Formalism vs. Functionalism:
which one is better?*

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The Linguistic Association of Korea Journal, 16(4), 267-282. Though
functional analyses of grammatical phenomena are appealing to those who
believe that integrated analyses are mush explanatory power, it is true that
they are immensely influenced from formal theories. Also, because there are
many different kinds of functional approaches we have tried to categorize
them. Differently from other linguists, I have categorized them into four
groups: formal and sentence-level(FSF), mixed and sentence-level(MSF),
typological(TF), and discourse-level functionalism(DF). I think TF and DF
cannot be compared with formalism because their targets of explanation are
different. For FSF and formalism, though they look very apart from each
other superficially, I think there is no fundamental incompatibility in their
central tenets. And I am quite pessimistic that any insightful bridge will
ever be cast between MSF and formalism. I think it is the best for a
linguist to follow his scientific temperament.

Key Words: functionalism, formalism, formal sentence-level functionalism,
mixed and sentence-level functionalism, typological
functionalism, discourse-level functionalism

1. Introduction

Chomskyan Formal grammar studies structural phenomena in a
sentence level and tries to set a 'model' for linguistic competence. On
the other hand, Functional grammar broadens its purview beyond the
structural phenomena. Though it may analyze grammatical structures, as

do formal and structural grammar, it accepts some rules or restrictions based on the entire communicative/discourse situation. As Nichols (1984) argues it purports not to model but to explain linguistic phenomena and the explanation is grounded in the communication situation.

In almost all cases, formalists have tended to focus strictly on purely formal grammar-internal explanations, and rejected functionalistic solutions unconditionally. It is also true that in practical cases, formalists do not pay attention to the linguistic phenomena that functionalists have tried to explain, and argue that those phenomena are not the "core" things that linguists have to explain. On the other hand, functionalists have argued that formalists do not understand a language as a whole because they stick to the sentence-level principles.

In this paper, I want to try to compare the two approaches in detail as much as possible, and to find out which approach is better than the other one. In section 2, we will see the basic assumptions of the two approaches. In section 3, functional approaches will be classified for comparison. The section 4 is the discussion and the conclusion of this paper.

2. The two Positions with Respect to Methodology

2.1 Basic Assumptions

While introducing two orientations in modern linguistic theories, Newmeyer (1998; 7) argues that formalist orientation sees as a central task for linguistic characterizing the formal relationships among grammatical elements independently of any characterization of the semantic and pragmatic properties of those elements, and functionalist approach rejects that task on the grounds that the function of conveying meaning (in its broad sense) has so affected grammatical form that it is senseless to compartmentalize it.

On the other hand, Abraham(1999:58) argues that with respect to metalanguage/ methodology as well as the proper domains of inquiry, the priorities formalism sets as opposed to functionalism are commonly held to the following ones (cf. Givon 1995, Croft 1995):

Table 1. The Strategic Formalism-Functionalism Prospectus

Formalism	Functionalism
1 word classes/categories	parts of speech
2 autonomy of the sentence	discourse
3 absolute generalizations	gradual/statistical generalizations
4 modularic integrity	across-the-board integrity
5 arbitrariness of the lexicon	lexical non-arbitrariness (iconicity, ubiquity of metaphoric processes)
6 lexical integrity	lexical graduality (Rosch's prototype semantics)
7 linguistic competence	at least also linguistic performance
8 diachrony as synchronic stage	diachrony as a dynamic system(de Saussure)
9 L1-acquisition and linguistic decapacitation allow insight into the linguistic capability of the brain	linguistic capabilities are part of an encompassing general cognitive development and decay
10 deductive method	inductive method
11 encoding equals decoding for purpose of UG and its rationale	encoding and decoding are distinct processes involving different strategies
12 L performs informational function	L performs informational as well as interactive function
13 there are syntactic L-universal	there are deeper cognitive universals determining L-universals
14 typology derived from formal U-language	typology open to formal prerequisites
15 linguistic production is mapped onto brain cells; (e. g. PET experiments)	brain mapping not investigated, but considered interesting (Givon 1991)

As Abraham argues, if the list of opposing methodological positions reflects current linguistic beliefs anywhere near correctly, it reflects a superficial diversity at best. Also, though Chomskyan formalists accept most assumptions listed above chart, functionalists are so diverse that some functionalists accept one or two assumptions, and some other functionalists accept the other assumptions, or mix formalistic and functionalistic assumptions. For example, it can be said that the grounds for Optimality Theory of syntax (cf. Moon 2007) or Kuno's (1987) position in functionalism were prepared by Chomskyan formalism.

