**Actions and Events in Plural Discourse**

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**1. Introduction**

Plural discourse may be understood syntactically or semantically, depending on whether one focuses on grammatically plural terms (*we*, *they*, *those*, *them*, *the men*, *some politicians*, *all tigers*, *most philosophers*, *two columns*, etc.) or simply on terms that refer to collectives or groups,[[1]](#endnote-2) whether grammatically plural or singular (*the Foreign Legion*, *the Supreme Court*, *the British Parliament*, *the Paris mob*, etc.). This chapter is concerned with plural discourse in the grammatical sense. The goal of the chapter is to urge the value of the event analysis of the matrix of action sentences in thinking about logical form in plural discourse about action. Among the claims advanced are that:

1. The ambiguity between distributive and collective readings of plural action sentences is not lexical ambiguity, either in the noun phrase (NP) or in the verb phrase (VP), but an ambiguity tracing to the scope of the event quantifier introduced by the action verb.[[2]](#endnote-3)
2. This allows us to analyze collective action sentences in a way that commits us only to individual agents acting when we say that groups act, without denying that there are groups as such or that we talk about them as such.
3. Intermediate readings, that seem to be neither purely distributive nor purely collective, can be explained in terms of the same apparatus.

The following methodological principles guide the inquiry:

1. We should respect common sense.
2. We should not multiply senses beyond necessity.
3. We should make use of tools already developed and introduce new devices only if needed.
4. We should develop an account of the structure and content of discourse about collective actions on the basis of an account of the structure and content of discourse about individual actions.

Section 2 develops the event analysis of singular action sentences. Section 3 applies it to plural discourse about action and section 4 summarizes.

**2. The Event Analysis of Action Sentences**

The standard event analysis of [1], introduced to provide a handle on the logic of adverbs, is given in [1a].[[3]](#endnote-4)

[1] Brutus stabbed Caesar [violently] [with a knife] [on the Ides of March].

[1a] (∃e)(agent(e, Brutus) & stabbing(e) & object(e, Caesar) & with(e, a knife) & on(e, the Ides of March)).

There is an event e such that Brutus is agent of e, e is a stabbing, e's object is Caesar, e was done with a knife, and e was done on the Ides of March.

[1a] treats adverbs as contributing predicates of an event variable bound by a quantifier introduced by the action verb, and separates out the thematic role of agent and object. This analysis explains why [1] implies each of the sentences got from it by dropping one or more of the adverbial modifiers (i.e., modifier drop entailment), as well as why it follows from [1] that there was a stabbing (see note (c) below), that someone was stabbed (which can happen without there being an agent), that someone did something, that something happened to someone, and that something happened.

[1a] is deficient in four respects, however. First, it ignores tense. Second, it does not secure that there was a stabbing of which Brutus was the sole agent.[[4]](#endnote-5) If Brutus build the first half of a boat and Cassius second half, neither gets to say he built a boat, though they can say that they did. Third, we need to add a parameter that captures the contribution of the verb to determining what specific agency relation the agent is to bear to the event he brings about. For example, being an agent of someone's death is not sufficient for me to have killed him. If I hire an assassin to kill him, it is the assassin who kills him and not me. Fourth, we require a second quantifier over events to capture the distinction between the primitive action the agent performs and the different consequences, which may be captured by different verbs, of what he thereby brings about. Otherwise, we have to identify the action performed with the value of the single event variable. But if Booth shot Lincoln with a gun and pulled the trigger with his finger, and it was one and the same action, we get the result that Booth shot Lincoln with his finger.[[5]](#endnote-6)

I represent the result of adding all the appropriate modifications at once in [1b].

[1b] (∃e)[∃t: t < now](∃f)([agent(f, t, Brutus) & directly(f, e)] &

[only y = Brutus][∃t': t' < now](∃f')[agent(f', t', y) & directly(f', e)] &

stabbing(e) & object(e, Caesar) & with(e, a knife) & on(t, the Ides of March)).

There is an event e, there is a time before the present, and there is an event f such that: Brutus is a primitive agent of f at t & f brings e about directly & only Brutus is a primitive agent of an event before the present that brings e about directly and e is a stabbing and Caesar is an object of e and e is done with a knife and t was during the Ides of March.

