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SAMUEL GREENE: FIRST TRANSFORMATIONALIST?*

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I first met Samuel Stillman Greene, Superintendant of Public Schools in
Providence, Rhode Island, and Professor in the Normal Department of Brown Univer-
sity, at a New England antique sale, where, for 10¢, I acquired his 1857 Grammar of
the English Language. On page 196, there is a section entitled "Transformation of
Sentences--Equivalent Elements" and introduced by the following intriguing remark:

> A sentence is transformed when it undergoes a change in the form of any of
> its elements, without any material change in the meaning; the new forms of
> the elements, which express the same or nearly the same meaning, are called
> equivalents.

Some years later, I took a graduate linguistics course in which James McCawley
exposed me to the proposition that, in the history of ideas, a concept can appear
implicitly long before it is given formal explication. Keeping in mind this point
of view, I decided to pursue in detail Greene's possible role as a precursor of
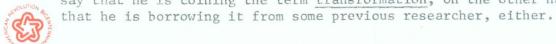transformational grammar. What follows is the result of my investigation.

I would like to begin by presenting a brief and informal history of the notion
'transformation'--brief, as I suspect that this chronicle will be completely familiar,
and informal, because the purpose of it is nothing more than to supply a background
against which Greene's ideas can be most clearly seen.

1. History of the notion 'transformation'. According to Dwight Bolinger (1975:
535) 'transformations had been adopted by Chomsky's teacher Z.S. Harris in 1952,
refined by him in 1957, and passed on to Chomsky during the years between'. The dates
are references to two of Harris' articles in Language, 'Discourse Analysis' (Harris
1952) and 'Co-occurrence and Transformation in Linguistic Structure' (Harris 1957).
In the latter, Harris reports (1957:283, fn. 1) that 'the study of transformations
arose out of an attempt to construct a method for analyzing language samples longer
than a sentence' and remarks that 'from a time when this work was still at an early
stage, Noam Chomsky has been carrying out partly related studies of transformations
and their position in linguistic analysis'. However, in neither article does Harris
say that he is coining the term transformation; on the other hand, he does not say
that he is borrowing it from some previous researcher, either.

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*A shorter version of this paper was presented at the 1975 Annual Meeting of the
Linguistic Society of America, San Francisco.

Grinder and Elgin credit Harris with 'the major conceptual breakthrough, which seems to have been the proximate cause of the development of transformational grammar' (1973:40). They quote from Harris' 1957 article as follows:

'This paper defines a formal relation among sentences, by virtue of which one sentence structure may be called the transform of another sentence structure (e.g. the active and the passive or in a different way question and answer)... [We] can...proceed to define transformation, based on two structures having the same set of co-occurrences...' (Harris 1957:283)...'We can compare the co-occurrences of two different constructions with the same classes...In some constructions the co-occurrences are about the same, and it is for these that transformations will be defined...' (Harris 1957:288)

Grinder and Elgin later summarize by saying (1973:42) that 'the notion of substitution and expansion made possible the development of what we regard as the primary conceptual advance--the notion of formal relations between sentences, the transformation'. Notice that so far, the concept of 'transformation'
   (1) is defined by co-occurrence and makes no reference to meaning
   (2) involves only (what are now called) surface structures.
   In Syntactic Structures, Chomsky stated what we can regard as a third characteristic of transformations:
   (3) 'A grammatical transformation T operates on a given string...with a given
        constitutent structure and converts it into a new string with a new
        derived constituent structure' (1957:43).
(Harris specified this same requirement in his 1957 article: 'Each of the major English transformations accords with the definition that the same n-tuples of class members satisfy the two or more constructions which are transforms of each other' [1957:324].) The passive transformation, for example, 'requires reference to the constituent structure of the string to which it applies and it carries out an inversion on this string in a structurally determined manner' (Chomsky 1957:43). On the same pages, Chomsky defined two other well-known conditions on transformations:
   (4) '...we must define an order of application on these transformations'
        (1957:44).
   (5) '...certain transformations are obligatory, whereas others are only optional'
        (1957:44).
Since condition (5) is an alteration of (2), let me renumber it (2a) and state it as follows:
   (2a) Certain transformations (i.e. the optional ones) operate on surface structures; others (the obligatory ones) operate on some more abstract level of language, i.e. the output of the phrase-structure component of the grammar.[1]
   At this point in the development of the notion 'transformation', condition (1) still stands: meaning is excluded. For example, Chomsky writes that

The crucial fact about the question transformation T_q is that almost nothing must be added to the grammar in order to describe it. Since both the subdivision of the sentence that it imposes and the rule for the appearance of do were required independently for negation, we need only describe the inversion effected by T_q in extending the grammar to account for yes-or-no questions. Putting it differently, transformational analysis brings out the fact that negatives and interrogatives have fundamentally the same 'structure', and it can make use of this fact to simplify the description of English syntax. (1957:64-5)

Implied in (3)-(5) above is the assumption that
   (6) Transformations have direction: one string, in some sense basic, is
        converted to another by a transformation.

Not every early transformational author accepted (6) as a characteristic of transformations. Werner Winter (1965:484) writes

> In order to safeguard an unbiased discussion, I shall at this point disregard
> the direction of a transformation and merely speak of transformational cor-
> respondence, to take up a term used by Randolph Quirk (Lg. 41.205-17 [1965])
> or, to unload the terminology even further, simply of equivalence. Clearly,
> the use of arrows is out of the question; instead, I shall separate two con-
> figurations deemed equivalent by a colon.

Although (6) may seem a consequence of (3), it may be possible to hold (6) but not
(3): if the SD of a transformation is satisfied, it applies, regardless of ordering
in the grammar. But since that issue is not relevant to the present investigation,
I let both (6) and (3) stand.

