Transitive predication typology, alignment typology, word order typology

1. The transitive construction

1.1. Case contrasts between core NPs in the transitive construction

In the majority of African languages, both agents and patients are unmarked for case, i.e. they do not exhibit any marking (affix, adposition or prosodic contour) distinguishing noun phrases in agent or patient role in the transitive construction from noun phrases quoted in isolation. However, the situation is not the same in all phyla and in all geographical areas of Africa.

In Khoisan, as a rule, there is no case marking of the distinction between agent and patient. However, some Khoisan languages have morphemes whose status as marking discourse roles or syntactic roles is not entirely clear.

Case marked agents and patients are exceptional in Niger-Congo languages; in the few Niger-Congo languages in which a case distinction between agents and patients may be recognized, it results from recent historical developments:

  – either the reanalysis of a verb 'take' in a serial verb construction as an accusative preposition, in some Kwa languages – see Appendix 1,
  – or the reanalysis of a *definite vs. indefinite* distinction as a case distinction, in some western Bantu languages.

The following example from Ngangela (a Bantu language spoken in Angola) illustrates 'tone cases'[1] with a special case used for subjects but not for objects, characterized by the deletion of a high tone present in the quotation form of nouns; comparative data show that this high tone is the reflex of a former definiteness marker:

(1) a. nouns in quotation: *kánike* 'child', *kaθúúmbi* 'hen'

  b. *Kanike   námonó   kaθúúmbi.*
     CL12:child:SUBJ TAM:see   CL12:hen[2]
     'The child has seen the hen.'

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[1] In African languages that have case-marking systems distinguishing agents from patients, this distinction is often marked by tone. This is part of a more general areal tendency to use tone as an exponent of inflectional or derivational processes in African languages (similar observations can be made, for example, regarding the expression of TAM distinctions, or of definiteness distinctions).

[2] The abbreviations used in the glosses are as follows: CAUS = causative, CL = noun class, DEF = definite, DEM = demonstrative, FOC = focalization, FUT = future, HAB = habitual, IPFV = imperfective, M = masculine, NEG = negation, PASS = passive, PFV = perfective, PL = plural, POS = positive, POSTP = postposition, POT = potential, PRF = perfect, PROG = progressive, PRS = present, PST = past, SBJV = subjunctive, SG = singular, SUBJ = subject, TAM = tense-aspect-mood, VFOC = verb focalization.

Case distinctions between agents and patients are more common in the other two phyla (Afroasiatic and Nilo-Saharan).

Outside Africa, in languages with case distinctions between agents and patients, agents in a case form distinct from the quotation form of nouns are almost exclusively found in languages in which the coding properties of the single core term in intransitive predication are identical to those of the patient ('ergative' alignment). By contrast, among African languages that have case distinctions between agents and patients, the so-called 'marked-nominative' pattern is very common. In this pattern, illustrated by ex. (2) from Oromo (Cushitic), a overtly marked form of nouns distinct from their quotation form is used not only for the agent in transitive predication, but also for the single core argument in intransitive predication, whereas the patient in transitive predication is in an unmarked form identical to the quotation form of nouns.

(2)   a. quotation form of nouns: *Tulluu* (proper name), *makiinaa* 'car'

    b. *Makiinaa-n   hin   dhufu.*
       car-SUBJ   NEG   arrive:PRS:3SG:M
       'The car is not arriving.'

    c. *Tulluu-n   gammada.*
       Tulluu-SUBJ be_glad:PRS:3SG:M
       'Tulluu is glad.'

    d. *Tulluu-n   makiinaa bite.*
       Tulluu-SUBJ car   buy:PFV:3SG:M
       'Tulluu bought a car.'

1.2. The indexation of core NPs in transitive predication

In most African languages, speech act participants or discursively salient entities in A role can be represented by pronominal markers attached to verbs, and the same set of pronominal markers is also used for the single core argument in transitive predication, hence their common designation as *subject markers*. In some languages they have the status of obligatory agreement markers, i.e., they must be used even in the presence of a noun phrase or free pronoun representing the agent – see Appendix 2, but in other languages they are in complementary distribution with the corresponding NP within the limits of the clause.

Many African languages have another set of pronominal markers representing speech act participants or discursively salient entities in P role (commonly called *object markers*), but they do not have the status of obligatory agreement markers, or only in some conditions.

Tswana illustrates a situation in which even first or second person patients are not necessarily represented by markers attached to the verb form, the choice between a marker attached to the verb form and a free pronoun in the canonical position of P NPs being pragmatically significant – ex. (3).

(3) a. *Ke go biditse.*
    kì-χʊ̀-bídítsè.
    1SG-2SG-call:PRF
    'I CALLED you'(how is it possible that you didn't hear me?)

    b. *Ke biditse wena.*
    kì- bídítse wèná.
    1SG-call:PRF 2SG
    'I called YOU' (and nobody else!)

In Swahili (Bantu), in certain conditions, an object marker representing P must be present even if the corresponding NP or free pronoun is also present. Swahili also illustrates a situation in which definiteness is not overtly marked at noun phrase level, but triggers the presence of an object marker that constitutes the only clue to the definiteness of common nouns in P role – ex. (4).

(4) a. *Ni-me-ku-ona.*
    1SG-PRF-2SG-see
    'I have seen you.'

    b. **Ni-me-ona   wewe.*
    1SG-PRF-see   2SG

    c. *Ni-me-leta   chakula?*
    1SG-PRF-bring   CL7-food
    'Have you brought (some) food?'

    d. *Ni-me-ku-leta   chakula?*
    1SG-PRF-CL7-bring   CL7-food
    'Have you brought the food?' (which I told you to bring)

A situation parallel to Swahili exists in a number of Chadic languages, e.g. in Gidar. In a typological perspective, it is interesting to observe that, in such languages, the use of object markers in the presence of a co-referential NP has functions similar to those of the accusative case or adposition in languages that have so-called differential object marking.

