The Argument Structure of Verbs with the Suffix *-kan* in Indonesian

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The verbal suffix *-kan* in acrolectal Indonesian gives the appearance of being a homonymous form with multiple functions. In many sentences the suffix seems to be a causative morpheme; in others it appears to be an applicative affix, while in yet others it seems to be an object marker. We show that these functions are in fact predictable if *-kan* is a derivational morpheme affecting the argument structure of the verb to which it is affixed. We argue that the role of *-kan* is to indicate the syntactic licensing of an argument in the argument structure that is not licensed syntactically by the base verb. Thus, the distribution of *-kan* provides evidence that there exist linguistic generalizations that need to be stated with respect to a distinct level of argument structure rather than with respect to such syntactic levels as S-Structure and Logical Form.

1. INTRODUCTION.[1] The verbal suffix *-kan* in acrolectal Indonesian gives the appearance of being a homonymous form with multiple functions.[2] In many sentences the suffix seems to be a causative morpheme; in others it appears to be an applicative affix and in yet others it seems to be an object marker. These functions have been described in detail in such works as Dardjowidjojo (1967), MacDonald and Dardjo-

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2. By "acrolectal" Indonesian we mean Standard Indonesian and Indonesian intended by the speaker to be standard, regardless of whether the speaker succeeds in satisfying all the requirements of prescriptive Indonesian. Acrolectal Indonesian is relatively uniform throughout Indonesia and is to be contrasted with local, colloquial forms of the language, which vary greatly from region to region. One colloquial variety, that of Jakarta, has become well known throughout the country, spread by radio, television, and movies. The suffix *-kan* does not occur productively in basilectal forms of Colloquial Jakarta Indonesian. Rather, speakers make use of the suffix *-in* for many of the uses associated in acrolectal Indonesian with *-kan* and with the applicative suffix *-i*.

widjojo (1967), Dardjowidjojo (1983), Kaswanti Purwo (1995), Sneddon (1996), Arka (1993), Kaswanti Purwo (1997), Kaswanti Purwo (2002), and many others. Still unanswered, however, is the question first posed by Dardjowidjojo (1983): Is *-kan* truly homonymous, or is it a single form for which the choice of a particular interpretation is predictable in terms of the syntactic or semantic context in which the affix occurs? What factors determine whether *-kan* will be causative, benefactive, a marker of transitivity, and so forth? Or are the uses of *-kan* so idiosyncratic that no unifying generalization can be found? We shall argue that despite considerable lexicalization and many idiosyncratic uses, the core functions of the suffix are, in fact, predictable— but the unifying function is syntactic rather than semantic, and, as a result, *-kan* gives the appearance of homonomy with respect to its semantic function.[3]

We will start our discussion by illustrating the seemingly varied uses of *-kan*. We will then show how these functions are in fact predictable if *-kan* is a derivational morpheme affecting the argument structure of the verb to which *-kan* is affixed. We take the argument structure of a verb to be an aspect of its lexical entry, determined in part by the semantics of the verb (the thematic representation), in part by principles of correspondence between the levels of thematic and argument structure, and in part by derivational operations on argument structure like those resulting from the presence of *-kan*. We shall show that *kan-* indicates the syntactic licensing of an argument in the argument structure that is not licensed syntactically by the base verb. The grammatical and thematic role in the argument structure of the argument licensed by *-kan* is determined by general principles that we shall spell out below. We conclude with a consideration of the possible historical origins of the suffix *-kan*.

Our analysis of *-kan* is of interest to Indonesianists because of the high frequency of the morpheme and the complexity of its distribution. From the perspective of linguistic typology, *-kan* is of interest because it appears to be typologically aberrant, both as a causative morpheme and as an applicative morpheme. We shall argue that in reality the seemingly aberrant behavior of *-kan* is due to the fact that it is actually neither a causative morpheme nor an applicative. In addition, the analysis of *-kan* is of theoretical interest because it provides an argument in favor of a distinct level of argument structure. Our analysis of *-kan* provides a new type of argument in favor of the claim of Manning (1995), Arka (1998), and others that argument structure should be viewed as a separate level of representation, a level at which significant linguistic generalizations are stated.

2. CAUSATIVE *-KAN*. The following examples illustrate the use of *-kan* as an apparent causative suffix.

> (1) a. Cangkirnya   pecah.[4]
>   cup-3   break
>   'The cup broke.'

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3. Son and Cole (2004) propose a semantic account of *-kan* as a resultative head. This account provides a unified semantics for causatives and benefactives, but it does not extend naturally to the full range of uses discussed in this paper.

4. Many of the examples are taken or adapted from Dardjowidjojo (1983), Sneddon (1996), and Echols and Shadily (1989).

    b. Tono memecah-**kan** cangkirnya.
        Tono   meN-break-KAN   cup-3
        'Tono broke the cup.'

(2) a. Adik saya sudah mandi.
        brother 1SG   already bathe
        'My brother has bathed.'

    b. Dia   memandi-**kan** adik   saya.
        3SG   men-bathe-KAN   brother 1SG
        'He bathed [caused to bathe] my brother.'

(3) a. Balon   itu   terbang.
        balloon   that   fly
        'The balloon is flying.'

    b. Mereka menerbang-**kan**   balon   itu.
        3PL   meN-fly-KAN   balloon that
        'They caused the balloon to fly.'

In these examples *-kan* appears to be a causative affix, and, as is typical of causative affixes, it appears to change the argument structure by adding a causer argument as the highest argument of verb + *-kan*. This has the result that the highest argument of the base verb is "displaced" into the position of the second argument (cf. Aissen 1979, Comrie 1976, Cole and Sridhar 1977, and many others).

    The suffix *-kan*, however, departs from the pattern seen with prototypical causatives when a broader range of clause types are considered. While the addition of *-kan* to intransitive verbs adds a new argument with a causative interpretation, the suffixation of *-kan* to monotransitive verbs does not result in a causative sentence but rather in a benefactive, as is described in the next section.

3. APPLICATIVE -*KAN*. While (1)–(3) illustrate the use of *-kan* as an apparent causative suffix with intransitive predicates, the following examples show the use of *-kan* with monotransitive predicates as an apparent applicative suffix with a benefactive interpretation.

(4) a. Saya memanggang roti   **untuk**   Eric.
        1SG   meN-bake   bread for   Eric
        'I baked bread for Eric.'

    b. Saya memanggang-**kan** Eric   roti.
        1SG   meN-bake-KAN   Eric   bread
        'I baked Eric bread.' *not* 'I made Eric bake bread.'

(5) a. Dia   menggoreng   ayam   **untuk**   saya.
        3SG   meN-fry   chicken for   1SG
        'He fried chicken for me.'

    b. Dia   menggoreng-**kan** saya   ayam.
        3SG   meN-fry-KAN   1SG   chicken
        'He fried me chicken.' *not* 'He made me fry the chicken.'

(6) a. Dia   mencari   buku itu   **untuk**   anaknya.
       3SG   meN-look.for   book that for   child-3
       'He looked for that book for his child.'

   b. Dia   mencari-**kan**   anaknya   buku itu.
      3SG   meN-look.for-KAN child-3   book that
      'He looked for that book for his child.'
      not 'He made his child look for that book.'

In the (a) examples of (4)–(6), the benefactive phrase is an optional adjunct which is not integral to the argument structure of the verb. In contrast, in the (b) examples, the benefactive occurs without the preposition *untuk* 'for'. Furthermore, in the (b) sentences the benefactive is a subcategorized argument of the verb. This may be disguised by the fact that Indonesian allows phonologically null constituents, making the appearance of the benefactive appear to be optional. However, while the benefactive nominal can be omitted, the only interpretation possible when it is omitted is that the action was carried out for the benefit of some unnamed individual, an interpretation not found in the sentences without *-kan* if the *untuk* phrase is omitted (e.g., in the sentences of [8]).