A new stage in the development of the notion 'transformation' began, in the
words of Bolinger (1975:537-8), 'with the realization that the line between optional
and obligatory transformations was impossible to keep straight'. Bolinger continues,

> There seemed to be no good reason why one kind of structure should have the honor
> of serving as the source for others--a question is just as good as a statement;
> so it would be better if the source were conceived more abstractly, with all
> the forms that are actually spoken derived from it. Thus was born the idea of
> deep and surface structure...What previously had been optional transformations
> now became part of the base--a category symbol Q was added for questions, for
> example, and obligatorily triggered the question transformation. This met
> the criticism that questions are not 'really' the same as statements, or the
> passive voice 'really' the same as the active--they were different structures
> with different meanings and their differences were explicitly set forth in the
> deep structure before any transformations applied. The goal was to purify
> transformations of any semantic contamination...the function of transformations
> was merely to convert one phrase marker to another (1975:539, cf. also Chomsky
> 1965:134).

The input to transformations, then, is no longer surface structures, but phrase
markers (Chomsky 1965:134-5). This seventh characteristic--
   (7) All transformations operate on abstract structures.
--is a further development of (2); let us re-number it (2b).

This last change brings the notion 'transformation' to where it is today; the
major theoretical differences have to do with the input to transformations: many
linguists argue that a phrase marker is an abstract representation of meaning itself.
We can therefore posit, as a final characteristic,
   (8) Transformations preserve meaning.
   2. The status of 'transformation' in the works of Greene. After a few remarks
on the position that transformations occupy in Samuel Greene's works, I will go on
to identify the transformations themselves, pointing out where appropriate the ter-
minology and phraseology that indicate two other aspects of modern transformational
grammar: a concern for underlying meaning and the use of process in linguistic descrip-
tion (the reader's attention will be directed to the latter by the use of [NB] before
the appropriate words in quoted material).
   In Greene's Grammar of the English Language, the section entitled 'Transforma-
tion of Sentences--Equivalent Elements' is sixth in a sub-category (of 'Syntax') called
'Elements Combined--Construction and Analysis' (G 179).[2] The others are 'I. Simple
Sentences--Single Words', 'II. Simple Sentences--Phrases', 'III. Complex Sentences--
Subordinate Clauses', 'IV. Compound Sentences--Principal Clauses', and 'V. Contracted
Sentences'. In Elements of English Grammar (Greene 1859a), 'Transformation of Sen-
tences' is included, without much justification, it seems, at the end of "compound
Sentences--Similar Parts Combined', a subsection of 'Construction--Sentence-Making'.

And the Treatise on the Structure of the English Language (Greene 1859b), the work which makes the most frequent use of the = sign to denote equivalencies, doesn't mention 'transformation of sentences' at all, though it does have a section on 'Equivalents', the fourth under 'Various Properties of Sentences' (the others are 'I. Sentences Considered as a Whole', 'II. Arrangement of the Elements', and 'III. Peculiarities of Structure'). Lesson LXXIII of the Introduction to the Study of English Grammar (Greene 1868) contains 'Definitions and Rules'. Here, 'To *transform* a sentence is to change its form, either by altering, transposing, suppressing or supplying any of its elements, without materially changing the meaning' (I 149-50). Other definitions tell what it is to construct, to analyze, to classify, to reconstruct,[3] to parse, and to correct a sentence. And in E 196, Greene writes

> A sentence may be considered
> (a) As a whole
>   (1.) Is it declarative, interrogative, imperative, or exclamatory?
>   (2.) Is it simple, complex, or compound?
>   (3.) Is it close or loose in its structure?
>   (4.) Transform it from declarative to interrogative &c., from compound to complex, &c.

Greene apparently felt that transformations and equivalencies were useful descriptive devices; perhaps because of his concern with analysis, labeling, and parsing, he didn't know how to give them independent status. They are important enough, however, to merit mention on the title page of Elements, which contains, inter alia, '... various exercises, oral and written, for the formation, analysis, transformation, classification, and correction of sentences'.

Though Greene explains that transformations work by 'altering the grammatical construction' of sentence elements, 'causing or supplying an ellipsis', or 'transposing any element to another part of the sentence' (G 196), these categories tend to overlap (e.g., 'A morning ride... = A ride in the morning...'[G 197] involves ellipsis but is listed under 'alteration'); moreover, transformational processes appear in sections other than the ones described above. I will therefore organize my discussion around present-day terminology.

3. PASSIVE. 'Any sentence, having for its predicate a transitive verb, may be transformed by changing the active to the passive voice, or the passive to the active. The same meaning, or nearly the same, will be expressed in either case' (G 91; cf. Harris 1957:325 for the same transformation). Later in the same work, Greene observes that one way to alter the 'grammatical construction of an element' is to change the voice of the verb, and he gives as his example 'Columbus discovered America, = America was discovered by Columbus'.[4] PASSIVE is discussed also in E 55, E 145, and T110; the presentation and examples differ in no important respect.[5]

The discussion and equivalencies in G 92 (also E 55) exemplify inside vs. outside passives ('He told me his history, = His history was told me by him, = I was told his history by him'), subject- and object-raising ('They made him an officer, = He was made an officer by them, = An officer was made of him by them.'), and indirect-object shift ('I told him a story, = He was told a story'). (cf. Harris 1957:327).

4. QUESTION. 'A question for gaining assent may be changed into a declarative sentence, or a declarative sentence may be changed into a question for gaining assent' (G 197, also T 202, E 146). This is one of several cases in which Greene's transformations do not operate in one specific direction. I might also point out that Greene seems here to abandon his adherence to semantic similarity; his example, inappropriately, introduces a negative: 'Will he plead against me with his great power? = He will not plead against me with his great power'.[6]

5. EXTRAPOSITION and It- insertion. These two transformations, as well as a few examples of poetic word order, e.g. 'Copernicus these wonders told', Greene includes under 'transposition of elements': 'an element is transposed whenever it is placed out of its natural order' (G 198), which, for Greene, is SVO (G 198).