1.3. 'Predicative markers', 'selectors', etc.

Most languages have a distinction between synthetic and analytic verbal predication: in analytic verbal predication, some semantic distinctions typically expressed through verb morphology in synthetic verbal predication are expressed by a morphologically distinct element, commonly called *auxiliary*. Some languages make a particularly systematic use of grammatical elements not included in the verb form but expressing distinctions typically expressed through verb morphology in the languages of the world. There is no general term for such elements.

In Mande languages, the order of the constituents of the transitive clause is *A (pr) P V X*, where *(pr)* indicates the possible presence of a grammatical word (or clitic), often called 'predicative marker', which expresses TAM and polarity distinctions – see Appendix 3. In some languages, depending on TAM and polarity, the predicative

marker may be absent, but in others, the predicative marker is an obligatory element of the clause. In Mande languages, pronominal markers never attach to the verb, but in some of the Mande languages in which the predicative marker following A is an obligatory element of the clause (e.g. Dan), its variations express person-number distinctions that, in transitive clauses, refer to the agent.

Some Cushitic languages have a similar organization of verbal predication, with a grammatical word often called 'selector', morphologically distinct from the verb but expressing semantic distinctions typically expressed through verb morphology. In those languages, pronominal markers representing agents and/or patients may be attached to the selector.

1.4. The linear ordering of A, P and V

Among the logically possible orderings of the core elements of transitive clauses, the most commonly used in the languages of the world with the status of basic constituent order are those in which the agent precedes both the verb and the patient, i.e. SOV and SVO.[3] Constituent orders with the verb in first position (VSO and VOS) are less commonly used as basic constituent order, and languages having a basic constituent order with the object in first position are very rare.

African languages confirm the strong predominance of agent-initial orders (SOV and SVO), and the proportion of verb-initial African languages is roughly comparable to that observed at world level. But in some respects, clause constituent order is a domain in which the diversity observed at the level of the African continent differs from that observed at world level.

The proportion of African languages with a particularly rigid clause constituent order is relatively high, and flexible constituent order lending itself to pragmatically driven variations is not a common phenomenon among African languages. By contrast, syntactically conditioned variations in constituent order are not rare among African languages. Most of the time, they are triggered by the TAM value of the verb or by negation. For example, a few Central Chadic languages (e.g. Hona, Ga'anda) have a different word order in the perfective (verb-initial, VSO) and in the imperfective (SVO), and several Kwa languages have a variation between SVO and SOV with a similar conditioning. Kisi (Atlantic) has an alternation of this type, illustrated here by an example with the ditransitive verb 'give' – ex. (5).

(5) a. *Ò   ké   yá   tòòlúláŋ.*
        3SG   give   1SG   support
        'She gave me support'

      b. *À   wá   ndú kòówáŋ   kìóó.*
        3PL   PST.PROG 3SG   medecine   give
      'They were giving him medecine'

Tennet (Surmic, Nilo-Saharan) illustrates an alternation between VSO and SVO conditioned by negation – ex. (6).

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[3] In the discussion of types of constituent order in transitive predication, the traditional labels referring to subject and object have been maintained, although labels referring to agent and patient would be more correct from a theoretical point of view.

(6) a. *Kácínɪ   anná   lokúli   íyókó   nɛ́kɔ̂.*
       1SG:IPFV:see 1SG   Lokuli   now   DEM
       'I see Lokuli now.'

    b. *Irɔ́ŋ anná   kácínɪ   lokúli   íyókó   nɛ́kɔ̂.*
       NEG   1SG   1SG:IPFV:see   Lokuli   now   DEM
       'I do not see Lokuli now.'

    c. *Kícínɪ   anná   lokúli   balwáz.*
       1SG:PFV:see 1SG   Lokuli   yesterday
       'I saw Lokuli yesterday.'

    d. *Ŋanní anná   kícín   lokúli   balwáz.*
       NEG   1SG   1SG:SBJV: see   Lokuli   yesterday
       'I did not see Lokuli yesterday.'

On correlations between the ordering of the core terms of transitive clauses and other aspects of linear order typology, see Appendix 4.

1.5. Intransitive alignment

The relevance of a syntactic function 'subject' grouping together the single argument (S) of semantically monovalent verbs and the more agent-like argument (A) of semantically bivalent verbs is obvious only for languages in which, regardless of the precise semantic nature of monovalent verbs, their single argument S has the same coding characteristics as A (in terms of case marking, indexation, and/or constituent order). In other languages, the recognition of a syntactic function 'subject' may be problematic, since it cannot be justified on the basis of obvious coding properties, but only on the basis of behavioral properties in mechanisms such as reflexivization, relativization, questioning, focalization, or clause chaining.

From this point of view, in most African languages, particularly among those spoken in West, Central and Southern Africa, the notions of subject and object are not problematic. Most often, they have a clear manifestation in systems of pronominal affixes of a type particularly widespread among Bantu and Atlantic languages – see Appendix 2, in which the same set of pronominal affixes is used to represent S and A, and another set occupying a distinct morphological slot is used for the patient of prototypical action verbs, and more generally the less agent-like argument of semantically bivalent verbs.

The question of intransitive alignment is however more complex in some language families included in the Afroasiatic and Nilo-Saharan phyla.

