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Morphosyntactic vs. morphosemantic functions of Indonesian *-kan*

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Levin and Rappaport Hovav (1998) distinguish two basic types of morphological operations on verbs: those that modify the Lexical Conceptual Structure (LCS, the semantic representation) vs. those that alter the syntactic expression of arguments without changing the semantic representation. The Locative alternation is an example of the first type; passive and applicative are examples of the second type. Levin and Rappaport Hovav state that the specific affixes used for operations of the first type are frequently the same as those used to mark aspectual distinctions, but are always different from the affixes used for operations of the second type. They know of no language in which the same affix is used to mark alterations to LCS in some forms and changes in the syntactic expression of arguments in other forms.

In this paper I will present evidence showing that the Indonesian suffix *-kan* functions in both of these ways. This suffix has been the topic of much discussion over the past 40 years, and a source of considerable confusion. I will argue that in order to understand the various functions of the suffix we must recognize that it has two very different modes of operation in the grammar. These two modes can be identified by the syntactic (monotransitive vs. ditransitive) and semantic (displaced theme vs. benefactive) patterns that they create. Adopting the terminology of Ackerman (1992) and Sadler and Spencer (1998), I refer to operations that modify LCS as MORPHOSEMANTIC, and to operations that modify only the syntactic expression of arguments as MORPHOSYNTACTIC.¹

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1 The Problem with Lexical Classes

The suffix *-kan* has often been described as a “valence increasing” morpheme, or as a marker of increased “transitivity” (Hopper & Thompson 1980). However, as various authors have pointed out (e.g. Dardjowidjojo 1971, 1974; Kaswanti 1995, 1997), the behavior of this suffix is actually quite complex. In some cases, such as (1–2), the suffix does increase the syntactic valence of the verb by promoting an oblique argument or adjunct to Primary Object.

(1) (Kaswanti 1997)

- a. John membeli buku itu untuk Mary.
John buy book that for Mary
'John bought that book for Mary.'
- b. John membelikan Mary buku itu.
John buy-*kan* Mary book that
'John bought Mary that book.'
- c. *John membeli Mary buku itu.
John buy Mary book that

- (2) a. Ibu sedang membuat baju untuk adik.
mother PROG make shirt for younger.sibling
'Mother is making a shirt for little brother.'
- b. Ibu sedang membuatkan adik baju.
mother PROG make-*kan* younger.sibling shirt
'Mother is making little brother a shirt.'
- c. *Ibu sedang membuat adik baju.
mother PROG make younger.sibling shirt

However, with many verbs the suffix triggers no increase in syntactic transitivity or valence, but merely a change in the semantic role of the Primary Object as in example (3). In other cases, the suffix actually appears to reduce the syntactic valence of the verb (4–5).

(3) (Sneddon 1996:79)

- a. Perawat membalut luka=nya dengan kain.
nurse wrap wound=3sg with cloth
'The nurse wrapped his wound with a bandage.'
- b. Perawat membalutkan kain ke luka=nya.
nurse wrap-*kan* cloth to wound=3sg
'The nurse wrapped the bandage around his wound.'

(4) (Kaswanti 1997)

- a. John memberi Mary buku itu.
 John give Mary book that
 'John gave Mary that book.'
- b. John memberikan buku itu kepada Mary.
 John give-*kan* book that to Mary
 'John gave that book to Mary.'

(5) (Dardjowidjojo 1971)

- a. Dia mengajar saya Inggris.
 3sg teach 1sg English
 'He taught me English.'
- b. Dia mengajarkan Inggris kepada saya.
 3sg teach-*kan* English to 1sg
 'He taught English to me.'

The variable behavior illustrated in (1) through (5) is a problem for traditional analyses of *-kan* which attempt to describe all of these alternations in terms of a uniform syntactic process. Chung (1976) and Vamarasi (1999), for example, assume that all such examples are produced by a syntactic rule that promotes an indirect object or oblique argument to direct object. But in order to make this analysis work, Chung is forced to posit three distinct classes of verbs according to the changes in suffixation which trigger (or indicate) the application of this rule. Chung's classification is presented in (6). Vamarasi presents a very similar analysis, arguing that with some verbs (see examples 1 and 2), *-kan* is used to indicate that the BEN-to-OBJ rule has applied; but with others (examples 4–5) *-kan* is used to indicate that the IO-to-OBJ rule has not applied.²

(6) Chung's (1976) classification of verb roots based on Dative rule

	before Dative	after Dative	sample roots
Class I	-Ø	- <i>kan</i>	<i>bawa</i> 'bring', <i>beli</i> 'buy', <i>masak</i> 'cook', <i>buat</i> 'make'

² A very recent paper by Cole and Son (2004) suggests 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." In many cases this means an argument that is present in thematic structure but not expressed in the argument structure of the base verb; in other cases, *-kan* adds an entirely new argument. Crucially, this analysis assumes an independent, optional rule of Dative Shift that is not morphologically marked. Space restrictions do not allow me to address this analysis in the present article.

Class II	<i>-kan</i> ~ \emptyset	<i>-i</i>	<i>kirim</i> ‘send’, <i>tanam</i> ‘plant’, <i>lempar</i> ‘throw’, <i>tuang</i> ‘pour’
Class III	<i>-kan</i> ~ \emptyset	\emptyset	<i>bayar</i> ‘pay’, <i>beri</i> ‘give’

One problem for this type of analysis is the fact that for a considerable number of verbs, the form *meN-ROOT-kan* is ambiguous.³ These roots may follow either of the two basic patterns, as illustrated in (7), and thus must be assigned to two different classes.