Notes:

1. Tense I treat as a restricted quantifier over times, related in one way or another to utterance time, binding argument places implicit in the predicates, excepting the present tense which is equivalent to putting an indexical whose value is the time of utterance in the temporal argument position of the verb.
2. I locate the temporal argument place in the agency relation, for intuitively someone did something characterized by some consequence *when* he performed a primitive action that led to it. (Suppose I put poison in your curry this summer. I die in an automobile accident in the fall. You first use the curry for a winter stew and die as a result. What I did to kill you occurred in the summer. I wasn't doing anything when you died.)
3. In the representation of logical form, I use the present participle of the action verb to represent what we understand to be the type of event which one's primitive action brings about (where *bringing about* is a determinable of which causation is just one determinate), where the type is neutral with respect to whether anyone brought it about. Some action verbs have intransitive forms that express the appropriate event type. For example, if I melted the chocolate, then chocolate melted. The chocolate could melted, though, without anyone melting it. But not all verbs have appropriate intransitive forms. I press the present participle into service for this purpose uniformly. The primitive action is in the case of [1] is the movement of the arm and hand that holds the knife. The consequent event is (roughly) the insertion into an object of another object, which results in the violent parting of the matter that constitutes it.
4. The verb 'stabs' requires, like 'kill', a form of direct agency in which what I do to bring about the result does not go primarily through the agency of another (hiring another to stab someone is not to stab him). I represent this as a two place predicate 'directly(f, e)'.
5. The requirement that there be a sole agent of the event for a singular action sentence I represent by the conjunct:

[only y = Brutus](∃t': t' < n)(∃f')[agent(f', t', y) & directly(f', e)].

For convenience, I will introduce the following abbreviation:

agentd(f, t, e, just Brutus)

=df

[agent(f, t, Brutus) & directly(f, e)] & (only y = Brutus)(∃t': t' < n)(∃f')[agent(f', t', y) & directly(f', e)].

1. With a quantifier over times, I treat 'on the Ides of March' as a predicate of the temporal variable rather than an event variable.
2. I call the quantifier binding the event variable 'f' in the agency relation the primitive action quantifier and the other the consequent event quantifier.

We represent the form of the matrix for an arbitrary action sentence whose verb is inflected for the past tense, which has a direct object, and is modified by an adverb, as in [M], where for notational convenience I include an argument place for the object O in the event type predicate.

x V-ed O F-ly

[M] (∃e)[∃t: t < now](∃f)(agentd(f, t, e, just x) & V-ing(e, O) & F(e))

The next question is how the matrix interacts with plural NPs in the subject position.

**3. Plural Action Sentences**

It is well known that many plural action sentences admit of an ambiguity between a plural and a distributive reading (2-4). Some in contrast seem to have only a distributive reading (5-6), and some seem to have only a collective reading (8-11). Arguable, some admit readings that are neither purely distributive nor purely collective (11-12).

[2] They lifted a piano.

[3] Antony and Cleopatra built a pleasure barge.

[4] The players sang the national anthem.

[5] They played solitaire.

[6] The quarterbacks pass the ball.

[7] They surrounded the house.

[8] Some protesters gathered in the park.

[9] We met in the library.

[10] The Justices ruled that segregation is unconstitutional in Brown vs. Board of Education.

[11] Rodgers, Hart and Hammerstein wrote musicals.[[6]](#endnote-7)

[12] Helen and Bill and Bud and Pearl contributed $100 to charity.

The distributive reading in 5-6 seems forced by the meaning of the VP, and likewise the collective reading in 7-8 seems forced by the meaning of the VP. We return to these later.

But in general the distributive/collective readings are not due to the meaning of the verb because that is the same on both readings of 2-4. One might postulate an ambiguity in the VP ([Hoeksema 1983](#_ENREF_9); [Dowty 1986](#_ENREF_4); [Link 1987](#_ENREF_15); [Lasersohn 1989](#_ENREF_12), [1995](#_ENREF_13)) but this fails because [13], unlike [14], is not zeugmatic, that is, in[13], in contrast to [14,] there is not the slightest hint infelicity as the one meaning is distributed across clauses ([Zwicky and Sadock 1975](#_ENREF_35)).

[13] They lifted the piano together and individually.

[14] He bored a hole and his audience.

The matrix of [2] is [2m]. On the distributive reading, it is clear that the truth conditions are that each of them satisfies the matrix. This requires us to read the NP as a restricted quantifier over members of the group picked out by the plural subject term (call this *a distributive quantifier*), as in [2d].