(7) a. Saya memanggang-**kan** roti.
       1SG   meN-bake-KAN   bread
       'I baked bread **for someone**.'

   b. Dia   menggoreng-**kan** ayam.
      3SG   meN-fry-KAN   chicken
      'He fried chicken **for someone**.'

   c. Dia   mencari-**kan**   buku itu.
      3SG   meN-look.for-KAN   book that
      'He looked for that book **for someone**.'

(8) a. Saya memanggang   roti.
       1SG   meN-bake   bread
       'I baked bread.'

   b. Dia   menggoreng   ayam.
      3SG   meN-fry   chicken
      'He fried chicken.'

   c. Dia   mencari   buku itu.
      3SG   meN-look.for   book that
      'He looked for that book.'

On the basis of examples like (4)–(8), *-kan* does not resemble prototypical causative suffixes but rather appears to be an applicative suffix with a distribution similar to that of prototypical applicatives in such language groups as Bantu. (See Baker (1988), Peterson (1999), and many earlier works.) In these examples, the suffix appears to affect the argument structure by adding a (benefactive) internal argument that displaces the internal argument of the base verb. Seemingly similar facts are found in many languages with an applied construction, for example, Bantu. The examples that follow are from Lunda, a Bantu language spoken primarily in Zambia:[5]

(9) a. Mumbáanda   wanata   ilóola.
         mu-mbáanda   w-a-nata   i-lóola
         NC1:SG-woman   3SG-recent.past-throw   NC5:SG-rock
         'The woman threw the rock.'

     b. Mumbáanda   wanata   ilóola   kúdi anyáana.
         mu-mbáanda   w-a-nata   i-lóola   kúdi nyi-áana
         NC1:SG-woman   3SG-recent.past-throw   NC5:SG-rock   at   NC4:PL-child
         'The woman threw the rock at the children.'
         goal expressed in clause as (optional) prepositional clause

     c. Mumbáanda   wanatila   anyáana   ilóola.
         mu-mbáanda   w-a-nata-ila   nyi-áana   i-lóola
         NC1:SG-woman   3SG-recent.past-throw-to   NC4:PL-child   NC5:SG-rock
         'The woman threw the rock at the children.'
         applied construction: goal = primary object, patient = secondary object

     d. *Mumbáanda   wanatila   ilóola   anyáana.

Despite their seeming similarity to prototypical applicatives, a consideration of a broader range of examples suggests that Indonesian benefactives with *-kan* differ from typical applicatives with respect to the effect of the affix on the argument structure. In prototypical applicatives, the nominal corresponding to the object of a preposition in the base sentence must appear as the primary object in the applied construction.[6] In contrast, in Indonesian the seeming applied nominal may also occur in a prepositional phrase, despite the presence of *-kan* on the verb.

(10) a. Saya   memanggang-**kan** roti   **untuk** Eric.[7]
          1SG   meN-bake-KAN   bread   for   Eric
          'I baked bread for Eric.'

      b. Dia   menggoreng-**kan** ayam   **untuk** saya.
          3SG   meN-fry-KAN   chicken   for   1SG
          'He fried chicken for me.'

      c. Dia   mencari-**kan**   buku itu **untuk** anaknya.
          3SG   meN-look.for-KAN   book that for   child-3
          'He looked for that book for his child.'

While the examples of (10) appear to have the same structure as sentences in which *-kan* is omitted (e.g., the [a] sentences of [4]–[6]), there is an important difference. In (4a)–(6a) the prepositional phrase is an optional adjunct. In contrast, when *-kan* is present, the benefactive is a subcategorized constituent, as is shown by the fact that when the benefactive is omitted, the sentence is interpreted as having a null benefactive interpretation, as in the sentences of (7).

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5. Thanks are offered to Doris Payne for providing applicative examples from Lunda collected in her field methods course by Andoveloniaina Rasolofo.
6. Doris Payne (pers. comm.) tells us that the effect of the applicative morpheme in Bantu can be less straightforward than our description would suggest. For example, in Lunda, when the adjunct incorporated into the argument structure is the motive or location, as distinct from the benefactive or goal, the theme remains the primary object.
7. Unlike some closely related languages like Javanese, this sentence cannot also mean 'I baked bread for (in place of) Eric for (the benefit of) someone.'

Furthermore, on the assumption that it is the primary object that is made subject by passivization, it can be shown that the theme, not the benefactive, is the primary object in (10):

(11) a. Roti   itu   dipanggang-**kan**   untuk Eric.
        bread   that   DI-bake-KAN   for   Eric
        'That bread was baked for Eric.'

     b. Ayam   itu   digoreng-**kan** untuk saya.
        chicken that   DI-fry-KAN   for   1SG
        'That chicken was fried for me.'

     c. Buku   itu   dicari-**kan**   untuk anaknya.
        book   that   DI-look.for-KAN   for   child-3
        'That book was looked for for his child.'

In the sentences of (11), the theme has been made subject by passivization.[8] As in the active, when *-kan* is present, the omission of the benefactive causes the clause to receive a null benefactive interpretation.

(12) a. Roti   itu   dipanggang-**kan**.
        bread   that   DI-bake-KAN
        'That bread was baked **for someone**.'

     b. Ayam   itu   digoreng-**kan**.
        chicken that   DI-fry-KAN
        'That chicken was fried **for someone**.'

     c. Buku   itu   dicari-**kan**.
        book   that   DI-look.for-KAN
        'That book was looked for **for someone**.'

Such a benefactive interpretation does not occur when *-kan* is absent.

(13) a. Roti   itu   dipanggang.
        bread   that   DI-bake
        'That bread was baked.'

     b. Ayam   itu   digoreng.
        chicken that   DI-fry
        'That chicken was fried.'

     c. Buku   itu   dicari.
        book   that   DI-look.for
        'That book was looked for.'

To conclude, *-kan* adds a benefactive argument to the argument structure of the base verb, but, unlike prototypical applicative suffixes, it does not in itself make the benefactive argument the primary object. The change in argument structure resulting from the

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8. Speakers reject sentences like (i), in which the theme is made subject by passivization, and "dative shift" has occurred.

    (i)   *Roti itu di-panggang-kan Eric oleh Siti.
            bread that DI-bake-KAN   Eric by   Siti
            'That bread was baked for Eric by Siti.'

addition of *-kan* does appear to make the "promotion" of the benefactive to primary object possible. This is shown by the fact that in the absence of *-kan* the benefactive cannot be expressed as a bare NP but only in a prepositional phrase.

(14) a. *Saya   memanggang   Eric   roti.
          1SG   meN-bake   Eric   bread
          'I baked Eric bread.'

      b. *Dia   menggoreng   saya   ayam.
          3SG   meN-fry   1SG   chicken
          'He fried me chicken.'

      c. *Dia   mencari   anaknya buku itu.
          3SG   meN-look.for child-3 book that
          'He looked for that book for his child.'

Thus, the effect of *-kan* in benefactives is to incorporate a benefactive adjunct into the argument structure of verb + *-kan*. The incorporation of the adjunct into the argument structure of the verb makes it possible for the benefactive argument to undergo optional "dative shift," and thereby become the primary object of the verb. This is quite different from the effect of prototypical applicative suffixes, which both add an oblique argument to the argument structure and make that argument the primary object of the verb + applicative.

