John Eliot’s *Logick Primer*: A bilingual English-Massachusett logic textbook

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OH MY GOD. I JUST FOUND A BILINGUAL TEXTBOOK IN LOGIC WHERE THE SECOND LANGUAGE IS AN INDIGENOUS AMERICAN ONE!!

(Next up, to find out exactly which one, but I have literally _never_ seen a printed book_ in an indigenous American language before.)

9:30 AM · Oct 12, 2021 · Twitter Web App
THE Logick Primer.

Some Logical Notions to instruct the INDIANS in the knowledge of the Rule of Reason; and to show how to make use thereof.

Especially for the Instruction of such as are Teachers among them.

Composed by [name], for the use of the Praying Indians.

The use of this Iron Key is to open the rich Treasury of the holy Scripture.

Prov. x. 4. To give subtilty to the simple; to the young man knowledge and discretion.

Printed by N. J. 1672.
Logick.
Anomayag.

Anomayag ne kukkuhweg, ne by every thing, every nashpe nifsnoh teag, kah nifsnoh. Speech is composed, anceketookaonk mooowamoo, kah kogah-lyfed, or opened keaanumoomoo, afsuh wofhunu-to be known. moooo wahtamunak.

Of Logick three parts.
Anomayag nifhwe chippai.

First part teach.
1. Negonne chippai kukkuhkooto- 21 -

Eliot's Logic Primer

eth us single Notions.
munkqun fiyeumoee wahittumooash.

Second part teach-
2. Nahohtoeu chippai kukkuhkooto-eth us bindingly to compose munkqun moappifluue moehteaunat Notions, to make every wahittumoukisf, ayimunat nifsnoh kinde of Proposition. eiyane pakodttumoomonk.

Third part teach-
3. Nifhwe chippai kukkuhkooto-eth us to compose Proposition munkqun moehteaunat pakodttu- tions, by bonds, mooongafsh, nashpe moappiffuongafsh, binding words, kah moappifluue kuttoowongafsh, to make a Speech. ayimunat keketookkontamonk. 22 -
Plan of the talk

I will:

- Introduce John Eliot and the linguistic context he was working in.
- Introduce the contents of the *Logick Primer*—vocabulary, inference patterns, and applications.
- Discuss notions of “Puritan” logic that inform this primer.
- Talk about the importance of his work in documenting and expanding the Massachusett language and the problems that accompany his colonial approach to this work.
Eliot and his context

- Born in Widford, Hertfordshire, around 1604; matriculated in Jesus College, Cambridge, in 1618–19; graduated 1622.
- 1629: joined Rev. Thomas Hooker’s school at Little Haddo, Chelmsford.
- Under Hooker’s influence, Eliot took Orders in the English Church.
- 1631: Left for Boston, MA, on the Lyon, settling in Roxbury.
- 1645: Founded a Latin school at Roxbury.
- Began studying the local indigenous languages in 1644, and preached his first sermon in that language in 1646.
- Translated the New Testament (pub. 1661), and later the whole Bible (pub. 1663).
- 1672: *The Logick Primer*. 
What language is it?

- Variously called (by Eliot and later commentators), “the Indian language”, “Massachusetts”, “Narragansett”, “Algonquian”.
- A member of the Eastern Algonquian family, spoken along the coastal tribes from the Canadian Maritimes down to North Carolina.
- Wôpanâak Language Reclamation Project / Wampanoag.
The contents of the *Primer*

- Definition of “logick”
- The three parts of logic
  1. single notions
  2. binding notions into propositions
  3. combining propositions into speech
     1. syllogisms
     2. methodical discourse
- Examples throughout.
What is logic?

Definition of “logick”, as a rule:

*where by every thing, every Speech is composed, analysed or opened to be known.*

Anomayag ne kukkuhwheg, ne nashpe nishnoh teag, kah nishnoh keketookaonk, mooowamoo, kah kogáhkenaanumoomoo, asuh wosh-wunumoo wahtamunak.
The three parts of logic


2. how “bindingly to compose Notions, to make every kinde of Proposition” (moappisue moehteauunat wahittumooukish, ayimunate nishnoh eiayne pakodtittumooonk)

3. how “to compose Propositions, by bonds, binding words, to make a Speech” (moehteauunat pakodtittumooongash, nashpe moappissuongash, kah moappissue kuttowongash, ayimunat keketookontamóonk.)