[2m] (∃e)[∃t: t < now](∃f)(agentd(f, t, e, just x) & lifting(e, a piano)).

[2d] [Each x of them](∃e)(∃t: t < now)(∃f)(agentd(f, t, e, just x) & lifting(e, a piano)).

Each of them lifted a piano.

How should we understand the collective reading? One popular option is to take the NP to be ambiguous ([Lakoff 1972](#_ENREF_10); [Link 1983](#_ENREF_14); [Gillon 1987](#_ENREF_5); [Landman 1989](#_ENREF_11); [Gillon 1990](#_ENREF_6); [Link 1991](#_ENREF_16); [Gillon 1992](#_ENREF_7)).[[7]](#endnote-8) The most straightforward way is to take it on the collective reading to be a bare plural referring term, as opposed to a distributive quantifier, that occupies directly the agency relation in the matrix. This would commit us to the existence of genuine group agents in accepting the truth of sentences like [2] on the collective reading. But the NP ambiguity thesis is implausible, unnecessary, unable to handle all of the data. It is implausible because it commits us to group agents per se even when two people do something together unintentionally (e.g., block a doorway). It cannot handle all the data because, for example, if we use 'they' in [15] to refer to a group as such, as shown in [15'], the reading of [15] on which they jointly carry the piano upstairs and each gets a cookie, is unavailable.[[8]](#endnote-9)

[15] They carried the piano upstairs and got a cookie as a reward.

[15'] (∃e)[∃t: t < now](∃f)(agentd(f, t, e, just them) & carrying(e, a piano) & to(e, upstairs) & (∃e')getting(e', they, a cookie)).

The carried the piano upstairs together and got a cookie collectively.

Finally, it is unnecessary because the use of a distributive quantifier together with a difference in how we treat the scope of the consequent event quantifier yields the collective reading. The idea is to give the event quantifier wide scope over the distributive quantifier, so that instead of saying that for every one of them there was an event of lifting of which he was the agent, we say there was an event of lifting of which each of them was an agent. This has to be developed in stages though, to get it exactly right. First we drop the NP into the argument position in the matrix as in [2']. We expand [2'] as in [2''] (adjusting form for grammatical position), but now introduce a variable for a group (using capital letters) in the clause requiring there be a single appropriate agent.

[2'] (∃e)[∃t: t < now](∃f)(agentd(f, t, e, just them) & lifting(e, a piano)).

[2''] (∃e)[∃t: t < now](∃f)([agent(f, t, they) & directly(f, e)] & (only Y = them)(∃t': t' < now)(∃f')[agent(f', t', y) & directly(f', e)] & lifting(e, a piano)).

We take the appearance of 'they' as a restricted quantifier over members of the group, '(Each x of them)', represented for convenience as '(theyx)' and pull it out but give it narrow scope with respect to the consequent event quantifier as in [2'''].

[2'''] (∃e)[∃t: t < now](∃f)(∃e)(theyx)([agent(f, t, x) & directly(f, e)] & (only Y = them)(∃t': t' < now)(∃f')[agent(f', t', y) & directly(f', e)] & lifting(e, a piano)).

There remains the question how to treat the other appearance of 'them' in the clause requiring there be a single agent in the relevant way of the consequent event. The uniqueness clause says that only groups identical with *them* are agents in the relevant way of the event: (Only Y = them). We observe first that '[only y = x]Fy' is equivalent to '[All y: y ≠ x]~Fy'. We want 'y' in 'Fy' to remain an individual variable, so we want to replace 'y' with 'Y' and add a distributive quantifier 'Yy', and we want to replace 'x' with 'themx', but, given its position, to treat it as a negative polarity item, i.e., equivalent to 'any one of them'. This gives us '[All Y: (Yy)(~(y = any one of them)]~Fy'. This is equivalent to saying that for any group, any member y of it not identical to any (that is, not identical to at least one) of the members of them is not F. This is equivalent to saying only members of them are F. Thus, we can replace 'only Y = them' with '[only y in them]', which gives us: [only y in them][∃t': t' < now](∃f')[agent(f', t', y) & directly(f', e)]. This ensures that no agents other than members of the group are agents of the consequent event in the relevant way. This finally gives us [2c]. Again, we can abbreviate, as shown.