(7) (Kaswanti 1995)

- a. Ibu menjahit-kan saya baju. [Benefactive]
 mother sew-*kan* 1sg shirt
 ‘Mother sewed me a shirt.’
- b. Saya menjahit-kan baju ke tailor. [Causative]
 1sg sew-*kan* shirt to tailor
 ‘I had my shirt sewn by a tailor.’

A more serious problem is the issue of markedness reversal. Under the “advancement to object” type of analysis, the most basic form of the verb (the input to the rule) in examples like (4–5) is the one which bears the suffix, while the derived form (the output to the rule) is morphologically unmarked. This counter-intuitive analysis, which violates the spirit if not the letter of the Mirror Principle (Baker 1985), is motivated chiefly by the assumption that the use of *-kan* in (1–5) must be associated with a uniform syntactic process.

In this paper I argue that a more revealing analysis can be achieved by recognizing that the same suffix can trigger two fundamentally different kinds of changes. Adopting a proposal by Kaswanti (1995), I will label the morphosemantic (meaning-changing) uses of *-kan* as *-kan*₁, and the morpho-syntactic (meaning-preserving) uses of *-kan* as *-kan*₂. I will argue that the various functions of *-kan*₁ with verbal roots seem to share a component of meaning, or partial LCS, which specifies that one argument causes another argument to change location. This shared component of meaning helps to explain some of the observed constraints on the use of the suffix. Moreover, all uses of *-kan*₁ create syntactically monotransitive verbs; ditransitive verbs marked with *-kan* always involve *-kan*₂. Finally, I will argue that most if not all of the category-changing derivational functions of *-kan* should be identified with *-kan*₁.

³ Transitive verbs normally carry a prefix that indicates their voice category: *meN-* for active, *di-* for passive.

2 Meaning-Changing Vs. Meaning-Preserving Uses

2.1 Benefactive Applicative (*-kan₂*)

All ditransitive uses of *-kan* involve the morphosyntactic operator *-kan₂*, functioning as a benefactive applicative, as in (1–2). This form indicates that the primary object is a beneficiary; it is never used for other similar roles such as goal or recipient. Thus as Sneddon (2000) points out, sentence (8a) can only mean ‘He wrote a letter *for* (i.e., on behalf of) his father.’ In order to say ‘He wrote a letter *to* his father,’ sentence (8b) must be used instead; note that the recipient is marked with a preposition and the verb does not bear a suffix.

- (8) a. Dia menuliskan ayah=nya surat.
 3sg write-*kan₂* father=3sg letter
 ‘He wrote a letter *for*/**to* his father.’
- b. Dia menulis surat kepada ayah=nya.
 3sg write letter to father=3sg
 ‘He wrote a letter *to* his father.’

In this pattern, the suffix does not change the semantic role assigned to any argument and does not alter the inherent semantic content of the root. The second of these points may be illustrated by noting that whenever the suffixed form of the verb can be truly predicated of a given subject, the corresponding base form can also be predicated of that same subject (that is, $p\text{-}kan(x) \Rightarrow p(x)$). Thus an example like (9a), if true, always entails the truth of the corresponding unsuffixed form (9b). With the morphosemantic operator *-kan₁* this is not the case, as illustrated in (10–11).

(9) *-kan₂*: a implies b

- a. John membelikan Mary buku itu.
 John buy-*kan₂* Mary book that
 ‘John bought Mary that book.’
- b. John membeli buku itu.
 John buy book that
 ‘John bought that book.’

(10) *-kan₁*: a does not imply b

- a. Saya menjahit-kan baju ke tailor.
 1sg sew-*kan₁* shirt to tailor
 ‘I had my shirt sewn by a tailor.’

- b. Saya menjahit baju.
 1sg sew shirt
 'I sewed a shirt.'

(11) *-kan₁*: a does not imply b

- a. Buruh itu memuat-kan beras ke kapal.
 worker that contain-*kan₁* rice to ship
 'The workers are loading the rice onto the ship.'
- b. ?Buruh itu memuat beras.
 worker that contain rice
 'The workers contain rice.'

Moreover, as (12) makes clear, *-kan₁* often changes the degree of affectedness implied by the verb, whereas *-kan₂* does not (I Wayan Arka, p.c.).

- (12) a. Ia menembak-kan senapang ke kepala orang itu.
 3sg shoot-*kan₁* rifle to head person that
 'He fired his rifle at that person's head.'
 (does not imply that the bullet hit the person)
- b. Ia menembak kepala orang itu.
 3sg shoot head person that
 'He shot that person's head.' (=the bullet hit the person)

A number of authors (e.g., Pinker 1989) have pointed out that the English double object construction can only be used in a benefactive sense if the beneficiary is also interpreted as being a recipient. This constraint has been reported for a number of other languages as well. However, it does not apply to the *-kan₂* construction in Indonesian. Example (13) demonstrates that the beneficiary object of the *-kan₂* verb does not need to be a recipient. Thus while the use of *-kan₂* is restricted to a single very specific semantic role, it does not seem to be subject to any additional semantic constraints and is in fact highly productive.

(13) (Sneddon 2000)

- Sopir membawakan saya koper yang berat.
 driver carry-*kan₂* 1sg suitcase REL heavy
 'The driver carried the heavy suitcase for me.'

