Why Do Descriptive Fieldwork?
Dictionaries, Precedence and Verb Argument Order

Ronald P. Schaefer
SIU Edwardsville

Argument alternations continue to drive debate at the interface of syntax and semantics (Levin 1993, Tenny 1994, Levin and Rappaport Hovav 2005). Generally ignored in this discussion, however, is a principled understanding of the absence of argument alternation. To approach this topic, I explore the results of dictionary fieldwork on Nigeria’s Benue-Congo language Emai.

Benue-Congo languages are frequently cited as syntactically deficient, since they lack inflectional morphology and prepositions expressing various grammatical functions (Foley and Olson 1985, Lord 1993, Crowley 2002). While typologically accurate, this perspective provides little insight into what grammatical resources are active or how they pattern. How do we amend this situation? One possibility is to examine limits on argument alternation, particularly as they might be reflected in linear order constraints between arguments.

Nichols (1992) expands on Talmy’s (1985) initial lexical typology regarding verb arguments Moving Object and Goal. Constituents expressing these arguments show variable arrangements consistent with basic precedence (Moving Object [paint] precedes Goal [wall] in George sprayed paint on the wall) or reversed precedence (Goal precedes Moving Object in George painted the wall with paint). From one perspective, this represents a narrow precedence relation. For this paper, I pursue a broader precedence relation configured in terms of Figure and Ground (Talmy 2000). Figure (F) represents a clausal argument conceptually dependent on an anchor concept (thus encompassing moving object as well as stationary entity to be located, immediate cause and causing condition/stimulus). Relative to Figure, Ground (G) represents an anchor or reference point argument (thus incorporating goal for a moving object as well as location for positioning a stationary entity, affected object of an immediate cause, and causee/experiencer impinged on by causing condition).

Using Figure and Ground, I redefine basic and reversed precedence. Basic precedence holds that Figure precedes Ground; reversed precedence stipulates that Ground precedes Figure. Across domains of motion, stationary location and causation, Emai verb constructions allow only basic precedence: Figure precedes Ground. No Emai verb permits Ground to precede Figure.

In the domain of motion, Emai and English contrast along a precedence dimension. English allows basic and reversed precedence through locative alternation (load, 1a-b): Figure (hay) precedes Ground (wagon) or Ground (wagon) precedes Figure (hay). Not all English verbs exhibit variable precedence. pour (2a-b) and fill (3a-b) show only basic precedence (F precedes G) or reversed precedence (G precedes F), respectively.

1. a. John loaded hay$_F$ onto the wagon$_G$.
   b. John loaded the wagon$_G$ with hay$_F$.

---

* This paper results directly from continuous collaboration with Professor Francis Egbokhare of the University of Ibadan, Nigeria. Data for this paper derive from research sponsored by the National Science Foundation (BNS #9011338 and SBR #9409552) and Southern Illinois University Edwardsville. I thank these institutions for their support while not holding either responsible for my data interpretation.

2.  a. John poured water\(_F\) into the bucket\(_G\).
    b. * John poured the bucket\(_G\) with water\(_F\).

3.  a. John filled the bucket\(_G\) with water\(_F\).
    b. * John filled water\(_F\) into the bucket\(_G\).

In contrast, Emai favors basic precedence for all verbs, Figure àmè ‘water’ precedes Ground ògó ‘bottle,’ and disallows reversed precedence. Emai has no agentive reversed precedence ‘fill’ verb. In fact, no Emai motion verb permits its Ground argument to precede the Figure. Maintaining basic precedence, Emai shows ‘fill’ with Figure èànmì ‘meat’ as subject and Ground úwàwà ‘pot’ as direct object (4c).

4.  a. òjè ó́nò àmè ó vbi ògó.\(^1\)
    Oje pour water CL LOC bottle
    ‘Oje poured water into the bottle.’
    b. * òjè vòón ògó vbi òmè.
    Oje fill bottle LOC water
    ‘Oje filled the bottle at/with the water.’
    c. èànmì vòón ójé úwàwà.
    meat fill Oje pot
    ‘Meat filled Oje’s pot.’

Image impression alternation (Levin 1993) appears in English but not Emai. The English verb sign reveals basic and reversed precedence, with either Figure (his name) or Ground (the page) as direct object.

5.  a. John signed his name on the page.
    b. John signed the page with his name.