It may be useful to say a few words in passing about how we look at "dative shift" itself. We assume that "dative shift" is an operation on the argument structure of the verb and, therefore, occurs in the lexicon, rather than a transformational process, occurring in the syntax. The input to "dative shift" is a [lexical] structure containing an NP1 and a PP2 argument, and the output is an NP2 NP1 structure. In the output, NP2 (the object of the preposition in PP2) is the primary object. Crucially, at least in Indonesian, this process promotes PP *arguments* to primary object status, and does not apply to PP adjuncts. Thus, "dative shift" applies to verbs to which benefactive *-kan* has been affixed, and not to those without *-kan,* that is, not to adjuncts, in which the PP is external to the argument structure of the verb. The lexical process of "dative shift", then, is separate from, though sometimes fed by, the lexical process of affixing *-kan* to the base verb.

4. OBJECT MARKER -*KAN*. We turn now to a third class of examples, those in which *-kan* appears to mark the occurrence of the theme as the primary object of the verb.

(15) a. Ia   merunding-**kan**   rencana baru.
          3SG   meN-discuss-KAN   plan   new
          'He discussed a new plan.'

      b. *Ia   merunding   rencana baru.
          3SG   meN-discuss   plan   new
          'He discussed a new plan.'

(16) a. Dia   tidak memikir-**kan**   saya.
          3SG   not   meN-think-KAN   1SG
          'She does not think about me.'

b. *Dia tidak memikir   saya.
   3SG   not   meN-think   1SG
   'She does not think about me.'

c. Yassir   pikir   [saya di Jakarta].
   Yassir   think   1SG   in Jakarta
   'Yassir thinks that I am in Jakarta.'

d. *Yassir   pikir-**kan**   [saya di Jakarta].
    Yassir   think-KAN   1SG   in Jakarta
   'Yassir thinks that I am in Jakarta.'

In (15) and (16) the role of *-kan* appears to be that of licensing the appearance of a
nominal direct object. This is shown by the ungrammaticality of (15b), in which *-kan* is
omitted. Similarly, in (16) *-kan* is necessary if *pikir* is to have a nominal object—
though the suffix cannot be used if the object is clausal, as in (16c–d). See Dardjowi-
djojo (1983:7) and Sneddon (1996:69), inter alia, who present lists of verbs with which
-kan appears to mark the object as theme. It should be noted that these cases are neither
causative nor benefactive in interpretation. Rather, the appearance of the theme as
direct object is ungrammatical with these verbs unless the suffix *-kan* appears.

    In addition to monotransitive verbs like *merundingkan* and *memikirkan*, with
which *-kan* appears to be used to license the occurrence of an NP direct object, *-kan*
also plays a similar function in ditransitive constructions:

(17) John   memberi-**kan** surat itu   untuk/kepada Peter.
     John   meN-give-KAN   letter that   for/to   Peter
     'John gave the letter to Peter.'

(18) Hasan   mengirim-**kan** uang   kepada   saya.[9]
     Hasan   meN-send-KAN   money   to   1SG
     'Hasan sent me money.'

In (17) and (18), ditransitives employing the suffix *-kan*, the theme is the primary
object of the verb. It is the theme that becomes the subject when the clause is passiv-
ized (as shown in [19]–[20], and not the recipient, as shown in [21]–[22]).

(19) Surat itu   diberi-**kan**   John   kepada Peter.
     letter that   DI-give-KAN   John   to   Peter
     'That letter was given by John to Peter.'

(20) Uang itu   dikirim-**kan**   kepada   saya   oleh   Hasan.
     money that   DI-send-KAN   to   1SG   by   Hassan
     'The money was sent to me by Hassan.'

(21) a. *Peter   diberi-**kan**   John   surat itu.
        Peter   DI-give-KAN   John   letter that
        'Peter was given that letter by John.'

     b. *Peter   diberi-**kan**   surat itu   oleh   John.
        Peter   DI-give-KAN   letter that   by   John.
        'Peter was given that letter by John.'

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9. The suffix *-kan* is optional in (18), an irregularity of *kirim* 'send'.

(22) a. *Saya   dikirim-**kan**   Hasan   uang itu.
       ISG   DI-send-KAN   Hassan   money that
      'I was sent the money by Hassan.'

   b. *Saya   dikirim-**kan**   uang itu   oleh Hasan.[10]
       ISG   DI-send-KAN   money that   by   Hassan
      'I was sent the money by Hassan.'

The function of *-kan* in ditransitives is to be contrasted with that of the suffix *-i*, which appears to play the role of a prototypical applicative suffix, at least in this construction.[11]

(23) Hasan   mengirim-**i** saya uang.
      Hassan   meN-send-I   ISG   money
      'Hassan sent me money.'

Unlike (18), the goal, and not the theme, is the primary object in (23). This is shown by the fact that it is the goal which becomes the subject when (23) is passivized:

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10. Also ill formed are sentences like (i).

   (i)   Ali   dikirimkan   uang   untuk saya   (oleh   Hasan).
          Ali   di-send-KAN   money   for   ISG   by   Hassan
          'Ali was sent the money for me by Hassan.'

Rather, (ii) employing the suffix *-i* would be used.

   (ii) Ali   dikirimi   uang   untuk saya   (oleh   Hasan).
          Ali   DI-send-I money   for   ISG   by   Hassan
          'Ali was sent the money for me by Hassan.'

11. In some languages closely related to Indonesian, as was pointed out by an *Oceanic Linguistics* reviewer, the pattern with the verb 'speak/say' is similar to that seen with ditransitives. For instance, in Madurese the following pattern occurs (where *–agi* is the counterpart of *-kan*).

   (i)   Deni   a-bala   dha' Siti   (parkara   Atin).
         Deni   ACTIVE-say to   Siti   concern   Atin
         'Deni talked to Siti about Atin.'

   (ii) Deni   a-bala-agi   Atin   (dha'   Siti).
         Deni   active-say-AGI Atin   to   Siti
         'Deni talked about Atin to Siti.'

   (iii) Deni   a-bala-i   Siti   (parkara   Atin).
         Deni   active-say-I Siti   concern   Atin
         'Deni told Siti about Atin.'

   (iv) Deni   a-bala   ja'   Atin   neng   Jakarta.
         Deni   active-say that   Atin   at   Jakarta
         'Deni said that Atin is in Jakarta.'

That is, in Madurese *a-bala* shares some of the properties of *pikir* and *kirim* with respect to the possibility of affixing either the counterpart of *-kan* or *–i*. In contrast, in Indonesian the suffix *–i* is not possible in equivalent sentences:

   (v)   Deni   berbicara   kepada   Siti   mengenai Atin.
         Deni   BER-talk   to   Siti   concern   Atin
         'Deni talked to Siti about Atin.'

   (vi) Deni   membicarakan   Atin   dengan   Siti.
         Deni   meN-talk-KAN   Atin   with   Siti
         'Deni talked about Atan to Siti,'

   However, the equivalent of (iii) is ill formed using any form of *bicara,* and would require a different verb such as *memberitahu* 'inform'. Similarly, no form of *bicara* could be used for the equivalent of (iv). Rather, another verb like *mengatakan* 'say' would have to used.

(24) a. Saya   dikirim-**i**   uang   oleh Hasan.
        1SG   DI-send-I   money   by   Hassan
    'I was sent money by Hassan.'

   b. *Uang itu dikirim-**i**   kepada saya   oleh Hasan.
       money that DI-send-I   to   1SG   by   Hassan
    'The money was sent to me by Hassan.'

On the assumption that at the level of thematic relations (18), (20), and (23) have an identical representation along the lines of (25), the suffix *-kan* appears to have the function of licensing the theme as primary object in ditransitive sentences like (17)–(20).