All the more, confusingly, Van Valin (1993:2) refers Role and Reference Grammar(RRG) as a structural/functionalist theory. If we look

Van Valin's (1998) categorization about current linguistic theories at the following diagram, we may understand his arguments.
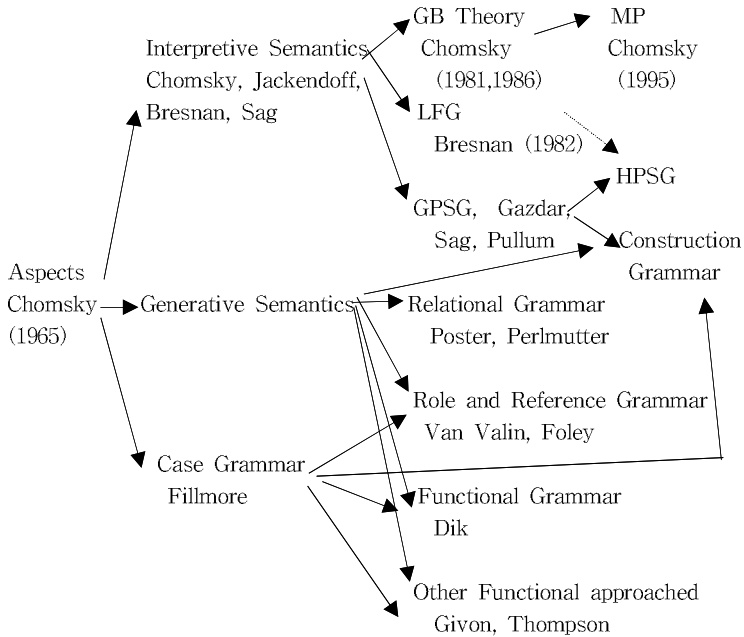
Figure 1: Overview of some of the developments on linguistic theory in the past 30 years. (Van Valin 1998;1)

Differently from Abraham's criteria for the categorization, from the above figure, we may deduce that Van Valin categorizes current theories with respect to the inclusion of "semantics" and/or the influence of semantic theory. For example, the grammatical structures of both Head-driven Phrase Structure Grammar (HPSG) and Construction Grammar use typed feature structures to represent grammatical structure, and each typed feature structure contains both syntactic and semantic information, as values for the <syn> and <sem> features respectively. Thus, it can be said that both theories are mixed theories,

and they are functional theories from the Van Valin's point of view.

Because there are so many different linguistic theories under the name of "functionalism", we need to look into the functional theories and categorize them to see which one is better. In the following section, we will see Croft's (1995), Nichols' (1983) and Newmeyer's (1999) categorization, and suggest our own categorization for the functional theories.

3. Typology of Functional Analyses

Croft (1995) argues that functional analyses of grammar, though rather varied, center on linguistic explanation based on language's function in a larger context. Thus, he suggests two criteria for the categorization of functional analyses; arbitrariness and autonomy of syntax. And he argues that the autonomy thesis can be broken down into two claims about a linguistic system: a weaker claim, that it includes arbitrariness, and a stronger claim, that it is self-contained. Based on the above criteria, he classifies the functional researches into three different categories;

   (i) syntax is arbitrary and self-contained (Autonomist Functionalism)
   (ii) syntax is arbitrary, but not self-contained (Mixed Formal/
       Functionalism and Typological Functionalism)
   (iii) syntax is not arbitrary or self-contained (Extreme Functionalism)

Because he put two approaches in the second criteria, he actually divides functionalism into four different categories.

Nichols (1984) divides functionalism into three types: conservative, moderate, and extreme. He regards Kuno's works as conservative because they acknowledge the inadequacy of strict formalism approach, without proposing a new analysis of structure. In his classification, RRG is primarily structural, and also functionalistic because the structural elements are expressly designed to capture functional/ context and functional/purpose phenomena. Thus, he regards RRG as an example of moderate functionalism. If a linguistic approach does not include any

structural and formal analyses, they are classified into extreme functional approach.

