

The AGNT Project Report—Q3 2016

As a licensee or friend of AGNT or ANLEX, we would like to update you once a quarter about our continuing work to enhance and perfect these databases and about our plans for the future.



The Project. *The AGNT Project Report—Q3 2008* introduced the team, outlined ongoing tasks, and discussed potential tasks.



Tagging ANLEX and Pointing AGNT

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As a Bible translator, I often am frustrated by how long it takes to locate a referenced explanation in another scholarly work, especially the pertinent portion of a long lexical write-up in Greek reference works. This article is about how we are considering addressing this problem in ANLEX.

As we have noted before, we are undertaking a major, multi-year revision of our *Analytical Lexicon of the Greek New Testament* (ANLEX) lexical write-ups. Tony Pope is the primary investigator in this undertaking (others are also involved, including Carl Conrad, Dan Hoopert, and Ray Gordon). In conjunction with this revision, we are producing a new, much improved, and *enhanced* edition of ANLEX, one that is unlikely to be changed again before another generation has passed (and that to involve our successors!). One specific enhancement is described in the remainder of this article.

Keeping in mind how long it can take to find the pertinent portion in a lexical write-up, the major enhancement that we are weighing the feasibility of implementing is to add hyperlinks between each AGNT entry and the pertinent write-up in ANLEX. Most Bible software packages link each word in the Greek text to the *beginning* of the relevant Greek lexical entry; that includes the AGNT-ANLEX pairing as well. We think we can do better.

To make Bible study easier and faster, we are weighing tagging AGNT and ANLEX so that each English reference gloss (ERG) in AGNT is highlighted wherever it occurs in the relevant ANLEX write-up. In other words, rather than having to read through a complete lexical write-up, users will be able to see the specific location of that write-up that pertains to the selected AGNT word. By seeing the exact ANLEX source of the ERG used in AGNT, the user will be able to review ANLEX's larger lexical write-up far faster, which will aid him in evaluating various translation options.

With that goal in mind, we have developed a prototype involving 0.4% of the vocabulary of the Greek New Testament and also fortuitously 0.4% of the New Testament Greek lemmas. For our purposes, this begins with ANLEX entry **A**, **α** and continues through the entry **ἀγαπητός, ἡ, ὄν**. This involves the first twenty-five lemmas found in ANLEX and addresses 571 actual Greek words found in the New Testament text.

To set the investigation in motion, we asked Olive Tree and BibleWorks programmers what they would need in order to implement the highlighting system that we have in mind. We are grateful to them for their help and for graciously agreeing to our approach to tagging (described below), which we believe is volunteer-expert-friendly. Next, Paul O’Rear (SIL) wrote a macro that tags ANLEX write-ups.

Starting with the Greek write-ups, as exemplified by

ἀγαθοποιέω 1 aor. inf. ἀγαθοποιῆσαι; {{ἀγαθοποιός + -εω}} *do good*; (1) transitive, accusative object or object understood from context; as showing goodwill toward someone *do good to, benefit* (LU 6.9, 33), opposite *κακοποιέω* (*do wrong to*); (2) intransitively of actions that fulfill moral law *do what is right* (3J 11), opposite *ἁμαρτάνω* (*sin, do wrong*), of citizenship worthy of imitation *behave well, live in the right way* (1P 2.15)

Paul’s macro produced this:

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιῆσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill <*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἁμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