   1. “Syllogistical, arguing” (oggusanukóowae, wequohtóonk).
   2. “Large, orderly discourse” (sepapwoaeu kohkônnumukish keketøokaongash).
Basic notions

Basic/single notions come in pairs “which inlighten each other, & them only” (*nish wequohtoadtuash, & *nish webe*).

These pairs either “agree together” (*weetoooadtuash*) or they “dissent from each other” (*chachaubooomooash*).

Examples

- **Agreeing or consenting pairs:**
  - “subject” (*noh wadchanuk*) and “adjunct” (*nene wadchiik*),
  - “whole” (*mamusseyeuouk*) and “parts” (*chaupag*).

- **Dissenting pairs:**
  - “more great” (*nano mohsag*) and “then that less” (*onk ne peasik*),
  - “lesser” (*nano peasik*) and “then that greater” (*onk ne mohsag*),
  - pairs that are “contraries” (*penooanittumooash*),
  - pairs that are “contradicters” (*pannoowohtoadtuash*)
Extra attention given to the pair “cause/effect”

Figure 1: Typologies of causes
Dissenting notions

- No discussion, only examples given in the form of Biblical references.
- E.g., “contraries, which argue with each other” (*penooanittumooash, nish wequohtoadtumooash*)
- “contradictors, which argue each other” (*pannowohtoadtumooash, nish wequohtoadtumooash*).
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- E.g., “contraries, which argue with each other” (penoanittumōoash, nish wequohtoadtumōoash)
- “contradictors, which argue each other” (pannoowohohtoadtumōoash, nish wequohtoadtumōoash). Acts 13:45, which only uses the word rather than defining it or illustrating it. (“But when the Iewes saw the multitudes, they were filled with enuie, and spake against those things which were spoken by Paul, contradicting, and blaspheming,” King James Version (1611).)
Binding words

<table>
<thead>
<tr>
<th>English</th>
<th>African</th>
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<tbody>
<tr>
<td>and</td>
<td><em>kah</em></td>
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<td>was</td>
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<td>is it</td>
<td><em>sun</em></td>
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</table>
Creating propositions

Propositions are “many fold” (*moocheke chippaiyeuash*):

- affirmed/negative
- true/false
- general/special
- single/compounded.

**Table: Theoretical terms**

<table>
<thead>
<tr>
<th>affirmative</th>
<th>noowae</th>
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<tr>
<td>negative</td>
<td>quenowae</td>
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<tr>
<td>true</td>
<td>wunnomwae</td>
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<tr>
<td>false</td>
<td>pannowae</td>
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<tr>
<td>general</td>
<td>wameyeue</td>
</tr>
<tr>
<td>special</td>
<td>nanasiyeue, nanahsiyeue</td>
</tr>
<tr>
<td>single</td>
<td>pasukoe</td>
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<tr>
<td>compound</td>
<td>neesepiskue</td>
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</table>
Typology of propositions

- compounded propositions
  1. “conjunct propositions” (*moehteuae pakodtittumooonk*) which are bonded together with words such as *kah, wonk, netatup, newutch*, etc.
  2. “disjunct propositions” (*chachaubenumooe pakodtittumooonk*) which are bounded together by “a disjoyning word” such as *asuh, qut, matta*.

- No discussion of quantifiers.
- No (further) discussion of causative or inferential markers.
Some examples

John 9:3 “Neither he hath sinned nor his parents” (Matta yeuoh matchesu, asuh oochetuonguh):

a negative, special, compound, disjunct proposition (quenōowae, nanasiyeue, neesepiskue, chachaubenumōoe pakodtittumōonk).
The third part of logic, which is “bindingly to compose propositions to make a Discourse” (moappissue moehsteauunat pakodtittumoongash ayimunat keketookontamóonk.)

