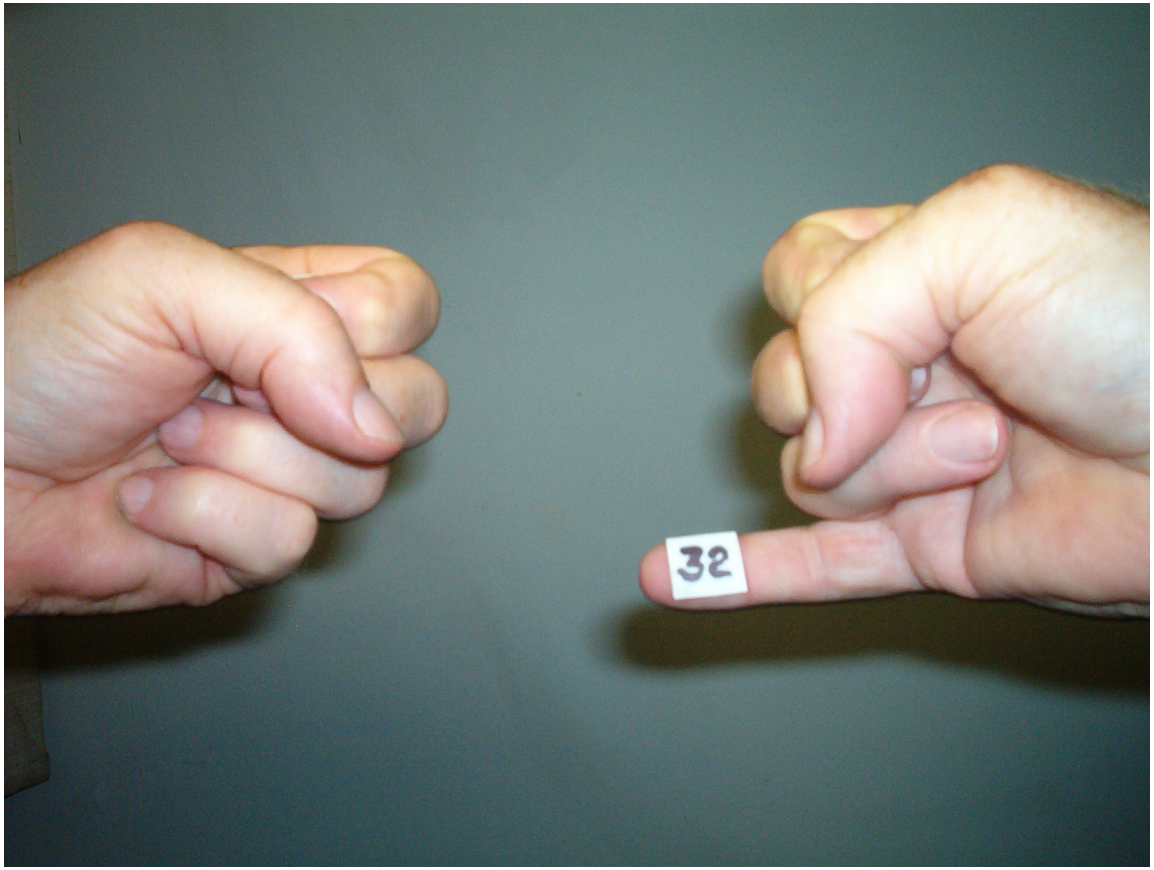
H



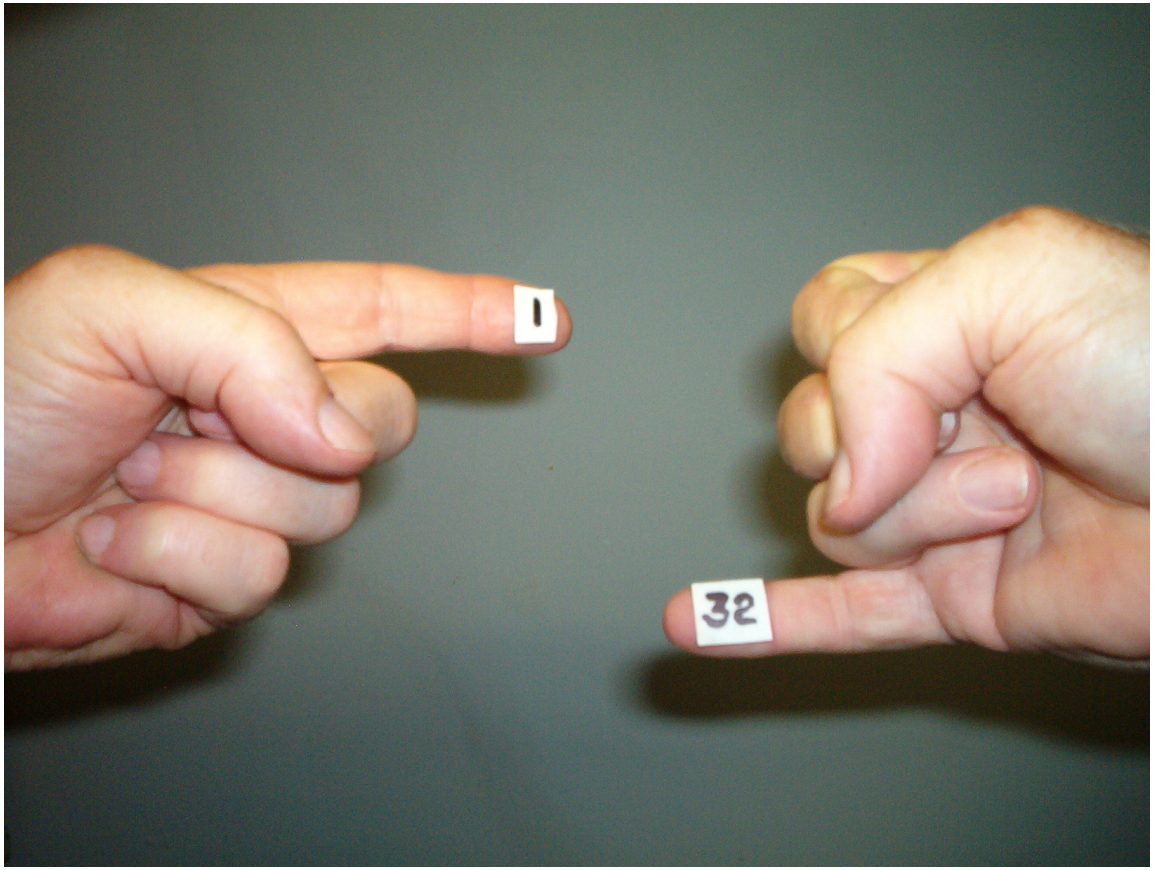
And so forth –
the point being
that **consonants** *always have*
a **small finger** of the **left hand**
to distinguish them
from the numerals

