This paper deals with coordinated constructions of path phrases and seeks to establish a generalization which adequately describes the relevant phenomena. What is problematic in our attempts is a case of "double specification" which does not involve a coordinator. We elucidate this intriguing phenomenon, introducing notions such as a "complementary relation" and a "part-whole relation." A closer examination of this phenomenon reveals a second subtype which is to be subsumed under the same category. Lastly, we tackle a more fundamental issue of coordination in general—why use a coordinator to express semantic coordination? A dual function of the coordinator holds the key to the solution: a linking and a separating function.*

**Keywords**: coordination, path, double specification, linking function, separating function

1. Introduction

The following sentences both involve a sequence of prepositional phrases which describes the path a moving entity travels:

(1) The ball rolled out of the house through the garden to the wall.

(2) The ball flew over the fence and across the street.

The only difference that we note between these sentences is that (2) has a coordinator *and* intervening between the two path phrases, which

* I would like to express my gratitude to Phillip Backley, Brian Quinn and Alastair Horne for acting as informants. My thanks go especially to Phillip Backley for suggesting stylistic improvements. I am also indebted to two anonymous *EL* reviewers for their valuable comments and suggestions on earlier versions of this paper. Needless to say, responsibility for any remaining inadequacies is entirely my own.

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(1) lacks. If the and in (2) is left out, the sentence will be ungrammatical in the intended reading.

This paper aims to provide a generalization which correctly describes the relevant phenomena. What is problematic about this issue is that there are expressions such as (3).

(3) John ran into the room to the blackboard. (Gruber (1976: 113))

Here, unlike in (2), where the same type of path phrases are coordinated, the two goal phrases are simply juxtaposed without and. What we need, therefore, is a generalization which accommodates these data in a unified way. In Section 2, it is shown that an analysis along the lines of the “Unique Path Constraint” advanced in Goldberg (1991) fails to give a plausible account of these facts. Another author, Kageyama (1996), calls the phenomenon in (3) the “double specification” of a goal. In Section 3, attempts are made to elucidate this unique phenomenon in ways which depart from previous studies. Section 4 is devoted to a deeper analysis of double specification, where we argue, first, that this phenomenon is rather a pervasive one: not only a spatial location but also a temporal one can be doubly specified. We also argue that there exists a second subtype to be subsumed under the same category. Section 5 deals with a more fundamental problem—why is a coordinator and necessary to conjoin two (or more) entities? The obligatory presence of the coordinator will be attributed to the dual function it performs: linking the two entities involved and also separating them. In addition, we claim that when the coordinator performs this latter function, what counts is not its lexical meaning but its physical size as intervening material. Section 6 provides concluding remarks.

2. Facts and Problems

Presented below are examples of coordinated constructions of path phrases given in Matsumoto (1997), who, however, merely notes that two or more prepositional phrases can be put in sequence to describe a motion path, without the issue of coordination being touched upon.

(4) He walked down the hill across the bridge and through the pasture to the chapel. (Matsumoto (1997: 134))

(5) There is a chapel across the river, through the meadow, and over the hill. (Matsumoto (1997: 221))
An expression such as (5) is considered by several authors (e.g. Langacker (1987), Talmy (1996), Matsumoto (1996)) to involve subjective or fictive motion which is argued to be implicit motion evoked in the mind of the speaker tracing an access path to some object.

When we compare coordinated constructions (2), (4) and (5) with a simple juxtaposed construction (1), it becomes evident that PATH should be divided into three subcategories: SOURCE, ROUTE (i.e. intermediate path) and GOAL.¹ This classification leads us to assume that juxtaposing different types of path phrases—namely, source, route and goal phrases, as in (1)—does not require *and* as a coordinator. It is also assumed that a sequence of the same type of path phrases, route phrases in the cases of (2), (4) and (5), must be organized into a coordinated structure. Thus a correct description of the relevant phenomena would be:

(6) The same type of path phrases arranged in sequence require a coordinator *and*.

A generalization along these lines is compatible with the general belief about constraints on coordination, to the effect that conjuncts of a coordinated structure must have the same semantic function (see, for example, Schachter (1977), Quirk et al. (1985) and Inada (1988)).

There are, however, some counterexamples to this generalization, which are exemplified in (7) and (8).