- “syllogisticall” (oggusanukóowae)
- “discursive” (sepapwoae), later called “methodicall”.
Syllogisms

Syllogistical discourse is made up out of three components:

1. “major proposition” (*mohsag pakodtittumöonk*)
2. “minor proposition” (*pawag pakodtittumöonk*),
3. “conclusion inlightened, looked on” (*wequossumöomöouk, naumoomöouk*).
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Furthermore, there can be at most three single notions contained in any syllogism:

1. the “subject” (*ne teag*),
2. the “predicate” (*ne kootnumuk*),
3. “the light, or Argument” (*wequohtóonk, asuh ootsinnoooonk*)
Types of syllogisms

Syllogisms are divided into three forms:

1. “positive” (*ponamoe*)
2. “suppositive” (*channōwae*)
3. “disjunctive” (*chachaubōe*)
Positive syllogisms

Three types of positive syllogisms:

(1) when the Propositions neither alike begin nor end, because the Argument is the Subject in the Major, Predicate in the Minor Proposition.

pakodtittumoongash matta netatuppe wajkutchissinuhhettit asuh wohkukquoshinuhettit newutche wequohtóonk teagoo ut mohsag ut, kah ne kootnumuk pawag pakodtittumoonganit.

(2) when both Propositions alike end; because the Argument is the Predicate in both Propositions.

naneeswe pakodtittumoongash netatuppe wohkukquoshinash, newutche wequohtóonk ne kootnumuk ut na neeswe pakodtittumoonganit.

(3) when both Propositions alike begin, because the Argument is the Subject in both.

neeswe pakodtittumoongash netatuppe kutchissinuhettit, newutche wequohtóonk ne teagoo ut naneese pakodtittumoonganit.
Example syllogisms

All of Eliot’s example syllogisms are
- drawn from the Bible;
- intended to answer theological questions (such as “may the infant children of believers be baptized?” / Uppeissesumoh wanamptogig, sun woh kutchessumóog?)

In each syllogism, Eliot identifies the subject and predicate, and refers to either a Bible verse to support the truth of the premises, or adduces another syllogism.
Suppositive syllogisms are those where

*In the Major proposition the Argument is suppositively put to the thing proved. Then in the Minor Proposition the Argument is affirmed.*

*Ut mohsag pakodtittumāoonganit wequohτoŋk channōowae ponamun ne woh wequohτoŋk noowae ponamun.*
An example

(1) If Unbelief driveth us from God then we must beware of it.
(2) But Unbelief driveth us from God.
(3) Therefore we must beware of it.

(1') Tohneit mat wunnamptamoonk kutamaookunkqun wutch Godut, neit woh nutahqueteauun.
(2') Qut mat wunnamptamoonk kutamaookunkqun wutch Godut.
(3') Newaj woh nutahqueteauun.
Disjunctive syllogisms

A disjunctive syllogism is when:

The Major Proposition disjunctively speaketh; then the Minor affirmeth one, denieth the other; or denieth one, affirmeth the other.

Mohsag pakodtittumooonk chachaubooae kuttoomoouk; neit pawag noowau pasuk, kah quenooau onkatuk; asuh quenooau pasuk, kah noowau onkatuk.
Examples (1)

None of the examples that Eliot gives straightforwardly match his description.

Matthew 12:33, "Either make the tree good, and his fruit good; or else make the tree corrupt, and his fruit corrupt: for the tree is known by his fruit," King James Version (1611):

Either make the tree good, its fruit good, or make evil the tree, his fruit evil.

But your fruit is evil. Therefore you are evil.

Or, But your fruit is good. Therefore you are good.

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Therefore you are evil.
Or, But your fruit is good.
Therefore you are good.

