

Verb-Raising in Modern Greek \*

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0. Introduction

Standard Modern Greek has a periphrastic Causative construction involving the verb kano 'do, make'<sup>1</sup> as matrix verb, that shows a variety of forms on the surface, as exemplified in (1) for an intransitive lower verb and in (2) for a transitive lower verb:

- (1) a. ekana    ton yani    na figi  
           make-PAST the John    leave-3sg  
           1sg            ACC ACC    SUBJUNCTIVE  
           'I made John leave'  
       b. ekana na figi    o yanis  
   the John-NOM  
           'I made John leave'  
       c. ekana na figi ton yani  
           'I made John leave'
- (2) a. ekana ton yani na agorasi afta ta mila  
                           ACC            buy-3sg these the apples-ACC  
           'I made John buy these apples'  
       b. ekana na agorasi afta ta mila o yanis  
   John-NOM  
           'I made John buy these apples'  
       c. ekana na agorasi afta ta mila ton yani  
   John-ACC  
           'I made John buy these apples'

The essential features of these constructions, which I will refer to as kano-1, kano-2, and kano-3, respectively, are summed up in (3):

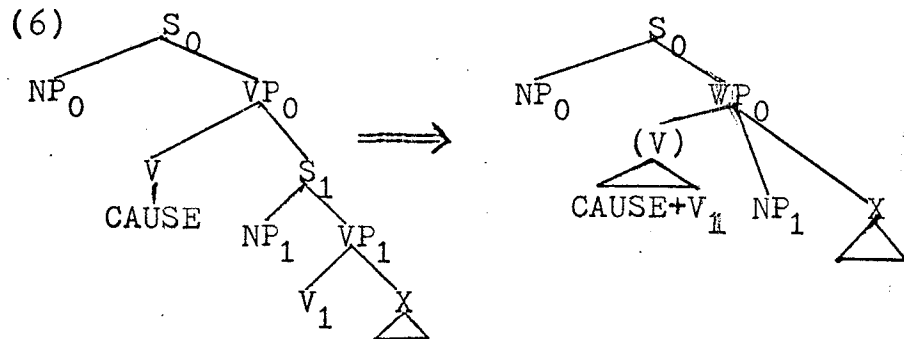
- (3) a. kano-1: kano NP<sub>a</sub>-ACC na VP  
       b. kano-2: kano na VP NP<sub>a</sub>-NOM  
       c. kano-3: kano na VP NP<sub>a</sub>-ACC

where NP<sub>a</sub> designates the NP that serves semantically as the subject to the embedded VP.<sup>2</sup> These three surface forms are cognitively synonymous--that is, they each refer to the same event, and differ semantically only in emphasis or focus. Kano-1 is the unmarked Causative construction, with both kano-2 and kano-3 being less common but still acceptable variants.

The main question to be considered here is the derivation of kano-3. Superficially, it appears to be derived from kano-1 by means of a Shift rule that is independently needed in Greek to account for sentences in which a derived object, as for instance after Raising, is shifted to the far right of a sentence, and also those in which an underived object, such as the object NP in Object-EQUI structures, is similarly shifted to the right. Examples of this Shift rule are given in (4) for the Raising verb θelo 'want'<sup>3</sup> and in (5) for the Object-EQUI verb piθo 'persuade':

- (4) a. θelo ton yani na figi  
       want-1sg ACC       3sg  
       'I want John to leave'  
       b. θelo na figi, ton yani  
       'I want John to leave'
- (5) a. episa ton yani na figi  
       persuade-PAST-1sg  
       'I persuaded John to leave'  
       b. episa na figi, ton yani  
       'I persuaded John to leave'