[2c] (∃e)[theyx][∃t: t < now](∃f)([agent(f, t, x) & directly(f, e)] & (only y in them)(∃t': t' < now)(∃f')[agent(f', t', y) & directly(f', e)] & lifting(e, a piano)).

=df

(∃e)[theyx][∃t: t < now](∃f)(agentd(f, t, e, x, them) & lifting(e, a piano)).

There is an event e such that each of them at some time did something that contributed directly to e and e is an event of a piano going up.

Clearly, if [2c] is true, then so is [2], and vice versa. So we have intuitively the right truth conditions for [2] on the collective reading. Thus, the distributive/collective ambiguity traces to a scope ambiguity. This analysis handles [15], repeated here, straightforwardly, in [15a].

[15] They carried the piano upstairs and got a cookie as a reward.

[15a] (∃e)[theyx][∃t: t < now](∃f)(agentd(f, t, e, x, them) &

carrying(e, a piano) & to(e, upstairs) &

(∃e')[∃t': t' > t](receiving(e', t', x, a cookie))).

Some event e is such that each of x them is such that: at some time t, x is a direct agent of e at t and e is the piano going upstairs and there is an e' and a time t' later than t such that e' is an event of x receiving a cookie at t' as a reward.

The initial quantifier over members of the group binds the argument place in the scope of the event quantifier in the second embedded conjunct, and so makes room for the reading on which there is a separate getting of a cookie for each.

Let me now treat [3] and [4], repeated here, to illustrating how the account extends to other plural NPs.

[3] Antony and Cleopatra built a pleasure barge.

[4] The players sang the national anthem.

For the collective reading of [3] one could take the conjunctive NP to be a special type of referring term receiving the clause [RC] (where for now we take the metalinguistic variables to range over ordinary proper names):

[RC] For any N1, N2, N3, … for any X, Ref(CONJ(N1, N2, N3, …)) = X iff Ref(N1) is in X and Ref(N2) is in X and Ref(N3) is in X … and nothing else is.[[9]](#endnote-10)

Then we would analyze [3] on the collective reading as in [3c].

[3c] (∃e)[{Antony and Cleopatra}x][∃t: t < now](∃f)(agentd(f, t, e, x, {Anthony and Cleopatra}) & building(e, a pleasure barge)).

In the case of the collective reading of [4], we treat 'The players' as introducing a group description and distributive quantifier over members of the group of players: (The X: X is a group each member of which is a player)(every x of X). Let's abbreviate the restriction in the first to 'player(X)'. Then we have:

[4c] (∃e)[the X: players(X)][Xx][∃t: t < now](∃f)(agentd(f, t, e, x, X) & singing(e, the national anthem)).

But if the ambiguity in 2-4 is a scope ambiguity, why does there not seem to be an ambiguity in 5-6 and 7-10 (repeated here)?

[5] They played solitaire.

[Each x of them](x played solitaire).

[6] The quarterbacks passed the ball.

[the X: quarterbacks(X)](Xx)(x passed the ball).

[7] They surrounded the house.

(∃s)[Each x of them][∃t: t < now](∃f)(agentd(f, t, s, x, them) & surrounding(s, them, the house)).[[10]](#endnote-11)

[8] Some protesters gathered in the park.

(∃e)[the X: protesters(X)][Xx][∃t: t < now](∃f)(agentd(f, t, e, x, X) & gathering(e, X, the park)).

[9] We met in the library.

(∃e)[Each x of us][∃t: t < now](∃f)(agentd(f, t, e, x, we) & meeting(e) and in(e, the library)).

[10] The justices ruled that segregation is unconstitutional in *Brown vs. Board of Education*.

(∃e)[the X: justices(X)][Xx][∃t: t < now](∃f)(agentc(f, t, e, x, X) & ruling(e) and content(e, segregation is unconstitutional) & in(e, *Brown vs. Board of Education*)).[[11]](#endnote-12)

The answer is that one of the semantically available readings is dismissed out of hand because the content of the predicate ensures that it is false. Thus, the collective reading of [5] requires that there be an event of playing solitaire of which there are multiple agents in the way required by the predicate, but the predicate requires that there be just one. Similarly, the distributive reading of [9] requires that each person be an agent by himself of an event type requiring two agents. The same goes for [10]. [7] and [8], however, are different. These are often classified incorrectly as involving predicates that semantically require groups. But this isn't so. An amoeba can surround its food, and the elastic Mr. Fantastic of the Fantastic Four of comic book fame could presumably surround the house by himself. Even gathering is something that a single agent of an appropriate sort could do. An amoeba (or Mr. Fantastic) could gather itself (himself) together in a smaller area. It is just that for many typical applications involving groups the members of the group cannot individually bring about what the verb expresses, and so we hear only the collective reading.