Newmeyer (1999) classifies functionalism into three categories; external (including cognitive linguistics), integrative, and extreme functionalism. External functionalism links between form on the one hand and meaning and use on the other, in that the properties of the latter have helped to shape the former. RRG, Holliday's Systemic Grammar, and Langacker's cognitive grammar belong to this category. Newmeyer argues that integrative functionalists do not deny the existence of systematicity in language, but they do deny the Saussurian dictum that it is meaningful to separate langue from parole and synchrony from diachrony. Extreme functionalists, like Garcia (1979) and Diver (1995), believe that all of grammar can be derived from semantic and discourse factors.

As we can see in the above classifications of Croft, Nicols, and Newmeyer, they classify functionalism based on how much they include formal factors on the one hand and semantic factors on the other. I think their criteria and classifications are appropriate and good enough for their own purposes. I, however, think that their classification is not enough to show which one is better. Here, for my own purpose, I suggest to divide the functional approaches into the following four categories; (i) Formal and Sentence-level Functionalism, (ii) Mixed and Sentence-level Functionalism, (iii) Typological Functionalism, and (iv) Discourse-level Functionalism.

3.1 Formal and Sentence-level Functionalism (FSF)

It can be argued that Croft's (1995) 'autonomist functionalists' and Nichols' (1984) conservative functionalists mostly belong to this category. They are chiefly concerned with determining the discourse functions of the grammatical constructions, using naturally occurring discourse data. This approach argues for a conventional relation between syntactic structure and discourse function, and moreover insists that many ungrammatical sentences can be flawed for discourse /pragmatic

reasons. However, though they are concerned with discourse principles that influence the grammaticality of a sentence level syntactic phenomena, their main targets of analyses are not the discourse level but the sentence level phenomena, like Formalism .

Kuno's (1976, 1987), Erteschik-Shir's (1979), Grousu's (1981), Lakoff's (1986), and Takami's (1989) works belong to this approach. To judge which explanation is more appropriate or persuasive, I'll give the following analytical examples for real linguistic phenomena. The first one comes from Takami (1989).

While dealing with preposition stranding phenomenon, as in (1, 2), Takami argues that analyses of the phenomena based on syntactic conditions alone fail to give full explanation for it.

(1) a. Which table did Mary put her engagement ring [on t]?
    b. Who did John talk to Hary [about t]?
    c. Who did John give the book [to t]?
(2) a. *Which year did Shakespeare finish writing Hamlet [in t]?
    b. ??Which stage did Hary hit Mary [on t]?
    c. *What inning did the Yankees lose the ball game [in t]?
    d. *Which vacation did John go to Hawaii [during t]?

Hornstein and Weinberg (1981) subcategorizes PP in (1a-c) and (2a-d) as (3a) and (3b), respectively.

(3) a. [$_{S'}$ COMP [$_S$ NP [$_{VP}$ V NP [$_{PP}$ P t]]]]
    b. [$_{S'}$ COMP [$_S$ NP VP [$_{PP}$ P t]]]

They assume that PP in (2a-c) are dominated under VP (or V′), whereas temporal and locative PPs like those in (3a-d) under S. And they propose the following rule, and a syntactic rule of Reanalysis which states that in the domain of VP, a V and any set of contiguous elements to its right can form a complex V′.

(4) *[$_{NP}$ e   ]
         oblique

The above filter and Reanalysis rule adequately rule out (2a-d), since the trace in (2a-d) is governed by preposition for oblique case and dominated under S, not VP (or V′).

Takami, however, present the following examples which have temporal and/or locative PPs;

(5) a. What day did she arrive [on t]?
    b. Which World War did John lose his arm [in t]?
    c. Which party did John write the letter [after t]?

Contrary to the Hornstein and Weinberg′s expectation, prepositions in the above examples can be stranded. To explain the above cases, they must assume and suggest very complicated ad hoc structures or reanalysis rule for them.

Instead of accepting complex syntactic rules, Takami (p.313) present the following functional hypothesis for the preposition stranding phenomenon;

(6) An NP can only be extracted out of a PP which may be interpreted as being more important (newer) than the rest of the sentence.

Here, though we are not going to get into the concept of ″new/old or more/less important information″ in detail, we may partially understand Takami′s concept of the degree of importance.