(25) Kirim   Hasan   uang   saya
     send   Hassan   money   1sg
     Predicate   Agent   Theme   Goal

5. SUMMARY OF THE PROBLEM. We have seen that *-kan* gives the appearance of having several separate and unrelated functions. In one class of sentence (intransitive clauses) the affix appears to license the addition to the argument structure of a CAUSER as the highest argument in the argument structure. In the second class of examples, monotransitive clauses, *-kan* appears to license the incorporation of an adjunct into the argument structure without, however, promoting that adjunct to the status of primary object or subject. Finally, in a third class of cases *-kan* seems to provide syntactic licensing for the theme as the primary object of the sentence and not to have either a causative or a benefactive interpretation. How might this apparent variety of functions be explained?

   One possibility that must be considered is that *-kan* is simply a homonymous form with three distinct uses, and that there is no synchronic connection among these uses. While this proposal would explain the semantic disparity among the uses of the morpheme, there is strong reason to doubt that it is correct. If *-kan* were simply homonymous, it would be likely that there would exist sentences that are ambiguous with respect to the function of *-kan*. But, at least with regard to these three functions, this ambiguity does not seem to exist. Rather, the three functions seem to be in complementary distribution: when one function is found, the other functions do not occur. For example, a sentence like (26a) cannot be made benefactive by the addition of *-kan*, as in (26b)–(26c). Rather, *-kan* results in a causative reading, as in (26d).

(26) a. Siti   bangun   pagi-pagi   untuk ibunya.
        Siti   wake.up   early   for   mother-3
     'Siti woke up early for her mother.'

   b. *Siti bangun-**kan**   pagi-pagi   untuk ibunya.
        Siti   wake.up-KAN   early   for   mother-3
     'Siti woke up early for her mother.'

   c. *Siti bangun-**kan**   ibunya   pagi-pagi.[12]
        Siti   wake.up-KAN   mother-3   early
     'Siti woke up early for her mother.'

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12. This sentence is grammatical as a causative meaning 'Siti woke her mother up early.'

    d. Saya bangun-**kan**   Siti   pagi-pagi.
       ISG   wake.up-KAN   Siti   early
       'I woke Siti up early.' (i.e., 'I caused Siti to wake up early.')

The sentences of (26), which are typical, show that when a causative reading is available, the benefactive reading is absent. That is, the causative reading is in complementary distribution with the benefactive reading. Sneddon (1996:82) notes that this complementarity is, in fact, the general rule: "Many verbs cannot take benefactive *-kan*. These include all verbs with which *-kan* is required to produce well formed transitive verbs … and to form causative verbs. … With these verbs the beneficiary must be expressed in a beneficiary phrase." While a complementary distribution is not conclusive evidence that the forms in question are instances of a single entity, such a distribution is at least presumptive evidence in favor of such a claim.

    Another hint that the various functions of *-kan* are related synchronically is the fact that the three productive uses discussed above all relate to argument structure. The causative and benefactive uses of *-kan* introduce arguments into the argument structure, that is, they increase the valence of the verb by one argument. The third use, that of licensing the theme as primary object is also related to argument structure. In the third group of instances the suffix seems to provide syntactic licensing for one of the arguments specified in the thematic structure of the base verb. Thus, all three uses appear to be related to the syntactic licensing of arguments. Viewed from this perspective, the problem to be solved is why in certain cases the argument that is licensed is a causer, which is not present in the thematic structure of the base verb; in other cases the licensed argument is a benefactive, which is also not a subcategorized argument of the base verb, while in a third set of cases the licensed argument is a theme, which is licensed thematically by the base verb.

    A final clue is provided by the valence of the base verbs that appear in each group. The most clear-cut is the causative use of *-kan*, which is restricted almost exclusively to intransitive base predicates. Compare (27), in which *-kan* is affixed to intransitive bases, to (28), in which it is suffixed to monotransitive bases.

(27) INTRANSITIVE BASE VERBS AND ADJECTIVES
     a. *bangun* 'wake up (INTR)' → *membangun-kan* 'wake someone up'
     b. *mandi* 'bathe (INTR)' → *memandi-kan* 'to bathe someone'
     c. *besar* 'big (ADJ)' → *membesar-kan* 'make something bigger'
     d. *benar* 'correct (ADJ)' → *membenar-kan* 'to correct something'

(28) MONOTRANSITIVE BASE VERBS
     a. *membuat* 'do, make something' → *membuat-kan* 'do something for someone'
       ≠ 'make someone do something'
     b. *membeli* 'buy something' → *membeli-kan* 'buy something for someone'
       ≠ 'make someone buy something'
     c. *mencari* 'look for something' → *mencari-kan* 'look for something for someone'
       ≠ 'make someone look for something'

There are a few instances in which a causative with *-kan* appears to be based on a monotransitive verb, as in (29).

(29) a. Ali   meminjam buku saya.
         Ali   meN-borrow book   ISG
         'Ali borrowed my book.'

   b. Saya meminjam-**kan**   buku saya **kepada** Ali.
      ISG   meN-borrow-KAN   book   ISG   to   Ali
      'I lent my book to Ali.' (i.e., 'I caused/let Ali (to) borrow my book.')

While in examples like those of (29) the base verb is thematically a two-place predicate, it appears to have undergone a process of reduction to a one-place predicate. In (29) the highest argument of the base verb has been demoted to adjunct position, leaving a derived one-place predicate as the result.[13] This process is described in detail in Sneddon (1996:74). As will be argued in section 8, the agent demotion seen in (29b) provides the basis for an explanation of why *-kan* does not result in causative interpretations for monotransitives. At this point, it suffices to say that there does not appear to be a productive pattern in which a two-place predicate is made causative by the addition of *-kan*. The correct generalization seems to be that the causative use of *-kan* is restricted to one-place predicates, either those with one subject argument or those with one object argument.

   Turning to benefactive *-kan*, we saw previously that benefactive *-kan* is restricted to monotransitives. Finally, *-kan* as a licenser of the theme as a primary object was seen to occur in both thematically monotransitive clauses ([15]–[16]) and thematically ditransitive clauses ([17]–[18]). The possible interpretations for *-kan* as determined by the valence of the base verb are summarized in (30).

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13. We believe that the prepositional phrase in (29b) is an adjunct for a number of reasons. First, we make the assumption that prepositional phrases are adjuncts unless we have evidence to the contrary (as we had for examples like those of [10]). Second, the prepositional phrase is optional in (29b). This fact also suggests that the prepositional phrase is an adjunct. Finally, the word order supports the proposal that the prepositional phrase in (29b) is an adjunct rather than an argument. Although word order is quite free in Indonesian, adjuncts show a reduction in wellformedness when they occur between the verb and an argument.

   (i) a. Dia menuju ke Jakarta kemarin.   b. ??Dia menuju kemarin ke Jakarta.
         3SG go   to Jakarta yesterday   3SG go   yesterday to Jakarta
         'He went to Jakarta yesterday.'   'He went to Jakarta yesterday.'

The differences between (ia) and (ib) can be explained on the basis that *ke Jakarta* is a subcategorized argument of *menuju* 'go' and, thus, that the reduced grammaticality of (ib) is due to the fact that an adjunct, *kemarin* 'yesterday', intervenes between the verb and the PP *ke Jakarta*.
   Turning now to sentences of the type of (29b), we see that adjuncts can be ordered between the prepositional phrase in question and the verb.

   (ii) a. Ali meminjamkan   bukunya kepada   saya   di kelas kemarin.
          Ali meN-borrow-KAN book-3   to   ISG   in class yesterday
       b. Ali meminjamkan   bukunya di kelas kepada saya   kemarin.
          Ali meN-borrow-KAN book-3   in class to   ISG   yesterday
       c. Ali meminjamkan   bukunya kemarin di kelas kepada saya.
          Ali meN-borrow-KAN book-3   yesterday in class to   ISG
          'Ali lent me his book in class yesterday.'