This brings us to the intermediate cases [11]-[12], repeated here.

[11] Rodgers, Hart and Hammerstein wrote musicals.

[12] Helen and Bill and Bud and Pearl contributed $100 to charity.

Rodgers, Hart and Hammerstein did not write any musicals together. But did, but the three did not, and neither did each of them individually. But it has been suggested that there is a reading of [11] which is true ([Gillon 1987](#_ENREF_5)) because Rodgers and Hart wrote musicals together and Rodgers and Hammerstein did too. In the case of [12], we are to imagine a reading on which Helen and Bill together contributed $100 to charity and Bud and Pearl together likewise, but not all of them together or individually, or in other groupings.

Supposing that there is a literal reading of [11] true in the circumstances (as opposed to something that in light of background information we succeed in finding a point to), how do we get the right reading? In answering this, let’s take up [12] first. Here the answer is an extension of our earlier approach to conjunctive NPs involving names. Let the metalinguistic quantifiers in our reference clause [RC], repeated here, range over both ordinary and what we will call conjunctive names.

[RC] For any N1, N2, N3, … for any X, Ref(CONJ(N1, N2, N3, …)) = X iff Ref(N1) is in X and Ref(N2) is in X and Ref(N3) is in X … and nothing else is.

Then we read the NP in [12] as:

(Helen and Bill) and (Bud and Pearl).

Then apply our earlier pattern to this to get [12']:

[12'] [{(Helen and Bill) and (Bud and Pearl)}X](∃e)[Xx][∃t: t < now](∃f)(agentd(f, t, e, x, X)] & contributing(e, a charity, $100)).

So we first treat the NP as a distributive quantifier over groups in a group, then in the scope of the event quantifier we have a distributive quantifier over members of each of them in turn.[[12]](#endnote-13)

Now the solution to [11] is clear. To get the right reading, we read 'Rodgers, Hart and Hammerstein' as 'Rodgers × (Hart and Hammerstein)' which is '(Rodgers and Hart) and (Rodgers and Hammerstein)'.

Is there a reading of [11] on which it is open what groups among Rodgers, Hart, and Hammerstein wrote musicals? Let's change the example to [16] illustrate the idea here. Is there a reading of [16] on which there is more than one event of meeting and none involve all six girls, but every one of six girls is involved in one meeting at the library with at least one of the others?

[16] Six girls met in the library.

Plausibly there is a reading of [16] on which it means that each of the girls met with one or more of the others in the library.

For a clue to what to say about this, we turn to a different construction involving a verb that expresses a collective action but which takes singular NPs that refer to individuals as subjects, as in [17].

[17] Helen got married.

Helen couldn't have got married alone. We understand 'Helen got married' to mean that Helen married someone. I take marriage to be a state of two people, and marrying to be being an agent of coming to be in the state of marriage.[[13]](#endnote-14) With these points in hand, I suggest the logical form of [17] is [17'].

[17'] (∃s)[∃X: Helen is in X][Xx][∃t: t < now](∃f)([agent(f, t, s, x, X) & constitutes(f, s)] & (∃y: y is in X)marrying(s, Helen, y)).

We allow more agents of the marrying than those between whom it is, e.g., a judge or a minister, and take the contributions to it to be (at least in part) constitutive rather than merely causal. However, the position in ‘marrying(s, x ,y)’ occupied by ‘x’ is understood to be that of a participant in the state of marriage that results.

This shows that intransitive verbs taking singular NPs that imply the involvement of others have to be implicitly completed with a quantifier, either fixed by semantic rules attaching to the sentence form or supplied contextually.