The benefactive interpretation is never available in monotransitive clauses, e.g., when *-kan* appears on an intransitive root. This fact is illustrated in (14).

- (14) a. Murid-murid suka melompat di halaman sekolah.
 pupils enjoy jump at yard school
 ‘The pupils enjoy jumping in the school yard.’
- b. Guru melompat-kan murid-murid di halaman sekolah.
 teacher jump-*kan*₁ pupils at yard school
 ‘The teacher made/let the pupils jump in the school yard.’
 (cannot mean: ‘The teacher jumped for the pupils ...’)

Wayan Arka (p.c.) notes that the object of the monotransitive verb *men-doa-kan* ‘pray for’, derived from the intransitive *ber-doa* ‘to pray’, is a beneficiary in the sense that the object receives some benefit from the action. However, I believe this is an inherent component of the meaning of the root itself, rather than a meaning added by the suffix. The form *mendoakan* never carries the ‘in place of’ or ‘substitute for’ meaning which is conveyed by the benefactive applicative construction, as illustrated in (8a) and (13). For example, if someone promises to pray for an hour from 2 to 3 PM and then cannot do it because of a family emergency, he could not use that verb form to ask someone else to take his place on the prayer schedule.

We should note that the beneficiary may be marked with a preposition even when the verb bears the suffix, as shown in (1d) below; compare (1a,b) above. This construction is not allowed in Bahasa Malaysia, and there is some disagreement as to whether it should be considered “proper” Indonesian. Such sentences seem to resist passivization. Several authors have noted that this pattern may be a calque on Javanese.

- (1) d. John membelikan buku itu untuk Mary.
 John buy-*kan* book that for Mary
 ‘John bought that book for Mary.’

2.2 Locative Alternation (*-kan*₁)

Kaswanti (1995) notes that *-kan*₁ frequently alternates with the suffix *-i* whereas *-kan*₂ does not. This alternation, which is strongly reminiscent of the English Locative Alternation, is illustrated in (15–17). In these examples, the *-i* suffix indicates that the object is the goal or locus of the action, while *-kan*₁ indicates that the object is a displaced theme.⁴

- (15) a. Wim menuang-kan air ke dalam ember.
 Wim pour-*kan*₁ water to in bucket
 ‘Wim poured water into the bucket.’

⁴ Wolff (1980:201) refers to this as the “conveyance” meaning of *-kan*.

- b. Wim menuang-i ember dengan air.
 Wim pour-*i* bucket with water
 ‘Wim filled the bucket with water.’

(16) (Sneddon 1996:96)

- a. Buruh itu memuat-kan beras ke kapal.
 worker that contain-*kan*₁ rice to ship
 ‘The workers loaded the rice onto the ship.’
- b. Buruh itu memuat-i kapal dengan beras.
 worker that contain-*i* ship with rice
 ‘The workers loaded the ship with rice.’

- (17) a. Wim meludah-kan biji semangka.
 Wim spit-*kan*₁ seed watermelon
 ‘Wim spat out the watermelon seeds.’
- b. Wim meludah-i tanah.
 Wim spit-*i* earth
 ‘Wim spat on the ground.’

The same alternation is found with many intransitive verbal roots whose basic meaning involves directed motion, as illustrated in (18–19). With these roots, *-kan*₁ has a causative sense as discussed in section 4, but still marks the primary object as a displaced theme.

(18) (adapted from Dardjowidjojo 1971)

- a. Air itu sedang meng-alir ke sawah.
 water that PROG flow to rice.field
 ‘The water is flowing to the rice field.’
- b. Dia meng-alir-kan air itu ke sawah=nya.
 3sg flow-*kan*₁ water that to rice.field=3sg
 ‘He caused the water to flow to his rice field.’
- c. Dia meng-alir-i sawah=nya dengan air itu.
 3sg flow-*i* rice.field=3sg with water that
 ‘He flooded his rice field with the water.’

(19) (Dardjowidjojo 1971)

- a. Buku saya jatuh.
 book 1sg fall
 ‘My book fell.’
- b. Dia men-jatuh-kan buku saya.
 3sg drop-*kan*₁ book 1sg
 ‘He dropped my book.’

- c. Dia men-jatuh-i buku saya.
 3sg drop-*i* book 1sg
 ‘He fell on my book.’

Levin and Rappaport Hovav (1998:261) propose LCS representations for the Locative Alternation similar to those in (20). Here x represents the agent, y the displaced theme, and z the goal. Notice in particular that the LCS in (20a) contains a substring of the form CAUSE–BECOME–AT, expressing the idea that one participant causes another to undergo a change of location. This seems to be the common semantic core of the primary uses of *-kan₁*.

(20) a. **Displaced theme as object (V-*kan₁*)**

$$[[x \text{ ACT }] \text{ CAUSE } [y \text{ BECOME } P_{\text{loc}} z] [\text{LOAD}]_{\text{MANNER}}]$$

(= ex. 16a)

b. **Locative object (V-*i*)**

$$[[x \text{ ACT }] \text{ CAUSE } [z \text{ BECOME } [\text{FULL?}]_{\text{STATE}}]$$

WITH-RESPECT-TO y] [*LOAD*]_{MANNER}]

(= ex. 16b)

Levin and Rappaport Hovav note that, in languages where the Locative Alternation is morphologically marked (like Indonesian but unlike English), the same affixes are sometimes also used to mark aspectual distinctions such as telicity. I do not know of any aspectual uses of *-kan*, but the suffix *-i* is sometimes used to indicate iterative aspect as in: *memukul* ‘to hit’, *memukuli* ‘to hit repeatedly’; *mencium* ‘to kiss’, *menciumi* ‘to kiss repeatedly’.