None of the languages spoken in West, Central and Southern Africa has been recognized as having a possibility of alignment of S with P ('ergative' alignment) for all intransitive verbs, and very few of them have been signaled as having an intransitivity split with a subclass of intransitive verbs whose S argument aligns with P. Such a situation has however been described in a group of Mande languages.

It is also worth mentioning that Bantu languages widely attest pragmatically conditioned presentational constructions quite comparable to those found in Romance languages, in which the S argument of intransitive verbs behaves like the P argument of transitive verbs, or shows a mixture of A-like and P-like features. In ex.

(7) from Tswana, the S argument of 'sing' in sentences (c-d) moves to postverbal position and loses the control of verb agreement, whereas the morphological slot of the subject marker is invariably occupied by an expletive subject marker of class 15/17. In a typological perspective, this can be viewed as an instance of pragmatically-driven fluid intransitivity.

(7) a. *Mosadi o opela sentle.*
 mʊ̀-sádí ʊ́-ɔ́pɛ́lá sĩ́n̂tɬɛ̀
 CL1-woman CL1-sing:PRS well
 'The woman sings well.'

 b. *Basadi ba opela sentle.*
 bà-sádí bá-ɔ́pɛ́lá sĩ́n̂tɬɛ̀
 CL2-woman CL2-sing:PRS well
 'The women sing well.'

 c. *Go opela mosadi.*
 χʊ́-ɔ́pɛ́lá   mʊ̀-sádì
 CL15/17-sing:PRS CL1-woman
 'There is a woman singing.'

 d. *Go opela basadi.*
 χʊ́-ɔ́pɛ́lá   bà-sádì
 CL15/17-sing:PRS CL2-woman
 'There are women singing.'

1.6. Ditransitive alignment

In this section, the grammatical organization of the valency of verbs with an argument-frame similar to that of *give* is compared to that of typical transitive verbs whose argument structure consists of an agent and a patient

It has been said above that in most African languages, in particular among those spoken in West, Central and Southern Africa, there is no difficulty in recognizing the traditional notions of subject and object. By contrast, in the languages located in this area, the treatment of the verbs of giving that predominates is very different from that most commonly found in the languages of Europe, in which the gift is aligned with the monotransitive patient, whereas the recipient (commonly called 'indirect object') has distinct coding properties.

For each property marking a contrast between the gift and the recipient, the term aligned with the monotransitive patient may be the gift (*indirective* alignment) or the recipient (*secundative* alignment). However, the constructions of verbs of giving cannot always be straightforwardly characterized as indirective or secundative, because the two types of alignment may coexist in the same construction, depending on the properties taken into consideration, and it may also happen that a property characteristic of the monotransitive patient is shared by the gift and the recipient.

Mande languages have constructions of the verbs of giving with a clear-cut contrast between a term fully assimilated to the monotransitive patient and a term that nothing distinguishes from oblique NPs (see Appendix 3), but this situation is uncommon among the languages of West, Central and Southern Africa. This area is characterized by a strong predominance of so-called 'double object constructions', in

which both the gift and the recipient are represented by noun phrases that show at least some object-like characteristics, and no obvious indication of an oblique status – see Appendix 5.

Appendix 1. From SVO to SOV with an accusative preposition via *take-*serialization: object fronting in Baule (Kwa)

The transitive verbs of Baule may combine with *fa* 'take' into a particular type of serial verb construction, designated here as 'object fronting construction', which can be schematized as S *fa* O V (o). S and O are NPs that receive their semantic roles from the transitive verb V, both verbs are inflected, as in the other varieties of serial verb constructions found in Baule, and 'o' symbolizes a pronoun resuming O, whose occurrence depends on the transitivity properties of V: o must be present if O is definite and V does not accept null objects with an anaphoric interpretation, as in (1a); it does not appear if V accepts null objects, as in (1b).

(1) a. *B'à   kùn ákɔ́'n.*   =   *B'à   fà   ákɔ́'n   b'à   kùn í.*
       3PL-PRF kill chicken-DEF   3PL-PRF take chicken-DEF 3PL-PRF kill 3SG
       'They have killed the chicken.'

     b. *B'à   kà   sìkǎ'n.*   =   *B'à   fà   sìkǎ'n   b'à   ká.*
       3PL-PRF count money-DEF   3PL-PRF take money-DEF   3PL-PRF count
       'They have counted the money.'

This construction is however less grammaticalized in Baule than in some other Kwa languages, in the sense that it implies some degree of similarity between the semantic role V assigns to O and the inherent argument structure of *fa* 'take'. For example, the contrast between the acceptability of the object fronting construction in (1a) and its unacceptability in (2a) is due to the fact that one normally holds a chicken in one's hands while killing it, which is not the case with a snake, and the same kind of explanation applies to ex. (1b) and (2b).[4]

(2) a. *B'à   kùn wǒ'n.*   /   **B'à   fà   wǒ'n   b'à   kùn í.*
       3PL-PRF kill snake-DEF   3PL-PRF take snake-DEF   3PL-PRF kill 3SG
       'They have killed the snake.'

     b. *B'à   kà   srân   mùn.* /   **B'à   fà   srân   mùn b'à   ká.*
       3PL-PRF count person PL   3PL-PRF take person   PL   3PL-PRF count
       'They have counted the people.'

There are also restrictions on the use of the object fronting construction that reveal its relation to information packaging in the clause. In particular, interrogative or negative words cannot be fronted. Since interrogative and negative words are inherently non-topical, this impossibility provides evidence that the object fronting construction marks the object as topical.