Emai only permits basic precedence with Figure (òbò ‘finger’) preceding Ground (èbè ‘paper’).

6.  a. òjè rè òbò ó vbi ólì èbè.
    Oje put finger CL LOC the paper
    ‘Oje signed the paper with his thumbprint.’
    b. * òjè rè ólì èbè ó vbi ègèn èbò.
    Oje put the paper CL LOC under finger
    ‘Oje signed the paper with his thumb print.’

Alternation of the roll in type occurs in English. It shows either basic or reversed precedence, with body as Figure and sand as Ground. (7a-b).

---

\(^1\) Orthographic conventions for Emai are consistent with those in Schaefer (1987), Schaefer and Egbokhare (1999a) and Schaefer and Egbokhare (2007), where \(g\) represents a lax mid back vowel, \(e\) a lax mid front vowel, and \(vb\) a voiced bilabial approximant. With respect to tone, acute accent marks high, grave accent signals low, and acute accent followed by an apostrophe designates high downstep. Across a clause, tone marking is grammatically conditioned by syntactic position as well as inflectional factors such as mood, aspect and polarity.

\(^2\) Abbreviations in this paper include: ASS=associative, C=continuous, CL=change of location, DUR=durative, LOC=locative, R=relator, and SC=subject concord.
7. a. Oje is rolling his body in the sand.
   b. Oje is rolling in the sand with his body.

Emai permits only basic precedence (8a) with Figure (ègbé ‘body’) preceding Ground (èkèn ‘sand’); reversed precedence is disallowed (8b).

8. a. òjè ò ó rè ègbé gbùlù èkèn.
   Oje SC C take body roll sand
   ‘Oje is rolling in the sand with his body.’

b. *òjè ò ó rè èkèn gbùlù ègbé.
   Oje SC C take sand roll body
   ‘Oje is using the sand to roll his body in.’

In the domain of spatial location, where one entity is located relative to another, Emai requires strict precedence compared to the variable precedence of English. With a single verb, English allows expressions not constrained by precedence, clouds as Figure can precede or follow sky as Ground.

9. a. Clouds are in the sky.
   b. The sky is cloudy/ full of clouds.

With the contrastive verb pair be and have, Figure scar can precede or follow Ground leg.

10. a. A scar is on John’s leg.
    b. John’s leg has a scar.

Comparable Emai expression is limited to basic precedence. Figure óhùú ‘clouds’ precedes Ground ókhùnmì ‘sky’; reversed precedence is unacceptable, even with a ‘be’ ~ ‘have’ contrast (11b-c).

11. a. óhùú ríi vbi ókhùnmì.
   clouds be LOC sky
   ‘Clouds are in the sky.’

b. *ókhùnmì ríi vbi óhùú li òkhúá.
   sky be LOC clouds R heavy
   ‘The sky is cloudy.’

c.*ókhùnmì mòè óhùú li òkhúá.
   sky have clouds R heavy
   ‘The sky has clouds.’

No matter the spatial location situation or the existence of a verb pair contrast, Ground in Emai does not precede Figure.

12. a. ólì ùkhùànkùàn sè rì òjè vbi ôè.
    the scar DUR be Oje LOC leg
    ‘The scar is still on Oje’s leg.’

b. *áwè isì òjè mòè ùkhùànkùàn.
    leg ASS Oje have scar
    ‘Oje’s leg has a scar.’
English also has verbs that lexicalize reversed precedence of spatial location constituents. Ground (*The wide pillars*) precedes Figure (*the bridge*) with the English verb ‘support.’ Emai has no comparable verb.

13. The wide pillars supported the bridge.

Strict precedence governs Emai causation, when compared to English. English shows subject/oblique alternation of immediate cause/instrument. The verb heal for instance shows basic and reversed precedence, with Figure (*powder*) as grammatical subject (14b) or as object of preposition with (14c), respectively, relative to Ground (*wound*) as direct object.

14. a. John healed the wound.

b. Powder healed the wound.

c. John healed the wound with powder.

Emai’s precedence template restricts the encoding of immediate cause/instrument. I find no direct counterparts for English (14a-c). Instead, Emai requires a serial verb construction where immediate cause Figure (*úgbàyèyè ‘powder’*) and its affected object Ground (*èmài ‘wound’*) are both expressed. The resulting construction reflects basic precedence (15a), not reversed precedence (15b).