2.3 Instrumental *-kan₁*

Another construction in which a transitive verb root bears the *-kan₁* suffix is illustrated in (21–24). This pattern is often referred to as the “instrumental” use of the suffix. Unlike the benefactive applicative formed with *-kan₂*, this construction does not increase the valence of the verb because the patient of the base form is expressed as an oblique goal or location argument of the derived verb.

(21) (Sneddon 1996:79)

- a. Dia memukul anjing dengan tongkat.
 3sg beat dog with stick
 ‘He hit the dog with a stick.’

- b. Dia memukul-kan tongkat pada anjing.
3sg beat-*kan*₁ stick to dog
'He beat the stick on/against the dog.'
- (22) a. Dia mengikat anjing dengan tali.
3sg tie dog with rope
'He tied up the dog with a rope.'
- b. Dia mengikat-kan tali ke anjing.
3sg tie-*kan*₁ rope to dog
'He tied the rope to the dog.'
- (23) (Kaswanti 1997)
- a. John menikam perut harimau dengan belati.
John stab belly tiger with dagger
'John stabbed the tiger's belly with a dagger.'
- b. John menikam-kan belati ke perut harimau.
John stab-*kan*₁ dagger to belly tiger
'John stabbed his dagger into the tiger's belly.'
- (24) a. Dia menulis-i ulas meja dengan pensil.
3sg write-*i* cloth table with pencil
'He wrote on the table-cloth with a pencil.'
- b. Dia menulis-kan pensil pada ulas meja.
3sg write-*kan*₁ pencil to cloth table
'He wrote with a pencil on the table-cloth.' (cf. ex. 8)

Sneddon (1996:79–80) makes the following very significant comment about this use of *-kan*: "Although these verbs are usually regarded as marking the object as being the instrument with which the action is performed, the object cannot always be so regarded, as shown by the following [ex. 25]. These examples show that what is basically important in these constructions is that the object is something which is handled, manipulated or moved."⁵

- (25) (Sneddon 1996:80)
- a. Dia memukul-kan kepala pada dinding.
3sg beat-*kan*₁ head to wall
'He beat his head against the wall.'
- b. Dia menémpél-kan gambar ke témbok.
3sg stick-*kan*₁ pictures to wall
'He stuck pictures on the wall.'

⁵ Sneddon cites Hein Steinhauer (p.c.) as the source of this observation.

In other words, the “instrumental” object must be interpretable as a displaced theme, and need not be an instrument at all. The LCS for this construction must again contain a substring of the form CAUSE–BECOME–AT, and this usage of *-kan₁* will be unavailable for verbs which are semantically incompatible with this component of meaning. This analysis correctly predicts that instruments which are not moved or transferred will be far less acceptable in this construction, as illustrated in (26–28):

- (26) a. Dia menulis-kan pensil tumpul.
 3sg write-*kan₁* pencil dull
 ‘He wrote with a blunt pencil.’ (Sneddon 1996:83)
- b. *?Dia menulis-kan mesin tik.
 3sg write-*kan₁* machine type
 (intended: ‘He wrote with a typewriter.’)
- (27) (ex. a–b from Kaswanti 1995)⁶
- a. ?Jangan membelikan uang itu buku!
 don’t buy-*kan₁* money that book
 ‘Don’t use that money to buy books!’
- b. Jangan sampai uang itu di-belikan buku!
 don’t arrive money that PASS-buy-*kan₁* book
 ‘Don’t let that money be used to buy books!’
- c. *?Jangan sampai kartu Visa itu di-belikan buku!
 don’t arrive card Visa that PASS-buy-*kan₁* book
 (intended: ‘Don’t let that Visa card be used to buy books!’)
- (28) other non-displaced instruments:
- a. **menghitungkan sipoa/semppoa* ‘add up with an abacus’
 b. **menimbangkan dacing/neraca* ‘weigh with a scale/*dacing*’
 c. **menuangkan corong* ‘pour/fill with a funnel’
 d. **memotretkan kamera* ‘take pictures with a camera’
 e. **menyalinkan mesin fotokopi* ‘make copies with a photocopier’

Notice that movement of certain body parts can be expressed using this construction, as seen in (25a) and in the semi-conventionalized expressions in (29). While the objects in these examples are not instruments in the ordinary sense, they are caused to move toward a specified goal and so are compatible with a displaced theme interpretation.

⁶ Some speakers reject 27a-b; everyone rejects 27c. The contrast in acceptability seems to be due to the fact that, when paying cash, the ownership of the money changes from buyer to seller. A credit card may be handed back and forth during the transaction, but there is no transfer of ownership.

- (29) a. Dia menginjakkan kaki=nya di.atas rumput.
 3sg tread-*kan*₁ foot=3sg on grass
 'He set his foot on the grass.' (Sneddon 2000)
- b. Dia memandangkan mata ke gunung.
 3sg look-*kan*₁ eye to mountain
 'He turned his eyes to the mountain.'

2.4 "Causative" *-kan*₁

Examples like those in (30) are often referred to as causatives, but they are peculiar in certain respects. (This pattern, which involves transitive roots, is much less productive than the causative use with intransitive roots, which is discussed in section 4.)