This is the closest Greene comes to the notion of 'kernel sentence', and, as must be obvious by now, his transformations are all optional. Thus, 'when a phrase or clause as subject is transposed, its place is supplied by "it" used as an expletive' (G 198; also G 72, G 186, T 201, T 131; T 133: 'MODEL It is evident that the bill will be defeated = That the bill will be defeated is evident'; compare these with Harris 1965:380: 'every sentence of the form Sn°VΩ→ItVΩSn°: That he came is odd→It is odd that he came'). And in T 90:

> By a peculiar idiom of the language, the infinitive or other phrase, when used as subject, is first represented by 'it' standing at the head of the sentence, and is itself placed after the predicate...'It', thus used... fills a vacancy and yet is not absolutely necessary to the sense.[7]

Note the use of is transposed, is supplied by, is first represented, is itself placed after--phraseology that implies that Greene is thinking in terms of ordered processes.

When both PASSIVE and EXTRAPOSITION apply, they apply in that order. That is, I believe, how a modern theorist would summarize the principle to which Greene refers here:

> When the principal verb assumes the passive form, the objective clause [NB] becomes the subject, but commonly remains after the predicate, being represented by it placed at the beginning of the sentence, as 'He said that the measure could never be adopted', = 'It was said (by him) that the measure could never be adopted' (T 144).

6. There-insertion (or THERE). Under the heading 'an element is transposed whenever it is placed out of its natural order' (G 198), Greene writes, 'When the verb "to be" predicates existence, the subject is not only transposed, but its place is supplied by the expletive "there"'. (The wording implies that THERE is obligatory.) Also, '[expletive there] is sometimes used with the verbs seem, appear, go, and others...in this use it has no meaning' (G 148). This same transformation appears in Harris 1957 (326).

7. Equi-NP deletion (or EQUI). 'When the subject of the subordinate clause is the same as the subject or object [?] of the principal clause, it is omitted; as, "I wish that I might go = to go."' (T 168, also E 187; in G 193: 'The subject is dropped when it has already been expressed in the principal clause..."I am glad that I find you well, = I am glad to find you well."'). But 'when [the subject of the subordinate clause] is different from the subject or object of the principal clause, it must be retained, and may appear either in the nominative, possessive or objective case' (T 168). Harris (1965:393) describes this same sort of 'redundancy removal' of 'repetitive material': 'in I prefer that I should go first there is no zeroing, but in the transform of this, I prefer for me to go first→I prefer to go first'.[8] EQUI is referred to in Greene again in G 195: '...the subject should be dropped when it is the same as that of the principal clause. I wish to go; not, I wish me to go'. Note the implied asterisk on I wish me to go; this is as close as I can find in Greene to an obligatory transformation. Two other sites for EQUI are 'the abridged expression, the term of a comparison...My friend was so elated as that he forgot his appointment, = as to forget, &c.' and 'an incorporated interrogative sentence--I knew not what I should do, = what to do' (G 196).

I should note here that Greene's concern for meaning and its relationship to surface structure, a matter which I discuss more fully later, is evident in his comment on the constructions just cited: 'The connectives what, where, when, &c.... should be dropped; but, as they are a part of the substance of the sentence, they must be retained. Were they merely connectives [i.e. complementizers], they would be dropped' (G 196 and cf. Harris 1957:329), as in '"I thought that he was alone" ="I thought him alone"'.

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EQUI--as well as several other deletion and complementation processes resulting
in surface infinitives and participles--Greene includes under the concept 'abridged
propositions':

> changing the predicate into a <u>participle</u> or an <u>infinitive</u>...I am glad <u>that</u>
> <u>I find you well</u>, = I am glad <u>to find you well</u> (G 193).

Of the sentence <u>The officer commanded him to retire</u>., Greene says (G 195)

> It is a simple sentence, [NB] derived by contraction from the complex sentence
> The officer commanded <u>that he should</u> retire...Observe, in the full form, that
> the whole clause is the only object, while in the abridged form, the subject
> [NB] becomes the direct object [this process is today referred to as 'raising'],
> and the predicate, still holding its relation to it as attribute, is the
> attributive object.

Harris observes the same equivalence in his remarks on connectives and zeroing; his
example (1965:381) is <u>I asked him that he should come</u>→<u>I asked him to come</u> (cf. also
Malmstrom and Weaver 1973:239). While Greene implies S⇒INF in E 186 and T 169 ('I
believed that it was he = I believed it to be him'), other references show that he
sees the process as going either way:

> A substantive clause is a <u>substantive</u> or an <u>infinitive</u> [NB] expanded into a
> proposition; as, 'Stealing is base' = 'To steal is base' = '<u>That one should</u>
> <u>steal</u> is base' (T 129).

> It will be seen that a single objective clause is equivalent to two objects...
> the former [NB] becomes its subject, and the latter its predicate; as, 'I
> believed <u>him an honest man</u>' = 'I believed he was an honest man'. 'I wish
> <u>you to go</u>' = 'I wish <u>that you would go</u>' (T 144).

Greene's equivalencies extend to two other types of nominal complementation,
<u>for NP to VP</u> (discussed in Harris 1957:329 and Harris 1965:395, also in Malmstrom
and Weaver 1973:237-9) and <u>POSS...-ing</u>:

> When the infinitive is used in its most general sense, as the subject of a
> proposition, the simple form only is used; as, '<u>To steal</u> is base'; but when
> it has a subject of its own, that subject must be in the objective case, fol-
> lowing the preposition <u>for</u>; as, 'For him to steal is base'. To change the
> infinitive to an element of the first class [i.e. to a single word as opposed
> to a phrase], substitute for it the participial noun, when the infinitive has
> no subject; but when it has a subject of its own prefix to the participial noun
> the possessive case of the subject; as, '<u>To lie</u> is wicked' = '<u>Lying</u> is wicked';
> '<u>For him to lie</u> is wicked' = '<u>His lying</u> is wicked' (T 89).

> The infinitive is employed chiefly to abridge substantive clauses introduced
> by 'that'; as, '<u>That one should steal</u>, is base' = '<u>For one</u> to steal, is base'
> (T 173).

> Subject changed to the possessive--I was not aware <u>that he lived in the city</u>,
> = I was not aware of *his* <u>living in the city</u> (G 194, E 187, cf. Harris 1965:380,
> 'I know <u>that he signed the letter</u>→I know <u>of his having signed the letter</u>'.)