15. a. òjè r é úgbàyèyè ó vbi èmài.
   Oje take powder CL LOC wound
   ‘Oje applied healing powder onto the wound.’

b. * òjè r é èmài ó vbi úgbàyèyè.
   Oje take wound CL LOC powder
   ‘Oje applied to the wound a healing powder.’

For immediate cause/instrument, English displays not only subject/oblique alternation but also verb pair alternations grounded to ‘use.’ It positions immediate cause Figure (*axe*) relative to affected object Ground (*wood*) in both basic (16a) and reversed precedence (16b). In other constructions, English allows immediate cause (*axe*) or agent (*John*) Figure as subject (16c).

16. a. John used an axe to cut wood.

b. John cut wood with an axe.

c. An axe / John cut the wood.

Emai allows only basic precedence for immediate cause/instrument. In a verb series, immediate cause Figure (*ópià ‘cutlass’) as direct object of initial verb r ‘take’ precedes affected object Ground (*óràn*) as direct object of second verb hian ‘cut’ (17a). Reversed precedence is disallowed (17b). In addition, hian licenses agent (*òjè*) but not immediate cause (*ópià*) as subject (17c).

17. a. òjè r é ópià híán órán.
   Oje take cutlass cut wood
   ‘Oje cut wood with a cutlass.’

b. * òjè híán órán vbi ópià.
   Oje cut wood LOC cutlass
   ‘Oje cut wood on/with a cutlass.’
c. òjè / * òpià hián ólí óràn.
Oje cutlass cut the wood
‘Oje / a cutlass cut the wood.’

Precedence relations in Emai and English contrast in the expression of causing condition/stimulus as Figure and cause/affected experiencer as Ground. English constructions show basic precedence with causative verb and past participle (18a) relative to reversed precedence with copula and preposition (18b). We find causing condition/stimulus (wine) precedes or follows causee/experiencer (John).

18. a. The wine made John drunk.
   b. John is drunk with wine.

To express similar meanings, Emai is limited to basic precedence. Causing condition/stimulus Figure precedes causee/affected experiencer Ground; Emai disallows reversed precedence. In (18a), causing condition/stimulus (ényò ‘wine’) precedes causee/experiencer (òjè ‘Oje’). Reversed precedence, causee/experiencer preceding causing condition/stimulus (19b), is ungrammatical.

19. a. ényò ọ ọ nwú òjè.
   wine SC C take.hold Oje
   ‘Wine is making Oje drunk. / Oje is getting drunk.’

   b. * òjè ọ ọ nwú ényò.
   Oje SC C take.hold wine
   ‘Oje is getting drunk.’

Also in the causation domain, English sanctions verb pairs (kill and die) that allow causee/affected experiencer (John) to precede or follow causing condition/stimulus (fever).

20. a. The fever killed John.
   b. John died of fever.

For comparable expression, Emai requires basic precedence. Causing condition/stimulus (úììn ‘fever’) precedes causee/experiencer (òjè); reversed precedence, even with another verb (ú ‘die’), is disallowed.

21. a. úììn gbé òjè.
    fever kill Oje
    ‘A fever killed Oje.’

   b. * òjè ú vbi úììn.
    Oje die LOC fever
    ‘Oje died from fever.’

Additional layering of causing conditions (òlì ëmài > úììn > òjè) still requires basic precedence of causing condition Figure vis-à-vis causee Ground.

22. a. òlì ëmài ọ ọ rè úììn gbé òjè.
    the wound SC C make fever kill Oje
    ‘The wound is making the fever kill Oje.’

   b. * òjè ú vbi úììn vbi òlì ëmài.
    Oje die LOC fever LOC the wound
    ‘Oje died of fever from the wound.’
Where within our knowledge of human language does Emai strict precedence fit? Three possible alternatives deserve consideration. Although each requires considerably more exploration than what I outline here, this discussion will hopefully identify the most promising direction for future investigation.

One alternative considers grammatical weight of syntactic constituents. Various studies have suggested that surface constituents tend toward an order of increasing length or complexity (Quirk, Greenbaum, Leech and Svartvick 1972, Wasow 1997, 2002, Hawkins 1994). Relative to particle shift and dative shift alternations for instance, Wasow investigated relative constituent weight. He compared several measures of length (e.g. number of syllables, words) and complexity (e.g. number of phrase structure nodes). Although no single measure proved satisfactory for all alternation types, he concluded the most useful measure would eventually be obligatory constituent nodes.