- (30) a. Saya mencuci-kan pakaian pada wanita itu.
 1sg wash-*kan*₁ clothes to woman that
 'I have my clothes washed by that woman.' (Sneddon 1996:75)
- b. Saya menjahit-kan baju ke tailor.
 1sg sew-*kan*₁ shirt to tailor
 'I had my shirt sewn by a tailor.'
 (Kaswanti 1995; Verhaar 1980:52)
- c. Ibu meminum-kan susu pada bayi.
 mother drink-*kan*₁ milk to baby
 'Mother feeds milk to the baby.' (Echols & Shadily 1989:373)
- d. Saya memeriksa-kan mata saya ke dokter mata.
 1sg examine-*kan*₁ eye 1sg to doctor eye
 'I had my eyes examined by an eye doctor.'
 (Kaswanti 1995; Verhaar 1980:52)

Baker (1988) points out that there is a very strong correlation between the grammatical relations of causees and recipients. In languages which make the goal or recipient the primary object of a basic ditransitive verb, the causee will almost always be the primary object of a causative verb derived from a transitive root. In languages where the recipient of a basic ditransitive verb is not the primary object, the causee of a causative derived from a transitive root will normally be encoded as an indirect object or oblique argument.

If the sentences in (30) were causative constructions in the normal sense, they would violate this generalization. Basic ditransitive verbs in Indonesian such as *beri* 'give' and *ajar* 'teach' take their goal or recipient as primary object, as seen in examples (4–5). Thus Baker's generalization would pre-

dict that the “causees” in (30) should be expressed as primary objects. However, all of them are in fact expressed as oblique (prepositional) arguments. Moreover, they are marked with prepositions that encode locations or goals (*pada* ‘at, to’, *ke* ‘to’, *di* ‘at’), rather than the agentive preposition *oleh* ‘by’. In fact, Sneddon (1996:75) states that with a number of verbs it is more normal in this construction to express the location rather than the actor/causee, as illustrated in (31).⁷

(31) (Sneddon 1996:75)

- a. Di.mana kau mencuci-kan pakaian=mu?
 where 2sg wash-*kan*₁ clothes=2sg
 ‘Where do you have your clothes washed?’
- b. Saya mau mencetak-kan kartu nama saya
 1sg want print-*kan*₁ card name 1sg
 di percetakan baru itu.
 at print.shop new that
 ‘I want to get my calling cards printed at that new printery.’

Several authors have suggested that examples like (30a) can be paraphrased as ‘I send my clothes to that woman for washing’. I suggest that these examples are created by modifying the basic sense of the root to make it compatible with the semantic core associated with the *-kan*₁ suffix. The meaning of the derived verb form is something like, “*x* CAUSE *y* BE AT *z* for the purpose of *V*-ing”, where *V* represents the basic meaning of the transitive root. This explains why the “causee” phrases in (30) are marked as locations: in this construction their semantic function is that of a location, rather than an agent.

This analysis predicts that the “causative” interpretation will be most acceptable when the sentence can be interpreted as involving a change in location on the part of the patient, and will be much less acceptable when the patient cannot be interpreted as undergoing a change of position. Examples (32–34) provide some confirmation for this prediction.⁸

- (32) a. Saya memeriksa-kan mata saya ke dokter.
 1sg examine-*kan*₁ eye 1sg to doctor
 ‘I had my eyes examined by a doctor.’

⁷ However, Wayan Arka (p.c.) points out that this goal or location in this construction must be potentially agentive or imply the existence of an agent, as illustrated by the following contrast:
 Saya mencucikan pakaian saya di tukang cuci itu/*sungai.
 ‘I have my clothes cleaned at the laundry/*river.’

⁸ The following example from Sneddon (2000) represents a possible exception to this generalization: *Saya harus memperbaiki atap rumah*. ‘I must get my roof fixed.’

- b. ??Gubernur memeriksa-kan jembatan itu ke insinyur.
governor examine-*kan*₁ bridge that to engineer
(intended: ‘The governor had the bridge examined by
an engineer.’)
- (33) Bapak meminum-kan {air/*sungai} pada kerbau.
father drink-*kan*₁ water/*river to buffalo
‘Father gave the buffalo some water/*the river to drink.’
- (34) a. Tetangga saya selalu mereparasi-kan mobil=nya
neighbor 1sg always repair-*kan*₁ car=3sg
pada bengkel ini.
to workshop this
‘My neighbor always has his car repaired at this workshop.’
(Verhaar 1984:39)
- b. *?Tetangga saya mereparasi-kan rumah=nya
neighbor 1sg repair-*kan*₁ house=3sg
pada tukang.kayu ini.
to carpenter this
(intended: ‘My neighbor had his house repaired
by this carpenter.’)

The analysis also predicts that such causatives will not normally be acceptable if the location of the patient is not relevant to the situation described by the verb (e.g. ‘hate’, ‘want’), or if the basic meaning of the verb implies that the actor is moving toward the patient (e.g. ‘attack’, ‘search for’, ‘visit’).

- (35) a. *Jangan membencikan adik pada isteri=nya.
don’t hate-*kan*₁ younger.sibling to wife=3sg
(intended: ‘Don’t make our little brother’s wife hate him.’)
- b. *Amerika menyerangkan Pakistan pada India.
America attack-*kan*₁ Pakistan to India
(intended: ‘America made India attack Pakistan.’)