From the first of the above quotes, we can assume that Greene regards the infinitive
as basic vis a vis the gerund. Malmstrom and Weaver (1973:238-9) follow much the same
reasoning:[10]

From to feed bears is dangerous, we can derive feeding bears is dangerous...
It seems to us that all subjectless gerunds that function as subjects of
other sentences are derived in this way, from reduced for...to constructions
which have someone as subject...e.g. to climb mountains is fun [⇒] climbing
mountains is fun.

10. Gapping. In the Grammar, Greene writes

A *compound* sentence may be contracted to a sentence partially compound by
using but once all elements common to the full propositions, and uniting
all others. Thus Heaven *shall pass away* and earth *shall pass away,* =
Heaven and earth shall pass away. Observe that the contracted sentence
has only a compound subject (G 192, also G 197).[11]

The process can go the other way:

Any *contracted compound sentence* [may be changed] to a complete compound.
EX--The king and queen were absent, = The king was absent, and the queen was
absent (G 198).

Both contraction and expansion are referred to in the section on 'Transformation of
Sentences' (G 196-198).
11. Nominal compounding. There is some disagreement among modern-day theorists
as to whether the formation of nominal compounds is a transformational process (see
especially Liles 1972:171). Nevertheless, Greene's equivalencies show some awareness
of the relationships involved. Under 'Transformation of Sentences', Greene gives, as
an example of altering the grammatical construction of an element, the change of its
class from first to second, i.e. from word to phrase, or second to first, then the
pair 'A morning ride is refreshing, = A ride in the morning is refreshing' (G 197,
also E 146 and T 201; in the last, the sentences just mentioned are given as examples
of 'expanding or abridging an element').[12] Also, in T 129, 'An adverbial clause is
an adverb, or adverbial phrase, expanded into a proposition; as, "The ship sailed...
before sunrise = before the sun rose"'.
12. Varia. Elsewhere in Greene's works are isolated equivalencies which, though
they are not so well documented as the ones I have already discussed, nevertheless
constitute, in my opinion, indirect references to transformational processes. I
report these anecdotally as additional evidence of Greene's use of paraphrase as a
descriptive device.
12.1.Absolutization. These are the same constructions that Malmstrom and
Weaver discuss in their section on 'absolutes that are related to adverbializations'
(1973:211). Greene says,

The predicate of an abridged proposition remains unchanged in the nominative,
after the participle of the copula...as, 'As a youth was their leader, what
could they do?' = 'A youth being their leader', &c. (T 169)

The participial construction may be employed to abridge adverbial clauses...
as, 'Because he was unable to persuade the multitude, he left in disgust' =
'Being unable, or Unable to persuade', &c. (T 172)

As with other processes, this one can go in either direction:

A simple sentence may be changed to a complex by expanding any of its elements
into a proposition; as, 'Having completed his discovery, Hudson descended the
river' = 'After he had completed his discovery', &c. (T 201)

A complex sentence may be changed to a simple sentence (or a contracted complex)

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by abridging its subordinate clause; as, 'When the shower had passed, we resumed our journey' = 'The shower having passed, we resumed our journey' (E 146).

12.2. Derivational morphology. Here Greene's equivalencies between words and phrases show his awareness of the roles of derivational morphemes and function words.

In an element of the second class [i.e. a phrase], both the idea and its relation are represented by separate words; whereas, in an element of the first class [i.e. a word], the idea only is represented; the relation must be supplied by the mind; as, 'horses of Mexico' = 'Mexican horses'. Hence an element of the second class may be considered as the expansion of a corresponding element of the first...An element of the first class may be changed to one of the second, or an element of the second to one of the first, by introducing or suppressing the exponent of the relation, making, of course, the requisite change of form; as, 'a virtuous man' = 'a man of virtue'; 'the temple of Solomon' = 'Solomon's temple' (T 84-5).

When the phrase used as predicate consists of a preposition and its object, it is equivalent to an adjective...as, 'George is without a penny' = 'George is penniless'; 'He is at dinner = dining' (T 93).

Relations may be either represented or unrepresented, as, 'The boy was running with rapidity' = 'The boy ran rapidly' (E 143).

The adjective element, if simple and of the first class, is placed before the noun; if of the second or third class [i.e. a phrase or clause], it is placed after the noun; as, 'Wise men = men of wisdom = men who were wise were chosen' (T 191).

12.3. Decomposition of adverbials.[13]

It not infrequently happens that the adjective clause...assumes the form of an adverbial clause, an equivalent relative adverb taking the palce of the relative pronoun and preposition; as, 'The time in which Priam lived is uncertain' = 'The time when Priam lived', &c....Compound relatives represent both the antecedent and the relative; as, 'What cannot be cured must be endured' = 'That which cannot be cured must be endured' (T 137).

The connective and its correlative are equivalent to two phrases; as, 'I will go where he lives' = 'I will go to the place, (there) in which (where) he lives' (T 147, also T 173, G 149).

12.4. Semantics of infinitives.

Clauses which denote a purpose, or motive are...often equivalent to an infinitive; as, 'Eat that you may live' = 'Eat to live' (T 157, also T 173).

Or (observe the structural description that precedes the account of the structural change):

The connective is retained in certain substantive clauses, when the predicate is in the potential mode, and the subject is the same as that of the principal verb. In such cases, the predicate is [NB] changed to the infinitive and the subject [NB] dropped by [the rule for abridged propositions, EQUI, cf. section 7 above]; as, 'I knew not what I should do = what to do' (T 168).

On the same page, Greene continues (note preposition-movement and relative-deletion),

> A similar change may take place in adjective clauses [denoting purpose]; as, 'Give me a knife with which I may cut this string = with which to cut this string = to cut this string with' (T 168).

12.5. Semantics of non-restrictive relative clauses.

Clauses introduced by relative pronouns are sometimes nearly equivalent to independent clauses connected by 'and'. The relative, in such cases, is equivalent to 'and he', 'and she', or 'and it'; as, 'He gave me a book, which he requested me to read' = 'He gave me a book, and requested me to read it' (T 318).