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[4] In fact, this formulation is a bit too restrictive. What really makes the object fronting construction available is rather that S is highly volitional and O highly non-volitional in the discourse, which however can be viewed as an abstraction of O being held in S's hands.

Appendix 2. Verbal predication in Jóola-Banjal (Atlantic)

Jóola-Banjal has no case-marking of nouns, but the indexation of arguments by means of verbal prefixes and suffixes provides a firm basis for recognizing a syntactic function 'subject' grouping together the single core argument S of intransitive verbs and the agent A of prototypical transitive verbs, contrasting with a syntactic function 'object' including the patient of prototypical transitive verbs.

In finite predicative constructions (i.e., predicative constructions that can give rise to independent clauses), verbs normally include an obligatory prefix representing the single core argument S of intransitive verbs and the agent A of prototypical transitive verbs. If a co-referent NP is present, this subject marker expresses agreement with the subject NP.[5] In the absence of a co-referent NP, subject markers that do not belong to the 1st or 2nd person are interpreted anaphorically, triggering the identification of the argument they represent to a contextually salient referent compatible with the class expressed by the subject marker – ex. (1) to (4).

(1) a. *Atejo   na-tiñe   si-nnaŋ sasu.*
         Atéjo   CL1-eat:PFV CL4-rice CL4:DEF
         'Atéjo ate the rice.'

     b. *Atejo   na-teye.*
         Atéjo   CL1-run:PFV
         'Atéjo ran.'

(2) a. *Na-tiñe   si-nnaŋ sasu.*
         CL1-eat:PFV CL4-rice CL4:DEF
         '(S)he ate the rice.'

     b. *Na-teye.*
         CL1-run:PFV
         '(S)he ran.'

(3) a. **Atejo tiñe si-nnaŋ sasu*

     b. **Atejo teye*

The object of transitive verbs is not obligatorily indexed on the verb form, but Jóola-Banjal has weak object pronouns, i.e. object pronouns that do not constitute autonomous words – ex. (4). The fact that they undergo vowel harmony is a decisive proof that they are morphologically attached to the verb.

(4) a. *Ni-tiñe   gu-mango gagu.*
          1SG-eat:PFV CL8-mango CL8:DEF
          'I have eaten the mangos'

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[5] Note that, that, with non-human subjects, the subject marker always varies in accordance with the class prefix of the head of the subject NP, whereas human subjects that exceptionally do not belong to gender 1/2 are invariably represented by the same subject markers as human nouns belonging to gender 1/2.

b. *Ni-tiñe-go.*
   1SG-eat:PFV-CL8
   'I have eaten them'

The ability to be represented by weak pronouns suffixed to the verb is not limited to objects – ex. (5).

(5) a. *Ni-juge   su-joba sasu   ni bi-it.*
      1SG-see:PF   CL4-dog CL4:DEF   in CL5-rice_field
      'I have seen the dogs in the rice fields.'

   b. *Ni-juk-so-bo.*
      1SG-eat:PF-CL4-CL5
      'I have seen them there.'

With semantically trivalent verbs, Jóola-Banjal has double object constructions whose make-up is sensitive to animacy hierarchy and noun classification. With verbs like 'give', the two objects typically differ with respect to animacy and do not belong to the same noun class. In that case, there is no constraint on the relative ordering of the object NPs, but if both are pronominalized, the object markers must be ordered according to animacy hierarchy – ex. (6).

(6) a. *Na-sene   fu-mango a-ññil   aku.*
      CL1-give:PF   CL7-mango   CL1-child CL1:DEF
      'He gave a mango to the child.'

   b. *Na-sene   a-ññil   aku   fu-mango.*
      CL1-give:PF   CL1-child CL1:DEF   CL7-mango
      same meaning as (a)

   c. *Na-sen-ol-fo.   / *Na-sen-fo-ol.*
      CL1-give-CL1-CL7
      'He gave it to him.'

If the two objects do not differ in animacy, the object NP representing the recipient must follow the object NP representing the gift, but if both are pronominalized, the object marker encoding the recipient precedes the object marker encoding the gift – ex. (7).

(7) a. *Na-sene   a-ññil aku   w-aare-aw.*
      CL1-give-PF   CL1-child CL1:DEF   CL6-woman-DEF:CL6
      'He gave the child to the women.'

   b. *Na-sen-il-ol.*
      CL1-give-CL2-CL1
      'He gave him to them.'

As illustrated in ex. (6) and (7), in double object constructions, both objects can be represented by object markers, with however a constraint: speakers tend to avoid stacking object markers of the same noun class.

Appendix 3. Verbal predication in Mandinka (Mande)

A3.1. The prototypical transitive construction

The two nuclear arguments of the prototypical transitive construction A and P obligatorily precede the verb, and A obligatorily precedes P. Assertive and interrogative transitive clauses always include a *predicative marker* encoding TAM and polarity distinctions, inserted between A and P.

Obliques (most of the time encoded as postposition phrases) usually follow the verb. Some of them (mainly time and place adjuncts) may however occur in sentence initial position. Some verb modifiers are found in pre-verbal position, but no full NP can be inserted between P and the verb, or between A and P.

A and P bear no mark of their role and are not indexed on the verb. Pronouns occupy the same positions as canonical NPs and have the same forms in all their possible functions.