And
the **vowels** *always have* a
small finger of the *right hand*
to distinguish them
from the consonants and numerals

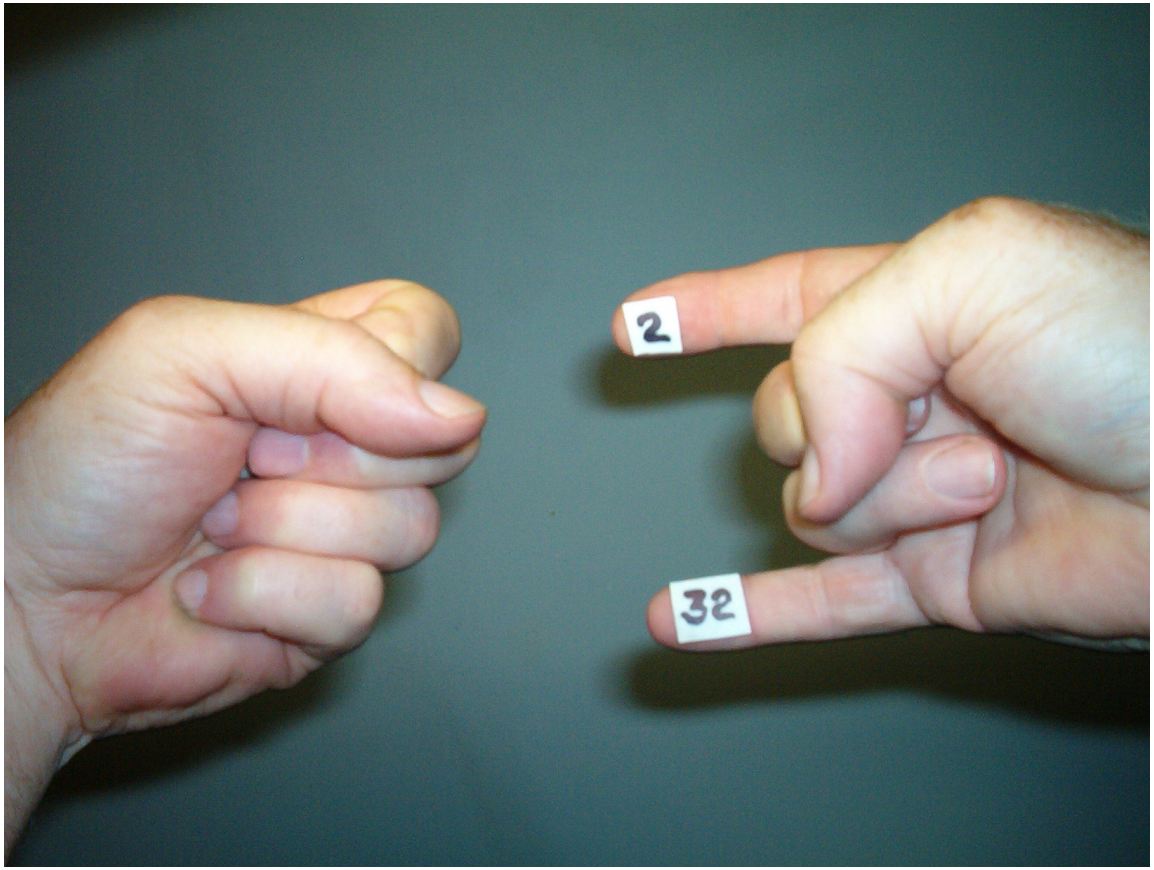
32 - E



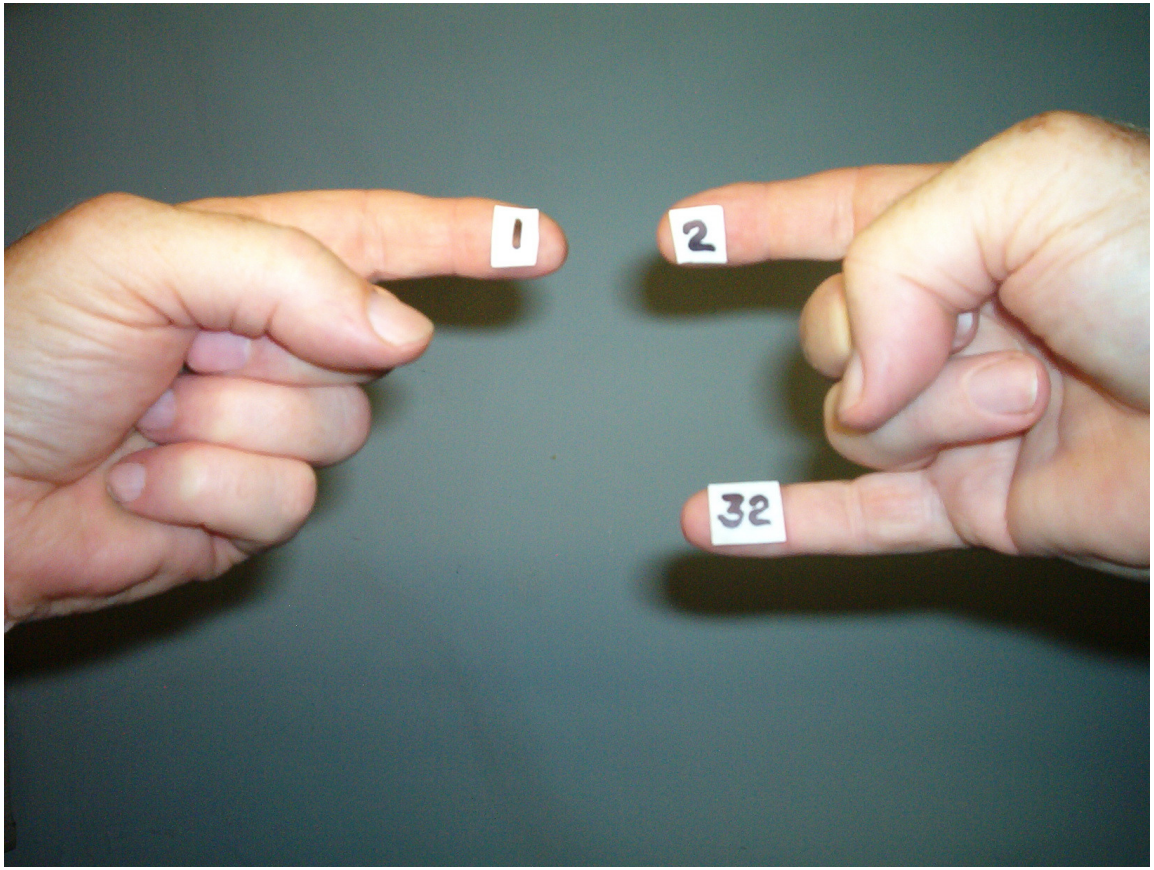
33 - A



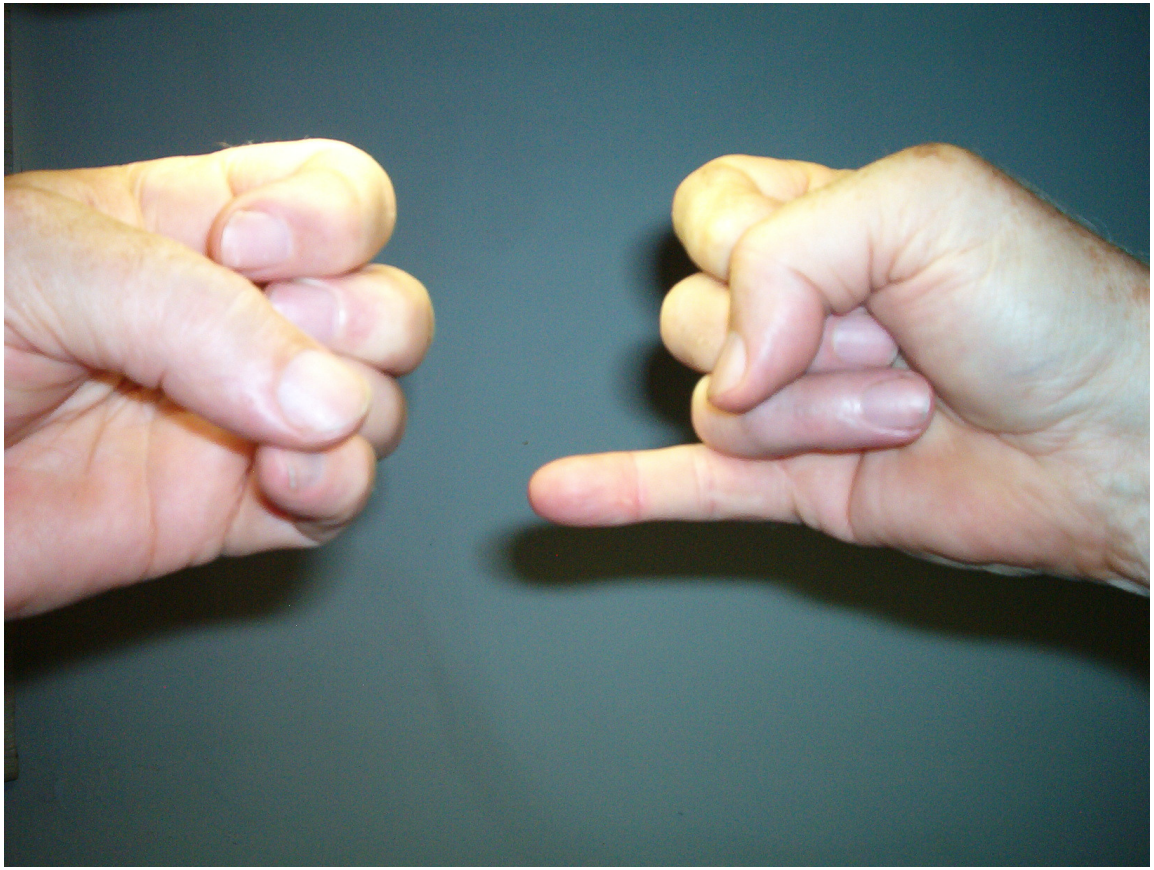
34 - I



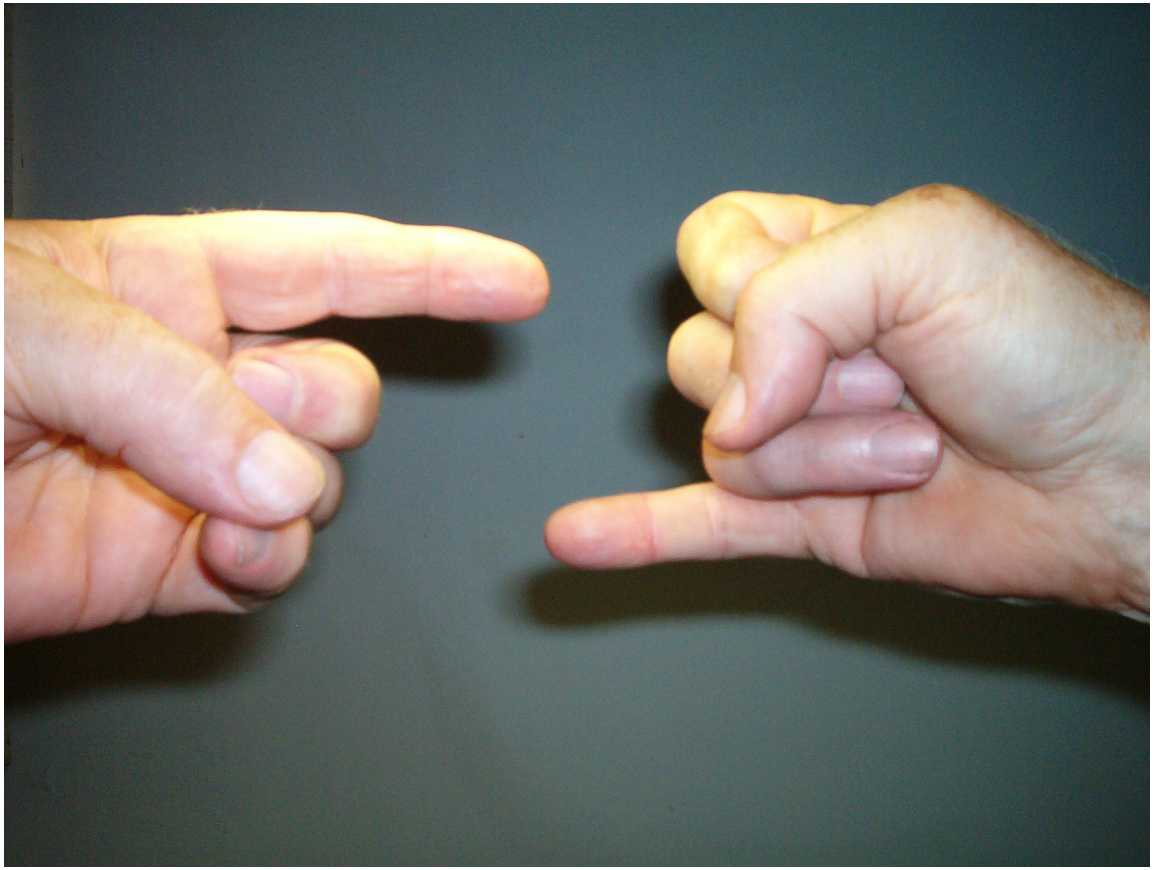
35 - O



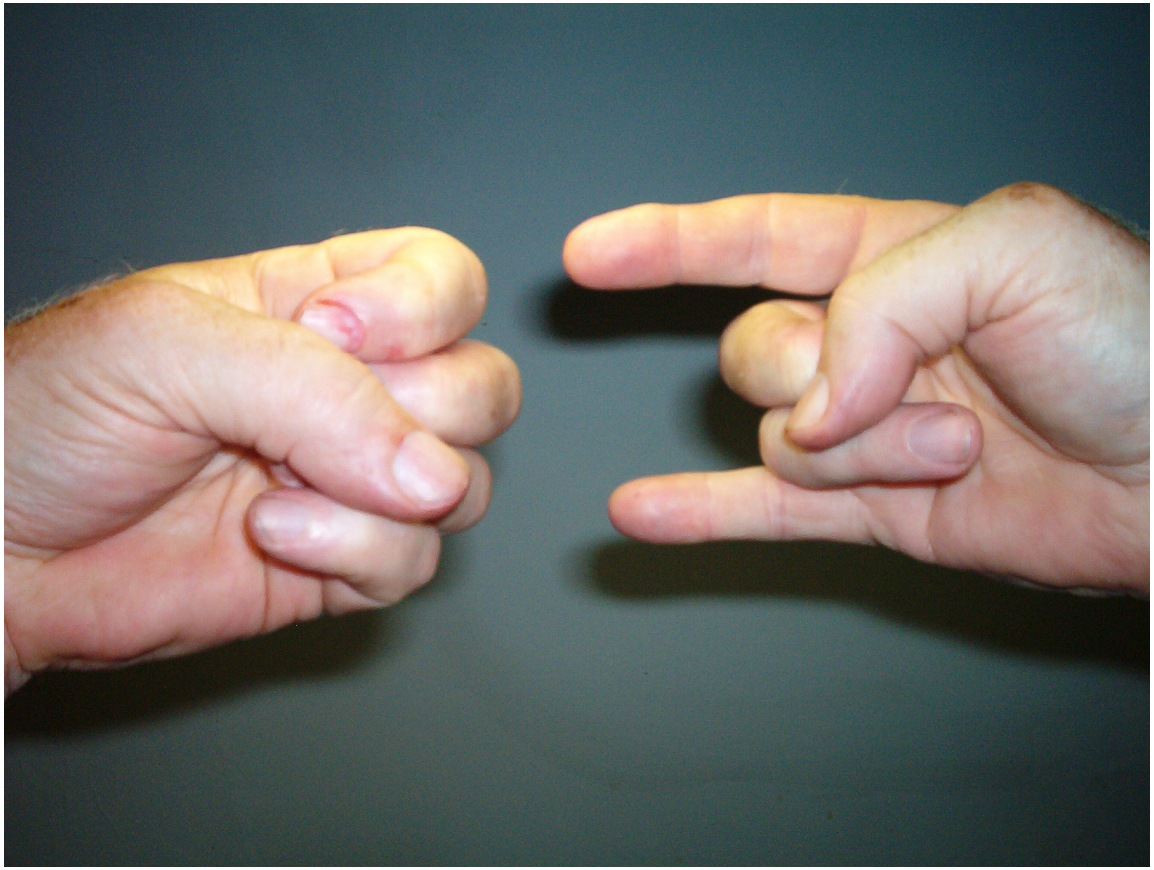
E



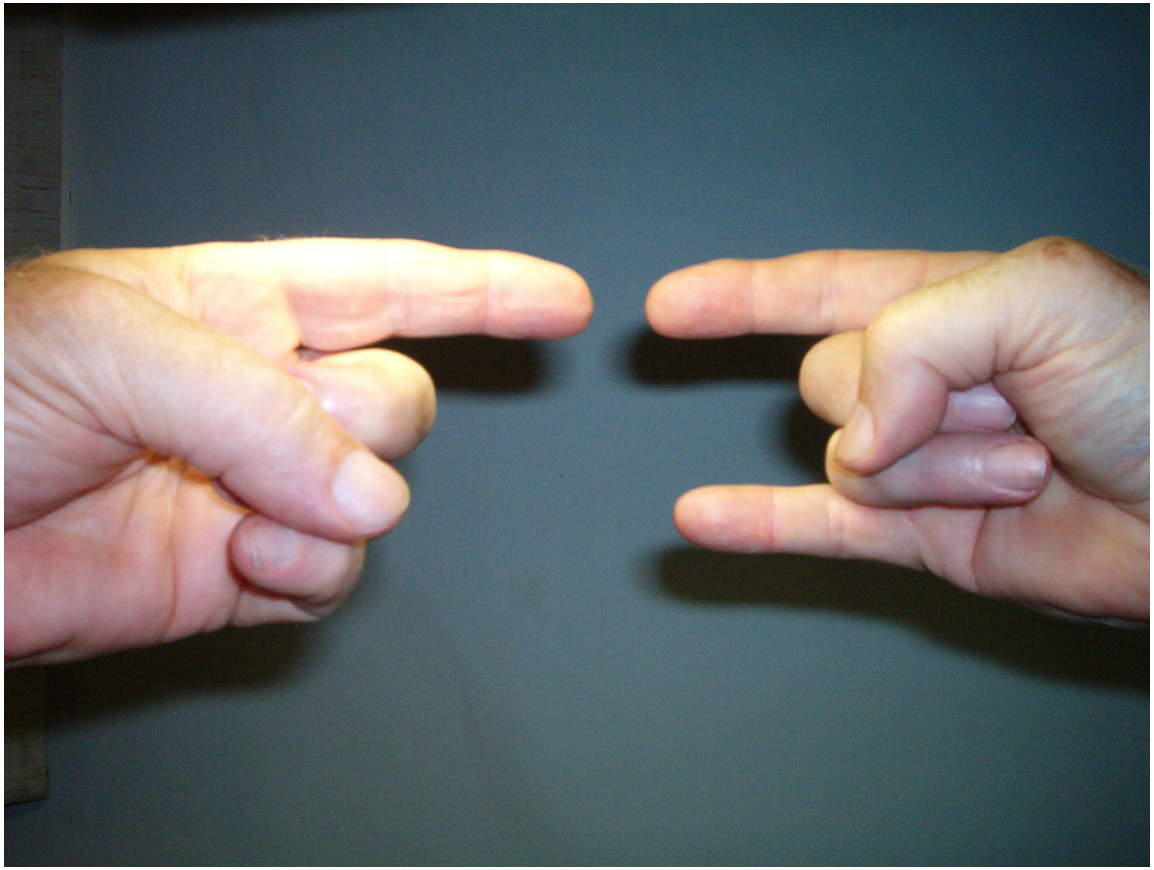
A



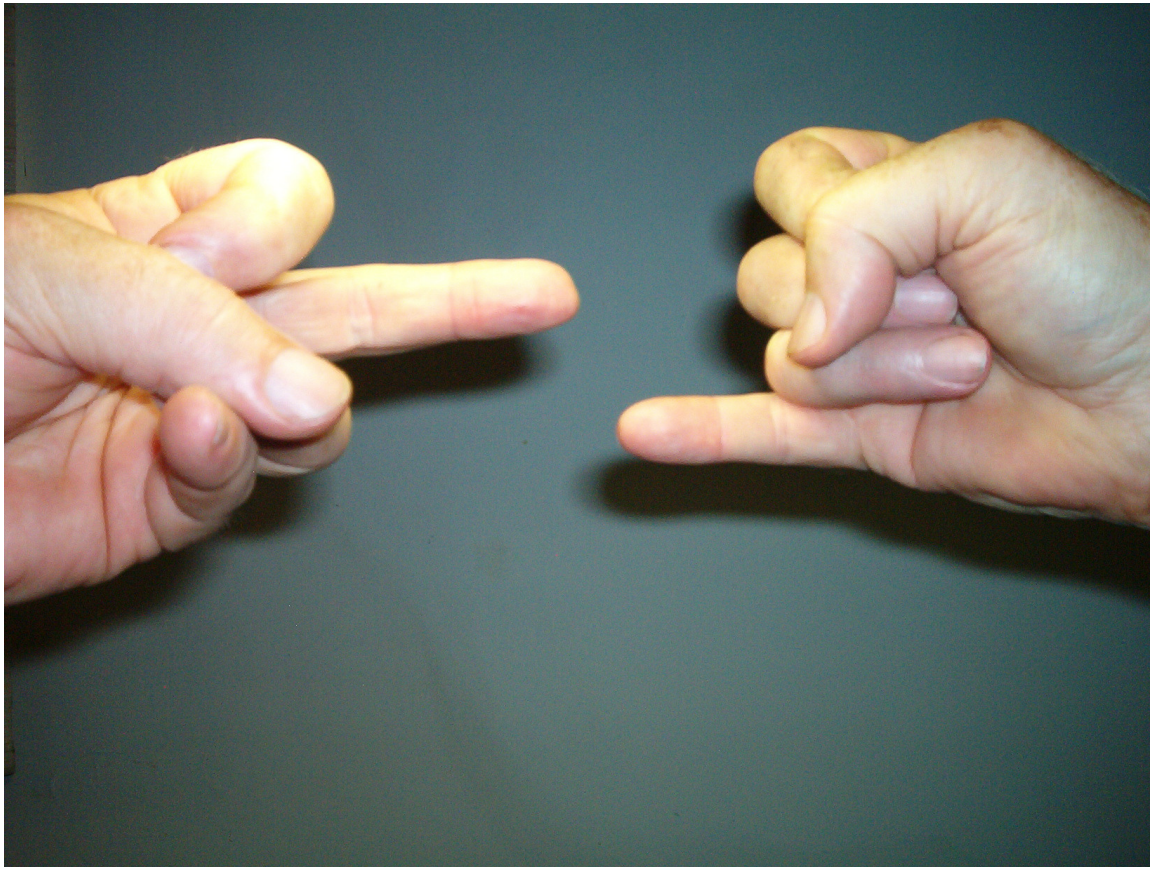