13. Transformations and Greene's philosophy of language. In support of my claim that Greene was a closet transformationalist, I would like to argue that his use of equivalencies and process terminology is more than a handy notational device; it is a plausible consequence of the way in which he views language. To begin with, Greene is aware of both the distinction between form and function and of 'infinite variety' in the surface forms of language. In the Preface to his Treatise, he writes,

> In the preparation of the work it has been the aim of the author, first, to determine the number and the nature of the elements which can enter into the structure of a sentence, and, secondly, to ascertain their various forms and conditions. Notwithstanding the almost infinite variety of sentences with which the language abounds, it is worthy of remark that the number of different elements in any sentence can never exceed five.[14] It is equally remarkable that the offices which these elements perform are few and uniform, although they may assume an endless variety of forms.

Greene sees language as the external manifestation of thought:

> Language to [the student] is an instrument for immediate and practical use, and not an object to be dissected and examined for other purposes. He employs it to make known his thoughts and feelings, his joys and sorrows, his wants and acquisitions; and, in the act of speaking, these and not words engross his attention (I 3).

> In the following classification of the principles of Grammar, great prominence has been given to thoughts and ideas in their relation to forms. The complete sentence is first regarded as a unit,--an expression of a single thought,--and that, too, whatever may be the number of propositions combined in it, or whatever may be the characteristic of the thought, as a statement, a command, an inquiry, or an exclamation. The thought determines the sentence...Thus, it will be seen that the sentence is not treated at first as an assemblage of words (which is the usual way), but as an assemblage of elements variously expressed; and in the final analysis these elements are reduced to words. It is this peculiarity that brings the learner into sympathy with the thought itself,-- the vital power which determines all the forms of the sentence. It gives him an interior view of its structure... (T 5)

This notion of 'interior view' Greene explicates in detail in the Preface to his Elements:

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In the presentation of a subject like that of English Grammar, the first
question which naturally arises is that of the point of view from which it
shall be examined. Shall the forms of language be regarded as direct results
from thought, as the offspring of an inner impulse? or shall they be looked
at as possessing in themselves, regardless of their origin, all that is nec-
essary to guide to a successful investigation? The one may be called the
interior, the other the exterior, point of view. From the one point, lan-
guage is regarded as organized under the influence of a vital, life-imparting
power, determining all its outward forms and manifestations; while from the
other it becomes a lifeless frame, to be dissected and examined, for the
purpose of ascertaining what it is, and of what it is composed. At one point
the learner is placed in sympathy with the speaker or writer, in the act of
embodying thought, and is allowed, as it were, to inquire why one form is
chosen and another rejected; why one expression, better than another, supplies
the inner demand; whether a single word or group of words best meets the want,
and what the word or group shall be called, not so much from its external
features as from the nature of the idea which it denotes [emphasis mine].
From the other point of view the learner seeks to know what a word or expres-
sion is from its external aspect--its termination, position, or from some
auxiliary or outward sign. In one case, an idea being given, the problem
with the learner is, to find as well an appropriate expression as to decide
upon the nature and classification of the latter. In the other case, an
expression being given, the problem is to determine therefrom its nature and
class. In the one case, expression is the prominent object of interest; in
the other thought, expression being regarded only as the medium of its
manifestation.

The author has aimed in the following pages, as far as possible, to take the
interior point of view (E iii-iv).

It seems clear to me, then, that Greene's frequent employment of transformation
as a means of setting forth equivalent expressions of the same thought follows quite
naturally from his conception of language and of the way in which it should be
approached.

14. Recapitulation: Samuel Greene--first transformationalist? In this section
I propose to re-examine Greene's credentials as a transformational grammarian by
comparing his transformations to those of early theorists, with specific reference
to the characteristics of transformations that I inferred in §1 above. I repeat
them here.
   (1) Transformations are defined by co-occurrence of structures.
   (2) Transformations operate only on surface structures.
   (3) Transformations are defined on specific strings; they convert these to
       strings with specific derived structure.
   (4) Transformations apply in order.
   (5) Transformations may be optional or obligatory.
   (6) (=[2a], replaces [2]) Obligatory transformations (but not optional ones)
       operate on abstract structures, i.e. the output of the PS component (cf.
       Chomsky 1957).
   (7) Transformations have direction: one string, in some sense basic, serves
       as the input.
   (8) (=[2b], replaces [2] and [5]) Transformations operate on abstract structures.[15]
   (9) Transformations preserve meaning.
   I believe that I have made it sufficiently clear that Greene's equivalencies are
based not on distributional criteria, but on semantic ones; Greene makes no reference
to (1), but assumes (9). A final example:

> Two different <u>expressions</u>, meaning the same thing or nearly the same, are called <u>equivalents</u>; as, 'Xerxes ordered <u>that Mardonius should remain in Greece</u> = <u>Mardonius to remain in Greece</u>' (T 200).

It seems that Greene recognized that the validity of his method depended on accurate paraphrase; he does make a point of mentioning discrepancies:

> Equivalent expressions often have shades of difference in meaning. In the above example, the first Italicized form implies that the command was given in a general way; the second, that it was given personally to Mardonius (T 200).

And, under 'Abridged Propositions':

> I saw that the *chrysalis* <u>was becoming</u> a *butterfly*, = I saw the *chrysalis* <u>becoming</u> a *butterfly*. Here, as in many other cases, there is a difference of meaning between the two forms (G 195).

While Greene cannot be said to hold (2a) or (2b), he does seem to believe that a description of a language should involve two (not necessarily isomorphic) levels; refer to my quotations from prefaces to his works and to the following:

> Equivalents in signification are by no means equivalents in grammatical construction; nor is the grammatical construction of one form accounted for by explaining that of its equivalent (T 200).

In his early work, Chomsky devoted attention to this same phenomenon:

> Still another aspect of syntax which particularly interested Chomsky was the fact that two, or in some cases more than two sentence structures may be employed to say essentially the same thing. (Malmstrom and Weaver 1973:63).