We apply the idea of implicit quantificational structure to [16]. [16] appears to admit of a number of different readings. We may read its as 'Six girls met together in the library', which requires a single meeting event involving all six. Another is 'Six girls met each other', for nine pairwise meetings. Another is that every one of them met at least one or more of the others—the target interpretation here. These readings just represent different ways of filling quantification structures not fixed by the surface form. How we read it is context sensitive to context. The last of these readings is given by:

[16'] [∃X: six-girls(X)][Xx](∃e)[∃t: t < now](∃f)(agent(f, t, e, x) & meeting(e) & (∃Y ≠ X: x is not in Y, every member of Y is in X, and no member of Y is not in X)(with(e, x, every z in Y or some z in Y) & in(e, the library)).

This approach can be pursued with [11] if it is thought to leave matters more open than the suggested approach. Thus, it appears that the intermediate readings can be expressed easily enough using just the materials provided by the event analysis, and the ambiguities involved can be understood to be due to various ways in which we are free to complete the quantificational scheme required by the semantic structure of the predicates.[[14]](#endnote-15)

Thus, on this approach, the answer to the question what it is for a group to do something collectively or jointly is for each of them and no one else to be an agent of one event (or state) by way of some individual contribution (of a specified kind) to its coming about.

**5. Summary**

In summary, the event analysis of the matrix of action sentences provides resources for giving a straightforward and intuitively compelling account of ambiguities in plural actions sentences between distributive, collective, and intermediate readings. Collective action, on this account, is simply a matter of there being multiple agents of a single event through individual contributions to them. An immediate consequence is that collection action may fail to be intentional under any description. The approach is deflationary in the sense that, while it accepts groups in our ontology, it assigns the role of agent only to individuals who are members of those groups, which is the commonsense view. It has the virtue of making use in the account only of materials that we are already committed to, of minimizing multiplication of senses, and of handling the data better than views that locate the ambiguity in the plural NPs or in the VPs.

Related Topics

Collective Action and Agency (Ch. 1), Reductive Views of Shared Intention (Ch. 3), Distributive Cognitive Systems (Ch. 18), Logic and Plurals (Ch. 37), Plural and Collective Noun Phrases (ch. 38),

