CLAUSE UNITS IN ENGLISH

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This paper is dedicated to Dr A. Capell who was the chairman of my doctoral committee at the Australian National University in 1966, while my academic supervisor was Professor S.A. Wurm.

0. INTRODUCTION

Before the development of tagmemics and transformational grammar, Charles F. Hockett foresaw an eventual integration of two models of grammatical description that he defines as *item and arrangement* and *item and process*.[1] William G. Moulton points out that in preparing materials for teaching foreign languages, both tagmemics and transformational grammar serve as theoretical foundations, the former in substitutional drills, and the latter in transformational drills.[2] Simon Belasco demonstrates that "*one* need not supersede the *other*", meaning that neither tagmemics nor transformational grammar need supercede the other.[3] Inspired by these articles, I attempt in this paper to utilize[4] both tagmemic[5] and transformational[6] techniques while making an analysis of Clause Units[7] in English.[8] In so doing, I shall present the Clause Units as both grammatical field[9] and wave[10] and shall also point out that, besides grammaticalness and acceptability,[11] the frequency of occurrence[12] of a grammatical construction is also an important factor to be considered in linguistic analysis.

SUMMARY TABLE

THE 87 ENGLISH COMPLETE CLAUSE UNITS

					1	2	3	4	5	6	7	8	9	10			
					18.27	44.00	2.45	3.55	2.21	.04	.08	25.65	2.05	1.70	100%		PERCENTAGE
I	II	III	IV		463	1115	62	90	56	1	2	650	52	43	2534	100%	TOTAL
Independent	Without an Interrogative Tagmeme	Declarative		a	227	599	30	49	31	0	1	382	43	35	1397	55.13
		Imperative		b	85	162	18	23	2	0	0	14	UG	UG	304	2.00
		Yes-No Interrogative		c	23	55	2	5	1	0	0	45	1	3	135	5.37
	With an Interrogative Tagmeme	From Declarative Kernel	Interrogative Subject	d	2	3	1	0	0	0	0	30	UG	UG	36	1.42
		From Interrogative Kernel	Interrogative Non-Subject	e	UG	48	0	0	UG	0	0	13	0	1	62	2.45
			Extra-Interrogative	f	10	10	0	0	0	0	0	37	0	0	57	2.25
Dependent	Without an Extra Dependent Tagmeme		Dependent Subject	g	20	22	0	2	4	0	0	6	UG	UG	54	2.13
			Dependent Non-Subject	h	UG	70	5	2	UG	1	UG	10	UG	UG	88	3.47
	With an Extra Dependent Tagmeme		Dependent Relative	i	42	74	1	3	6	0	1	56	6	4	193	7.62
			Extra Dependent	j	54	72	5	6	12	0	0	57	2	0	208	8.21

The Clause Class Dimension

The Clause Type Dimension

		1	2	3	4	5	6	7	8	9	10		
	IV	Intransitive	Single	Double	Attributive	Single	Double	Attributive	Equational	(There) Stative	(It) Stative	TOTAL	PERCENTAGE
	III		Transitive			Transitive							
	II		Active			Passive							
	I	Grammatical Subject								Logical Subject			

TOTAL: of each Clause Class or Clause Type

PERCENTAGE: of each Clause Class or Clause Type

O: a grammatical Clause Unit that has not occurred in the materials

UG: ungrammatical

1. GRAMMATICAL FIELD

There are 87 Clause Units in English, which are cast in a two-dimensional field: the Clause Class Dimension, and the Clause Type Dimension. While other Clauses contain minimally an obligatory nuclear Subject tagmeme and an obligatory nuclear Predicate tagmeme, each Independent Imperative Clause contains minimally only one obligatory nuclear tagmeme, the Predicate.

The Clause Class Dimension is subdivided, under four levels of consideration, into ten Clause Classes. The Clause Type Dimension is also subdivided, under four levels of consideration, into ten Clause Types. The total field contains 100 possible Clause Units, but only 87 of them are grammatical in English.