(7) John sent the book to New York to Bill. (Gruber (1976: 85))
(8) John ran into the room to the blackboard. (Gruber (1976: 113))

The two prepositional phrases in each of these sentences both represent goals, and thus generalization (6) predicts that those phrases should be coordinated with *and*, which, however, is contrary to fact. One notable property about these expressions is, as Gruber (1976: 82, 85) observes, that the prepositional phrases are arranged in order of increasing specificity; that is, they are linearly ordered from the general to the specific in their content. An explanation in these terms also ap-

¹ See Jackendoff (1983: 165) and Matsumoto (1997: 133) for this classification. They include an additional category, DIRECTION, to describe the subcategories of PATH. However, the inclusion or exclusion of this additional subcategory does not play a significant role in the present discussion.
plies to (9), which describes the simple location rather than the motion of an entity.

(9) The ruler is on the desk under the book.2

The two locative phrases here do not require a coordinating conjunction in between.

Given that (7) and (8) cannot be readily accounted for by generalization (6), we now appeal to an alternative constraint proposed by Goldberg (1991: 368), which is cited below:

(10) Unique Path (UP) Constraint: If an argument X refers to a physical object, then no more than one distinct path can be predicated of X within a single clause. The notion of a single path entails two things: 1) X cannot be predicated to move to two distinct locations at any given time t, and 2) the motion must trace a path within a single landscape.

This constraint is proposed to rule out infelicitous resultative3 as well as caused-motion constructions. Of the two specific stipulations given above, the one relevant here (i.e. relevant to constructions involving genuine motion) is the former, which is at work to make sentences such as (11) unacceptable.

(11) *Shirley sailed into the kitchen into the garden.  

(Goldberg (1991: 368))

Here the event of a person sailing into two distinct locations through two distinct paths is encoded into a single clause; hence anomaly results.

Now when we go back to felicitous expressions (7) and (8), which have the same type of path phrases juxtaposed, we see that these expressions do not run counter to the UP constraint since the moving en-

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2 This general-to-specific word order is permissible alongside the reversed, canonical local-to-global word order to define a location, as illustrated by:

(i) The ruler is under the book on the desk.

3 The UP constraint accounts for the co-occurrence restriction illustrated in the following sentence:

(i) *Sam kicked Bill black and blue out of the room.  

(Goldberg (1991: 368))

Here the resultative phrase black and blue is combined with the directional phrase out of the room. Since Goldberg (1991, 1995) considers the resultative construction to be a metaphorical extension of the caused-motion construction, (i) is counted as erroneously coding two distinct paths, one leading to the change of state and one to the change of physical location.
tity is seen as traveling one and the same path even though two different goals are specified.

On the basis of these observations, we now make the following assumption to replace (6):

(12) The same type of path phrases must be coordinated with a conjunction and except in cases where the moving entity is counted as traveling one and the same path.

However, we are again faced with problems. Even though (12) adequately describes (7) and (8), it fails to cover expressions such as (2), (4) and (5), which involve a conjunction. In each of those sentences, the two or three routes described are not disconnected or separated, but rather, they form a single line. In this sense, the moving entity can be argued to be tracing one and the same path. Therefore, assumption (12) predicts that a coordinator should be unnecessary between the path phrases. Yet, this prediction turns out to be wrong, since the absence of and in (2), (4) and (5) leads to the anomalous examples illustrated below.

(13) The ball flew over the fence *(and) across the street.
(14) He walked down the hill across the bridge *(and) through the pasture to the chapel.
(15) There is a chapel across the river, through the meadow, *(and) over the hill.

So far in this section, we have proposed two assumptions in turn to describe the relevant phenomena. However, both of the assumptions have proved to be empirically inadequate.

3. Solutions

In this section, we will explore possible solutions to the problem raised in the previous section.

We have seen that both of the assumptions proposed for the relevant phenomena have apparent counterexamples. Rather than abandoning these two assumptions, however, we will maintain the initially presented assumption in (6), repeated below as (16), and seek a plausible explanation for its alleged counterexamples (7) and (8), which are cited again as (17) and (18), respectively.

(16) The same type of path phrases arranged in sequence require a coordinator and.
(17) John sent the book to New York to Bill.
(18) John ran into the room to the blackboard.