However, evidence will be presented which argues against such a derivation for kano-3, and it will be demonstrated that kano-3 has a derivation independent of kano-1, that is, one that does not include kano-1 as an intermediary stage. Rather, kano-3 will be shown to be derived by means of the rule of Verb-Raising, which is required in Universal Grammar to account for similarities in the Causatives of languages such as Turkish, French, and Sanskrit. This rule has been discussed thoroughly in Aissen (1974a, b), where Causative constructions from these and other languages were investigated and those having particular properties with respect to Passivization and Reflexivization in the clause embedded under the verb of Causation, and also to the simplex nature of the surface output Causative string, were shown to be derived by this rule. These properties of Verb-Raising Causatives will be crucial to the arguments given for deriving kano-3 by this rule. In general, the rule operates as indicated in (6), taking a bisentential clause structure as input, and producing a simplex-sentence output, by raising the lower verb up to the verb of Causation, with subsequent pruning of the S-node which dominates the embedded sentential complement:



Once this Verb-Raising derivation for kano-3 has been established, certain refinements in the universal analysis of Verb-Raising, which the Greek facts enable us to make, will be considered.

### 1. Kano-3 and the Shift Rule

There are several reasons why a derivation of kano-3 via the Shift rule is unlikely. First of all, kano-3 sentences do not require shift-intonation, that is, a pause before NP<sub>a</sub> is possible but not necessary. The shifted version of oelo sentences, however, does require a pause before NP<sub>a</sub> in order to maintain the non-shifted reading of the sentence. This last stipulation is necessary, for without the pause, the primary reading in apparent shifted-oelo sentences with a lower verb that is generally intransitive, is one with the lower verb understood as a transitive verb, even when this transitive sense is not possible in simple sentences. Thus,

- (7) oelo na figi ton petro  
3sg Peter-ACC

with no pause, means primarily 'I want someone to flee from/avoid Peter', even though in a simple sentence, this verb requires the preposition apo 'from' with an animate NP object:

- (8) a. \*oa figo ton yani  
FUTURE 1sg  
b. oa figo apo ton yani  
'I will flee from/avoid John'

Similarly, in the apparent shifted-pi<sub>o</sub> constructions, the lower verb is read as transitive when the shifted NP could not be the subject of the lower verb:<sup>4</sup>

- (9) episa na figun i filii mu ton petro  
leave-3pl the friends-NOM of me Peter-ACC  
= 'I persuaded my friends to avoid Peter'

By way of contrast, the non-shifted pi<sup>0</sup>o construction corresponding to (9) has only the intransitive reading on the lower verb:

- (10) episa ton petro na figun i fili mu  
= 'I persuaded Peter that my friends left'  
≠ '\*I persuaded my friends to avoid Peter'.

This phenomenon with the the shifted constructions seems to be explainable as a transderivational constraint on the Shift rule, blocking its outputs that are identical with outputs producible by some other process, whether a transformational or a phrase-structure rule (although the facts of (8) would appear to make this constraint somewhat difficult to state formally). This constraint is the sort that can be motivated in general for shift rules in various languages.<sup>5</sup> The important point about this constraint is that it does not apply to the kano-3 construction, so that (11) has only the intransitive reading on the lower verb, and not the transitive one:

- (11) ekana na figi ton petro  
= 'I made Peter leave'  
≠ '\*I made someone avoid/flee from Peter.'

Thus, in order to derive kano-3 from kano-1 by the Shift rule, it would be necessary to account for these apparent non-shift properties of this construction.

Even if this could be done in a non-ad hoc and reasonably well-motivated manner, there would still be even greater problems for someone who was attempting to derive kano-3 from kano-1 by the Shift rule. In particular, kano-1 has properties that kano-3 does not, especially with regard to Passivization and Reflexivization in the lower clause. Thus, when Passive has applied in the embedded clause in the kano-1 construction, the result is an acceptable sentence; but in the kano-3 construction, Passive in the lower clause produces an ungrammatical sentence:

- (12) a. o yanis ekane ton petro na skoto<sup>0</sup>i  
                    3sg        Peter-ACC    kill-PASS-3sg  
                    'John caused Peter to be killed'  
      b. \*o yanis ekane na skoto<sup>0</sup>i ton petro