(1) a. *Jatóo   si   dánnoo   barama.*
        lion:DEF POT   hunter:DEF hurt
        'The lion may hurt the hunter.'

   b. *Dánnoo   máŋ   jatóo   barama.*
        lion:DEF   PFV.NEG   hunter:DEF   hurt
        'The hunter did not hurt the lion.'

   c. *Íŋ   báamaa   ka   ñéwo   wáafi   (lúumoo   to).*
        1SG   mother   HAB.POS   fish:DEF sell   market:DEF LOC
        'My mother sells fish (at the market).'

   d. *Wulóo ye   díndíŋo   kíisándi   (dimbáa ma).*
        dog:DEF PFV.POS child   save   fire   POSTP
        'The dog saved the child (from the fire).'

   e. *A   ye   a   kíisándi   (a   ma).*
        3SG   PFV.POS 3SG   save   3SG   POSTP
        'He/she/it saved him/her/it from it.'

A3.2. Intransitive predication

The NP representing the single argument S of monovalent verbs precedes the verb. It bears no mark of its syntactic role and is not indexed on the verb. Obliques behave exactly in the same way in transitive and intransitive clauses.

With one single exception (the perfective positive, encoded by the verbal suffix *-ta*), in intransitive predication, TAM and polarity are encoded by the same predicative markers as in the transitive construction. In intransitive predication, the predicative markers common to transitive and intransitive predication are inserted between S and the verb.

(2) a. *Ninsóo si   kata.*
     cow:DEF POT   escape
     'The cow may escape.'

  b. *Kewô   máŋ   naa.*
     man:DEF PFV.NEG come
     'The man did not come.'

  c. *Newó   ka   kómoŋ (jíyo   kóno).*
     iron:DEF HAB.POS rust   water:DEF   inside
     'Iron rusts (in water)'

  d. *Yíroo   boyi-ta   (síloo   kaŋ).*
     tree:DEF fall-PFV.POS road:DEF on
     'The tree fell down (on the road)'

A3.3. Subject and object

With respect to the relationship between transitive and intransitive predication, Mandinka can be characterized as a language showing A-alignment, more commonly termed *accusative* alignment (S = A ≠ P). However, among the coding properties of core NPs, A and P show no contrast in either case marking or indexation, both precede the verb, and their position in relation to the predicative marker is the only obvious contrasting property of A and P that justifies conflating S with A rather than with P.

A3.4. Ditransitive alignment

Mandinka clauses cannot include more than two core NPs, in the sense that they never include a third NP with a behavior showing some similarity to that of the object in the examples above. Consequently, in the construction of verbs such as 'give', one of the three arguments must necessarily be encoded as a postposition phrase in post-verbal position.

Mandinka has two possible equivalents of English 'give': in the construction of *díi* (which by itself implies nothing more than transfer), the gift (alias *theme*) is represented by the object NP ('indirective' alignment), whereas in the construction of *só* (which implies that the recipient will remain the possessor of the gift) the object NP represents the recipient ('secundative' alignment) – ex. (3).

(3) a. *Kewó   ye   kódoo   díi   musóo   la.*
     man:DEF PFV.POS money:DEF give woman:DEF POSTP
     'The man gave money to the woman.'

  b. *Kewó   ye   musôo   só   kódoo   la.*
     man:DEF PFV.POS woman:DEF give money:DEF POSTP
     'The man gave money to the woman.'

Appendix 4. Constituent order typology: the SOVX pattern

A4.1. Introductory remarks

Current presentations of constituent order typology implicitly treat the notion of *SOV* core constituent order as more or less equivalent to the notion of verb final-language. In most languages, objects and obliques occupy the same position in relation to the verb, and differ only in a tendency of objects to stand closer to the verb, so that *SVO, SOV, VSO* and *VOS* can generally be considered equivalent to *SVOX, SXOV, VSOX* and *VOXS* respectively. This however does not hold for languages in which the core syntactic terms of the prototypical transitive construction precede the verb, and all obliques follow it (*SOVX* constituent order*)*, as illustrated by Soninke (Mande) – ex. (1).

(1) a. *Fàatú dà tíjè-n qóbó sáχà-n ŋá.*
  Fatou PFV.POS meat-DEF buy market-DEF POSTP
  'Fatou has bought meat at the market.'

  b. *Fàatú dà tíjè-n yígá-ndí lémínè-n ŋá.*
  Fatou PFV.POS meat-DEF eat-CAUS child-DEF POSTP
  'Fatou had the child eat meat.'

  c. *Ó dà χáalìsí kè kínì à yí.*
  1PL PFV.POS money DEM give-CAUS 3SG POSTP
  'We gave him/her the (aforementioned) money.'

The *SOVX* type of constituent order is commonly mentioned among the morphosyntactic features concerning a proportion of African languages significantly higher than that observed at world level. It is also commonly assumed that, within the limits of the African continent, this type of constituent order pattern shows a particular concentration in West Africa, where in addition to the whole Mande family it is found also, at least to some extent, in languages belonging to the Kwa, Gur, Kru, Songhay, and Atlantic families.

What is absolutely uncontroversial is that the canonical variety of the *SOV* pattern (with the verb in clause-final position, and other features commonly associated with *OV* order) is extremely rare in West Africa, where its only representatives are Ijo and Dogon, whereas constituent order patterns that do not fit the *SVO* vs. *SOV* distinction are common in West Africa. But the West African languages with non-canonical constituent order patterns show in some important respects a variety that casts some doubt on Heine's claim that they can be grouped into a single type.

Most authors seem to take for granted that the *SOVX* pattern found in the languages of the Mande family and in a few other languages sharing with Mande the absence of constituent order alternations also constitutes the alternative to *SVOX* in the West African languages that have *VO* ~ *OV* alternations. But things are not so simple, and in the languages that have such alternations, the variant in which *O* precedes the verb differs in some important respects from the *SOVX* constituent order found in Mande languages. In other words, West African languages with *VO* ~ *OV* alternations cannot be straightforwardly characterized as having an alternation

between a canonical *SVOX* constituent order and an *SOVX* constituent order of the Mande type.