Before developing our discussion further, attention will be focused briefly on the necessary and sufficient conditions for coordination in general.4

First, in order for entities to be organized into a coordinated construction, there must be at least two such entities involved, since a single entity cannot form coordination. This is best illustrated by citing examples of color terms. Just suppose that we now see a combination of two colors, green and yellow, and the boundary between the two colors is distinct. We perceive this whole picture as involving two colors and this perception is coded into a coordinated structure “green and yellow.” By contrast, when the same combination of two colors is merged into a single color and no boundary is recognized, we say, for example, “yellowish green” or “light green” without a coordinator, which reflects our perception of a single color this time.

A second condition for coordination is that the two (or more) entities involved be of the same type. This constraint has received consensus among scholars, but this generalization is oversimplified and has challenged many people to refine the definition. As a result, syntactic, semantic and pragmatic constraints have been proposed.5 In our discussion, however, we will not examine this point in any further detail.

As a third condition, mention should be made of the remark by Lang (1984: 273) that conjuncts must have exactly one feature which differentiates one from the other. His argument is justified when we consider the following asymmetry:

(19) a. Do you have any sons and daughters?
   
   b. *Do you have any brothers and uncles?

(Lang (1984: 273))

The conjuncts in the acceptable instance “differ as to just one feature specification,” while those in the unacceptable instance “differ in more than one feature specification (p. 273).”

Among the three conditions given above, the most relevant to the

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4 It should be noted that the three conditions presented below together constitute necessary and sufficient conditions for coordination in general. In other words, the entities involved will be organized into a coordinated construction if and only if those three conditions are satisfied.

5 For pragmatic constraints on coordination, see Grosu (1985) and Eguchi (2001).
discussion here is the first one, which dictates that there must be at least two entities involved in the formation of a coordinated structure. With this in mind, let us return to expressions (17) and (18). In these cases, does our intuition tell us that there are two distinct goals involved? A naive, non-analytic response would be “no,” since the moving entity is heading for one eventual goal. For a closer analysis of the phenomenon, let us recall Gruber’s remarks as noted in the previous section. According to him, the prepositional phrases in (17) and (18) are arranged in order of increasing specificity. Alternatively we could say that the specification of a goal made by the preceding phrase is refined or elaborated upon by the succeeding one. This same phenomenon is referred to by another author, Kageyama (1996: 221), as the “double specification” of a goal. Incorporating Kageyama’s terminology, we can describe the relevant phenomenon as a case of the location of a single, eventual goal being doubly specified by the two successive phrases. A point in our discussion is that there is only one goal involved here and that the preceding and the succeeding phrases together make contributions to the definition of its location. In that sense, the two phrases are mutually dependent in terms of their respective roles. The preceding phrase, into the room in the case of (18), complements the succeeding one to the blackboard by providing preliminary instructions as to which way the path is to extend, and thus facilitating a further specification by the latter phrase. The succeeding phrase, in turn, complements the preceding one by providing a more accurate specification of the location which the preceding phrase alone cannot achieve.

What is noteworthy in this connection is Kageyama’s (1996: 221) comments about (17) and (18). He notes that there is a part-whole relation established between the two goal phrases. This notion of a “part-whole relation” reminds us of analogous constructions as illustrated by (20a, b).

(20) a. Tom kicked John on the leg.
   b. Mary kissed John on the cheek.

Here it is evident that there is a part-whole relation defined in terms of spatial extension between John and his leg, or John and his cheek. If asked about (20a), for example, on how many parts of the body John received a kick from Tom, we say “only on one part” rather than “on two different parts.” More important, the two goal phrases (in the sense of the endpoint of the path the kick follows) cannot be conjoined
with *and*.

(21) *Tom kicked John and on the leg.

Now let us turn to (2), repeated below as (22), which has a sequence of route phrases connected with *and*.

(22) The ball flew over the fence and across the street.

One might argue that it is only one path that is involved here. This assumption is not groundless since the ball can be regarded as traveling one and the same path, as noted in Section 2. However, we take an alternative view instead, in which the moving entity is traveling *two* different parts of the same path, thereby satisfying the conditions for coordination mentioned above. Furthermore, as far as (22) is concerned, there is no part-whole relation established between the path phrases, unlike in (17) and (18); the routes covered by each of the prepositional phrases do not overlap. We also claim that the complementary relation as observed in (17) and (18) does not obtain here; each of the path phrases makes an entirely independent contribution to defining the relevant path. To support this line of argument, let us consider what happens when the hearer of (22), for one reason or another, fails to catch one of the path phrases, *over the fence*, for example. This phrase, due to the independent nature of its function, makes an essential contribution to the makeup of the whole extent of the path. In this case, therefore, the hearer’s identification of the whole path would be incomplete unless the missing material is restored in some way. What if the same mishap occurs in (17)? Let us suppose likewise that the hearer accidentally misses the preceding phrase *to New York*. It may well be that he achieves successful identification of the relevant path, though not an easy task, as long as he knows the whereabouts of Bill (i.e., that Bill is in New York).