Relative weight of Emai Figure and Ground constituents correlates to some extent with their linear order. In the domain of spatial location, constituent weight differs for Figure expressed as subject (NP node) and Ground as prepositional phrase (PP node + NP node). Moreover, the less weighted constituent (óhùú) precedes the more weighted constituent (vbí òkhùnmì).

23. óhùú ríì vbí òkhùnmì.
   clouds be LOC sky
   ‘Clouds are in the sky.’

A similar situation obtains for some constituents in the domain of motion. Constituent weight not only differs for Figure expressed as direct object (NP node) and Ground as prepositional phrase (PP node + NP node) but the constituent with less weight (àmè) precedes the one with more weight (vbì ògò).

24. òjè óó n èmè ó vbí ògò.
   Oje pour water CL LOC bottle
   ‘Oje poured water into the bottle.’

However, the motion domain reveals no weight differential between Figure as direct object (NP node) and Ground as direct object (NP node). Moreover, surface constituent weight does not account for the absence of spatial relation verbs of the ‘fill,’ ‘support’ and ‘have’ type.

25. òjè ó ó rè ègbé gbùlù èkèn.
   Oje SC C take body roll sand
   ‘Oje is rolling in the sand with his body.’

Constituents in the domain of causation similarly do not exhibit differential weight. Causing condition Figure expressed as subject (NP node, úììn) and causee Ground articulated as direct object (NP node, òjè) stand as equally weighted constituents (26a). Perhaps a syntactic constraint banning prepositions might account for the lack of subject-oblique alternations in Emai (26b) but weight differential would not, since causee Ground as subject (NP node) and causing condition Figure as preposition phrase (PP + NP node) reflect a weight differential. Weight of surface level constituents thus sheds little light on Emai’s strict precedence.

26. a. úììn gbé òjè.
   fever kill Oje
   ‘A fever killed Oje.’

   b.* ójé ú vbi úììn.
   Oje die LOC fever
   ‘Oje died from fever.’

As a second model, let’s consider Emai’s strict arrangement of surface forms as reflecting a Thematic Relations Hierarchy. Baker (1996) sought to select a single linear arrangement of the semantic roles Theme and Goal from a number of conflicting thematic relation hierarchies. He focused
on the dative shift alternation (Carl passed a ring to Mary. / Carl passed Mary a ring.). In his discussion, he alluded to but discounted Dryer’s (1986) proposal that double object languages may differ along a dimension of precedence: theme dominant languages (French, NP\text{theme} PP\text{goal} \rightarrow NP\text{goal} NP\text{theme}) versus goal dominant languages (Sesotho and Mohawk NP\text{goal} NP\text{theme} \rightarrow NP\text{theme} NP\text{goal}). To assign basic versus derived status to respective constructions in the dative shift alternation, Baker appealed to verb type: unaccusative dative verbs show no alternation (A ring passed to Mary. but * A ring passed Mary./*Mary passed a ring.). He concluded that the semantic role of moving or stationary object Theme (Figure) precedes Goal (Ground) on the Thematic Relations Hierarchy in the absence of Agent.

Assuming a Theme > Goal order on the Thematic Relations Hierarchy would account for strict precedence in some Emai domains. In spatial location and motion domains, Theme consistently precedes Goal. However, Theme > Goal order fails in the cause domain, where neither a moving object Theme nor endpoint Goal is realized. Some other hierarchy or more encompassing hierarchy, where Cause/Stimulus > Cause/Affected Experiencer must be invoked. There would thus be no single thematic relation that would subsume Theme and Cause/Stimulus under a single role or Goal and Cause/Affected Experiencer under a single role. Moreover, a thematic relations hierarchy, as a link between underlying semantic roles and syntactic grammatical relations, provides no means for ruling out the absence of verb types that violate strict precedence such as ‘fill,’ ‘support’ and spatial ‘have.’ The interface between semantic roles and syntactic grammatical relations represented by a Thematic Relations Hierarchy thus seems insufficient for the task at hand.