2.5 Optional Suffixation

The LCS of a monotransitive verb root expressing motion or transfer (‘throw’, ‘send’, etc.) already contains a substring of the form CAUSE–BECOME–AT. The root itself satisfies all of the constraints that would be imposed on a derived verb bearing the *-kan*₁ suffix. The *-kan*₁ suffix may optionally appear with such roots but has no effect on the semantic or syntactic properties of the verb, as illustrated in (36b) and (37b). Other roots for

which *-kan₁* is optional include *lempar* ‘throw’; *tuang* ‘pour’; *sumbang* ‘donate, contribute’; *titip* ‘entrust’; *antar* ‘send, accompany’; *sebut* ‘mention’ (Sneddon 1996:84). This pattern of optionality suggests that we might describe the core function of *-kan₁* in terms of unification with the partial LCS “CAUSE–BECOME–AT”.

- (36) a. Paman mengirim-i saya uang tiap bulan.
uncle send-*i* 1sg money every month
‘Uncle sends me some money every month.’
- b. Paman mengirim(-kan) uang kepada saya tiap bulan.
uncle send(-*kan*) money to 1sg every month
‘Uncle sends some money to me every month.’ (Johns 1978:232)
- (37) a. Dia menanam-i sawah=nya dengan padi.
3sg plant-*i* rice.field=3sg with rice
‘He planted his field with rice.’
- b. Dia menanam(-kan) padi itu di sawah=nya.
3sg plant(-*kan*) rice that in rice.field=3sg
‘He planted the rice in his field.’

Basic ditransitive roots which select a goal or recipient as primary object, such as *beri* ‘give’ (4a) and *ajar* ‘teach’ (5a), may optionally take the suffix *-i* with no change of meaning.⁹ But it is important to note that this kind of optional suffixation is impossible with *-kan₂*, i.e., *-kan₂* is always obligatory in clauses which match its output structure. In other words, benefactive objects are impossible when the verb carries no suffix, as illustrated above in (1c) and (2c). This fact seems to support the hypothesis that *-kan₁* and *-kan₂* are very different in their modes of application.

3 Category-changing Derivations

The suffix *-kan* is also used as a category-changing derivational affix. Some examples, mostly from Sneddon (1996), are presented in (38). The roots from which these forms are derived include adjectives (38a), nouns (38b) and even prepositional phrases (38c). In every case, the derived form is a monotransitive verb.

⁹ Sneddon (1996:84) argues that *memberi* in examples like (4a) bears the suffix *-i* in underlying form, but that the suffix is deleted by a phonological process of degemination; however, Dardjowidjojo (1971) rejects this idea. Sneddon (1996:92) notes that there are also some monotransitive roots which select a goal as object and can optionally take the suffix *-i* with no change of meaning or syntactic properties. These include *menyiram(i)* ‘to spray’, *menghias(i)* ‘to decorate’, etc.

(38) a. Adjective roots

ROOT		DERIVED FORM	
bébas	‘free’	membébasikan	‘to liberate’
bersih	‘clean (adj.)’	membersihkan	‘to clean (something)’
habis	‘finished, used up’	menghabiskan	‘to use up’
luas	‘broad, spacious’	meluaskan	‘to widen, cause to spread’
besar	‘big’	membesarkan	‘to enlarge; bring up (a child)’
beku	‘frozen’	membekukan	‘to freeze something’
takut	‘afraid’	menakutkan	‘to frighten’

b. Noun roots

ROOT		DERIVED FORM	
sekolah	‘school’	menyekolahkan	‘send to school’
pasar	‘market’	memasarkan	‘take to market’
makam	‘grave, tomb’	memakamkan	‘bury, entomb’
calon	‘candidate’	mencalonkan	‘to nominate’
hadiah	‘gift’	menghadiahkan	‘give as a present’
nasihat	‘advice’	menasihatkan	‘to advise’
cermin	‘mirror’	mencerminkan	‘to reflect’
saksi	‘witness’	menyaksikan	‘to witness’

c. PP as base (Alwi et al. 1998:121)

BASE		DERIVED FORM	
ke depan	‘to the front’	mengedepankan	‘put in front, put forward, propose’
ke luar	‘to the outside’	mengeluarkan	‘bring out; produce’
ke samping	‘to the side’	mengesampingkan	‘put aside, ignore’

When the base form is an adjective root, as in (38a), suffixation with *-kan* produces an accomplishment predicate: “cause *y* to become STATE”. Alwi et al. (1998:128) point out that there is a subtle difference in meaning between these *meN-Adj-kan* verbs and similar verbs derived with the causative prefix *per-* (*meN-per-Adj*). The latter forms may express simply an increase in the quality named by the adjective, but the *-kan* verbs must express a true change of state, implying that the object did not have the quality named by the adjective before this event took place. For example, both of these patterns are allowed with the adjective *jelas* ‘clear’. The *-kan* verb *menjelaskan* ‘clarify, explain’ implies that the thing being acted upon or discussed was not clear to begin with. The verb *memperjelas*, on the other hand, means ‘increase the clarity of’ and could be used for something that was already fairly clear. A similar contrast is found for many other pairs, e.g.

membesarkan ‘make big/great’ vs. *memperbesar* ‘make bigger’, from the root *besar* ‘big’.