The fact that all three variants of (29b) are equally well formed suggests that *kepada saya* is an adjunct rather than a prepositonal argument. Thus, although the evidence is not entirely conclusive, we conclude that, in all likelihood, *kepada saya* is an adjunct.

(30)   INTRANSITIVE   MONOTRANSITIVE   DITRANSITIVE
      CAUSATIVE   X
      BENEFACTIVE   X
      OBJECT MARKER   X   X

While there is some overlap among the functions of -*kan* with respect to the valence of the base verb, it is clear that verbal valence is one of the factors determining the choice of functions for -*kan* in a particular sentence, and that the various functions of -*kan* are not independent of each other.

6. THE SUFFIX -*KAN* AS A SYNTACTIC LICENSER. We shall now attempt to find the general pattern explaining the distribution of -*kan*. We have seen that one of the functions of -*kan* is to license the theme as primary object (section 4). We would like to suggest that it is this function, and not the benefactive or causative function, that provides the key to understanding the fully productive uses of -*kan*. What characterizes the examples of section 4 is that an argument that is thematically licensed by the verb requires a special marker on the verb in order to be licensed syntactically. Thus, as was shown in (16) (repeated below), *memikir* is a two-place predicate, which, thematically, can take either a noun phrase or a clause as its object.

(16) a. Dia   tidak memikir-**kan**   saya.
          3SG   not   meN-think-KAN   1SG
          'She does not think about me.'

      b. *Dia tidak memikir   saya.
           3SG   not   meN-think   1SG
          'She does not think about me.'

      c. Yassir   pikir   [saya di Jakarta].
          Yassir   think   1SG   in Jakarta
          'Yassir thinks that I am in Jakarta.'

      d. *Yassir   pikir-**kan**   [saya di Jakarta].
           Yassir   think-KAN   1SG   in Jakarta
          'Yassir thinks that I am in Jakarta.'

As shown by (16b), when the object is a nominal rather than clausal, thematic licensing is not sufficient to allow its occurrence. Rather, it is necessary to affix -*kan* to the verb.

Thus, we claim (for this and similar examples) that the function of -*kan* is not to add a new argument to the argument structure, but rather to license in argument structure an argument that is already present at the level of thematic representation. To put the matter differently, we claim that there is a mismatch between the thematic structure of *pikir* 'think' and its syntactic argument structure, a mismatch remedied by the presence of -*kan*.[14] Compare (31) and (32).

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14. We would like to acknowledge the influence on our thinking of Jerry Saddock's work on mismatches (1985 and many later works). While we do not employ the formalism of Autolexical Syntax, the influence of this work on our thinking should be apparent.

(31) memikir 'think'

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATIONS	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	**unlicensed**

(32) memikir-**kan** 'think'

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATIONS	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	**licensed**

The suffix -*kan* appears to have a similar function in ditransitives like (18) (repeated below), except that the suffix is optional in (some) ditransitives.

(18) Hasan   mengirim-**kan** uang   kepada saya.
     Hasan   meN-send-KAN   money   to   1SG
     'Hasan sent me money.'

In examples like (18) the verb is a three-place predicate, selecting an agent, a theme, and a goal at the level of thematic relations. Despite the fact that both the theme and the goal are specified thematically, -**kan** plays the role of (optionally) licensing the occurrence of the theme in the syntactic argument structure. (Ditransitive verbs vary with regard to whether -*kan* is optional or obligatory when the theme is the primary object. We take the optionality in the case of *mengirim* to be an irregularity.)

(33) mengirim 'send'

	FIRST ARGUMENT	SECOND ARGUMENT	THIRD ARGUMENT
THEMATIC RELATIONS	licensed	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	**optionally licensed**	licensed

(34) mengirim-**kan** 'send'

	FIRST ARGUMENT	SECOND ARGUMENT	THIRD ARGUMENT
THEMATIC RELATIONS	licensed	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	**licensed**	licensed

7. THE ANALYSIS OF BENEFACTIVE -*KAN*. In the previous section, we proposed that the function of -*kan* is to provide syntactic licensing for an argument that is present in the thematic structure but that is not licensed in the argument structure. We shall now show that this approach extends naturally to benefactive -*kan*. The thematic structure and argument structure of examples like (4a) (repeated below) is given in (35).

(4) a. Saya memanggang roti   **untuk**   Eric.
        1SG meN-bake   bread for   Eric
        'I baked bread for Eric.'

(35) memangang 'bake'

	FIRST ARGUMENT	SECOND ARGUMENT	BENEFACTIVE
THEMATIC RELATIONS	licensed	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	licensed	**unlicensed**

Example (4a) differs in an important way from the examples discussed in section 6. In examples like those of (16), it is the second argument of the predicate (the theme) that lacks syntactic licensing. In the absence of some operation like antipassive, which converts a complement into an adjunct, there is no alternative way to license the occurrence of the theme. The theme must be integrated into the argument structure, or its appearance will be ill-formed. Thus, the occurrence of *-kan* is obligatory in (16). In contrast, the benefactive is an adjunct in (4), and adjuncts differ from arguments in that they are well formed even when they are not integrated into the argument structure of the verb. Thus, in the case of an adjunct like *untuk Eric* 'for Eric', the prediction is that the sentence will be well formed, but that the benefactive will not function as an argument of the predicate. This prediction is corroborated by the passive alternant for (4a):

(36) a. Roti itu dipanggang untuk Eric.
         bread that DI-bake   for   Eric
         'That bread was baked for Eric.'

    b. *Eric   dipanggang roti.
         Eric   DI-bake   bread
         'Eric was baked bread.'

The examples of (36) show that it is the theme that is treated as the primary object in (4).

    In contrast to (35), when *-kan* is present, the benefactive is licensed both thematically and syntactically.

(37) memanggang-**kan** 'bake'

	FIRST ARGUMENT	SECOND ARGUMENT	BENEFACTIVE
THEMATIC RELATIONS	licensed	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	licensed	**licensed**

As in section 6, *-kan* provides syntactic licensing to a thematically licensed participant in the clause. (We use "participant" to mean an argument or an adjunct.) As we saw in section 6, when *-kan* is added to a monotransitive verb like *panggang* 'bake', the benefactive PP becomes a subcategorized argument of the clause.

8. INTRANSITIVE CLAUSES. We have examined several types of clauses in which a thematically licensed element lacks syntactic licensing in argument structure. When *-kan* is viewed from the perspective of semantics, it appears to have a different function in each of these sentence types. When the suffix is viewed from the perspective of argument structure, however, it can be seen to have the same function in each sentence type: it provides syntactic licensing for the element in question, thereby making that element an argument of the predicate in argument structure. We would like to turn now to a clause type, intransitive clauses, in which all thematically licensed participants are licensed in argument structure. We shall argue that when all participants in the clause are already licensed, *-kan* still licenses an argument in the argument structure, but, because all thematically licensed participants are already syntactically licensed, it must add a new argument to the argument structure rather than licensing an existing participant. This argument is added as the highest argument in the argument structure, and, as first argument, it receives a causative interpretation.

In the discussion so far we have made reference to a level of thematic structure and a level of argument structure. It may be useful at this point to provide some detail regarding how in our view these levels are related. Following the general approach first suggested by Grimshaw (1990), both thematic structure and argument structure are conceived of as hierarchies:

(38) HIERARCHY OF THEMATIC RELATIONS

Causer > Agent > Experiencer > Theme > Benefactive > Oblique > ...