For the reasons given above, there is no point in arguing that one and the same path is doubly specified by the serial phrases in (22).

On the basis of the observations made so far, the generalization we have aimed for can be formulated along the following lines:

(23) The same type of path phrases must be coordinated with a conjunction *and* except in cases where the successive phrases count as doubly specifying a single location.\(^6\)

\(^6\) Matsumoto (1996: 366) points out an intriguing phenomenon, which is illustrated in:
Below we will present a discussion verifying the adequacy of our present analysis.

We have claimed that a sentence such as (24) involves only one goal and so does not require a coordinator and.

(24) John ran into the room to the blackboard.

Curiously enough, native speakers' judgments are divided with regard to (25).

(25) John ran into the room and to the blackboard.

Specifically, one informant finds this sentence acceptable on the grounds that the whole extent of the path can be divided into two different phases which are mutually independent: one involving access to the room and one to the blackboard. Thus it is reasonable to assume that there are two different parts of the path involved here, as is the case in (22), and this is no longer a case of double specification. Hence a coordinated structure results.7

4. More on Double Specification

In the previous section, we have argued that successive path phrases of the same type must be organized into a coordinated construction and

( i ) There is a beautiful chapel across the river, through the meadow and (then) over the hill. (Matsumoto (1996: 365))

This is an example of subjective motion and involves a sequence of route phrases coordinated with and. Matsumoto refers to the possibility of then being added on the last prepositional phrase, and he presents this as evidence to suggest that the notion of temporality is involved, which in turn verifies the existence of (subjective) motion, he argues. It might seem, on intuitive grounds, that the coordinator originally has the notion of temporality and thus triggers the addition of then. However, we have seen that the coordinator and is required on grounds independent of the notion of temporality; that is, its use is mandatory due to the same type of path phrases being arranged in sequence. Thus (i) provides an interesting example which suggests a potential discrepancy between the linguistic motive for coordination and the cognition of the conceptualizer who mentally traces a path over some duration of time.7

In contrast, all the informants find (i) unacceptable.

( i ) "John sent the letter to New York and to Bill.

This is presumably because the preceding and the succeeding prepositional phrases involve a place and a person, respectively, and thus semantic parallelism is no longer maintained. One of the informants points out that as opposed to the goal phrase to Bill, the to New York is better analyzed as directional.
yet the case of a single location being doubly specified counts as exceptional to this generalization. In this section, a deeper analysis will be provided for the intriguing phenomenon of double specification.

First, it will be shown that this phenomenon is observed in simple locative and temporal expressions as well. Let us see (26), an expression of simple location which has no coordinator.

(26) The ruler is on the desk under the book.

The two locative phrases in (26) do not denote two different places which are separated from each other. Rather, the locations described are somehow overlapping; one is included in the other. This is evident when we consider the fact that in the real world, a single entity, a ruler in this case, cannot exist at two distinct places at any given time. Thus we can argue about (26) that a single location of the ruler is doubly specified by the two locative phrases, hence a structure without a coordinator.

See also examples (27)–(29). (28) shows a case of triple specification of a location by the phrases up, here and in the bedroom. (29) is uttered by a Japanese who is visiting, say, Britain.

(27) John is out in the garden.
(28) It's up here in the bedroom.
(29) Back in Japan, many companies are going through serious recession.

These expressions are noteworthy in that a directional phrase comes first in the relevant sequence. It still serves to orient the hearer in the right direction as an initial step and thus facilitates the specification of the location to be achieved by the succeeding phrases.

We can even find temporal expressions such as (30) and (31), which are again readily accounted for in terms of double specification.

(30) Back in ancient times, people had no means of transportation but to walk by themselves.
(31) Bill reminded him of the day years ago when they had first met. (J. W. Shlatter A Simple Gesture in Chicken Soup for the Soul, Health Communications, p. 43)

It is no surprise to observe such expressions if we see temporal expressions as metaphorical extensions of locative ones.