In the same way, we find that ordinary Reflexivization in the embedded sentence in the kano-1 construction produces acceptable results, but in kano-3, the result is an un-

grammatical sentence:<sup>6</sup>

- (13) a. ekana ti maria<sub>i</sub> na agapisi ton eafon tis<sub>i</sub>  
1sg Mary-ACC love-3sg the-self-ACC of her  
'I made Mary love herself'  
b. \*ekana na agapisi ton eafon tis<sub>i</sub> ti maria<sub>i</sub>

The same results obtain with the intensive reflexive pronoun:<sup>7</sup>

- (14) a. ekana ton yani na figi aftos o idios  
this one-the-same-NOM  
'I made John himself leave'  
b. \*ekana na figi aftos o idios ton yani.

Therefore, if we would still want to derive kano-3 from kano-1, we must also account for these differences in some way.<sup>8</sup> There are two possible ways that they could be accounted for--either these differences could be due to general restrictions on the Shift rule, or else they could be due to particular restrictions on the verb kano with respect to the Shift rule.

However, it is clear that the contrasts of (12) to (14) cannot be the result of general restrictions on the Shift rule. In sentences where the Shift rule has applied with oelo 'want' and pi<sub>o</sub> 'persuade', Passive or Reflexive in the lower clause produces acceptable results:

- (15) a. Oelo na skoto<sub>oi</sub>, ton petro  
'I want Peter to be killed'  
b. episa na eksetas<sub>oi</sub> apo ton yatro ton yani  
examine-PASS-3sg by doctor  
'I persuaded John to be examined by the doctor'  
(16) a. Oelo na agapisi ton eafon tis<sub>i</sub>, ti maria<sub>i</sub>  
'I want Mary to love herself'  
b. episa na agapisi ton eafon tis<sub>i</sub> ti maria<sub>i</sub>  
'I persuaded Mary to love herself'.

Therefore, it would be impossible to treat the differences between kano-3 and kano-1 as a reflex of general constraints on the Shift rule without having to make special exceptions, which were otherwise unmotivated, for oelo and pi<sub>o</sub>, since they would not be subject to these constraints.

Thus, if we were to derive kano-3 by the Shift rule, restrictions would have to be placed on the verb kano with respect to this rule, such that Shift can not apply

when Passive or Reflexive has applied in the clause embedded under kano.

## 2. Kano-3 as a Verb-Raising Construction

This approach, of putting ad hoc restrictions on the verb kano, obviously works for Greek, but it is not a particularly felicitous solution to the problems posed by kano-3 because it is totally non-explanatory--it merely describes the state of affairs with kano-3, but does not tell why, for instance, kano-3 should have these idiosyncratic properties, or why Passive and Reflexive should be singled out as blocking the Shift rule. Furthermore, such an approach misses a crucial point about these properties of kano-3, namely that they are exactly what has been predicted (by Aissen (1974a, b)) for Causatives derived by Verb-Raising.

It seems that universal or near-universal constraints must be placed on the Verb-Raising rule in some way to restrict its application in sentences in which Passive or Reflexive has applied in the clause embedded under the Verb-Raising trigger, for Turkish, French, Spanish, and Classical Snaskrit all do not allow Verb-Raising causatives with Passive morphology on the lower verb, and furthermore, Turkish, Spanish, and at least some dialects of French do not allow Verb-Raising causatives with Reflexivization in the lower clause:<sup>9</sup> (cf. Aissen (1974b))

- (17) a. \*Hasan bavul-u aç-ıl-dır-di (Turkish)  
          suitcase-ACC open-PASS-CAUS-PAST  
          ('Hasan had the suitcase (be) opened')  
      b. \*Marie a laissé (être) peinte la maison  
          par ses amis (French)  
          ('Marie let the house be painted by her friends')

- (18) a. \*Ahmet Mehmed-e<sub>i</sub> kendin-i<sub>i</sub> yıka-t-ti (Turkish)  
          -DAT self-ACC wash-CAUS-PAST  
          ('Ahmet had Mehmet<sub>i</sub> wash himself<sub>i</sub>')  
      b. \*J'ai fait s<sub>i</sub>'insulter Jean<sub>i</sub> (French)  
          ('I made John insult himself').