A4.2. The *SOVX* constituent order in Mande languages

A4.2.1. Rigidity of the SOVX *constituent order in Mande languages*

In Mande languages, the *SOVX* constituent order is neither restricted to particular types of clauses, nor conditioned by certain features of the object NP. More generally, Mande languages are extreme 'configurational' languages, with particularly rigid patterns of constituent order.

A4.2.2. Never more than two NPs to the left of the verb

In Mande languages, the object in the transitive construction occurs between the subject and the verb, but Mande languages do not have the possibility to insert additional NPs between the subject and the verb, either as second objects in double object constructions, or in oblique role.[6] Similarly, in the intransitive construction, no additional NP in oblique role can be inserted between the subject and the verb.

A4.2.3. No evidence supporting the reconstruction of a different pattern of constituent order in Proto-Mande

Claudi 1994 claims that, originally, Mande languages had the *SVOX* order at clause level, but the order *GN* (*genitival dependent + head noun*) in the noun phrase, and that the *SOVX* order is an innovation resulting from the reanalysis of constructions of the type *auxiliary + nominalized verb*, in which the NP that would have constituted the object of a finite form of the nominalized verb was treated as a genitival dependent. This is undoubtedly a possible scenario, but other scenarios are equally plausible, and Claudi's proposal is entirely speculative, since in Mande languages, the uniformity of word order and constituent order patterns is total, and there is no concrete evidence of the previous existence of a constituent order other than *SOVX*.

A4.3. Non-Mande languages with a Mande-type *SOVX* constituent order

Senufo (Gur) and Eastern Songhay are the only non-Mande language groups attesting a strict *SOVX* constituent order, i.e. a constituent order in which the number of NPs that can be inserted between the subject and the verb is strictly limited to one.

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[6] In Mande languages, the associative construction constitutes the only possibility to insert NPs immediately after the subject of the object, as in Mandinka *Músaa níŋ Faatú naata* 'Moussa and Fatou came', or 'Moussa came with Fatou', *Músaa níŋ kóodoo naata* 'Moussa brought the money, lit. 'Moussa with the money came'. As suggested by these examples, this construction is to some extent comparable to NP coordination as attested in European languages, in the sense that the NP introduced by *níŋ* 'and/with' is syntactically an extension of the preceding NP, but it has a wider range of functions.

A4.4. Constituent order alternations in other West African languages

A number of West African languages have alternations in the constituent order involving *SVOX* as one of the two alternative orders, in which however the pattern that alternates with *SVOX* differs in important respects from the strict *SOVX* pattern of Mande. Such alternations are a widespread phenomenon in the Gur, Kwa, and Kru families, and are attested in some Atlantic languages too. The alternation is conditioned by TAM or polarity, and the use of a constituent pattern other than *SVOX* is commonly restricted to clause types characterized by the presence of an auxiliary immediately after the subject. But the details greatly differ from one language to another, and no generalization is possible concerning the TAM and polarity values that trigger a constituent order other than *SVOX*. There are also important differences in the range of nominal terms involved in the alternation, with the result that treating them indistinctly as instances of a variation between the canonical *SVOX* pattern and the Mande pattern is a gross oversimplification.

For example, in Neyo (Kru), 6 auxiliaries trigger a constituent order with the object in pre-verbal position , but the alternation may involve more than one nominal term, and is not restricted to objects. According to the only available description of this language, the canonical constituent order triggered by the 6 auxiliaries in question is *SOXV*, with however *SXOV* and *SOVX* as possible but less common variants – ex. (2).

(2) a. *Kóní ní   sáká jàlɛ́   lī̠.*
       Koni PFV.NEG rice   kitchen eat
       'Koni has not eaten rice in the kitchen.'

   b. *Làlí yā   mágìtī kʊ́ līēplū yɛ́.*
      Lali PFV.POS market at   scarf   see
      'Lali has seen a scarf at the market.'

   c. *Kóní níkā   ɲú   mlā zīmlɛ̄.*
      Koni FUT.NEG water drink today
      'Koni will not drink water today.'

A4.5. Conclusion

Most studies dealing with the constituent order patterns of African languages, in particular from a historical point of view, have greatly underestimated the differences between the Mande strict *SOVX* constituent order pattern and the alternating patterns found in Kwa, Gur, Kru, and Atlantic languages. A fine-grained typology of constituent order patterns in West Africa does not confirm the current view according to which, in languages with alternant constituent order patterns, the variant in which the object precedes the verb can be identified with the Mande type of constituent order.

On the one hand, the absolute uniformity and rigidity of the Mande pattern may suggest a Mande influence in the diffusion or maintenance of constituent order patterns in which objects precede the verb. But on the other hand, in West African languages with alternating constituent order patterns, the range of NPs that can precede the verb is considerably wider than in Mande languages, which makes problematic the hypothesis of genetic or areal relationship between the Mande *SOVX*

constituent order and the *VO ~ OV* alternations found in other West African language families.

Appendix 5. Variations in double object constructions

A5.1. General remarks

DOCs are extremely common in Africa. They are clearly predominant among Atlantic, Kru, Gur, Kwa, and Benue-Congo languages.

DOCs are generally more or less asymmetrical, in the sense that, apart from the absence of overt marking by means of case marking or adpositions, the two objects may differ in the extent to which they possess the properties characteristic of the monotransitive patient. In simple cases one of them can be recognized as possessing every property characteristic of monotransitive patients, whereas the other shows only a limited range of P-like properties.