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NOTES

1. By a group I mean whatever it is that we use plural terms like 'we', 'they', 'those', etc., to refer to—things like couples, pairs, collections, etc. But I do not have a topic neutral conception of them. Groups, as I understand them, are neither sets nor (mereological) sums (where individuals are treated as parts of the sum, which is another, complex, individual). So though the approach sketched here to plural action sentences is Singularist in the sense of ([Oliver and Smiley 2013](#_ENREF_27)), it conforms to neither of the Singularist views they criticize. (See the discussion also in chapters 37 and 38 of this volume, which discuss only set and sum versions of Singularism.) Why are groups not sets? They differ in what can be predicated of them truly. While a group of boxes (those boxes) may weigh 250 kg and take up space, no set does, as opposed to the collection of its members. There is an empty set, but no empty group. There is a singleton set, but all groups have at least two members. However, like sets, groups are individuated by their members, and groups can have groups as well as individuals as members. It makes sense to talk, for example, of those pairs of dancers who advanced to the final round of the competition. Intuitively groups are constructed hierarchically, starting with groups of individuals, then groups of groups of individuals, and so on. The relation of 'is a member of ' (or 'is in' or 'is one of') relates only lower to higher orders in the hierarchy and is otherwise undefined. Therefore groups do not give rise paradoxes analogous to those of unrestricted set abstraction. The foregoing shows that groups are not sums because while groups can have groups as members, they do not thereby have the members of those groups as members, and thus the membership relation is distinct from the parthood relation. Talk of institutional groups, which may seem not to be individuated by their members since they can change over time and could have been different than they are, can be explained in terms of a socially constructed membership relation, which is a time relative status function, and the ontology of groups required by plural referring terms ([Ludwig 2014](#_ENREF_22), [2017](#_ENREF_24)). [↑](#endnote-ref-2)
2. I have argued for this in ([Ludwig 2007a](#_ENREF_19), [2007b](#_ENREF_20), [2016](#_ENREF_23)). See ([Schein 1993](#_ENREF_30), [2002](#_ENREF_31), [2006](#_ENREF_32), [2010](#_ENREF_33)) for extensive work on plurals in the event framework. My analysis of action sentences differs in the treatment of tense, the introduction of a quantifier over primitive events, the treatment of the verb as introducing a constraint on the form of agency expressed, and some other details. Oliver and Smiley ([Oliver and Smiley 2001](#_ENREF_26), [2013](#_ENREF_27)) discuss this general type of approach and trace it back to ([McCawley 1968](#_ENREF_25)) and ([Barsch 1973](#_ENREF_1)). [↑](#endnote-ref-3)
3. The locus classicus is ([Davidson 1967](#_ENREF_2)). See ([Ludwig 2010](#_ENREF_21)) for a review of the basic considerations in favor of the event analysis and (Ludwig 2016) for a fuller defense of this approach to plural action sentences. See (Ludwig 2017) for an extension to grammatically singular group action sentences. [↑](#endnote-ref-4)
4. This requirement is typically overlooked. I introduced it in ([Ludwig 2007a](#_ENREF_19)), but ([Oliver and Smiley 2001](#_ENREF_26)) anticipated me. There are differences in the implementation because of the complications introduced by the third and fourth points in this paragraph. [↑](#endnote-ref-5)
5. I borrow the example from ([Pietroski 2003](#_ENREF_29)) who suggests introducing an additional quantifier. The problem was first raised in an unpublished paper by John Wallace (reported in ([Parsons 1980](#_ENREF_28)), and later independently by ([Vendler 1984](#_ENREF_34); [Lombard 1985](#_ENREF_17)). Davidson proposed informally essentially the solution that Pietroski does in ([Davidson 1985](#_ENREF_3)). [↑](#endnote-ref-6)
6. The example is from ([Gillon 1987](#_ENREF_5)) who suggests it has an intermediate reading, neither all together nor each individually. [↑](#endnote-ref-7)
7. I don't say that the NP ambiguity thesis is incorrect in every case. For example, some predicates apply indifferently to individuals and groups, and in these cases the ambiguity is plausibly due to an ambiguity between a distributive quantifier and a simple referring term. 'The boxes weigh 150 kg' is ambiguous between a distributive and collective reading, but on the collective reading it is the boxes collectively that we say weigh 15O kg. [↑](#endnote-ref-8)
8. Adapted from ([Lønning 2011: p. 1021](#_ENREF_18)). Smiley and Oliver ([Oliver and Smiley 2001](#_ENREF_26), [2013](#_ENREF_27)) make this point, attributing it to ([Lasersohn 1995: , ch. 7 sec. 3](#_ENREF_13)), who attributes it to ([Dowty 1986](#_ENREF_4)). Hausser gives the example (noted in Lasersohn) of 'Horses gather and graze' in ([Hausser 1974](#_ENREF_8)). As Smiley and Oliver point out, it is not an option to distribute 'they' first and then interpret it differently in each place because that yields the wrong result for something like 'Some of the boys carried the piano upstairs and got a cookie as a reward'. [↑](#endnote-ref-9)
9. What if every name in a conjunctive name names the same thing? As it stands [RC] requires the referent to be singleton group, but there are none. For this case we need another clause, but I will forgo adding it in this context. This requires also making the distributive quantifier a bit more complex. See ([Ludwig 2016: : Ch. 10](#_ENREF_23)) for discussion. [↑](#endnote-ref-10)
10. I take 'surround' here to be an action verb but directed at bringing about a state rather than an event, the same state that trees or a moat are in when they surround a house or a castle, where here 'surround' is not used as an action verb. [↑](#endnote-ref-11)
11. I subscript the agency relation here with 'c' to indicate that the form of agency required includes that the justices do something that partially constitutes the ruling being made and not merely contribute causally. [↑](#endnote-ref-12)
12. Some NPs may mix names of group and individuals, e.g., Helen and (Bud and Pearl) contributed $100 to charity. This requires some modifications to the treatment. See ([Ludwig 2016: : Ch. 10](#_ENREF_23)) for further discussion of refinements needed for this and other cases, and an different treatment for conjunctive NPs with numerals. [↑](#endnote-ref-13)
13. We also say that the minister married Bud and Pearl, but this expresses a different role in the act, that of officiating. If the minister marries Pearl, he enters into the marriage state. If he married Bud and Pearl, he enters them into the marriage state (with their cooperation). We might say, the minister married Pearl, meaning he officiated, but this is short for he married her to someone. Thanks to Katherine Ritchie for the observation. [↑](#endnote-ref-14)
14. See ([Ludwig 2016: : Ch. 10, esp. note 25](#_ENREF_23)) for more discussion of the context sensitivity of hidden quantificational structure, and some other constructions, such as reciprocals and cumulative readings. [↑](#endnote-ref-15)