I would say that (3) is implicit in Greene's work. Though he does not, of course, use the algebraic notations so characteristic of early transformational grammar, he verbally gives both the SD and the SC of his transformations and usually marks in italics or boldface the elements to be altered or suppressed.

The remaining characteristics of transformations--(4), (5), and (7)--are significantly less relevant to Greene's work. Greene's transformations are all optional, and, while some of his statements either imply or clearly state that one string is basic, a number of the equivalencies, especially those involving expansion and abridgement, can go in either direction.

I will take as little space as possible to state what I feel are the obvious conclusions to be drawn from all this, and they are ones that have been drawn before: that the antecedents of transformational grammar go back well before 1957, and that the ideas that seemed new then and afterward had simply been laid aside, for what must have seemed perfectly good reasons at the time.

Notes

[1]Or, as Harris puts it (1965:283),

> Transformations can therefore be defined as operations on elementary sentences and on the resultants of transformations. This in turn is equivalent to defining transformations as operations on elementary sentences and on transformations. When we extend the argument of a transformation to include the effects of particular transformations, we are specifying which transformations can follow upon which transformations, and so giving their possible ordering.

[2]I have adopted the following set of abbreviations for referring to Greene's works:
G (A Grammar of the English Language, 1857), E (The Elements of English Grammar,
1859), T (A Treatise on the Structure of the English Language, 1859), and I (An
Introduction to the Study of English Grammar, 1868).

[3]To 'reconstruct' a sentence is 'to express the same thought in other words' (I 150).
While this may seem to be the same as transforming, Greene elsewhere makes it clear
that he is referring to lexical paraphrase: 'Any sentence is said to be reconstructed
or recast when the former construction is wholly disregarded; as, "That which agrees
with the will of God should please us" = "We should be pleased with whatever is
agreeable to the will of our heavenly Father"' (E 146).

[4]The = sign is explicitly interpreted only once in all four of Greene's works:
'In subsequent parts of this work, it will often be necessary to represent equivalent
expressions. For this purpose the sign of equality (=) will be used' (G 84). For
observations on the connection between '=' and underlying meaning, see §14 below.

[5]This remark should be assumed for all additional references that I present without
comment.

[6]In E 146, Greene explains the apparent anomaly:

> A question for gaining assent, or a question of appeal, is employed, not
> when the speaker is in doubt, but when he wishes to gain the assent of the
> hearer, and, as it were, commit him to his own views. Hence, when the
> speaker expects a negative answer, he omits the negative in the question,
> and when he expects an affirmative answer, he inserts the negative in the
> question. In the declarative sentence, the opposite should prevail.

[7]Greene mentions it-clefting in the same place as extraposition ('"He did not do
it"; "It was not he that did it"'), since both involve a meaningless it that enables
us 'to place emphasis on a word which otherwise must occupy an unfavorable place in
the sentence' (T 90).

[8]Harris continues, 'Similarly, I insist that I should go, I insist on my going →I
insist on going. Similarly, I told him to go← I told him that he should go' (Harris
1965:393). Greene's version of this last equivalency is 'When [the subject in an
abridged proposition] is in the objective case, it is followed by the infinitive of
the abridged predicate; as, "I told him that he must go = him to go"' (T 169).

[9]Greene goes on to say (T 171) that

> Adjective clauses are often reduced by changing the predicate into a noun
> joined to the limited noun by 'of'; as, 'A man who is generous will gain
> friends' = 'A man of generosity will gain friends'.
>
> The abridged predicate, whether in the form of the participle or the infini-
> tive, may receive the same additions as it would receive in the unchanged
> form; as, 'When he came into the city = coming into the city;'...The participle
> may be used wholly as an adjective, and be placed before the noun; as, 'The man
> who labors' = 'The laboring man'; or it may retain characteristics of the clause
> from which it [NB] is derived, and be placed after the noun; as, 'Those who
> live upon the seashore' = 'Those living upon the seashore'.

In present-day terms, preposing is blocked by the upon-phrase and the demonstrative.
    The following explanation shows, I believe, the implied transformational
ordering PASSIVE>WHIZ:

The relative may become the objective element of its clause; as, 'The book which I purchased is damaged'. In this relation of the relative, the adjective clause is equivalent to the passive participle; as, 'The book purchased by me was damaged' (T 137).

Greene also mentions WHIZ in the formation of appositives (cf. Malmstrom and Weaver 1973:203-4): 'the noun or pronoun may be equivalent...to a noun or pronoun in apposition; as, "Paul, who was an apostle, visited Rome," = "Paul, an apostle, visited Rome"...' (T 136).

[10]Which they attribute to Stockwell et al., Integration of Transformational Theories on English Syntax (Los Angeles: U.C.L.A., 1968), vol. 2, pp. 591-2.

[11]Cf. Harris again (1965:381): 'In coordinate conjunctions, words in the second sentence (under the conjunction) are zeroed if they are identical with the words in the corresponding string position in the first sentence'. Greene, however, includes no examples of identical VP deletion.

[12]Connected with compounding is the phenomenon of zeroing the 'appropriate word', e.g. the milkman←*the milk-delivering man (Harris 1965:389). Harris (1965:388) defines the 'appropriate word' as the item 'which in the given culture or subject matter (e.g. conversation or science) is accepted (understood) as the main word to occur with the particular other words [of an insert or operator]...In a form $A_iX_{ap}B_i$, the [appropriate word] means not its full dictionary meaning but that which primarily carries out the X-relation...of A_i to B_i...' This bears a remarkable resemblance to Greene's observation (T 96) that 'in many of these cases [of a prepositional phrase joined to a noun], some word is understood; as, "a walk taken in the morning;" "a house situated on the mountain;" "imprisonment suffered for debt;" "a heavy loss caused by fire"'.

[13]Note also Greene's comment on lest, reminiscent of more recent attempts to discern negative elements in rarely, hardly, etc. (cf. Klima 1964, Grinder and Elgin 1973, Ch. 5): 'Lest denotes a negative purpose, or the avoidance of an evil, and is nearly equivalent to that not; as, "Take heed lest ye fall = that ye do not fall"' (T 157).