In African DOCs of verbs of giving, the predominance of secundative alignment is obvious. In many languages at least, the recipient can be straightforwardly characterized as fully assimilated to the monotransitive patient, and I know of no example of DOCs in which this characterization could apply to the gift.

There are however important variations in the extent to which the gift in DOCs shares properties of the monotransitive patient with the recipient. In some cases, the asymmetry between the two objects is minimal, but in others, apart from the absence of overt marking, the gift seems to have nothing in common with the monotransitive patient.

A5.2. Indexation and passivization

The *recipient > gift* hierarchy in DOCs of African verbs of giving often has clear manifestations in the indexing properties of the two objects (in languages that have object indexation) and in their behavior in passive constructions (in languages that have passive verb forms or periphrases).[7]

Tswana provides a good example of DOCs in which the asymmetry, although not totally absent, is minimal. In the DOCs of Tswana, the linear order of the objects is determined by Animacy Hierarchy. The verb can simultaneously incorporate two object markers identical to those used to represent the patient of typical transitive verbs – ex. (1b), and the role of subject of a passive construction is accessible both to the gift and the recipient – ex. (1c-d). The only obvious manifestation of a hierarchy between the two objects is that, if both objects are pronominalized, the only possible passive construction is that in which the subject represents the recipient – ex. (1e-f).

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[7] In principle, any property that the monotransitive patient shares with either either the recipient or the gift may provide a hierarchization criterion. For example, in Wolof, the two objects in the construction of *jox* 'give' have the same indexation properties, and passive derivation cannot provide evidence of a hierarchy either, since Wolof does not have passive constructions, but the existence of an antipassive form *jox-e* blocking the expression of the recipient can be viewed as a manifestation of secundative alignment.

(1) a. *Ke file bana lobone.*
    kì-fílé   bàná   lúbɔ̀nɛ̀
    1SG-give:PRF   CL2:child   CL11:lamp
    'I have given the children the lamp.'

   b. *Ke lo ba file.*
    kì-lú-bà-fílè
    1SG-CL11-CL2-give:PRF
    'I have given it to them (the lamp).'

   c. *Bana ba filwe lobone.*
    bàná   bá-fílwé   lúbɔ̀nɛ̀
    CL2:child   CL2-give:PASS:PRF   CL11:lamp
    'The children have been given the lamp.'

   d. *Lobone lo filwe bana.*
    lùbɔ̀nɛ̀   lú-fílwé   bàná
    CL11:lamp   CL2-give:PASS:PRF   CL2:child
    'The lamp has been given to the children.'

   e. *Bana ba lo filwe.*
    bàná   bá-lù-fílwè
    CL2:child   CL2-CL11-give:PASS:PRF
    'The children have been given it'

   f. **Lobone lo ba filwe.*
    lùbɔ̀nɛ̀   lú-bà-fílwè
    CL11:lamp   CL11-give:PASS:PRF

    Southern Sotho (a close relative of Tswana) illustrates a type of DOC in which the gift still clearly shows object properties, but with an asymmetry between the recipient and the gift more marked than in Tswana. In Southern Sotho, both objects can be pronominalized by means of the same object markers as the monotransitive patient, but the verb cannot incorporate more than one object marker at the same time, and if both objects are pronominalized, the object marker attached to the verb obligatorily represents the recipient, and the gift must be represented by an independent pronoun in post-verbal position – ex. (2).

(2) a. *Ha-ke-fe*   *basadi*   *lefielo.*
    NEG-1SG-give:PRF   CL2:woman   CL5:broom
    'I do not give the broom to the women.'

   b. *Ha-ke-ba-fe*   *lefielo.*
    NEG-1SG-CL2-give:PRF   CL5:broom
    'I do not give them (the women) the broom.'

   c. *Ha-ke-le-fe*   *basadi.*
    NEG-1SG-CL5-give:PRF   CL2:woman
    'I do not give it (the broom) to the women.'

    d. *Ha-ke-ba-fe*   *lona.*
        NEG-1SG-CL2-give:PRF CL5
        'I do not give it (the broom) to them.'

    e. **Ha-ke-le-ba-fe.*
       *Ha-ke-ba-le-fe.
       *Ha-ke-le-fe bona.

In Shimaore – ex. (3), object markers identical to those used to represent the monotransitive patient necessarily represent the recipient; the gift can be indexed, but only by means of a distinct set of pronominal markers occupying a different position, at the end of the verb form. Formally similar verbal suffixes (or enclitics) are commonly used in Bantu languages to represent locative arguments, and comparative data shows that they result from a relatively recent cliticization process affecting independent pronouns (whereas object markers incorporated to verb forms are reconstructed at Proto-Bantu level).

(3) a. *Ni-tso-m-zunguha.*
       1SG-FUT-CL1-look_for
       'I will look for him/her.'

    b. *Ni-tso-m-ba*   *Haladi*   *zimarke.*
       1SG-FUT-CL1-give   CL1:Haladi   DEF:CL10:money
       'I will give the money to Haladi.'

    c. *Ni-tso-m-ba-zo.*
       1SG-FUT-CL1-give-CL10
       'I will give it to him.'

Swahili illustrates an extreme case of asymmetrical DOC in which, apart from the absence of any adposition or case affix, the NP representing the gift hardly has anything in common with the monotransitive patient. In particular, object markers attached to the verb can represent the recipient only, and there is no possibility to index the gift on the verb, even by means of a distinct series of pronominal markers – ex. (4).