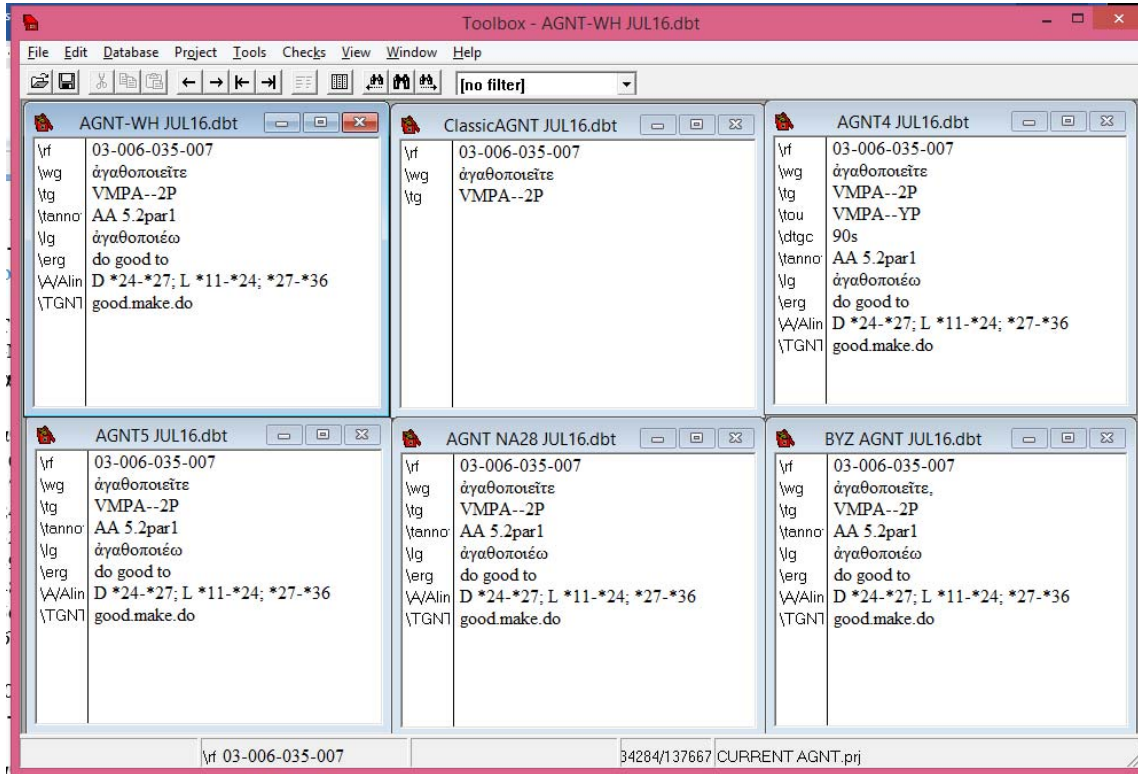
The next steps were mine to discover and explore, using several working documents.

1. An Excel horizontal spreadsheet that compares GNT5 with Byzantine, provided by Mark Nodine. This was our look-up concordance tool, assuring that we found all instances of every lemma in our task. (GNT5 represents the eclectic databases we maintain [GNT3, GNT4, GNT5, NA28 and W-H]. Byzantine in the same spreadsheet represents itself.)

We consulted the lexical write-up, selected a New Testament reference found there, located that reference in the Excel spreadsheet, and then selected the associated lemma form of that Greek word in context. We then consulted all such instances of the lemma in GNT5 and/or BYZ, one at a time and canonically.

2. A Toolbox array of our six databases, though in this case we are not marking GNT3.

This is our master file correction-maintenance program. Each successive Greek record displays the various fields assigned to it. For purposes of this project, we added a new field *A(GNT)/A(NLEX)link*, where needed.



We then copied the spreadsheet reference for the Greek form that we found, for example, 03-006-035-007. We then located that same reference in Toolbox in order to produce an array like the one shown above. Then we checked the ERG found in the master Toolbox database—*do good to*, as above.

3. The file recording all adjustments made in the task, especially giving a highlighted display of the AGNT ERG as found in the ANLEX gloss. This file is the working file for all tasks performed. Using *ἀγαθοποιέω*, the lemma above, the file was fleshed out as follows.

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιήσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill <*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἀμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

02-003-004-007W-H; 02-003-004-007BYZ; 03-006-035-007; 05-014-017-006BYZ >> D *24-*27; L *11-*24; *27-*36

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιήσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill <*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἀμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

03-006-009-013 >> D *24-*27; *28-*30; L *11-*24; *27-*28; *30-*36

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιήσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill <*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἀμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

03-006-033-004GNT; 03-006-033-003BYZ; 03-006-033-006GNT; 03-006-033-005BYZ >> D *24-*27; *28-*29#; *30-*31; L *11-*24; *27-*28; *29#-*30; *31-*36

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιήσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill <*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἀμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

25-001-011-010 >> D *44-*50; L*37-*44; *50-*55

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιήσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill

<*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἀμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

21-002-020-011; 21-003-006-012; 21-003-017-003 >> D *60-*62; L *55-*60; *62-*69

ἀγαθοποιέω 1 <*2>aor. <*3>inf. <*4>ἀγαθοποιήσαι; {{ἀγαθοποιός + -εω}} <*8>do <*9>good; <*10>(1) <*11>transitive, <*12>accusative <*13>object <*14>or <*15>object <*16>understood <*17>from <*18>context; <*19>as <*20>showing <*21>goodwill <*22>toward <*23>someone <*24>do <*25>good <*26>to, <*27>benefit <*28>(LU <*29>6.<*29#>9, <*30>33), <*31>opposite <*32>κακοποιέω <*33>(do <*34>wrong <*35>to); <*36>(2) <*37>intransitively <*38>of <*39>actions <*40>that <*41>fulfill <*42>moral <*43>law <*44>do <*45>what <*46>is <*47>right <*48>(3J 11), <*50>opposite <*51>ἀμαρτάνω <*52>(sin, <*53>do <*54>wrong), <*55>of <*56>citizenship <*57>worthy <*58>of <*59>imitation <*60>behave <*61>well, <*62>live <*63>in <*64>the <*65>right <*66>way <*67>(1P 2.15)<*69>

21-002-015-008 >> D *60-*62; *67-*69; L *55-*60; *62-*67

We determined the highlighting (coloring and shading are subject to change) for each word that we encountered. For ἀγαθοποιέω, we needed six different highlighting permutations, each containing the AGNT ERG (and relevant reference, if found in the write-up) in dark yellow, with supporting discussion in turquoise.