So far we have shown that not only a spatial but also a temporal location can be doubly (or, more accurately, multiply when faced with examples such as (28)) specified by two (or more) successive phrases. However, seen from a different angle, this same phenomenon shows
another interesting aspect. A closer examination reveals that there exists a second subtype which is to be subsumed under the category of double specification, as illustrated in (32).

(32) It's just opposite the hotel, next to the Tourist Information Center.

Here the second as well as the first locative phrase defines the location of the entity designated by it; a reading in which the second phrase defines the location of the hotel is impossible. Therefore, (32) counts as a case of double specification of a single location. In comparison with (26)–(31), however, (32) is unique in two respects. First, the two locative phrases in (32) offer the same degree of information in terms of specificity; neither of them is more general or specific than the other. Furthermore, as opposed to (26)–(31), a complementary relation between the two phrases holds only in one direction (and not the other way around): the succeeding phrase complements the preceding one in that it provides additional, though not more detailed, specification to ensure successful identification of the relevant location. Therefore we can still argue about (32) that the specification of a location made by the preceding phrase is somehow elaborated upon by the succeeding phrase. A second marked property of (32) is that the successive phrases are separated by a comma, which each of (26)–(31) lacks. If we assume that a comma in writing is approximately equivalent to a pause in speech, those two properties unique to (32) are given a unified account: the second phrase next to the Tourist Information Center, due to its additional, afterthought-like nature, is not presented in immediate succession to the first phrase just opposite the hotel; instead, it is presented after a momentary silence, hence the intervention of a comma in writing.

As is evident now, the separation of successive phrases by a comma in writing is seen as reflecting a momentary halt made by the speaker before providing additional specification. Speech occurs in an instantaneous situation and so utterances are often made without elaborate consideration of how the whole sentence is to be organized. It is then

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8 This reading is possible when the intervening comma is deleted. The issue will be dealt with again in Section 5.
predicted that a case of the relevant sequence being separated by a comma is not such an uncommon phenomenon, especially in spoken discourse. Below we present evidence which reinforces this prediction. The following sentences are all extracts from the transcripts of recorded material for language laboratory use (Listen for It, Oxford University Press). (34) is a response to the question asking the location of a detergent.

(33) It (=the coat)'s hanging over the chair, next to the door.
(34) On top of the refrigerator, in front of the bowls.
(35) There's an old bag up there. On the top shelf, in the middle.

For comparative purposes, counterparts without a comma are cited below from the same source. (37) is uttered by someone who has spotted a hairbrush he has been searching for.

(36) It (=the light switch)'s on the wall next to the calendar.
(37) Here, in the sofa under the cushion!

A general-specific relation between the two locative phrases in (33)–(35) varies from one instance to another. In (33), the respective degrees of specificity conveyed by the two phrases are equal; in (34) and (35), the phrases are ordered from the general to the specific. Despite these differences, however, the coding process of (33)–(35) can be described in a unified way: the speaker believes that he or she has completed the definition of the location at the point when the initial locative phrase is presented, and thus he or she comes to a halt; at this point, however, the speaker finds it safer to make further specification in order to ensure successful identification of the location on the part of the hearer. The short time lag which has occurred in between manifests itself as a comma in writing. On the other hand, the speaker of (36) and (37) intends to achieve double specification of the location from the outset. Thus no punctuation marks intervene between the successive locative phrases.

This line of argument is supported by considering (27)–(29) again, where a directional phrase stands first in the relevant sequence. In such a case, the directional phrase alone does not suffice for defining the location and so is often accompanied by an immediately succeeding locative phrase. It is for this reason that an expression such as (38) sounds quite awkward.

(38) The ball is up, on the roof.

To summarize the discussion in this section, it has been shown that the phenomenon of double specification is rather a pervasive one: a
path, a location and a time can be doubly specified by a sequence of relevant phrases. Next, a deeper analysis has been made for this phenomenon, which has revealed a second variety to be subsumed under the same category. The presence or absence of a comma between the serial phrases in the relevant constructions has been ascribed to whether the speaker decides to refine the specification of a location at the very beginning or at an intermediate point in the utterance.