Therefore, there must be some mechanism in Universal Grammar which will account for these cross-linguistic data. It is not clear exactly what device is necessary--it has been suggested that Verb-Raising is a pre-cyclic rule, and therefore applies before, and destroys the structural description of, cyclic rules such as Passive and Reflex-

ive,, but that claim runs afoul of French dialects that do allow Reflexive in the clause embedded under the verb of causation. Possibly there is simply a universal constraint on the application of Verb-Raising in certain environments which gets realized in various languages in different ways.

Nonetheless, since something must be done about such facts in Universal Grammar in any case, deriving kano-3 by the rule of Verb-Raising, constrained universally in the indicated way, gives us motivation for the particular restrictions we find on kano-3 in Greek. Clearly, this motivation is lacking in an analysis which derives kano-3 by the Greek Shift rule along with ad hoc restrictions on the verb kano.

Moreover, a Verb-Raising derivation for kano-3 predicts a simplex sentence output structure for this construction, and though there is no evidence in Greek which points necessarily to a simplex output, there is evidence that the clause structure is reduced. Reflexivization in Greek is clause-bounded and obligatory<sup>10</sup>, so that a non-reflexive pronoun in the same clause as its antecedent is impossible:

- (19) a. \*i maria<sub>i</sub> agapai aftin<sub>i</sub>  
           Mary-NOM love-3sg her-ACC  
           '\*Mary<sub>i</sub> loves her<sub>i</sub>'  
       b. i maria<sub>i</sub> agapai ton eafton tis<sub>i</sub>  
           'Mary loves herself'

Thus if the surface structure of kano-3 is simplex, we would expect that a non-reflexive object pronoun coreferent with the subject of kano would produce an unacceptable sentence. This however is not exactly the case, for (20) is not totally ungrammatical, only decidedly odd:

- (20) ??ekana na filisi emena ti maria  
       1sg kiss-3sg me-ACC Mary-ACC  
       'I made Mary kiss me'

Whereas if the clause were simplex, we might expect (20) to be completely unacceptable, if there were still a distinct internal clause boundary in the derived structure, we would expect (20) to be completely grammatical, just as the corresponding shifted θelo and piθo constructions are:

- (21) a. θelo na filisi emena, ti maria  
           'I want Mary to kiss me'

- b. episa na filisi emena, ti maria  
'I persuaded Mary to kiss me'.

Thus the partially-grammatical status of (20) indicates that the clause structure has been reduced, but not completely so.

It is worth noting here that the other side of the reflexive coin, that is, the appearance of a reflexive pronoun coreferent with the subject of kano in this kano-3 construction is actually irrelevant to the question of the derived clause structure of kano-3. Such a sentence is completely ungrammatical, as shown in (22):

- (22) \*ekana na filisi ton eafon mu ti maria  
1sg the self of me Mary-ACC  
'\*I made Mary kiss myself'.

Although one might think that this is evidence for an internal clause boundary in kano-3, this is not the case, for, in general, Verb-Raising causatives are inert to this pattern of Reflexivization unless the lower subject is severely demoted, and in Greek, the lower subject in the kano-3 construction can only be in the accusative (direct object) case, and cannot have the case-marking indicative of a more demoted grammatical relation (see below, examples (27a-c)). Thus the ungrammaticality of (22) is due reasons extraneous to the nature of the internal clause structure, hence irrelevant to the question at hand.