Jackendoff (1983) and a number of other authors represent change of state predicates as a kind of metaphorical change of location. The LCS representations for the *meN-Adj-kan* verbs in (38a) would contain a substring of the form CAUSE–BECOME–AT, with the state named by the base adjective filling the location position. Thus both semantically and syntactically these verbs can be identified as instances of the *-kan₁* suffix. Further evidence for this identification comes from the fact that some of these de-adjectival verbs allow the *-kan* suffix to alternate with *-i*, as in the Locative Alternation pattern discussed in section 2.2. Where this is possible, the *-i* suffix marks the object as the goal, source or locus of the action, while *-kan₁* indicates that the object is an entity which undergoes a change of state (metaphorically, the displaced theme).

(39) (cf. Sneddon 1996:87)

panas-kan	‘make hot’	panas-i	‘apply heat to’
asin-kan	‘make salty’	asin-i	‘apply salt to’
mérah-kan	‘cause to become red’	mérah-i	‘apply red stuff to’
marah-kan	‘make angry’	marah-i	‘to be angry at’
takut-kan	‘make afraid’	takut-i	‘to fear’ (trans.)
kering-kan	‘cause to become dry’ (e.g. rice)	kering-i	‘to drain’ (e.g. a swamp)
jauh-kan	‘remove/keep at a distance’	jauh-i	‘to avoid’

When the base form of the *meN-STEM-kan* verb is a PP (presumably reinterpreted as a compound stem), as in (38c), the derived verb expresses the meaning CAUSE–BECOME–AT with the PP base expressing the goal. These derivations are clearly compatible with the semantics and syntax of the *-kan₁* suffix.

With noun roots the semantic functions of *-kan* are more varied (Alwi et al. 1998:121–2). If the noun N refers to a location, that location becomes the goal and the derived verb means ‘put *y* in the N’: *penjara* ‘prison’, *memenjarkan* ‘imprison’; *rumah* ‘house’, *merumahkan* ‘send home; lay off (from work)’; *rumah sakit* ‘hospital’, *merumahsakitkan* ‘hospitalize’; see also the first three examples in (38b). In many other cases, the noun is interpreted as naming a result state and the derived verb is semantically similar to the *-kan* verbs derived from adjective roots. Examples include *raja* ‘king’, *merajakan* ‘make *y* a king; treat like a king’; *anak tiri* ‘stepchild’, *menganaktirikan* ‘treat like a stepchild’; see also the fourth and fifth examples in (38b). It seems natural to identify these kinds of examples as instances of the *-kan₁* suffix.

There remain other cases, however, where the meaning of the derived verb is harder to relate to the proposed semantic core for *-kan*₁. In many of these examples, the derived verb names a two-place activity predicate, as in the last three examples in (38b). The analysis of activity verbs with *-kan* is an area needing further research.

4 Intransitive Roots and “Unaccusativity”

The suffix *-kan* can be added to virtually any intransitive verb root to create a monotransitive verb. When it is added to an intransitive verb of motion, the resulting transitive verb has a causative sense as seen in (18b) and (19b). The suffixed form also has a causative sense with intransitive roots that denote a state or change of state, creating an accomplishment predicate like those derived from adjectival roots (38a). In other cases, however, the meaning of the derived transitive form does not include any sense of causation. Some examples of this type are shown in (40–41), adapted from Vamarasi (1999).

- (40) a. Anak-anak ber-main di luar.
 children play at outside
 ‘The children are playing outside.’
- b. Anak itu bermain-kan piano.
 child that play-*kan* piano
 ‘The child is playing the piano.’
- (41) a. Kami selalu ber-doa untuk orang tua kami.
 1pl.ex always pray for person old 1pl.ex
 ‘We always pray for our parents.’
- b. Pendeta itu mendoa-kan yang sakit.
 pastor that pray-*kan* REL sick
 ‘The pastor prayed for those who were sick.’

Vamarasi uses the contrast between the causative pattern in (18–19) and the non-causative pattern in (40–41) as her primary criterion for distinguishing “unaccusative” from “unergative” verbs. She defines unaccusatives as intransitive verb roots which have causative semantics when affixed with *-kan*, and unergatives as intransitive verb roots which do not. Some examples of each type are listed in the following table:

(42) a. “unaccusatives” (causative sense)

ROOT		DERIVED FORM	
tidur	‘sleep’	menidurkan	‘put to sleep’
jatuh	‘fall’	menjatuhkan	‘to drop’

datang	'come, arrive'	mendatangkan	'bring, cause to arrive'
sampai	'arrive'	menyampaikan	'cause to arrive'
timbul	'emerge, arise'	menimbulkan	'cause to emerge'
hilang	'get lost'	menghilangkan	'get rid of'
masuk	'enter'	memasukkan	'put/bring inside'
kembang	'swell'	mengembangkan	'cause to swell'
lahir	'be born'	melahirkan	'to give birth to'
duduk	'sit'	mendudukkan	'to seat, cause to sit'
berhenti	'stop' (intr.)	menghentikan	'cause to stop'
lompat	'jump'	melompatkan	'cause/allow to jump'
renang	'swim'	merenangkan	'cause/allow to swim'
terbang	'fly'	menerbangkan	'cause/allow to fly'
menangis	'cry'	menangiskan	'cause to cry'

b. "unergatives" (non-causative sense)

