VISION AND FOUR TYPES OF EVENT

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1. Introduction

Modes of Discourse is a study of discourse, focusing on discourse dynamics such as how the semantic or pragmatic content of a sentence is carried over to the next sentences. Based on her previous papers (e.g. Smith (1991, 1999), Carlota S. Smith extends to the framework of Discourse Representation Theory (DRT) her idea that modes of discourse are requisite for a text analysis, which has been rather deliberately ignored in theoretical linguistics. In this book, inheriting traditional studies of written text analysis, she proposes that five modes, the Narrative, Report, Descriptive, Information and Argument modes, play a significant role in text composition. According to her analysis, a text is woven with one (or a combination) of these Discourse modes, and how tense and aspect work in the text depends on the mode used.

The book consists of four Parts. Part I is an introduction, in which she introduces the concept of “discourse modes,” and examines their

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stylistic properties in various texts. In Part II, she concentrates on the temporal dynamics of three modes (out of the five modes that she proposes), and incorporates the dynamics in the DR framework. Part III is devoted to a study of subjectivity and other subjective functions such as topic-comment partition and focus. The last is Part IV, in which she puts together the analyses made in the previous Parts, especially focusing on subjectivity and its application to the DR framework.

The book is a good guide for readers who are interested in text analysis. It contains lots of fine-grained analyses of texts. Unfortunately, however, her writing style in the book is a little loose with unclear definitions of the concepts and terms she uses, and with repetition. Readers who are used to rigorous formalism in semantics might feel uneasy. But her challenge to explore the field that traditional formal semantics has avoided has considerable importance. In this book, she offers a perspective on how a language user composes a discourse, and how the dynamism of a discourse is related to modes and other factors such as subjectivity. The observations in the book are not only helpful for doing a text analysis, but full of hints, for instance, for designing computer programs for human-machine dialogues.

In what follows, I first see what the five modes are in Section 2. Since the treatment of tense is one of the most intensely studied subjects in DRT and the main subject of the book, I will focus on the relation between modes and tense in this Section. In Section 3, I discuss her DRT analysis of the dynamism of tense, and show that her attempt to apply her analysis to the DR framework is not totally successful. In Section 4, I propose a new approach for discourse analysis, which is related to the modes.

2. Five Discourse Modes

During the last three decades, semantics has taken a so-called dynamic turn. DRT, Dynamic predicate logic and File change semantics promoted the idea that semantic information such as anaphoric relations and tense are carried over in a text. These theories have put their energy into building a new algorithm so that we can deal with sentences that cause problems in a traditional static framework. However, Smith claims, the dynamism of a text cannot be fully understood if we do not take Discourse modes into consideration. She identifies five modes, which we will see in what follows.
The first mode is *Narrative*, which has been studied extensively in traditional text analysis, and is also discussed in DRT (see Kamp and Reyle (1993)). In the Narrative mode, narrative time advances when a verb phrase expressing a perfective (bounded) event or a temporal adverbial is used, and fails to advance otherwise. This can be illustrated as follows:

(1) Narrative advancement (past tense)

\[
\begin{align*}
\text{Event}(1) & \quad \Rightarrow \quad \text{Event}(2) & \quad \Rightarrow \quad \text{Event}(3) & \quad \Rightarrow \quad \text{State}(4) \\
\text{RT}_1 < \text{SpT} & \quad \text{RT}_2 < \text{RT}_1 & \quad \text{RT}_3 < \text{RT}_2 & \quad \text{RT}_4 = \text{RT}_3,
\end{align*}
\]

where RT stands for reference time, and SpT for speech time, both of which are Reichenbach-based times. (1) shows that a past event precedes the speech time, and that every time a new event is introduced in a text, time advances, unless a non-bounded event or state stops it.