(7) a. *Which year was John still a small boy [in t]? (=24c)
    b. Which year was John born [in t]?   (=31a)

Contrary to (7a), Takami (1988: 315) argues, the remaining part of the sentence excluding the PP in the above example (7b) convey only information that the hearer already knows or can easily infer from his background knowledge.

The second example is R. Clamons et al′s (1999) study of the Case and Agreement system in Oromo. Though Takami (1988) uses early

Principles and Parameters framework, Clamons uses Minimalist Program framework (cf. Chomsky 1993, 1995).

Oromo is a Lowland East Cushtic language, spoken in Ethiopia, and also in part of Kenya and Tanzania. In Oromo, all subject NPs are made for subject case. When the subject is also a topic, the verb agrees with it in person, number and gender, and the subject additionally has morphologically marking for topicality, as follows: (R. Clamons et al 1999: 60-61)

(8) a. [In answer to *Intaltiin ifi gurbaan maal godhan?* 'What did the girl and boy do?']

    Intal-t-ii-n   *hoolaa* *bit-t-e.*
    girl-FEM-SUBJ-TOP   sheep   buy-FEM-PAST
    'The girl bought a sheep.'

  b. [In answer to *Intaltiin ifi gurbaan maal godhan?* 'What did the girl and boy do?']

    Intal-t-ii-n   *ifi*   *gurbaa-n*   *wal*
    girl-FEM-SUBJ-TOP and boy-SUBJ-TOP each other
    lol-an.
    fight-3PL:PAST
    'The girl and the boy were fighting.'

  c. [In answer to *Eessaa'n ture hoga gurbaan dhufe?* 'Where was I when the boy came?']

    Ati-ifi   *Salma-a-n*   *nyataa*   *godhu* *tur-tan*
    you:SG-and S-SUBJ-TOP food   make were-2PL:PAST
    'You and Salma were cooking.'

As they discuss, in Minimalist Program both argument-verb agreement and Case assignment are specified by feature-checking procedure which is intended to guarantee the right inflectional morphology and the right semantic interpretation in LF for all sentences. Depending on the strength of the features, any syntactic movement occurs overtly or covertly, and makes word order difference in PF; if the relevant features of T of Agr are strong, checking takes

place with respect to both PF and LF interface, and if they are weak, only with respect to LF. With this analysis, we may argue that the feature [TOP] in Oromo is required in the lexicon and the ∅-features of Agrs are strong if and only if the [TOP] feature is present as well. The problem of this analysis, however, is that the feature [TOP] functions to dictate the strength of other features (in this case the ∅-features of its constituent).

On the contrary, from the functionalists view points, they suggest the following pragmatic generalization of principle:

(9) i. A verb is inflected to agree with its subject if and only if the
       subject is a topic.
    ii. A subject phrase is inflected for topicality if and only if the
        subject is a topic.

It is true that if we assume multiple Agr nodes for the Oromo topic agreement, the topic subject agreement may be explained. The problem, however, is that the topicality of an NP is decided in the discourse status of the referent. In other words, the feature [Top] is assigned not by structural configuration but by discourse status of the referent.

3.2 Mixed and Sentence-level Functionalism (MSF)

Autonomist approach in Croft (1995), and moderate functional approach in Nichols(1984) belong to this category. This approach emphasizes the communicative functions and the pragmatic information of the language use. They, however, differ from the FSF in that they do not allow transformational analyses and/or separate pragmatic rules. Though they are different from the Chomskyan formalists, we can say that they belong 'moderate functionalism', because they try to suggest systematic structural rules for the language analysis.

HPSG, Construction Grammar and RRG belong to this category. As I explained in Section 2.1, they use typed feature structures to represent grammatical structures, including elements and rules of combination.

Each typed feature structure contains both syntactic and semantic information, as values for the <sys> and <sem> features respectively. Croft argues that HPSG and RRG are in a sense very homogeneous theories, in that they posit only one level of syntactic representation, surface structure, and only one kind of syntactic object, the phrase structure rule. HPSG uses the theory of situational semantics and RRG the 'information structure' as their semantic bases respectively. Koster's (1986), and Levinson's (1987, 1991) works also belong to this category.

Here, I do not present any specific examples of this category because we can see so many research cases of this approach, and may easily compare it with formal approach.