I



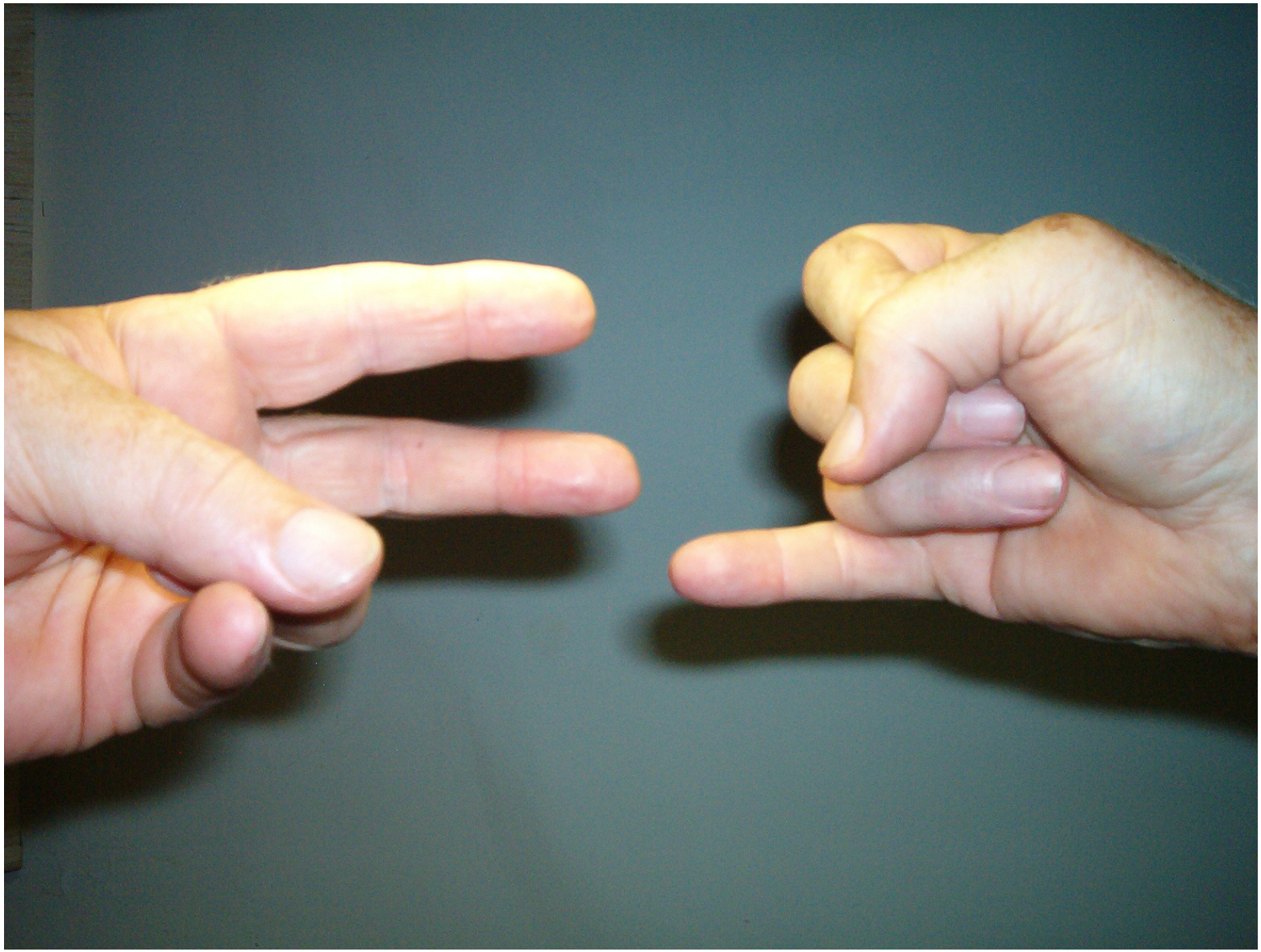
O

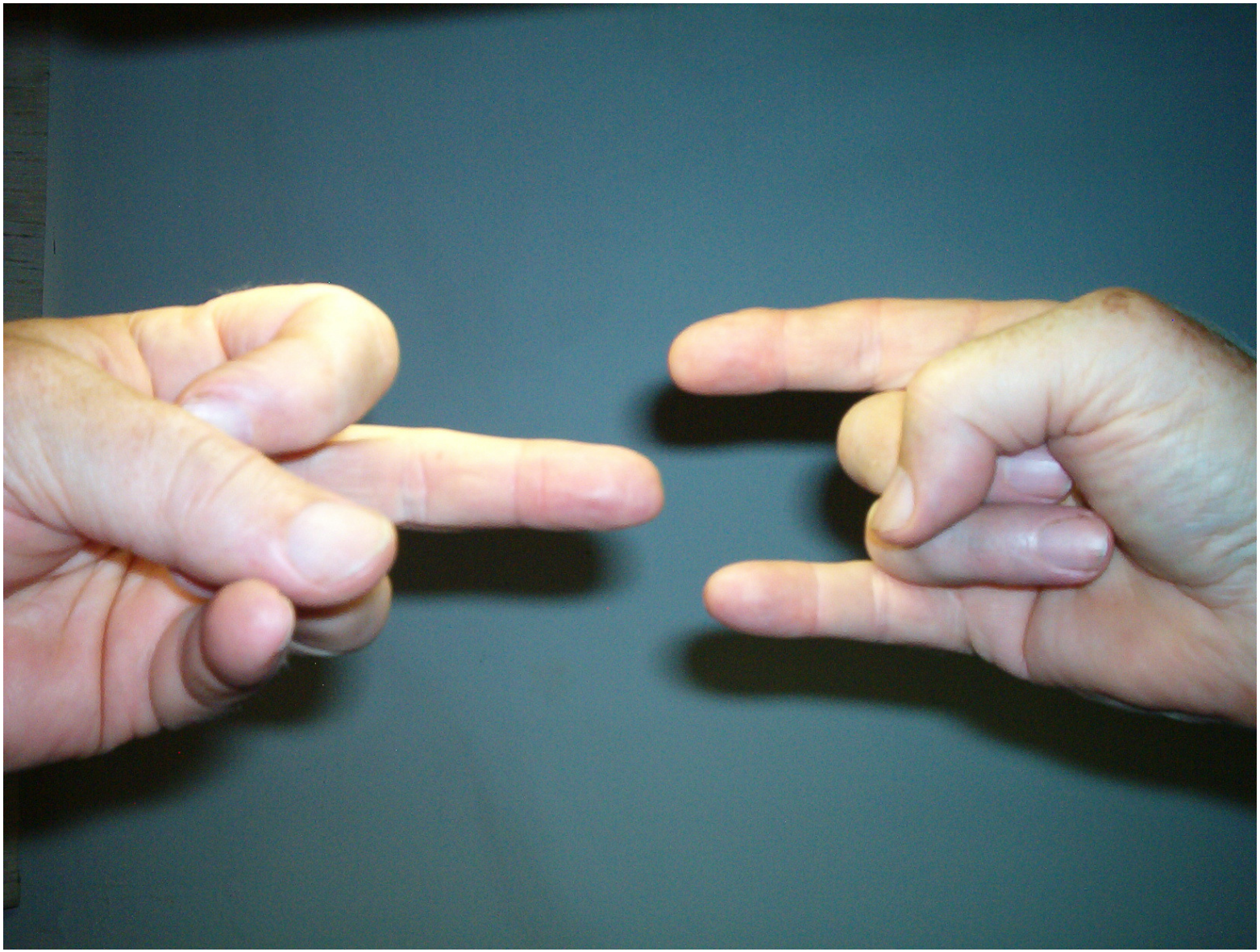


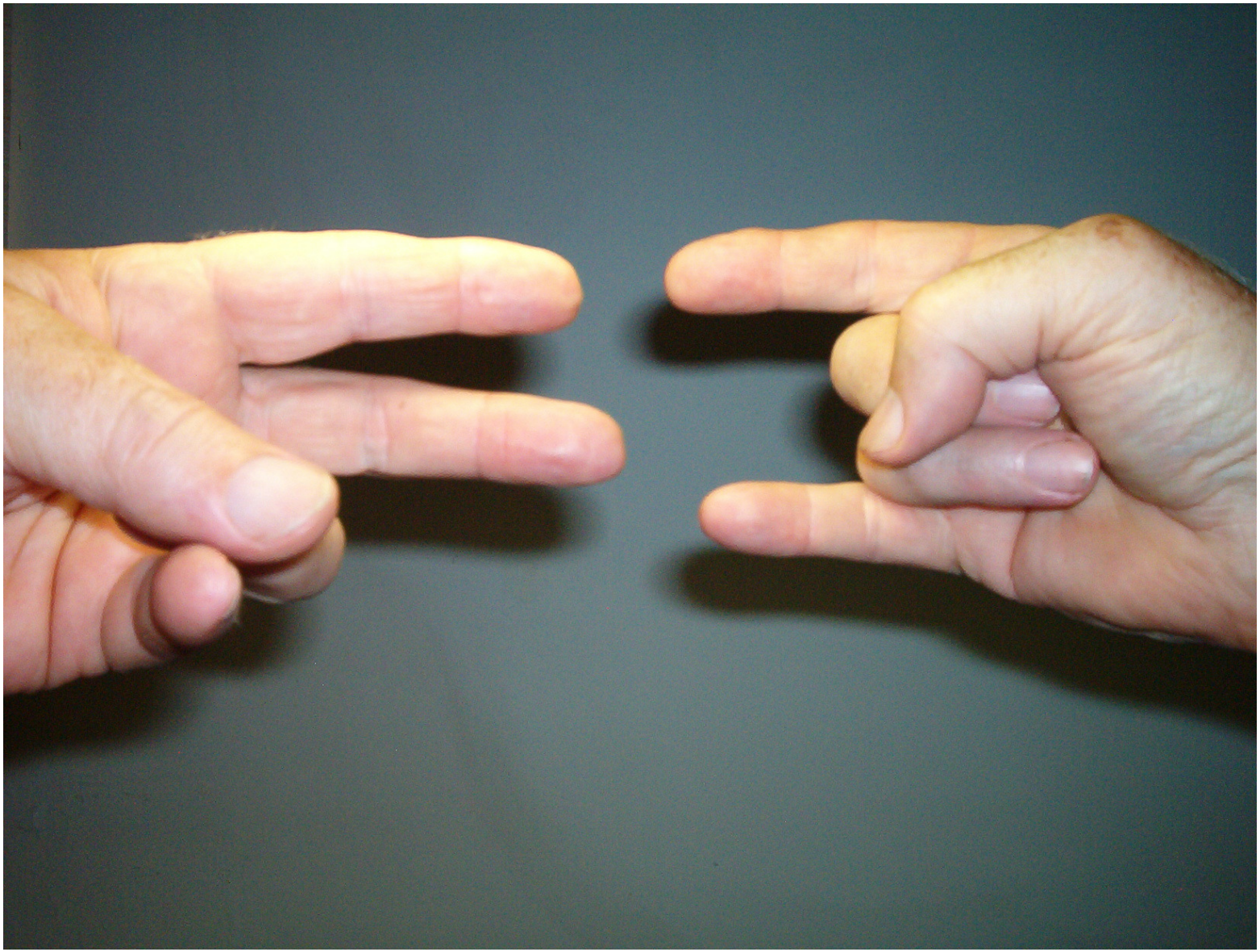
U

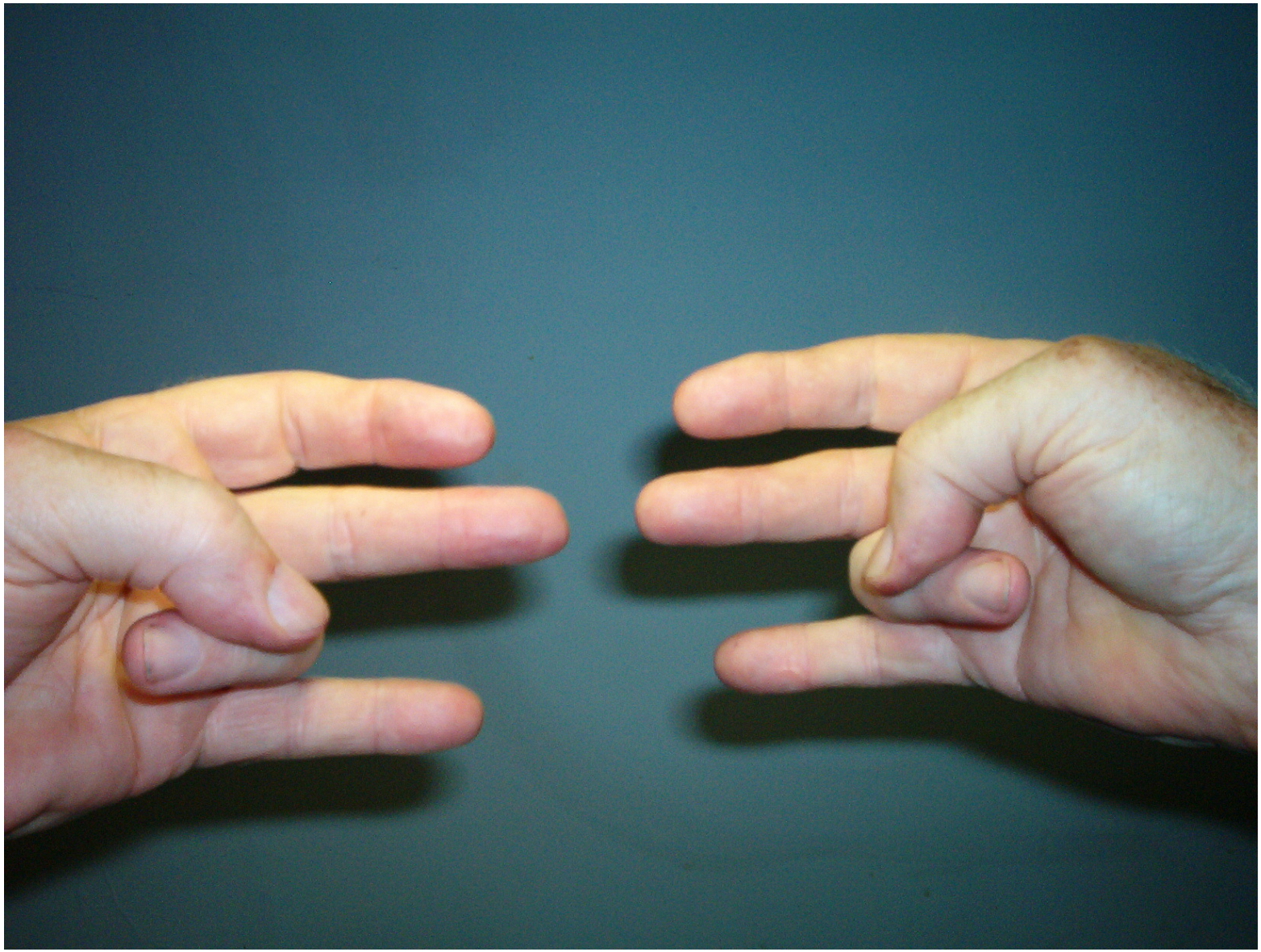


And so forth –
on down through the vowels –
whatever
they may be ***designated*** to be









The use of the hands for signing would of course go far beyond showing the alphabet as we have here.