By the application of the appropriate Transform Rule or Rules, each of the other nine Clause Classes can be derived[13] from the Independent Declarative Clause Class. The Independent Declarative Clause Class is therefore the kernel, and a complete analysis of Clause Units in English consists necessarily and sufficiently of a detailed analysis of all the ten Units in the Independent Declarative Clause Class, and of a statement of Clause Class Transform Rules.

In order to keep this paper within its scope, only the minimal nuclear, and not the maximal expanded formulae of Clause Units[14] will be given. Likewise, only the tagmemic slots, and not the filler classes of nuclear Clause level tagmemes will be given.

2. THE INDEPENDENT DECLARATIVE CLAUSE CLASS

The minimal nuclear formulae of the ten Independent Declarative Clause Units are as follows:

a1. IndepDeclActIntrCl[+S   +DeclActIntrPr]
            They went.

a2. IndepDeclActSgTrCl[+S   +DeclActSgTrPr   +DO]
            They bought   the book.

a3. IndepDeclActDbTrCl[+S   +DeclActDbTrPr   +IO   +DO]
            They gave   Mary flowers.

a4. IndepDeclActAtTrCl[+S   +DeclActAtTrPr   +DO   +AtCompl]
            They elected   John chairman.

a5. IndepDeclPasSgTrCl[+S   +DeclPasSgTrPr   ±Agent]
            The book was bought   (by them).

```
a6.   IndepDeclPasDbTrCl[+S      +DeclPasDbTrPr   +⟨DO⟩    ±Agent]
                                                   ⟨IO⟩
                          Mary    was given         flowers  (by them).
      The flowers were given (to) Mary (by them).


a7.   IndepDeclPasAtTrCl[+S      +DeclPasAtTrPr  +AtCompl    ±Agent]
                          John    was elected    chairman   (by them).


a8.   IndepDeclEqCl[+S      +DeclEqPr    +EqCompl]
                     They    were        students.
      They were excellent.


a9.   IndepDeclThereStCl[+There    +StativeDeclPr    +StativeS]
                          There    were             the students.


a10.  IndepDeclItStCl[+It    +StativeDeclPr    +StativeCompl]
                       It     was             the students.
```

Two remarks seem to be pertinent to the analysis of the Independent
Declarative Clause Units in English:

(1) Selection of the form of the Predicate. There is a necessary
selection of the form of the obligatory nuclear Predicate tagmeme by
the obligatory nuclear Subject tagmeme:

> (a) In all the eight Grammatical Subject Clause Types, the
> tagmeme, having either the functional meaning of performer
> or that of the undergoer of the action of the Predicate
> tagmeme, precedes the latter, and obligatorily selects its
> form:

```
+S           +Pr
←━━━━━━━━━━━━▶
 He          walks.
 They        walk.
```

> (b) In the *(There)* Clause Type 9, although following it, the
> Stative Subject tagmeme also obligatorily selects the form of the
> Stative Predicate tagmeme:

```
+There    +StativePr     +StativeS
          ◀━━━━━━━━━━━━━
 There    were           some boys.
 There    was            a boy.
```

> (c) On the contrary, in the *(It)* Stative Clause Type 10, there is
> no other Subject tagmeme besides the Logical Subject tagmeme *(It)*,
> which selects the form of the Stative Predicate tagmeme:

```
+It    +StativePr        +StativeCompl
       ◀─ ─ ─ ─ ─ ─ ─ ─
 It    was               the boys.
 It    was               the boy.
```

(2) The Passive Transform Rule. The three Passive Transitive Clause
Types 5, 6, and 7 have the following common identificational-contrastive
features and structure formula:

```
KERNEL: ActTrCl[+S<x>     +Pr            +O<z>]
           a2.   They   bought          it.
           a3.   They   gave    Mary    the flowers.
                 They   gave            Mary         the flowers.
           a4.   They   elected         him          chairman.
```