(We leave unspecified such controversial issues as whether the goal is higher than the theme or the theme higher than the goal, etc. Oblique may be broken down into more fine-grained thematic divisions.)

(39) ARGUMENT STRUCTURE HIERARCHY

First Argument > Second Argument >Third Argument > Adjunct

(We take no position on the maximal number of arguments present in a clause. Adjunct might also be viewed as a cover term for a more fine-grained division. Adjuncts, as nonarguments, do not require syntactic licensing.)

Hierarchies (38) and (39) are related by two mechanisms, direct mapping and relative mapping.[15] Certain thematic positions are specified as being directly mapped into specific positions in the Argument Structure Hierarchy. For instance, thematic benefactives are directly mapped into adjuncts in the argument structure hierarchy. Some further lexical operation (e.g., that performed by *-kan*) is necessary to make that position an argument. In the case of Indonesian, we assume that the theme is mapped directly onto the second argument. Again, some further lexical or syntactic operation is necessary if the position of the theme in argument structure is to be changed.

While certain thematic relations are directly mapped onto specific positions in argument structure, others occur in a position determined by their relative order in the hierarchy of thematic relations (i.e., their position is determined by the Universal Grammar, the default). Thus, for instance, the experiencer is the thematically highest argument in a sentence like the following:

(40) Tante lihat buku itu.
      auntie see   book   that
      'I saw the book.' (said by "Auntie")

As a result, the experiencer is mapped onto the first argument in argument structure, and, in the absence of further operations that affect argument structure, it becomes the surface subject. In contrast, in (41), the thematically highest noun phrase is the causer, *Siti*.

(41) Siti kasih lihat Tante (buku itu).
      Siti   give   see   auntie   book   that
      'Siti showed me (that book).' (said by "Auntie")

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15. The mappings discussed are those needed for Indonesian. We leave open the question of the extent to which such mappings are determined by Universal Grammar rather than the grammar of specific languages.

The experiencer, *Tante*, is the second highest noun phrase on the thematic hierarchy. As a result *Siti* becomes the first argument on the argument structure hierarchy, and, as a consequence, the surface subject. In short, thematic positions that are not mapped to a specific position on the argument structure hierarchy by language specific rules receive their position in argument structure on the basis of their relative position in the thematic hierarchy.

Bearing in mind the relationship between the thematic hierarchy and the argument structure hierarchy, let us consider examples like (1a) and (2a), repeated as (42):

(42) a. Cangkirnya   pecah.
          cup-3   break
          'The cup broke.'
      b. Adik   saya   sudah   mandi.
          younger.sibling 1SG   already   bathe
          'My brother has bathed.'

The thematic structure and argument structure for intransitive *pecah* 'break' and *mandi* 'bathe' are represented as in (43), which shows the single argument in an intransitive clause as being licensed both thematically and syntactically.[16]

(43) *pecah* 'break' and *mandi* 'bathe'

	FIRST ARGUMENT
THEMATIC RELATIONS	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed

As in previous examples, *-kan* has the effect of licensing an argument in the argument structure. In the absence of a thematically licensed element that lacks syntactic licensing, *-kan* adds a default higher argument to the argument structure.

(44) a. pecah

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATION	Theme	none (not present)

      b. pecah-**kan**

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATION	Causer	Theme

(45) a. mandi

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATION	Agent	none (not present)

      b. mandi-**kan**

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATION	Causer	Agent

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16. In this paper we treat potential unaccusatives like *pecah* 'break' and unergatives like *mandi* 'bathe' as having the same syntactic structure. In fact, the analysis would not be affected if unaccusatives and unergatives have different lexical structures in Indonesian. We would argue that in Indonesian unaccusatives the theme is the first argument, and, thus, it becomes the syntactic subject. Similarly, in unergatives the agent is the first argument, and also becomes the syntactic subject.

In the analysis just proposed, as a result of the insertion of an additional, higher argument in the argument structure, a higher argument is posited in the thematic structure as well, because all syntactically licensed arguments are required to have theta roles (the Theta Criterion). The theta role assigned is, by default, that of causer. Thus, the analysis predicts that when *-kan* is suffixed to an intransitive verb, the result is a causative.

In conjunction with subsidiary assumptions, the analysis also predicts that a causative cannot be formed by affixing *-kan* to a monotransitive verb. It will be remembered that we claimed that in monotransitives the position of second argument is assigned directly to the patient. We make the further assumption that in Indonesian, at least, a position in argument structure cannot be filled by more than one nominal. Consider, now, the effect of adding an additional, higher argument to a sentence like (46).

(46) Siti   memukul   kakaknya.
    Siti   meN-hit   older.sibling-3
    'Siti hit her older sister.'

(47) *Eric memukul-**kan** Siti   kakaknya.
    Eric meN-hit-KAN   Siti   older.sibling-3
    'Eric made Siti hit her older sister.'

In the argument structure for (46), all thematically licensed elements are also licensed syntactically:

(48) memukul 'hit'

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATIONS	licensed	licensed
SYNTACTIC ARGUMENT STRUCTURE	licensed	licensed

On the assumption that *-kan* adds a higher argument to the structure specified in (48), the following situation would obtain:

(49) Memukul-**kan**

	FIRST ARGUMENT	SECOND ARGUMENT
THEMATIC RELATIONS	Causer	competition between: Theme [directly mapped] and Agent

As (49) shows, the analysis predicts that both the theme and the agent will compete for the position of second argument. However, according to the analysis, no position in argument structure can be doubly filled. Thus, the analysis predicts that *-kan* cannot receive a causative interpretation in transitive clauses.

While the construction in Indonesian is not a causative construction per se, the analysis just outlined does bear a notable similarity to one aspect of the analysis of causatives in such works as Aissen (1979), Comrie (1976), Cole (1983), and Cole (1984). In the causative constructions discussed in those works it was seen that when the subject of the base verb is displaced from the position of first argument of the base verb, languages differ with regard to whether this nominal must take the position of second argument or whether it can move further down the hierarchy of arguments. For instance, in Imbabura Quechua (Cole 1984), as is true for Indonesian *-kan*, the first argument of the base verb invariably becomes the second argument of the causative

verb, regardless of whether the base verb is transitive or intransitive. Imbabura Quechua, however, is unlike Indonesian in allowing the chain-like displacement of the base verb second argument by the base verb first argument, as is illustrated in table 1.

In Imbabura Quechua, the displacement of the first argument of the base verb to second argument results in the further displacement of the base verb second argument to adjunct.[17] This chain of events is argued for in detail in Cole (1984), and we will not repeat the arguments here, but the displacement of the base verb second argument is shown by the fact that only the first argument of the base verb is the primary object and, therefore, can be made subject by passivization. See Cole (1984: 135–42 for details). Thus, the effect of displacement of the base verb first argument to second argument position is affected by a variety of language-specific factors such as whether the base verb second argument can itself be displaced to adjunct. In the case of Indonesian, displacement of the second argument along the lines seen in Imbabura Quechua is not possible.

To recapitulate, we claim that the absence of a causative interpretation in Indonesian seen in (49) is due to the conflict between the first and second arguments of the base verb with respect to the second argument position in verb + -*kan*. Does this claim have empirical content, or is it no more than a description of the fact that -*kan* verbs do not assign a causative interpretation to monotransitives? Note that our analysis makes a prediction that would not be made by a straightforward ban on assigning a causative interpretation to monotransitive verbs with -*kan*. According to our analysis, it should be possible for monotransitives to receive a causative interpretation if there exists an independent process (like antipassive or demotion of the base verb subject to adjunct) that eliminates one of the arguments of the monotransitive verb.