A similar situation is found with Clitic Placement facts. It seems that a clitic pronoun object of the lower verb cannot intercede between kano and the lower verb:

- (23) \*ekana na ta agorasi ton petro  
them-Ntr.pl-CLITIC  
'I made Peter buy them'

Notice, by way of contrast, that a clitic in this position is possible with the shifted-0elo and the shifted-pi0o constructions:

- (24) a. 0elo na ta agorasi, ton petro  
'I want Peter to buy them'  
b. episa na ta agorasi ton petro  
'I persuaded Peter to buy them'.

This is the result we would expect if kano plus the lower verb formed a single constituent in the kano-3 construction, and if Clitic Placement occurred after this constituent was formed. Again, though, the evidence is some-



what inconclusive, since the clitic pronoun cannot be put at the head of of the verbal constituent kano+na+V:

- (25) \*ta ekana na agorasi ton petro  
'I made Peter buy them'

This is the situation we find also with oelo and pi0o:

- (26) a. \*ta oelo na agorasi ton petro  
'I want Peter to buy them'  
b. \*ta episa na agorasi ton petro  
'I persuaded Peter to buy them'

and so may be due to some restriction on clitic placement such that a clitic pronoun must be with its surface controlling verb.<sup>11</sup> Thus again we have evidence that the clause structure of kano-3 has been reduced, but not to a simplex output, and further, indication that kano+na+V must form a single constituent on the surface.

Since these results are compatible with an analysis of kano-3 by Verb-Raising, under certain modifications to be suggested below, and since such an analysis provides a motivation for the otherwise ad hoc restrictions that would have to be placed on kano vis-à-vis the Shift rule, it can be considered established that the kano-3 construction is derived by the rule of Verb-Raising.

### 3. Kano-3 and the Universal Formulation of Verb-Raising

Given this Verb-Raising derivation for kano-3, then, the Greek facts allow some refinements to be made in the universal formulation of Verb-Raising. First, it is clear that Verb-Raising must have a bi-sentential source as input, a fact which has been assumed up till this point in this paper, but for which the main supportive evidence in other languages with Verb-Raising causatives is from lexical facts such as selectional restrictions and strict subcategorizations. The co-existence of kano-2, where no rules except the automatic ones of agreement and case-marking have applied, and kano-3, plus the crucial fact of their synonymy, provides further evidence for a bi-sentential source for Verb-Raising causatives, since kano must be able to have a bare sentential complement in order to explain kano-2. Although this is certainly not a major or a controversial refinement for Verb-Raising, nonetheless, this additional evidence from Greek for a bi-sentential source for these causatives is worth noting.

Furthermore, it is clear from the Greek facts that



c. ekana na fai ta mila s ton petro

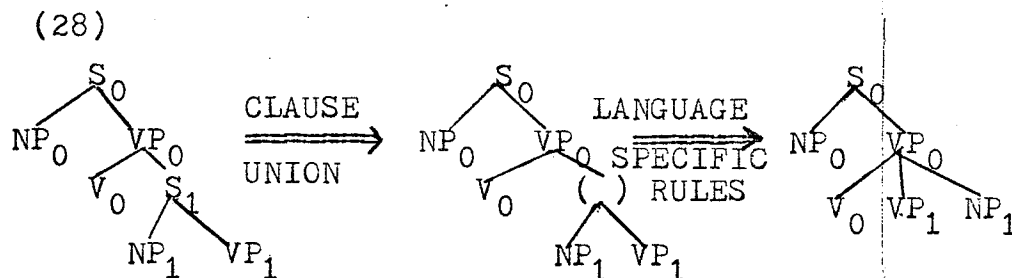
to/at/in

= 'I made someone eat the apples at Peter's'

≠ '\*I made Peter eat the apples/I had the apples eaten by Peter'.

Thus Greek shows that the grammatical relations and case-marking which follow from the assignment of these relations must be determined on a language-specific basis, for the putative universal rule does hold for Greek.