T_{Pas}, Passive Transitive Transform Rule

```
PasTrCl[+S<z>          +PasPr[[+Auxbe +(+<v> +Part-en]]
    a5.   It                 was        bought
    a6.   The flowers        were       given      (to) Mary
          Mary               was        given      the flowers
    a7.   He                 was        elected    chairman
```

```
±Agent[[+Prepby +Head<x>]] ]
           (by them).
           (by them).
           (by them).
           (by them).
```

3. THE NINE DERIVED CLAUSE CLASSES

The structural formulae and Transform Rules of the remaining nine
Clause Classes besides the Independent Declarative Clause Class are as
follows:

b. The Independent Imperative Clause Class utilizes eight of the ten
Clause Types (1 through 8) and has the general formula:

```
KERNEL: IndepDeclCl[+S       +DeclPr...]
                    They    went.
```

T_{Imp}, Imperative Transform Rule

```
IndepImpCl[+ImpPr...]
           Go!
```

c. The Independent Interrogative Subject Clause Class utilizes eight
Clause Types (1 through 8), and has the general formula:

KERNEL: **IndepDeclCl[+S   +DeclPr...]**
                    They   went.

T_{InterS}, Interrogative Subject Transform Rule

IndepInterSCl[+InterS   +DeclPr...]
              Who   went?

d. The Independent Yes-No Interrogative Clause Class utilizes all ten Clause Types, and has the general formula:

KERNEL: **IndepDeclCl[+S   +DeclPr...]**
                    They   went.

$T_{YesNoInter}$, Yes-No Interrogative Transform Rule

IndepYesNoInterCl[+S   +InterPr...]
              Did   they   go?

e. The Independent Interrogative Non-Subject Clause Class utilizes eight Clause Types (2, 3, 4, and 6 through 10, of which the Clause Types 3, 4, and 7 are grammatical but not generally acceptable), and has the general formula:[15]

KERNEL: **IndepYesNoInterCl[+S   +InterPr   +NonS]**
                    Did   they   buy   the book?

$T_{InterNonS}$, Interrogative Non-Subject Transform Rule

IndepInterNonSCl[+InterNonS +[[+IndepYesNoInterCl   -NonS]]]
              What   did they buy?

f. The Independent Extra-Interrogative Clause Class utilizes all ten Clause Types, and has the general formula:

KERNEL: **IndepYesNoInterCl[+S   +InterPr...]**
                    Did   they   go?

T_{XInter}, Extra-Interrogative Transform Rule

IndepXInterCl[+XInterIntroducer   +IndepYesNoInterCl]
              Where   did they go?

g.   The Dependent Subject Clause Class utilizes eight Clause Types (1 through 8), and has the general formula:

KERNEL: IndepDeclCl[+S   +DeclPr...]
                        They   went.

T$_{DepS}$, Dependent Subject Transform Rule

DepSCl[+DepS   +DeclPr...]
     ...who   went...

h.   The Dependent Non-Subject Clause Class utilizes five Clause Types (2, 3, 4, 6 and 8), and has the general formula:

KERNEL: IndepDeclCl[+S   +DeclPr   +NonS]
                        John   bought   the book.

T$_{DepNonS}$, Dependent Non-Subject Transform Rule

DepNonSCl[±DepNonS   +IndepDeclCl[[+S   +DeclPr   -NonS]]]
     ...(that)   John   bought...

i.   The Relative Dependent Clause Class utilizes all ten Clause Types, and has the general formula:

KERNEL: IndepDeclCl[+S   +DeclPr...]
                        They   went.

T$_{RelDep}$, Relative Dependent Transform Rule

RelDepCl[±RelDepIntroducer   +IndepDeclCl[[+S   +DeclPr...]]]
     ...(that)   they   went...

j.   The Extra Dependent Clause Class utilizes all ten Clause Types, and has the general formula:

KERNEL: IndepDeclCl[+S   +DeclPr...]
                        They   went.