A third alternative would be to consider Emai strict precedence as a manifestation of causal order. Croft (1991) develops a Causal Order Hypothesis (COH) for prototypic verb events (Carl broke a vase.) Exploiting the notion of force dynamics (Talmy, 1976, 1988), he represents prototypic causal events as sequences of nonbranching causal chain segments, each segment reflecting an asymmetric transmission of force between two participants, an initiator that is causally antecedent and an endpoint that is causally subsequent. Semantic roles are defined vis-à-vis causal chain configurations: Agent as initiator of volitional causation, Instrument as intermediate in the causal chain between initiator and endpoint, and Patient as affected endpoint. Syntactic grammatical relations correspond to participant order in the causal chain: in particular, volitional initiator as subject and affected endpoint as direct object, depending on scope of verb lexicalization. Relative to a verb’s causal chain endpoint, the COH also allows for a distinction among oblique arguments and their semantic roles. Preceding endpoint are Antecedent roles: instrument, manner, means, comitative and cause. Following endpoint are Subsequent roles: benefactive, recipient and result.

Emai causation events fit into the COH model as manifestations of volitional and affective causation types, with additional differences due to number of causal chain segments. Affective causation shows initiator as Stimulus subject (ènyò) and endpoint as Affected Experiencer direct object (òjè).

27. ènyò ọ ọ nwú ọjè.
wine  SC C take.hold Oje
‘Wine is making Oje drunk. / Oje is getting drunk.’

Physical causation shows volitional Agent initiator as subject (òjè) and, reflecting verbs in series, immediate cause Instrument (endpoint of volitional causal segment and initiator of immediate force segment) as direct object (ùpìà) of an initial verb (rè) and affected Patient endpoint as direct object (òrán) of a following verb.

28. òjè rè ùpìà hián órán.
Oje take cutlass cut wood
‘Oje cut wood with a cutlass.’

Verb events that do not refer to asymmetric transfer of force, i.e. noncausal events, slide into the asymmetry of a causal chain through Croft’s notion of conceptual coercion. Spatial relation events for instance do not manifest force transmission from initiator to endpoint in the fashion of causation. Motion and causation are distinct domain types with distinct infrastructure elements and configurations. Driving coercion is Croft’s Figure First principle, which essentially claims a natural
correlation between order of Figure and Ground elements defining a spatial relation and order of initiator and endpoint participants in an asymmetric causal sequence. Verb articulation of spatial relation participants is linguistically coerced into the asymmetry of causal chain participants: Figure precedes Ground in FIGURE BE ON GROUND (The apple is on the table.), just as causal initiator precedes causal endpoint. More complex change of spatial relation events also reveal coercion, although spatial relation becomes integrated into an existing causal chain: AGENT VERB FIGURE ON GROUND (Carl put the apple on the table.).

Although COH and coercion directly address constituent precedence relations, the semantic roles assigned affected constituents differ: Stimulus, Instrument and Figure versus Affected Experiencer, Patient and Ground. There is no prior syntactic/semantic level where Stimulus, as instigator of a force transmission, Instrument as endpoint of one causal segment and immediate cause instigator of another segment, and Figure of a spatial relation event can be subsumed under a single category relative to another category encompassing Affected Experiencer and Patient as endpoint of force transmission and Ground of a spatial relation event.

Indeed, strict precedence is a lexical phenomenon first and foremost. It constrains possible verbs for Emai speakers (no ‘fill,’ ‘support’ or spatial ‘have’ verbs) and it therefore limits order of constituents irrespective of domain. It is within the lexicon that general categories like Figure and Ground, initially advanced to account for asymmetric direction of change, regardless of its force dynamic or spatial/motion relation nature (Talmy 1972, 1976), find their home. A precedence constraint of the Emai type seems best interpreted with the constructs Figure and Ground, Figure representing the moving, located or cause argument that precedes its counterpart Ground serving as goal, location, or causee. It is these semantic constructs and their syntactic allocation as framed by available lexical items within a language that merit future typological investigation, especially with regard to the notion “possible verb.”

More immediately, however, it is sustained and comprehensive dictionary fieldwork focused on lexical resources and the argument structure those resources allow that sheds light on precedence relations, lexical types and, ultimately, language types. And the dictionary fieldwork that unearthed Emai precedence relations, usefully characterized as a state of mind (Hyman 2001), has also shown itself capable of quite tangible typological results.

References