3.3 Typological Functionalism (TF)

In FSF and MSF, mostly 'a sentence' is the target of their analyses. In other words, as in Chomskyan analyses, they analyze sentence-level phenomena and may try to use discourse-level principle(s) to explain them. In TF, however, the study of sentences in isolation is only a preliminary step in identifying the inventory of coding devices which make morpho-syntactic structure. Thus, in this approach, the goal of grammatical study is to elucidate how those devices are used in coding and communicating knowledge. (cf. Givon 1984: 10)

Givon (1995:9) argues that language is a socio-cultural activity, and the structure of a language is non-arbitrary, motivated, and iconic. Also, Saussure's and Chomsky's dogma of idealized "competence" is untenable in his analyses. Grammar is regarded as a set of strategies for the coherent communication, and thus it must be 'variable, pliable, emergent'.

Givon (1990: 516-519) argues, for example, that the syntactic properties of clauses are crucially dependent upon the semantic case-frame imposed by verbs and the verb can be considered the core of the clause. And the fact that the main verb also determines the semantic frame of verb-plus-complement constructions is thus hardly an accident. Verbs select their arguments, and the sentential complements

are one type of clausal argument. He classifies the complement-taking verbs into three major classes: (i) Modality verbs ('want', 'begin', finish', 'try' etc), (ii) Manipulative verbs ('make', 'tell', 'order', 'ask' etc), and (iii) Cognition-utterance verbs ('know', 'think', 'say' etc)

With the above argumentation and classification, he tries to explain the following differences in the syntactic shape of complements;

(10) She *let go* of the knife.
(11) a. She *made* him *shave*.
     b. She *let* him *go* home.
(12) a. She *told* him *to leave*.
     b. She *wanted* him *to leave*.
(13) She'd *like for* him *to leave*.
(14) a. She *knew* that *he left*.
     b. She *said* that he *might leave* later.

He argues, in (10, 11), the main verb *let, make* are strong manipulative verbs, and thus they do not allow any function word, like *to*, before the verb *go,* and *shave* in complement clause. Because in (12) the verb *tell,* and *want* belong to modality verbs, they allow *to* before the verb *leave* in complement clause. On the other hand, Cognitive-utterance verbs as in (13, 14) allow more functional words before the verbs in complement clauses. Differently from formal analyses, we can see and compare different kinds of complement clause types effectively in the above analysis.

It can be said that this mixed analyses are such that the arbitrary parts of the analysis are language-specific, while the universal properties are functional. Dixon's (1997), Wetzer's (1992) and Croft's (1991) works belong to this approach.

3.4 Discourse-level Functionalism (DF)

As I explained in section 2 and 3, DF approach rejects almost all Formalism prospectuses in Table 1. Garcia (1979) denies the existence

of arbitrariness in language beyond the arbitrariness of the form-function link between single words. As Croft(1995) argues, in Garcia's view, grammar exists, but it consists only of a lexicon: syntax is derived from discourse, which is outside the grammatical system.

4. Discussions and Conclusions

The reason why I have classified Functional analyses into FSF, MSF, TF and DF is just to compare the two approaches, Formalism and Functionalism, as I mentioned. Also, as we can see in section 3, TF and DF basically focus on the discourse-level mechanism or the encoding/decoding principles that cannot be applied to sentence-level grammar. In other words, TF and DF cannot be compared with Chomskyan formalism because their targets of explanation are different.

Now we can compare the two functional approaches, FSF and MSF, with formalism. For FSF, which I explained longer than any other approaches, we have to clarify the concept of what is a "grammar". FSF has more explanatory power than formalism, if we think the greatest value of any grammatical theory is in the extent to which it makes phenomena accessible to an investigator, the extent to which it helps him to notice things that he would otherwise have overlooked, raises questions which otherwise would not have occurred to him, as McCawley (1998;xvi) mentions. On the contrary, if we think grammar is a system to explain human linguistic competence in Chomskyan sense, then formalism is better than functional approach. However, though FSF and Formalism look very apart from each other superficially, I think there is no fundamental incompatibility in their central tenets. They can accept each other's concepts or ingredients for their own purposes.

For MSF, it is very difficult to decide which one is better. As I mentioned, MSF does not allow abstract transformational processes, and accepts semantic interpretations as very important part of linguistic explanation, differently from Formalism. I am quite pessimistic that any insightful bridge will ever be cast between the two different approaches. Thus, I think it is the best for a linguist to follow his scientific

temperament. It is not a question of superiority or inferiority but a question of personal choice.

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