However, what is important here is that **the signing would be universal** ***for all who speak the universal auxiliary language***.

With practice – **signing could become automatic** just like the playing of musical notes on an instrument ***one would show the signs of the phonemic sounds on their hands.***

Experienced signers would have to **sign slowly** for those who were not practiced –
but communication could take place.

Experienced signers might use *texting'* -
or have many supplementary signs.

There would also be skills in presentation such as smoothness and emphasis.

But the point is – that signing would be **automatically** included in the universal auxiliary language and would provide **two way communication** between both those for whom it is a necessity and for those for whom it is not.

Conclusion

Our goal here has ***not*** been to argue for a **particular script** but rather to present a **model standard** against which other scripts ***may be measured***.

In that regards we have suggested the following ***principles***:

Some **Principles** of Desirable Script Features:

a. That the written characters can be easily formed by the hands of children.

b. That the characters be topologically unique so that the will not be confused in any position.

c. That the characters be distinguishable from a distance.

d. That the characters **not** be confused with other scripts - so that they **DO NOT** hold legacy interpretations.

e. That the characters be suitable for signing by the deaf.

f. That when the characters are presented in a raised form they will be distinguishable to the blind.

After reviewing hundreds of scripts we have located and offer the Brasseur script as a standard against which to measure other candidates for a universal auxiliary language script.

While the offered Brasseur script may not be the one chosen by a world authorized script selection committee, we do suggest that **two questions** be asked –

1. Does the selected script have all the benefits of the Brasseur script?

2. Does the selected script have benefits that the Brasseur script does not?

Larry Brasseur

The Binary Clock

Any script that is chosen can be ***greatly improved*** through ***usage*** and ***calligraphy*** – but this is

a place to begin.

---

thank you