While antipassive does not exist in Indonesian, there is a lexically governed process by means of which the subject of certain verbs is "demoted" to adjunct. One example was noted previously (repeated below as [50]).

(50) Saya meminjam-**kan** buku saya **kepada** Ali.
      1SG   meN-borrow-KAN   book 1SG   to   Ali.
      'I lent my book to Ali.' (i.e., 'I caused/let Ali (to) borrow my book.'

TABLE 1. EXAMPLE FROM IMBABURA QUECHUA

Juzi-ka   Marya-ta   Juan-ta   riku-chi-rka.
José   Maria-ACC Juan-ACC see-CAUSE-PAST
'José made Maria see Juan.'

BASE VERB ARGUMENTS	Marya First Argument	Juan Second Argument
ARGUMENT OF -*chi*- 'cause'	Juzi	
OUTPUT OF -*chi*- ON ARGUMENT STRUCTURE	Marya Second Argument	Juan Adjunct displaced from Second Argument position

17. The notion of "displacement" that we use here was referred to as "chomage" in Relational Grammar (e.g., Perlmutter 1983). In our usage, this process is lexical rather than transformational.

In (50) the base verb agent appears as the object of the preposition *kepada* 'to', that is, as an adjunct.[18] Our analysis predicts that in just these cases the theme will be able to retain the position of second argument when a causer is introduced.

(51) meminjam-**kan**

	FIRST ARGUMENT	SECOND ARGUMENT	ADJUNCT
THEMATIC RELATION	Causer	Patient	Agent

In contrast, a constraint against the assignment of a causative interpretation to monotransitives would not predict the grammaticality of sentences like (50). Thus, these examples corroborate our proposal and cast doubt on the alternative hypothesis.

Some additional verbs that undergo similar demotion of the agent to adjunct, and which, therefore, permit the addition of an additional (causer) argument to transitive sentences are the following (from Sneddon 1996:74–76).

(52) a. Saya memeriksa-**kan**   mata ke dokter.
ISG   meN-check-KAN   eye   to doctor
'I had my eyes checked by the doctor.'

b. Saya mencuci-**kan** pakaian pada wanita   itu.
ISG   meN-wash-KAN   clothes to   woman   that
'I had that woman wash my clothes.'

c. Hakim   memikul-**kan** beban   ganti   rugi   pada polisi.
judge   meN-bear-KAN   load   substitute loss   to   police
'The judge imposed the burden of compensation on the police.'

(53) memeriksa-**kan,** mencuci-**kan,** memukul-**kan**

	FIRST ARGUMENT	SECOND ARGUMENT	ADJUNCT
THEMATIC RELATION	Causer	Patient	Agent

These examples, like (50), provide evidence that it is the direct mapping of the theme to primary object (second argument) (and the absence of a process of displacement of the second argument of the base verb to adjunct) that prevents the insertion of a higher causative argument in transitive structures.[19]

9. DENOMINAL VERBS. To summarize, we have seen that *-kan* resolves a mismatch between thematic structure and argument structure. It provides licensing in argument structure to a thematically licensed element that is unlicensed syntactically.

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18. While we have presented evidence that *kepada Ali* is an adjunct, it is not, in fact, critical for our analysis that the prepositional phrase be an adjunct. Our analysis is also compatible with a state of affairs in which the prepositional phrase is a prepositional argument so long as the prepositional phrase is lower on the argument structure hierarchy than the second argument.

19. There are a variety of unanswered questions with respect to sentences like (50) and (52). In some languages (e.g., Hebrew), as discussed in Cole 1983 inter alia, the choice of pattern followed when the base subject is displaced from first argument position is determined by the semantic class of the verb. For instance, in Hebrew when subjects of verbs of perception are displaced, they become indirect objects, while subjects of nonperception verbs become direct objects. We have not yet conducted a detailed examination of which verbs permit the pattern in (50), and whether these verbs constitute a semantically coherent class, but we hope to do so in the future.

When no such mismatch between thematic and argument structure occurs, *-kan* licenses an additional argument in the argument structure, resulting in a "displacement" effect on the original arguments: the initial argument of the base verb becomes the second argument of verb + *-kan,* and so forth. This process of displacement is constrained in that direct mappings between specific thematic relations and specific argument positions conflict with the displaced arguments. In particular, there is a direct mapping between the theme and the second argument that results in a competition for the second argument position between the theme and the displaced first argument of the base verb. This competition leads to an ill-formed derivation except in cases in which the agent is demoted to a lower position by some lexical operation.

The theory of *-kan* just outlined makes the prediction that *-kan* should receive a causative interpretation in other constructions with a thematic and argument structure similar to that of intransitive clauses. One such case is denominal verbs. The use of *-kan* is obligatory with these verbs, so they invariably surface as transitive clauses. Do denominal verbs in fact instantiate the same principles operative with intransitive verbs?

Denominal verbs would appear to provide a hostile environment for testing our claims because their meanings are quite idiosyncratic. For instance, *membukukan*, from *buku* 'book', as used in accounting, means 'to enter into a book', *mendukunkan*, from *dukun* 'shaman' means take to a shaman, *memakamkan*, from *makam* 'grave' means 'bury in a grave', and *mengorbankan* from *korban* 'sacrifice' means 'to sacrifice something, to cause something to be a sacrifice'. Thus, denominal uses of *-kan* give the appearance of being quite irregular in their function. This would seem to suggest that most denominal uses of *-kan* could not be shown to be instances of the same generalization derived from the examination of verb + *-kan*.

While the examples just cited, and many similar examples, are clearly idiosyncratic, we would like to argue that the idiosyncracy is in the process of verbalization itself, rather than in *-kan*. That is, we posit a two-stage derivational process:

(54) Verbalization with *-kan*[20]

	PROCESS	RESULT
STAGE 1	Append null verbal affix	Verbalization
STAGE 2	Append *-kan*	License Argument

We would like to argue that it is the process of verbalization, which corresponds to stage 1, that is idiosyncratic. The effect of appending *-kan* to the verbal base, however, follows the rules described in earlier sections. A new argument is introduced that is assigned the thematic role of causer.

Let us consider some of the denominal verbs listed in the previous paragraph. To begin with, *membukukan* in the sense of 'enter into a book', 'create a bookkeeping entry': we assume that the only constraint on stage 1 is that the denominal verb must be related in some way to 'book', but beyond a vague relevance requirement, there

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20. We make the assumption that the verbal affixes *meN-* 'transitive active' and *di-* 'passive' are inflectional affixes and are not responsible for the verbalization of the denominal verb. It is also reasonable to treat this use of *meN-* and *di-* as derivational affixes. This, however, would introduce an undesirable irregularity into the lexical entry for *meN-* and *di-*.

are no specific restrictions regarding how the derived verb must relate to the base noun. In the bookkeeping sense, the result of stage 1 would seem to be roughly 'y is in a book (of accounts)'. In this structure all thematically licensed arguments, namely the single argument of the derived verb, are also licensed in argument structure. Thus, in stage 2 an additional, higher argument is added, which is interpreted as the causer. This yields 'x causes y to be in a book (of accounts)'.

Turning next to *mendukunkan*, the verb must be related in some way to *dukun* 'shaman', but no specific relationship is required. In this case, the result of verbalization (stage 1) is 'y goes to a shaman', which satisfies the relevance requirement in a different way from that seen with respect to *membukukan*. The (abstract) verb resulting from stage 1 is a one-place predicate in which the single argument is licensed both thematically and with regard to argument structure. Thus, as in the case of *membukukan*, *-kan* adds a new higher argument, which receives the default interpretation of causer. Thus, the verb means 'x causes y to go to a shaman'.