Notice that under each highlighting permutation we maintain a list of all relevant Greek words from the text that are congruent with the highlighting shown according to their references. Every permutation represents at least one reference. Single reference entries are the rule when a write-up reference is noted, for that reference captures a unique ERG-reference combination. While a current permutation is being developed, the highlighting is done as above. Then the digital equivalent of that highlighting was typed in, as in D *60-*62; *67-*69; L *55-*60; *62-*67. The tags found in a clean lexical write-up are now particularized in a pointer, which is copied into the Toolbox cell(s) relevant to the word under study in the A/Alink field, created only when a pointer back to ANLEX is called for.

The references used are in the standard book-chapter-verse-position sequence. If the particular Greek word is not found in all Greek texts at that exact same reference, we add GNT or W-H or BYZ, as needed, to indicate which text is going to be marked with a pointer back to the ANLEX write-up.

In many cases, as with Ἀβραάμ, ὁ two permutations are sufficient (for all of seventy-three instances), one for the gloss with reference, one for the same gloss at every location not referenced. In some cases it gets complicated. With ἀγαθός, ἡ, ὄν, for example, some forty

permutations are necessary to display all forms. The latter occurs in 102 places in the Greek text. Of the twenty-five lemmas processed, this one is by far the most complicated.

Looking ahead to the implementation of our work in Bible software, we envision that the following six permutations for ἀγαθοποιέω would be displayed on-screen in their final forms. One permutation would be displayed at a time, depending on the word the user selected.

ἀγαθοποιέω 1 aor. inf. ἀγαθοποιῆσαι; {{ἀγαθοποιός + -εω}} *do good*; (1) transitive, accusative object or object understood from context; as showing goodwill toward someone *do good to, benefit* (LU 6.9, 33), opposite κακοποιέω (*do wrong to*); (2) intransitively of actions that fulfill moral law *do what is right* (3J 11), opposite ἀμαρτάνω (*sin, do wrong*), of citizenship worthy of imitation *behave well, live in the right way* (1P 2.15)

ἀγαθοποιέω 1 aor. inf. ἀγαθοποιῆσαι; {{ἀγαθοποιός + -εω}} *do good*; (1) transitive, accusative object or object understood from context; as showing goodwill toward someone *do good to, benefit* (LU 6.9, 33), opposite κακοποιέω (*do wrong to*); (2) intransitively of actions that fulfill moral law *do what is right* (3J 11), opposite ἀμαρτάνω (*sin, do wrong*), of citizenship worthy of imitation *behave well, live in the right way* (1P 2.15)

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Apart from their future usefulness to Bible students when implemented in Bible software, creating the tags and pointers helps us check the accuracy between ERGs (each particularized to

its Greek word in context) and their explanatory ANLEX write-ups. Tags and pointers help to provide quality control.

Here is what we hope Bible software vendors will do in the future with the fruit of our efforts. We hope they will modify their software to read the pointer found in the A/Alink field in the relevant AGNT record. That will allow them to display the ANLEX write-up (a number of tweaks are possible here), highlighted according to the instructions found in its relevant pointers. (The ANLEX tags described above would never be visible to users.)

Currently, we have decisions to make and fine-tuning to do. For example, not only must we decide the boundaries of any one highlighting, we must adjust the tags at this early learning stage so that fewer and fewer adjustments will have to be made once we set out in earnest.

We welcome your input. Here are some possible areas of comment: Highlighting colors. Number of colors and/or shades. The domain of the highlighting. (Right now we have tried to limit it to the ERG encountered in AGNT and the reference, if relevant in the write-up, in yellow, and supporting discussion in turquoise.) How punctuation figures into highlighting boundaries. More broadly, the value of this particularizing highlight schema. Something better? Something less ambitious?

We appreciate your input.



As always, we remain open to developing AGNT and ANLEX in ways that are most useful to the needs of students and readers of God's Word.

Thank you for your continued support of *The AGNT Project*, for faithfully marketing the AGNT and ANLEX databases, and for making these state-of-the-art tools for studying the Greek New Testament available to students, scholars, pastors, translators, and laymen worldwide.

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