5. Why Use a Coordinator for Semantic Coordination?

In Section 3, we have argued that, with a few exceptions, the same type of path phrases arranged in sequence must be organized into a coordinated structure. In this section, we will tackle a more fundamental problem—why do two (or more) entities of the same type require a coordinator and to conjoin them?—and seek to provide a psychologically plausible answer to this question.

Before discussing the issue in question, we will touch briefly upon a related subject, namely, to what extent is the coding of two entities into a coordinated construction grammaticized in English?

As discussed in Section 3 using examples of color terms, when we perceive two distinct entities of the same type, this perception is linguistically coded into the form "X and Y" in English. This principle seems to be strictly adhered to across the language. Among a few apparent exceptions is an expression such as "Some say yes, others no,"9 where two simplex clauses are conjoined with a comma. However, such a form is limited to those cases where the semantic contents of the two clauses are closely interrelated. In this sense, such an expression cannot, despite its superficial form, be counted as involving two distinct clauses. Rather, it is better analyzed as constituting one unitary proposition. Thus such linguistic data do not undermine our present view of the English language.10

9 An expression such as "a Japan-Korea conference" or "a spatio-temporal modifier" is also an exception to this rule.

10 Let us turn our attention to Japanese. To cite color terms in a parallel fashion to English, we say, for example, koo-haku 'red and white,' or shiro-kuro 'white and black,' neither of which has an overt coordinator. As analogous expressions, we can list joo-ge 'up and down,' achira-kochira 'here and there,' nori-ori...
Now we return to the issue raised above—why use a coordinator *and* to express semantic coordination? With regard to this fundamental question, we take the view that the requirement of the coordinator has a dual motivation: it is required, on the one hand, to link the entities involved, and on the other hand, to separate them. Below let us see the two functions of the coordinator in turn.

First, the coordinator, as its name suggests, serves to link two entities. This formal function has its reflex in the semantic function, which is to group several entities together into a set. It is due to this semantic function, we argue, that some kind of parallelism is required between conjuncts. This view of ours can be given a plausible account: entities which share maximal properties are most readily grouped together whereas entities which differ in many respects are likely to resist such grouping. It should also be pointed out that when this linking function of the conjunction is at issue, attention is focused on the lexical meaning of the conjunction *and* itself, which is distinct from that of, say, a disjunction *or*.

A second function performed by the coordinator *and* is that of separating two entities. The spatial distance between the relevant entities is greater when they are separated by the *and*. As is evident now, when we center our attention on this function of the conjunction as opposed to the linking function, we no longer take its meaning into

getting on and off and so on. As suggested by the English glosses in single quotes, notions which would be expressed with a coordinator in English, are coded without one in Japanese. On the basis of these facts, we are tempted to assume that the requirement of a coordinator is not so strictly operative in Japanese. However, those examples presented above are in some sense “fixed” expressions, and regular expressions mostly conform to the principle in question. Take, for example, expressions such as *aka *(to) *midori ‘red and green,’ *kore *(to) *sore ‘this and that’ and *hito *(to) *kuruma ‘a man and a car,’ all of which sound unnatural without a Japanese coordinator *to*.

These observations, along with the linguistic data from English, suggest that the requirement of a grammatical coordinator is universal in nature. However, Mithun (1988) holds a skeptical view about this issue, concluding her cross-linguistic study with the following remark (p. 357):

(i) Although the intonational linking of concepts seems to be universal in spoken discourse, the grammaticization of coordination is not. In some languages, coordination is not formally marked at all, while in others, it is marked systematically and obligatorily.
consideration; instead its size as a physical entity is all that counts. In this sense, the physical distance between two entities should be interpreted in iconic terms. A natural question to be addressed now is why we need to separate entities which are to be grouped together. In this connection, recall the argument made in Section 3 concerning the necessary and sufficient conditions for coordination. We have seen the third condition dictating that conjuncts must have one feature which differentiates one from the other. This argument has gained support from Eguchi (2001: 71, n. 7), who observes:

(39) Two entities which have exactly the same features cannot form coordination. Suppose, for example, that two apples are in our view. This perception is linguistically coded as "two apples." However, if our categorization about these apples discontinues at this point, we cannot say "an apple and an apple." Meanwhile, if our categorization proceeds one step further as to their size, for example, we can say "a big apple and a small one."