The third and final refinement in the universal analysis of Verb-Raising is as follows. It has been suggested (e.g. by Toman (1975)) that all Verb-Raising need do universally is wipe out the S-node dominating the lower clause, and that other properties of these Causatives, especially the surface word-order, are determined on a language-specific basis. This approach amounts to the claim that Verb-Raising is in fact a Clause-Union rule, by which the complex clause is reduced to a simplex structure by pruning the S-node--thus it differs from Verb-Raising in that it does nothing particular to the lower verb. This analysis is sketched in (28):



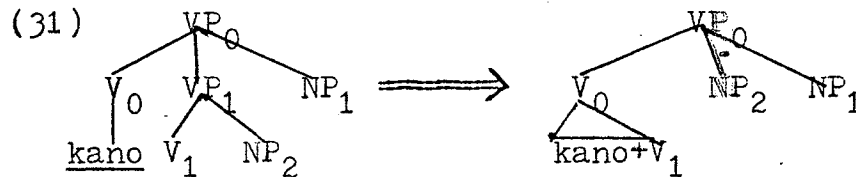
This Clause-Union in and of itself is not sufficient for Greek, since the two verbs, kano plus the lower verb, must be together on the surface, and must form a single constituent--nothing may intervene between them. The Clitic Placement facts of (23) suggested this, and the further evidence of (29) and (30) bear this out. In (29), the subject of kano intervenes, and the lower subject cannot be accusative, but must be nominative, i.e. the construction is not the kano-3 type, but rather is the kano-2 type, which we know (cf. footnote 8) does not show Verb-Raising properties. The same situation holds in (30), where an adverb intervenes:

(29) ekane o petros na figun { \*tus filus mu  
3sg Peter-NOM leave-3pl { friends-ACC of me  
i fili mu  
friends-NOM }

'Peter made my friends leave'

- (30) o petros kani siniθos na figi ta mesanixta  
 NOM 3sg usually midnight  
 \*ton yani/ o yanis  
 John-ACC John-NOM  
 'Peter usually makes John leave at midnight'.

Therefore, if Verb-Raising is really just Clause-Union, then Greek requires a Verb-Adjunction rule in addition, that is, some way of guaranteeing that kano+V form a single constituent on the surface. This is sketched in (31):



This Clause-Union plus Verb-Adjunction approach works for Spanish and French causatives, so is not merely an ad hoc way around the problems posed by Greek, that is, it can be justified to some extent on universal grounds.

However, even with this added provision for the constituency of kano+V, this analysis, and in fact any analysis with Clause-Union in its simple form of erasure of the S-node, just cannot work for Greek, because it must also be the case that the elements of the original lower clause remaining after Verb-Adjunction, must still be clause-like in some way, forming what may be referred to as a quasi-clause. The facts of (20) regarding the oddness of a non-reflexive pronoun coreferent to the subject of kano in the former lower clause, and the facts of (23) and especially (25) regarding Clitic Placement, indicated that some sort of internal boundary, though not a sentence boundary, is needed in the derived structure of kano-3, for it does not behave exactly like a simplex sentence, but in addition has lost some of its complex sentence properties. Thus any analysis whereby Clause-Union simply erases the S-node makes the wrong predictions regarding Greek.

Thus we can conclude that on the basis of the Greek facts, these Verb-Raising/Clause-Union Causatives must universally be derived in such a way as to allow the stage of quasi-clause-ness in the clause-remnant, which is intermediate between simple Raising (as with Gelo), and simple Clause-Union. This could be done if univer-

sally the Causative rule were in fact a Verb-Raising rule and the pruning of the S-node were accomplished on a language-particular basis. However, it could equally be the case that the Causative rule is a Clause-Union rule, with the stipulation that the union were not achieved by total erasure of the S-node--partial erasure would be accomplished universally, and total erasure would be accomplished by individual languages. Both possibilities are compatible with the Greek facts, and it may be the case that we simply can not decide between them, or other possibilities. Greek offers no evidence in favor of one or the other. However, it is clear, and this is the final refinement in the universal causative analysis, that the Greek data oblige us to tolerate and account for in some way, this intermediary stage in the formation of such causatives, in which the original lower clause retains some of its clause-like properties.