T$_{XDep}$, Extra Dependent Transform Rule

XDepCl[+XDepIntroducer   +IndepDeclCl[[+S   +DeclPr...]]]
     ...when   they   went...

4. INTERPRETATION OF STATISTICAL DATA

As stated above, the total number of 87 Clause Units in English can be set in a grammatical field of two Dimensions: Clause Classes (of which there are ten), and Clause Types (of which there are also ten). Each intersection of a Clause Class and a Clause Type in the grammatical field constitutes a theoretically possible Clause Unit. The English language does not make use of thirteen such theoretically possibly Clause Units. Each individual Clause Unit can also be regarded as a grammatical wave in the sense that it contains obligatory nuclear tagmemes in its minimal realization, and also optional satellite tagmemes in its expanded realization. The Independent Declarative Clause Class a. is the kernel from which each of the other nine Clause Classes can be derived[16] when the appropriate Clause Transform Rule or Rules is or are applied.

From the statistics of Clause occurrences in the dialogues consulted, interpretations of the grammatical behaviour of English speakers can be drawn. The total number of Clauses counted is 2534.

In the Clause Class Dimension, the Independent Declarative Clause Class contains 55.13% (1397 out of 2534). All the four Independent Interrogative (Yes-No, Interrogative Subject, Interrogative Non-Subject and Extra Interrogative) Clause Classes contain 11.69%. The Independent Imperative Clause Class contains by itself only 2.00% of all Clause occurrences. This statistical count means that, in the dialogues consulted, there are about five times more statements than questions, and that there are very few imperative utterances. All the four Dependent (Subject, Non-Subject, Relative, and Extra Dependent) Clause Classes contain 21.44% of Clauses counted. This means that there are more than three fourths Simple and Compound Sentences, and there is less than one fourth Complex Sentences in the texts consulted.

In the Clause Type Dimension, the Active Single Transitive Clause Type ranks first with 1115 occurrences, or 44.00%, followed by the Equational Clause Type with 650 occurrences or 25.65%, and the Active Intransitive Clause Type with 463 occurrences or 18.27%. The other Clause Types rank relatively very low, from 3.55% to only .04% of the total number of Clauses counted. It is interesting to notice that all the three Passive (Single, Double, and Attributive) Transitive Clause Types rank either last or very low in the list.

Other statistical comparisons could be drawn from the data, but would lengthen this paper unnecessarily. Also, the dialogues consulted did not contain a few minor Clause Units, which are nevertheless not only grammatical but also acceptable to the native speaker of English.

I conclude from this non-occurrence characteristic of these Clause Units that, not only should the grammaticalness and acceptability of a construction be considered in an analysis but also its frequency of occurrence. The statistical study of grammar as advocated in this paper would serve to establish which grammatical constructions should receive priority in a language teaching text book.[16]

1. Charles F. Hockett, 'Two Models of Grammatical Description', *Word*, 10.210-31 (1954), reprinted in ed. Martin Joos, *Readings in Linguistics*, New York: American Council of Learned Societies, pp.386-99 (1958).

2. William G. Moulton, 'What Is Structural Drill?', in ed. Francis W. Gravit and Albert Valdman, *Structural Drill and the Language Laboratory*, Bloomington and The Hague: Mouton and Co., pp.3-18 (1963).

3. Simon Belasco, 'Tagmemics and Transformational Grammar in Linguistic Analysis', *Linguistics*, 10.5-14 (1964).

4. Kenneth L. Pike says: '...so it would seem possible that if tagmemics and transform grammar are both developed far enough, that they would come to the point of complete overlap', p.36b, *Language in Relation to a Unified Theory of the Structure of Human Behavior*, Part III, Glendale (1960).