Asuh ayimook mehtug wunnegen kah ummeechummuonk wunnegen, asuh ayimook anit metug kah ummeechummuonk anit.
Qut kummeechummuonk anit.
Newaj kummatchetum.
Asuh, Qut kummeechummuonk wunnegen.
Newaj koo eetum.
A superficial reading:

Either if your tree is good then your fruit is good or if your tree is bad then your fruit is bad; but your fruit is good, therefore your tree is good.

I.e.,
Examples (2)

A superficial reading:
Either if your tree is good then your fruit is good or if your tree is bad then your fruit is bad; but your fruit is good, therefore your tree is good.

I.e.,

\[(Gt \rightarrow Gf) \lor (Bt \rightarrow Bf)\]
\[\therefore Gt\]
Either you are diligent, your field is clean, or you are idle, your field with weeds overgrown.
But your field is clean.
Therefore you are diligent.
Or, But your field with weeds overgrown.
Therefore you are idle.

Asuh kummenu kenitteaéninnu, kah kutohteuk pahketeauun, asuh kussesegenamwaenin, kah kutohteuk mossonog wuttittannekinneau.
Qut kutohteuk paketeauun.
Newaj kummenuhkinitteaenu.
Asuh, qut kutohteuk mossong wuttittannekineau.
Newaj kussegenamwaenin.
Examples (4)

Either you pray keep holy the Sabbath-day, or you pray not, keep not holy the Sabbath-day. But you keep holy Sabath-day. Therefore you pray. Or, but you keep not holy the Sabbath-day. Therefore you pray not.

A less superficial look at the examples (1)

Each initial premise is structured not as a disjunction between two implications but rather between two conjunctions:

The tree is good and the fruit is good / The tree is evil and the fruit is evil (1)

You are diligent and your field is clean / You are idle and your field is overgrown with weeds. (2)

You pray and keep the Sabbath holy / You do not pray and do not keep the Sabbath holy. (3)
A less superficial look at the examples (2)

In each pair of conjunctions, each individual conjunct in one disjunction is the negation of one of the conjuncts in the other disjunction:

\[(\phi \land \psi) \lor (\neg \phi \land \neg \psi)\]

The second premise then is affirming one of the conjuncts; but *because* each conjunct has a corresponding negation in the other disjunct, affirming one of the conjuncts is the same as denying another one of the conjuncts, so we *do* have a denial occurring in the second premise, even if the verbal structure of the argument makes it look like it’s an affirmation.

But to deny one conjunct is to deny the whole conjunction, which forces the other disjunct to be true, which means *both* of the conjuncts must be true, leading to the seemingly problematic inference from one conjunct to another in a conjunction.
Put schematically, the form that all three of these examples instantiate is:

1. \((\phi \land \psi) \lor (\neg \phi \land \neg \psi)\)

2. \(\psi\)  
   - Assumption

3. \(\neg \phi \land \neg \psi\)  
   - Assumption

4. \(\neg \psi\)  
   - Assumption

5. \(\psi\)  
   - Reiteration, 2

6. \(\neg (\neg \phi \land \neg \psi)\)  
   - \(\neg I\), 3–5

7. \(\phi \land \psi\)  
   - DS, 1, 6

8. \(\phi\)  
   - \(\land E\), 7

And this is valid.
“Methodicall” Discourse

Two types:

1. “First orderly to lay together Notions & Propositions” (*Negonne kohkunumukish miyanumunat wahittumooash & pakodtittumooongash*).

2. Second, “to analyse [and] open Propositions [and] Arguments. Also to open Propositions by single Notions, which by composed” (*kogahkenanumunat kah woshwunumunat pakodtittumooongash kah wequohtoongash. Wonk woshwunumunat pakodtittumooongash nashpe syeumoot wahittumooash, nish nashpe moehteaunash*).
The principles of the *Primer* applied

- c.15 pages of methodical discourse, entirely in Massachusetts (no translation).
- Clearly structured discourse: A Bible verse is cited, and then a first syllogism is extracted from the verse, followed by one, or sometimes two or three, alternative syllogisms.
- The source verses cover a wide range across both the Old Testament (Psalms, Proverbs) and the New (Matthew, Romans, 1 Corinthians, 1 John, 1 Peter).
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...And that’s it.
What’s noteworthy about Eliot’s *Primer*?