#### Footnotes

\* I would like to thank Jorge Hankamer and especially Judith Aissen for their valuable advice concerning earlier versions of this paper, and in addition, I would like to acknowledge my debt to Athan Anagnostopoulos for giving generously of his time to serve as my informant. The usual disclaimers as to their complicity in these results hold.

1. In accordance with the standard practice for Greek, verbs will be cited in their first person singular, present indicative active forms. The particle na is the marker for the subjunctive mood.

2. I say "serve semantically as the subject" for it is possible that NP<sub>a</sub> in the kano-1 construction is a non-derived object, i.e. that the construction is an Object-EQUI structure, as with the English verb persuade.

3. Whereas the Raising construction with Gelo is not common in Greek and is somewhat archaic and stylistically marked, nonetheless my informant did have clear judgments concerning it. Furthermore, there are several arguments that sentences such as (4a) are in fact Raising constructions, and not, Object-EQUI constructions, cf. Joseph (1975).

4. This suggests that pi0o is not an Object-EQUI verb in

all respects, contrary to what might be universally expected for the verb PERSUADE in a language--there is evidence that in Greek pi@o has a dual subcategorization, cf. Joseph, (1975).

5. For a discussion of a similar transderivational constraint on another Shift rule, the English rule of Heavy-NP-Shift, cf. Postal (1974), p. 84, fn.3.

6. The reflexive form ton eafton + POSSESSIVE PRONOUN is obsolescent in Modern spoken Greek, but is still acceptable to many speakers, especially the more highly educated ones. The use of the middle voice form of the verb is far more common.

7. I do not claim to understand the source of these intensives, but they have a similar distribution to ordinary reflexives in that their antecedent must be in the same simple clause before certain movement rules, and there is the contrast of (14a) with (14b), which is of interest here.

8. In this regard, it is important to note also that kano-2 matches the properties of kano-1, and not kano-3:

(i) ekana na skoto@i i maria (NOM)  
'I made Mary be killed'

(ii) ekana na agapisi ton eafton tis<sub>i</sub> i maria<sub>i</sub>  
'I made Mary love herself'

Therefore, if we are to derive kano-3 from kano-2 by some rule, we need to make sure that the differences between the two with regard to these properties can be accounted for. This is what is proposed in section 2, in which kano-3 is derived by Verb-Raising and the differences accounted for by universal restrictions on this rule.

9. These examples are merely meant to be illustrative of the facts; hence I have not included examples from all the languages mentioned--for more details about these other languages, cf. Aissen (1974a, b).

10. Actually, this is somewhat misstated, since Reflexivization with ton eafton is optional; however, obligatorily, either it or the Middle Voice process (cf. footnote 6) must get a chance to apply to appropriate structures. The two are complementary, so we can say that it is the Clause-Bounded Anaphor process, of which each is a reflex, that is obligatory.

11. This must be restricted to surface relations since an underlying object can "escape" from its deep controlling verb by Passive and then Subject-to-Object-Raising, as in:.

- (i) ton 0eoro klemmeno apo ton petro  
him consider-1sg steak-PASS-PTCPL by Peter-ACC  
'I consider him (to have been) stolen by Peter'

where underlying ton is the object of the active verb klevo 'steal'.

12. Basically the same situation obtains for two-term transitive predicates, which have been omitted from the main body of the text only for reasons of expository simplicity. With a verb like didasko 'teach', the kano-3 construction is possible, with the former lower subject in the accusative case, though the sentence is not wholly well-formed:.

- (i) ?ekana na didaski tu yani ta anglika ton petro  
1sg teach-3sg John-GEN English-ACC ACC  
'I made Peter teach English to John'

The lower subject cannot go into an oblique case (the genitive) or into a prepositional phrase without destroying the intended meaning. It can be nominative, but then we have a kano-2 construction, not the kano-3 type.

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