[14]These are adjective, subject, predicate, object, and adverbial. Since each of these can be a word, a phrase, or a clause, and each can be simple, compound, or complex--(and since recursion is introduced by the embedded Ss that appear as 'abridged propositions'), Greene's basic schema looks like a modern phrase-structure grammar. (T 183-5 and Preface).

[15]Not every modern author is completely clear on this point. Grinder and Elgin (1973:88-9) state that 'a transformation maps tree structures (Phrase Markers) into tree structures', but immediately afterward, they say, following Greene quite closely, that

> the purpose of the transformation in natural language research is to state explicitly the relations judged by native speakers to exist between distinct Surface Structures. If, for example, there exist two distinct surface structures of English, S_i and S_j, which are felt by native speakers to be closely related structurally [sic, sc. semantically?], then the structural relation intuitively identified may be formally stated as a Transformation...Thus, the Transformation is the explicit statement of the structural relation, the formal analog of the intuition of the relation identified by the native speaker.

These comments are consonant with (2), that transformations operate on surface structures.

14

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*   SPECIAL BICENTENNIAL ISSUE   *

*   This special issue of THE INFORMANT has been   *
       recognized as an official activity of the bicentennial
*   celebration at Western Michigan University by the   *
       University Bicentennial Committee. Mr. Robert H.
*   Luscombe, Chairman of that UBC, announced the Committee's *
       endorsement of the project in a letter to the Editor
*   on April 19, 1976.   *
           The Editor feels that the lead article on "Samuel
*   Greene: First Transformationalist?" is especially   *
       appropriate to the bicentennial celebration. It
*   deals with a mid-nineteenth century educator from   *
       New England who wrote a "revolutionary" Grammar of
*   the English Language in 1857 which presaged the   *
       transformational "revolution" brought about by
*   Chomsky's Syntactic Structures exactly one-hundred   *
       years later.
*   THE INFORMANT is recognized by the Center for   *
       Applied Linguistics in Washington, D.C. as a combination
*   working papers/newsletter. It is distributed free of   *
       charge to most of the major universities in the United
*   States and to many of the leading universities and   *
       libraries of the world. It is our hope that this
*   special bicentennial issue will make a significant   *
       contribution to the history of linguistics and will
*   serve as an appropriate celebration of our nation's   *
       200th birthday.
*   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *

New Students in Linguistics Programs (33)
(Since the Winter 1976 issue)

New Critical Language Minors (4)   [Total active in this Program = 20]

    Kathy Benson (Brazilian Portuguese)
    Beverly Grimm (Mandarin Chinese)
    Bonnie Leader (Modern Hebrew)
    Emily White (Polish)

New Undergraduate Minors (11)   [Total active in this Program = 43]

    Janet Ernst (Psych. major, Sec. Ed.)
    Barbara Gregg (Art major, Art)
    Zoe Hackey (Anthro. major, A & S)
    Jamie Hollins (Elementary Education)
    Ruth Humphries (English major, Sec. Ed.)
    Regina Krcatovich (English major, Lib. Arts)
    Leslie Lee (Sp. Path. major, Sp. Path.)
    Deborah Lowmaster (Art and Anthro. majors, Art)
    Lori Mandro (Elementary Education)
    Marilyn Martin (English major, El. Ed.)
    Martha Schmalenberger (Elementary Education)

New Undergraduate Majors (13)   [Total active in this Program = 43]

    *Joan Collins (A & S Curric.)
    *Sandra Crary (Liberal Arts Curric.)
     Deidre Culhane (Other major: Communication)
     Karen Dakhlian (Minor: French)
    *Francis Diaz (A & S Curric.)
    *Katherine Hool (A & S Curric.)
     Peggy Houston (Minors: Spanish, History)
    *Romeo Palmucci (A & S Curric.)
    *Leokadia Ralkiewicz (A & S Curric.)
    *Sherri Ritchie (A & S Curric.)
    *Diane Rose (A & S Curric.)
     Kenneth Simpson (Other major: Anthropology)
    *Patricia Vanderpool (A & S Curric.)

    * = not yet counseled

New Graduate Majors (5)   [Total active in this Program = 17]

    Kathy Bignotti (UG major: Spanish, WMU)
    Lee-Jin Chen (UG major: English, Taiwan)
    Wendy Risk (UG major: Journalism, Missouri)
    Rebecca Waroe (UG major: Spanish, WMU)
    Jill Witt (UG major: Psych., K. College)

        [Total active in all Programs = 123]

Recent Graduates (12)

April 1976 (4): Sarolta Ficsor (Ling. minor, B.A., magna cum laude), Caroline
Houston (Grad. Ling. major, MA-TCC), Janet Morris (Ling. minor, B.A., magna
cum laude), Armida Pearse (Ling. minor, B.A., cum laude). June 1976 (1):
Faith Andrus (Ling. minor, B.A., cum laude). August 1976 (7): Thomas Crandall
(Grad. Ling. major, MA-TCC), Georgina Doyle (Grad. Ling. major, MA-TCC), Karen
Innes (Grad. Ling. major, MA-TCC), Hagos Kafil (Crit. Lang. minor, B.B.A.),
Donald Kenny (Ling. minor, B.A.), Ann Sexton (Ling. minor, B.A., summa cum
laude), Everyl Yankee (Grad. Ling. major, MA-TCC).

Visiting Scholar

The Department of Linguistics welcomes its new Visiting Scholar for 1976-77--
Mr. Ngawang Thondup Narkyid, Research Scholar and Cultural Officer of the Library
of Tibetan Works and Archives, Dharmsala, India. Mr. Thondup arrived here on
May 3 to study modern linguistics, to teach Tibetan, and to lecture on Tibetan
language and culture. He was honored at a reception in Sprau Tower on May 25,
he started teaching Tibetan in June, and he has lectured to several groups and
classes this Fall. An excellent feature article about Mr. Thondup appeared in
the July 11 Kalamazoo Gazette. The persons responsible for bringing Mr. Thondup
to Western are Dr. Robert Shafer, Associate Professor of English, and Dr. Cornelius
Loew, Dean of the College of Arts & Sciences. Those in charge of his linguistic
education while he is here are Dr. D.P.S. Dwarikesh, Associate Professor of Lin-
guistics, and Dr. Robert A. Palmatier, Chairman of the Linguistics Department. Mr.
Thondup will be on campus until April 30, 1977.