5. For a bibliography on tagmemics, see Kenneth L. Pike, 'A Guide to Publications Related to Tagmemic Theory', in ed. Thomas A. Sebeok, *Current Trends in Linguistics*, Vol.3, pp.365-94, The Hague: Mouton and Co. (1966). For an application of tagmemics and transformational grammar, see Nguyễn Đăng Liêm, 'English Grammar, A Combined Tagmemic and Transformational Approach', Canberra: *Linguistic Circle of Canberra* (1966), and for a pedagogical application of the two linguistic theories, see Nguyễn Đăng Liêm, 'A Contrastive Grammatical Analysis of English and Vietnamese', Canberra: *Pacific Linguistics* (1967).

6. The transformational technique utilized in this paper is prior to Noam Chomsky, *Aspects of a Theory of Syntax*, Cambridge: M.I.T. Press (1965), and could be termed as a surface structure transformational grammar.

7. This analysis aims at the Clause level because, as Robert E. Longacre says: 'In essence, the clause posits a situation in miniature (whether asserting, questioning, commanding, or equating)', *Grammar Discovery Procedures*, p.35, The Hague: Mouton and Co. (1964).

8. For a bibliography on English linguistics, see, for example, Harold B. Allen, *Linguistics and English Linguistics*, New York: Appleton-Century-Crofts (1966).

9. For a postulation of patterning and grammatical field, see Robert E. Longacre, 'Transformational Parameters in Tagmemic Field Theory', pp.43-58, ed. Charles W. Kreidler, *Monograph Series on Languages and Linguistics, No.18, Approaches to Linguistic Analysis, Language and Society, Teaching Language Skills*, Washington D.C.: Georgetown University Press (1965).

10. For a postulation of grammatical wave, see Kenneth L. Pike, 'Grammar as Wave', pp.1-14, *Monograph Series on Languages and Linguistics, No.20, Linguistics and Language Study*, Edward Blansitt, Washington D.C.: Georgetown University Press (1967).

11. Noam Chomsky defines acceptability as 'a concept that belongs to the study of performance, whereas grammaticalness belongs to the study of competence', p.11, *Aspects of a Theory of Syntax*.

12. Walter A. Cook, in 'The Generative Power of a Tagmemic Grammar', pp.27-42, Monograph No.20 cited in footnote 9, advocated statistical studies in grammar. The statistical data given in this paper were based upon the dialogues in the first two scenes of each of the two plays: Tennessee Williams, *A Streetcar Named Desire*, New York: The New American Library, pp.13-44 (1966), and Thornton Wilder, 'The Skin of Our Teeth', ed. Henry Hewes, *Famous American Plays of the 1940's*, New York: Dell Publishing Co. (1960).

13. For an analysis of clause class transforms, see Shirley Lyon, 'Tlhuitoltepec Mixe Clause Structure', *International Journal of American Linguistics*, 33.25-33 (1967).

14. There are ten optional satellite Clause level tagmemes in English: Time, Frequency, Location-Direction, Manner, Indirect Object (which is not to be confounded with the obligatory nuclear Indirect Object tagmeme in the Double Transitive Clause Type 4), Accompaniment,

Benefactor, Instrument, Purpose, and Cause. For an analysis of them,
see Nguyễn Đăng Liêm, 'English Grammar', cited in footnote 5. For an
analysis of optional satellite in another language besides English,
see, for example, Nguyễn Đăng Liêm, 'Vietnamese Grammar, A Combined
Tagmemic and Transformational Approach', Canberra: *Pacific Linguistics*
(forthcoming).

15.   Roderick A. Jacobs and Peter S. Rosenbaum, *English Transformational
Grammar*, Waltham, Toronto, London: Blaisdell Publishing Company (1968),
confound the three Interrogative Subject, Interrogative Non-Subject,
and Extra Interrogative Clause Classes.

16.   A similar paper entitled 'Clause Units in Vietnamese' is being
written. A statistical comparison of the frequency of occurrence of
Clause Units in English and Vietnamese might give some new light on
grammatical teaching and learning problems of either language for
native speakers of the other.