The final example that we will discuss is *mengorbankan*. This denominal verb must be relevant to the noun *korban* 'sacrifice'. In this case, the interpretation in stage 1 is 'y is a sacrifice'. Like the previous examples, this is a one-place predicate in which the argument is licensed thematically and in terms of argument structure. As a result, a new argument is added that is interpreted as the causer, yielding an interpretation of 'x makes y a sacrifice, x sacrifices y'.

What should be clear from the above examples is that while Indonesian denominal verbs are varied with regard to the semantic relationship of the verb to the source noun, the unpredictability is with respect to what aspect of the source noun will be taken as relevant in the formation of the verb. What does not seem to vary is the effect of affixing *-kan* to the abstract verb. Put somewhat differently, the irregularity in denominal verbs is introduced in verbalization, stage 1, and not by the suffix *-kan*, stage 2. Thus, we conclude that the vast majority of denominal verbs provide additional evidence in favor of our analysis.

10. SPECULATIONS ON HISTORICAL ORIGIN. We have argued that the primary role of *-kan* is to license the presence in the argument structure of an otherwise unlicensed argument. The effect of *-kan* on the valence of the predicate is a side effect of the argument licensing property of this morpheme. It should be noted that as a syntactic licenser the function of *-kan* is analogous to that of a case marker on a noun phrase. While *-kan* is clearly not a case marker synchronically, its role as a syntactic licenser of nominals suggests that it may have developed out of a case-marker diachronically. Viewed from this perspective, an important way that *-kan* differs from a case-marker is that it occurs on the verb. This suggests that *-kan* may have developed out of a nominal case-marker that came to be incorporated onto the verb (Nichols 1986 inter alia).

As Uri Tadmor (pers. comm.) has suggested to us, there is, in fact, a likely prepositional/case marker candidate for the historical source of *-kan*, namely *akan* 'about'.

(55) Dia lupa **akan** janjinya.
 3SG forget about promise-3
 'She forgot about her promise.'

(56) Saya tidak percaya **akan** dia.
 1SG not believe about 3SG
 'I don't believe in him.'

What is striking is that *akan* is a semantically bleached preposition, one that expresses a general sense of relatedness, but that lacks specific semantic content. Such forms are ready candidates for conversion into morphological markers (Nichols 1986 inter alia).

We would, therefore, hypothesize that the historical sequence shown in (57) occurred.

(57) Possible historical source of *-kan*

Stage 1	*Akan* is a preposition meaning 'about'.
Stage 2	*Akan* incorporates into the preceding verb as *-kan*, the head-marking equivalent of a case-marker that provides syntactic licensing for a theta-marked participant.
Stage 3	*-kan* is extended in function so that it licenses a constituent not previously in the thematic structure, and, hence, is no longer a case-marker.

Evidence in favor of such a historical sequence would constitute indirect evidence for our syntactic analysis as well.

11. CONCLUSIONS. In a recent presentation Gil (2002) suggested that while acrolectal Indonesian *-kan* is an applicative morpheme that modifies clause structure, Riau Indonesian (RI) *-kan* is a marker of the existence of an end point for the action rather than a derivational affix affecting the argument structure of the verb.[21] We have argued that even in acrolectal Indonesian the function of *-kan* is primarily one of licensing an argument in the argument structure rather than of changing the valence of the predicate. This might suggest that Gil's analysis of RI can be extended to acrolectal Indonesian as well. While it does appear true that the occurrence of *-kan* frequently correlates with the existence of a semantic end point (see Son and Cole 2004), Gil's analysis (applied to acrolectal Indonesian) has the deficit of failing to predict whether a given instance of *-kan* will receive a causative, benefactive, or object marking interpretation. In contrast, we have argued that in acrolectal Indonesian *-kan* has a unitary syntactic function, that of licensing an argument in the argument structure. The valence changes observed in causatives are due to the interaction of *-kan* with the thematic structure of the clause into which it is inserted. Thus, the analysis provides an answer to the question posed by Soenjono Dardjowidjojo more than twenty years ago regarding features that "somehow could give us a relatively safe guideline as to the cooccurrence of a base and the affixes" (Dardjowidjojo 1983). At least with respect to *-kan*, we are able to disagree with Dardjowidjojo's pessimistic answer that "no useful generalization can be made." Rather, we have argued that despite considerable lexicalization and many idiosyncratic uses, the core functions of the suffix are, in fact, predictable—but the unifying function relates to the licensing of arguments in argument structure rather than to semantic features of the affix.

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21. A similar proposal was made for Jakarta Indonesian *-in-* by Cumming (2001).

12. APPENDIX: -*KAN* AND CASE MARKING. In the body of this paper we have argued that the function of the morpheme *-kan* is to license an argument in argument structure that would otherwise be unlicensed. Within Generative Syntax the syntactic licensing of arguments is usually ascribed to case marking. Could the distribution of *-kan* be explained in terms of case marking? To be more explicit, could *-kan* be viewed as a "displaced" case marker, the head marking analogue to a nominal case marker?

There are several reasons to believe that a case marking approach would not be tenable.[22] First, case markers are expected to license only nominal arguments, but *-kan* licenses both nominal and prepositional arguments. This would suggest that *-kan* is not a case marker.

(58) a. NOMINAL ARGUMENT
      Saya   memanggang-**kan** Eric   roti.
      ISG   meN-bake-KAN   Eric   bread
      'I baked Eric bread.'

    b. PREPOSITIONAL PHRASE ARGUMENT
      Saya   memanggang-**kan** roti   **untuk**   Eric.
      ISG   meN-bake-KAN   bread   for   Eric
      'I baked bread for Eric.'

Secondly, if *-kan* were a case marker, it would be expected to disappear in passives, in which the movement of the object to subject position is standardly viewed as due to the failure of the passive verb to assign case to its object. But, in fact, *-kan* does not disappear in passives:

(59) a. Saya   di-goreng-kan ayam.
      ISG   DI-fry-KAN   chicken
      'I was fried a chicken.'

    b. *Saya   di-goreng   ayam.
      ISG   DI-fry   chicken
      'I was fried a chicken.'

    c. Saya   tidak di-pikir-kan.
      ISG   not   DI-think-KAN
      'I was not thought about.'

    d. *Saya   tidak di-pikir.
      ISG   not   DI-think
      'I was not thought about.'

The fact that *-kan* can and must be maintained in passives is evidence that *-kan* could not be a case marker.

Third, the optionality of *-kan* with a variety of verbs such as *mengirim(kan)* 'send', *mengalih(kan)* 'change', *memecah(kan)* 'analyze', and *melabuh(kan)* 'drop anchor' would at the least make *-kan* an unusual case marker. This argument, how-

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ever, is not as strong as the previous two because optional case marking is attested, for example, in Japanese, in which the accusative suffix *-o* can be omitted if the direct object is immediately adjacent to the verb:

(60) John   ga   sono hon **(o)**   yonda.
     John$_{NOM}$ that   book   ACC   read
     'John read that book.'

(61) Mary   wa   sushi **(o)**   tabeta.
     Mary   TOP   sushi   ACC   eat
     'Mary ate sushi.'

(62) John   ga   dare   (o)   nagutta no?
     John   NOM   who   ACC   hit   Q
     'Who did John hit?'

See Saito (1983), (1984), and (1985) for details.

Finally, if *-kan* is a case marker, how are the various nominals case marked in causative uses of *-kan*? If *-kan* is licensing the highest argument (the causer), then what case marks the first argument of the base verb (the causee)?

We, therefore conclude that whatever may have been the origin of *-kan* diachronically, synchronically it is not a case marker.

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