Mr. Thondup was born in Tsethang, in the Tibetan province of U, in 1931 but
spent his early years in a private school in Lhasa. In 1942 he was selected by
the Tibetan Government to attend the prestigious Tse School of Civil Service in
the Potala. From 1948 to 1952 he was an official in the Yigtshang Lekhung, the
Secretariat of the Tibetan Government. In 1952 he left for Peking, China to
study Chinese language (Mandarin) and literature at the Institute for National
Minorities. While in China, he was appointed Deputy Director of the Tibetan
Language Department of the Institute, where he also taught as a lecturer. Besides
conducting research there, he authored a Tibetan language textbook for Chinese
students and translated into Tibetan a series of books on the Chinese Communist
youth movement. On his return to Lhasa in the winter of 1957, Mr. Thondup was
made a Government official of the fifth rank and elected a member of the Reform
Commission established by the Dalai Lama. In 1958 he was appointed Additional
Municipal Commissioner of Lhasa.

In 1959, after the Chinese takeover of Tibet, Mr. Thondup escaped to India,
where he became Secretary-General of the Information and Publicity Office of the
exiled Tibetan Government at Dharmsala. He also served as Assistant Director of
the Institute of Tibetan Culture. In 1965 he was named Research Scholar and Cul-
tural Officer of the Library of Tibetan Works and Archives, the position which he
now holds. He is also Language Expert on the Selective Committee of the All India
Radio Tibetan Programme and a member of the Editorial Board of the Tibet Journal.
In 1973-74 Mr. Thondup was a Visiting Scholar at the Oriental Library and Univer-
sity of Foreign Studies in Tokyo. While in Japan, he also taught Tibetan language
and culture at Tokyo University. Mr. Thondup is the author of a Tibetan Word
Book (1964), Tibetan Language: Three Study Tools (1972), and A Glossary of English
and Tibetan Forms (in progress).plus several other books and translations.

GENERAL LINGUISTICS CLASSES

201 GA Intro to Study of Language	4 hrs.	2:00-2:50	MTWF	Dlouhy	1128 BH
321 CA Phonology & Morphology	4 hrs.	10:00-11:50	TTh	Dwarikesh	1128 BH
420 BA History of Language	4 hrs.	9:00-9:50	MWThF	Dlouhy	1129 BH
500 IA Intro to Linguistics	4 hrs.	4:00-5:50	MW	Palmatier	1129 BH
511 FA Meth Tchg Eng Sec Lg/D	4 hrs.	1:00-2:50	TTh	Chang	1129 BH
552 KA Sociolinguistics	4 hrs.	6:30-8:20	MW	Dwarikesh	1128 BH
571 HA Languages of Asia	3 hrs.	3:00-4:30	TTh	Dwarikesh	1128 BH
581 KA Intro to Research in Ling	4 hrs.	6:30-8:20	TTh	Hendriksen	1128 BH
598 AR Readings in Linguistics	VAR	(Apprv Appl Reqd)		Staff	

CRITICAL LANGUAGES CLASSES

301 AA Basic Old English	4 hrs.	8:00-8:50	MWThF	Palmatier	1128 BH
301 AR Basic Critical Languages	4 hrs.	(C-Card)		Palmatier	410 SP
302 KA Basic Arabic (301)	4 hrs.	6:30-8:20	MW	Khaled	1129 BH
302 EA Basic Braz Portuguese (301)	4 hrs.	12:00-12:50	MTWF	Calou	1129 BH
302 KB Basic Hebrew (301)	4 hrs.	6:30-8:20	TTh	Szmuszkovicz	1129 BH
302 BA Basic Japanese (301)	4 hrs.	9:00-9:50	MTWF	Dwarikesh	1128 BH
302 HA Basic Korean (301)	4 hrs.	3:00-3:50	MTThF	Han	1129 BH
302 AA Basic Mand Chinese (301)	4 hrs.	8:00-9:50	TTh	Palmatier	BH
302 AR Basic Critical Languages	4 hrs.	(Ling 301 & C-Card)		Palmatier	410 SP
501 AR Inter Critical Languages	4 hrs.	(Ling 302 & C-Card)		Palmatier	410 SP
502 AR Inter Critical Languages	4 hrs.	(Ling 501 & C-Card)		Palmatier	410 SP
508 AR Reading Crit Languages	4 hrs.	(Ling 502 & C-Card)		Palmatier	410 SP
509 AR Writing Crit Languages	4 hrs.	(Ling 502 & C-Card)		Palmatier	410 SP

ENGLISH AS A SECOND LANGUAGE CLASSES

111 CA Stand Amer Eng--Int (Foreign Students)	4 hrs.	10:00-10:50	MTThF	McGranahan	BH
111 FA Stand Amer Eng--Int (Chicano Students)	4 hrs.	1:00-1:50	MWThF	Risk	BH
112 DA Stand Amer Eng--Adv (Foreign Students)	4 hrs.	11:00-11:50	MTThF	Chang	1129 BH

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Call for Papers

Hey papers! The Editor invites students, faculty, and other readers to submit papers on language topics for inclusion in the 1977 issues of THE INFORMANT. The call is directed not only to persons associated with the Linguistics Department at Western but to any of our readers who are working or studying in a linguistically related area. These areas include Anthropology, Area Studies, Biology, Communication, English, History, Librarianship, Medieval Studies, Modern and Classical Languages, Philosophy, Psychology, Sociology, Social Work, Speech Pathology, and many others. Simply mail a typed (double-spaced) copy of your paper by February 1 to:

Editor, THE INFORMANT
Department of Linguistics
Western Michigan University
Kalamazoo, Michigan 49008

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