ROOT		DERIVED FORM	
berkerja	'work'	mengerjakan	'work at/on, perform'
berpikir	'think'	memikirkan	'think about, ponder'
berdoa	'pray'	mendoakan	'pray for'
bermain	'play'	memainkan	'play (an instrument, etc.)'
berbicara	'converse'	membicarakan	'talk about, discuss'
bernyanyi	'sing'	menyanyikan	'sing (a song)'
(ber)batuk	'cough'	membatukkan	'cough up'
ketawa	'laugh'	mengetawakan	'laugh at'
menangis	'cry'	menangiskan	'weep for, cry over'

Unaccusativity is often associated with a contrast between agentive vs. non-agentive predicates. But agentivity does not appear to be the relevant semantic contrast in (42). Notice that (42a) includes agentive manner of motion verbs like 'jump', 'swim' and 'fly', which are not typically encoded as unaccusatives; and (42b) includes some actions that are far less agentive, such as 'cough' and 'cry'. Moreover, the "causative" test does not partition the class of intransitive roots neatly, since a few roots (e.g., 'cry') allow both interpretations, as indicated in (42).

I suggest that the causative sense is available primarily for roots whose basic meaning is compatible with the semantic core proposed for *-kan₁*, namely CAUSE-BECOME-AT. This would include verbs of motion, such as 'swim' and 'fly', as well as verbs that denote a state or change of state, as discussed in the previous section.

Predicates denoting activities that do not involve motion cannot in general unify with the semantic core CAUSE-BECOME-AT. In the case of *batuk* 'cough', the derived verb *membatukkan* 'cough up' seems very close to the core meaning of the *-kan₁* suffix, but in other cases it is not clear whether

the LCS of the suffixed verb is in fact modified or not. In some of these cases, the object of the derived transitive verb is implied by the inherent semantics of the root itself: when we think, we must think about something; when we talk, we must talk about something; when we sing, we must sing something; etc. Levin (1999) suggests that the optional expression of objects of transitive activity predicates need not involve an alternation in the LCS of these predicates. But, as noted above, the function of *-kan* in such forms is a matter for further research.

5 Conclusion

We have presented examples demonstrating two fundamentally different uses of *-kan* in Indonesian. One of these (*-kan₁*) involves a modification of the semantic structure (LCS) of the verb, while the other (*-kan₂*) involves only a change in the syntactic expression of the arguments.

The morphosyntactic operator *-kan₂* is used to form benefactive applicatives, i.e., ditransitive verbs whose primary object is a beneficiary. This construction is highly productive and regular.

The morphosemantic operator *-kan₁* has a variety of uses, but we have suggested that its core function is to produce monotransitive verbs whose LCS includes a substring of the form CAUSE-BECOME-AT, and whose object corresponds to the displaced theme. This hypothesis provides an explanation for some of the semantic constraints we have observed on the use of the suffix. The “instrumental” use of the suffix is only acceptable for instruments that are moved to a new location; and provided this condition is met, the pattern is not actually restricted to instruments.¹⁰ The “causative” use of the suffix with transitive roots is only acceptable when the patient is viewed as being taken somewhere to be acted upon; and the prepositional argument in this construction specifies the goal, i.e., the location where the “causee”/agent is located, rather than the causee per se.

The hypothesis also explains why the suffix is optional, and produces no change in meaning or syntax, when the basic LCS of a transitive root already contains a substring of the form CAUSE-BECOME-AT. This is the case for verbs like ‘throw’, ‘send’, ‘pour’, etc. It also helps to explain the split in the behavior of intransitive roots, which does not seem to correspond to standard notions of unaccusativity. The suffix *-kan* has causative semantics precisely where the basic meaning of the intransitive root involves motion, a state, or a change of state. In accounting for this pattern we assumed that changes of state are represented in LCS as metaphorical change of location.

¹⁰ As we saw in section 2.3, in some cases (e.g., money) the relevant constraint is that the instrument must undergo a change of possession.

The same assumption provides an account for most of the category-changing examples discussed in section 3.

There remains a residue of lexical idiosyncrasy etc. which this account does not cover, e.g., *me-lukis* ‘draw, paint’ vs. *me-lukis-kan* ‘describe’. Some predicates of emotion take the suffix *-kan*, e.g. *me-rindu-kan* ‘miss, long for’; *meng-harap-kan* ‘hope for’; *meng-ingin-kan* ‘desire’; but most of the predicates in this class take the suffix *-i*.¹¹ The largest class of data that our analysis currently fails to account for involves intransitive non-motion activity verbs like those listed in (42b). But the vast majority of uses of *-kan* can be assigned to one of the two major types, or modes of application, described above.

One way of treating this dual mode of application is to posit two homophonous *-kan* suffixes, one morphosyntactic and the other morphosemantic. This idea is not a new one in Austronesian linguistics. Sirk (1978) and Mead (1998) have pointed out that two different suffixes, **-kən* and **-akən*, can be reconstructed for a very early stage of Malayo-Polynesian. In most modern languages the two forms have merged, but there are a few languages (primarily in Sulawesi) that retain distinguishable reflexes of both forms. I do not know of any phonological evidence to suggest that the two *-kan* suffixes in modern Malay/Indonesian derive from different historical sources. However, if this were indeed the case it could help to explain why we find a single affix marking both morphosyntactic and morphosemantic operations, apparently a relatively uncommon state of affairs.

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¹¹ A few roots can take either suffix, e.g. *ingin* ‘desire’. The object-of-emotion use of *-kan* is more common in the passive than the active; see Sneddon 1996:73.

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