These arguments emphasize the dissimilarity which must exist between conjuncts, even though they may be identical in all other respects. A point in our discussion is that in order to stress the distinction of two entities, the boundary between them has to be clearly marked, which is best achieved by intervening material.

As supporting evidence for the separating function of the coordinator, we can cite linguistic data from Haiman (1983). His stance on the relevant phenomenon is mirrored in his observation that "the distance between expressions corresponds to the conceptual distance between ideas they represent (p. 782)." In his study, Haiman shows that there exists a semantic contrast between the coordinated structure of the form "S1 and S2" and the structure of simple juxtaposition of the form "S1 S2," citing cross-linguistic data from various sources. The following example of Fe'fe' Bamileke, an African language, is originally from Hyman (1971: 43):

(40) à kà gén ntée njwën lwà'.
he Past go market buy yams
'He went to the market and bought yams.'

11 A similar view is entertained by Givón (1990: 970–971).
Haiman (1983: 788) notes about this sentence that “when the clauses are merely juxtaposed, there is a strong implication that the events described in them took place at roughly the same time; but when the clauses are separated by ni (a coordinating conjunction), the meaning is slightly altered to ‘he went to the market and also (at some later date) bought yams.’” Elsewhere (pp. 788–789), Haiman gives examples which show that clauses separated by a conjunction denote events having a different subject or topic, which reveals a striking contrast to simply juxtaposed clauses sharing a common subject or topic. Thus constituents interrupted by a coordinator are semantically dissociated, he argues.

If what matters is the physical size of the intervening material, as is assumed here, then it is naturally predicted that the conceptual distance between the two entities of the units “E(ntity)1 and E2,” “E1, E2” and “E1 E2” will decrease in this order in accord with the increasing proximity of the relevant entities. It is not a difficult task to find empirical facts to justify this assumption. First, as discussed earlier in this section, two independent clauses are in general conjoined with and. However, when their semantic contents are closely related as in (41), they can be conjoined with a comma. Thus conceptual intimateness between the clauses in (41) is reflected in the diminished size of the intervening material.

(41) Some say yes, others no.

Next, consider the expression in (42), introduced above as (32).

(42) It’s just opposite the hotel, next to the Tourist Information Center.

We have seen that both of the locative phrases define the location of the entity designated by the it. If the intervening comma is omitted, however, this reading is no longer possible; instead the succeeding locative phrase must be taken to identify the location of the hotel. Thus as far as this example is concerned, the omission of the comma blurs the boundary between the locative phrases, thereby forcing an interpretation which associates them.

The discussion so far will suffice to show that the physical size of the intervening material between entities has semantic significance, and also that the coordinator and performs a separating as well as a linking function.

We are now in a position to address the question raised at the outset of this section—why use a coordinator and to conjoin two entities of
the same type? First, the coordinator is required to connect two similar entities, thereby grouping them into a set. Second, the coordinator is necessary to separate two different entities, thus establishing a distinct boundary between them.

Lastly, just because more space has been devoted to discussing the separating function of a coordinator does not mean that this function is primary, and the linking function secondary. We claim instead that the coordinator fulfills both functions to the same degree. The preceding discussion certainly might have stressed the separating function of the coordinator, but when we compare the form “S1 and S2” with “S1. S2,” which is separated by a period, it is evident that the two clauses in the former are perceived as conceptually closer. If two clauses are recognized as totally independent of each other, they are not organized into a coordinated structure, to begin with. Therefore, we should be aware of the twofold functions performed simultaneously by the coordinator.

6. Conclusion

In this paper, we have dealt with coordinated constructions involving path phrases, and proposed a generalization that a sequence of path phrases of the same type must be conjoined with a coordinator. We have also sought a plausible explanation for its apparent counterexamples, a case of a single location being doubly specified by serial phrases. For expository purposes, notions such as a “complementary relation” or a “part-whole relation” have been introduced. A closer examination of “double-specification” constructions has revealed a second subtype to be subsumed under the same category, where neither a two-way complementary nor a part-whole relation obtains. Another marked property of this subtype is that it is accompanied by a comma in between, which indicates the additional nature of the succeeding phrase. Lastly, we have tackled a more fundamental question of why a coordinator and is required to express semantic coordination. We have pointed out twofold functions performed by the coordinator and argued that the coordinator is necessary to link two (or more) entities, thereby grouping them into a set, and to separate those entities, thus establishing a distinct boundary dividing them.
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