(4) a. *Ni-me-wa-pa*   *watoto*   *chakula.*
       1SG-PRF-CL2-give   CL2:child   CL7:food
       'I have given food to the children.'

    b. *Ni-me-wa-pa*   *chakula.*
       1SG-PRF-CL2-give   CL7:food
       'I have given food to them.'

    c. **Ni-me(-wa)-ki-pa.*
       1SG-PRF-CL2-CL7-give

    d. **Ni-me(-wa)-pa-cho.*
       1SG-PRF-CL2-give-CL7

A5.3. The linear order of objects in DOCs

A5.3.1. DOCs of verbs of giving with the recipient closer to the verb that the gift

A superficial look at the available documentation on DOCs of verbs of giving in African languages may give the impression of a strong tendency to place the NP representing the recipient closer to the verb than the NP representing the gift. The Bantu examples in the previous section illustrate this tendency, which seems to be particularly widespread among Bantu languages, but is clearly not limited to them. In many Bantu languages (for example, Tswana), any violation of the linear order *'give' – recipient – gift* results in agrammaticality. A similar rule has been put forward a.o. for the Lakota variety of the Kru language Dida, the Kwa language Ebrie, and the Ubangian language Ngbandi. However, languages with different ordering rules are not exceptional.

A5.3.2. DOCs of verbs of giving without a fixed order of the gift and the recipient

In Wolof, *jox* 'give' has a DOC in which both orders *'give' – recipient – gift* and *'give' – gift – recipient* are equally possible.

(5) a. *Damay   jox   ganaar gi   dugub   ji.*
VFOC:1SG:IPFV give   hen   CL$_g$:DEF millet CL$_j$:DEF
'I am giving the millet to the hen.'

   b. *Damay   jox   dugub ji   ganaar gi.*
VFOC:1SG:IPFV give   millet CL$_j$:DEF hen   CL$_g$:DEF
same meaning as (a)

The Kwa languages Ega and Fon, the Gur languages Gurma and Ncam (Bassar), and the Kru language Grebo, illustrate the same phenomenon. However, according to Innes 1966, the relative order of the gift and the recipient in the DOC of Grebo is free only "if the sentence could reasonably have only one meaning"; when both the gift and the recipient are humans, the recipient comes first.

A5.3.3. DOCs of verbs of giving with the gift closer to the verb that the recipient

A strict ordering *'give' – gift – recipient* can be illustrated by Ewe, and this ordering applies including when the recipient is represented by a pronominal clitic, which in that case is enclitic to the NP representing the gift – ex. (6).

(6)   *É-ná   tsi-i.*
3SG-give water-3SG
'(S)he gave him/her water.'

Other languages for which a fixed order *'give' – gift – recipient* has been reported include the Central Sudanic language Kabba and the Benue-Congo language Kana.

A5.3.4. Ordering properties of free pronouns and pronominal markers in DOCs

DOCs involving pronouns frequently (but not always – see ex. (6) above) obey a constraint according to which a pronominal object must stand closer to the verb than an object NP, irrespective of their semantic role.

In languages using pronominal affixes or clitics, and in which two or more object markers can be attached to the same verb, the object marker immediately adjacent to the verb stem may systematically correspond to the NP standing closer to the verb when both the recipient and the gift are represented by canonical NPs, but this is not necessarily the case.

For example, Tswana is an SVO language in which object markers are prefixed to the verb stem, and in DOCs, the ordering of the object markers is the mirror image of the ordering of the corresponding NPs, as illustrated by ex. (1a-b) above. However, according to Lutz Marten (p. c.), in the Kgatla dialect of Tswana, NPs representing recipients must precede NPs representing gifts, as in other dialects, but the ordering of the corresponding object markers is free.

In fact, even a superficial survey of the possible relationships between the ordering of object NPs and object markers in languages having DOCs in which two object markers can simultaneously attach to the same verb reveals a variety of situations that excludes the possibility of any simple generalization.

In some languages (for example, as already mentioned above, the Kgatla dialect of Tswana), the ordering of the object markers is less strict that the ordering of the corresponding NPs. In some others, it is more strict, and when the ordering of the object markers and the ordering of object NPs are equally strict, they may obey different constraints. In particular, the ordering of object markers may be determined by purely morphological constraints involving features such as person or number and ignoring the role of the arguments they represent.

For example, as already indicated above, Wolof has DOCs in which the order of the two object NPs is free; by contrast, the ordering of the object clitics in Wolof is strict, but it is independent from the roles of the participants they represent, and depends exclusively on the hierarchy *1st/2nd person > 3rd person plural > 3rd person singular,* as illustrated by ex. (7).

(7) a. *Damay   jox   xale bi   mango yi.   ~ Damay jox mango yi xale bi.*
        VFOC:1SG:IPFV   give child CL$_b$:DEF   mango   CL$_y$:DEF
        'I am giving the mangoes to the child.'

     b. *Damay   jox   xale yi   mango bi.   ~ Damay jox mango bi xale yi.*
        VFOC:1SG:IPFV   give child CL$_y$:DEF   mango   CL$_b$:DEF
        'I am giving the mango to the children.'

     c. *Dama   leen ko-y   jox.*
        VFOC:1SG 3PL   3SG-IPFV give
        'I am giving them to him' *OR* 'I am giving it to them.'

d. *Dama   ko   leen di[8]   jox.
   VFOC:1SG   3SG   3PF   IPFV give

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[8] *di* (following a consonant) and *-y* (following a vowel) are two allomorphs of the same imperfective marker.