- How does it compare to what he was (presumably) taught?
- Is this “Puritan logic”?
Logic education in early 17th C Cambridge (1)

- Teaching at Oxford and Cambridge shifted from university-wide to narrower, college-based teaching structures.
- Post-Reformation, Jesus College was an important training site for Protestant clergy.
- Puritan influence, esp. in Cambridge, grew significantly, in particular in Jesus and Christ.
- Protestant influence on curriculum via Ramism (Petrus Ramus / Pierre de la Ramée, 1515–1572) → Protestant logic.
  - Roland MacIlmaine (1574).
  - Dudley Fenner (1584).
Logic education in early 17th C Cambridge (2)

- Renaissance humanism, typified by Rudolph Agricola, *De inventione dialectica* (1515), which focused on “applied argumentation”: 
Renaissance humanism, typified by Rudolph Agricola, *De inventione dialectica* (1515), which focused on “applied argumentation”: Henry VIII’s Royal Injunction of 1535, which required:

*students in arts should be instructed in the elements of logic, rhetoric, arithmetic, geography, music, and philosophy, and should read Aristotle, Rodolphus Agricola, Philip Melancthon [sic], Trapezuntius, &c. and not the frivolous questions and obscure glosses of Scotus, Burleus, Anthony Trombet, Bricot, Bruliferius, &c.*

Statues of individual colleges: Traditional Aristotle; rejection of Scholasticism; plus emphasis on rhetoric.
Is this “Puritan logic”?

Or rather, *Is this Ramist*?
Is this “Puritan logic”?

Or rather, *Is this Ramist?*

Lots of commentators think so, but opinion varies:

- Miller: the *Primer* an abridged translation of one of Peter Ramus’s writings.
- Gray’s description of the work as “a step-by-step approach to Ramean logical and syllogistical [sic] reasoning.”
- Cogley notes that “Miner and Guice have explained that Eliot’s *Logick Primer* was an original composition...and the linguists disagree as to how Ramist in influence the work is.”
Distinctive features of the *Primer*

- The tripartite account of (terms/propositions/arguments)
- Choice of basic notions and binding words.
- The “light” of the middle term.
- Heavy use of scriptural examples.
- Conspicuous *lack* of the binary classification strategy.
Ramism in the *Grammar*

- “heavy reliance on a form of binary classification of features of grammar... in real contrast to Aristotelian practices” (Guice).
- The definition of “logic” and “rhetoric” in the *Grammar* “show a strong Ramistic pattern” (Guice):
  
  *The laying of Sentences together to make up a Speech is performed by Logick... The adorning of that Speech with Eloquence, is performed by Rhetoric.*
Colonisation and Linguistic Conservation (1)

On the one hand:

- Before Eliot, speakers of Massachusettts and related dialects had no written language.
- Due in no small part to Eliot’s efforts, the Massachusett language is one of the earliest and best documented language of the indigenous peoples of the east coast of North America.
- The documentary evidence that was the fruit of Eliot’s efforts is what made groups like the Wôpanâak Language Reclamation Project possible.
Colonisation and Linguistic Conservation (2)

On the other hand, we cannot ignore the colonial and proselytizing origins of Eliot’s linguistic work.

- The *Primer* is an extremely functional book, focusing on definitions and examples with very little in terms of explanation or theoretical background to provide context to the reader.

- Eliot’s purpose is to teach the reader, “whereby you may open the Word of God, [the] Bible” (*waj woh kəowoshwunumwəo wuttinnəowaongash Godut Bibleut*).

- Letter to Baxter, 1669: “And all p’ts wch receive the word of God, and pray, doe readyly understand the Bible, and catechisme, and other books; and these books will be a meanes to fix, and extend, this language.’

- “Eliot’s evangelical approach to his religious translations, as well as his language and logic primers, reveals assumptions of cultural and religious superiority which are typical of New England missionary-colonisers” (Gray).