(2) is an example of a passage in the Narrative mode.\(^1\)

(2) \(1_E \rightarrow \) A few days later I called on Dr P and his wife at home. \(2a_E \rightarrow \) Mrs. P showed me into a lofty apartment, \(b_S\) which recalled fin-de-siecle Berlin. \(3a_S\) A magnificent old Bösendorfer stood in State in the centre of the room. \(4a_S\) There were books, \(b_S\) there were paintings, \(c_S\) but the music was central. \(5a_E \rightarrow \) Dr. P came in, a little bowed, \(b_E\) and \(\rightarrow\) advanced with outstretched hand to the grandfather clock, \(c_E\) but, hearing my voice, \(\rightarrow\) corrected himself, \(d_E\) and \(\rightarrow\) shook hands with me. ((6) on page 14)

Each tensed sentence in (2) is marked with subscripts; \(E = \) bounded event, and \(S = \) State. The arrows indicate temporal advancement. Numbers indicate the order of sentences, and letters the order of tensed phrases in a sentence, respectively. In (2), RT advances with the first bounded event \((1_E)\). The second event \((2a_E)\) also makes RT advance. Then, the state \((3a_S)\) stops it; RT does not change. Like Kamp and Reyle, Smith claims that this scheme is the basic function of narrative.

The second is the Report mode. The Report mode is different from the Narrative mode in that speech time, SpT, plays a crucial role in the former. That is, in the Report mode, events or states are described, related to SpT, as shown in (3).

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\(^1\) I trimmed some redundant phrases from the original passage for the sake of space, and did the same in the examples, (4)–(8).
(3) Narrative advancement
Event(1)......Event(2)......Event(3)......State(4)
RT₁<SpT   <SpT   <SpT = SpT

Since bounded events are not expressed by present tense sentences, RT is prior to SpT, or RT coincides with SpT when a stative is used.² (4) is an example of the Report mode, where the adverbials and tensed verbs underlined are the cues of temporal changes.

(4) 1aE₁ A week after Ethiopia started an offensive bₑ₂ that it says is aimed at ending the two-year-old war, cₛ₁ it is now clear dₛ₂ that the whole of Eritrea could become a battlefield. 2 With hundreds of civilians fleeing the region, aₑ₃ Colonel Kidane said bₑ₄ Ethiopian soldiers continue to skirmish with Eritrean soldiers on the run here in western Eritrea. ((9) on page 16)

In (4), the speaker describes eventuality, standing at speech time. In other words, it is not dynamism of events but a reporter that makes the text advance. Naturally, the order of sentences, which is crucial in the Narrative mode, is less significant here, and the time talked about moves back and forth from past to present.

The third mode is Description. Description is portrayal of a scene or state of affairs, and is predominant in travel books. In this mode, time is stable or suspended: sentences have the same Reference time, as exemplified in (5).

(5) We were in an impressive and beautiful situation on a rocky plateau. It was too high for grass, there was very little earth and the place was littered with boulders, but the whole plateau was covered with a thick carpet of mauve primitives. ... Before us was the brilliant green lake, a quarter of a mile long, and in the shallows and in the streams that spilled over from it the primulas grew in clumps and perfect circles. ((8) on page 29)

In (5), time does not advance, at least not significantly. Smith claims that advancement is rather spatial: the text advances as the reader goes from one part of the scene to another, and when there is a change of time in description, there is also a change of scene.

² Exceptions are cases such as the historical present or “sports announcer present.”
(6) In the passenger car every window was propped open with a stick of kindling wood. A breeze blew through, hot and then cool, fragrant of the woods and yellow flowers and of the train. The yellow butterflies flew in at any window. ((5) on page 95)

In the Description mode, the telicity that an event verb has is overridden so that the event described is atelic. For instance, there is no sense that the children got to school in (7).

(7) On the big land below the house a man was ploughing and shouting admonitions to the oxen who dragged the ploughshares squeaking through the heavy red soil. ... A group of children walked to school. On the telephone wires the birds twittered and sang. ((6) on page 96)

The fourth is the Information mode, which is predominant in textbooks and academic journals. Passages in this mode introduce general statives—generics and generalizing sentences—into the universe of discourse. This mode and the next mode, the Argument mode, are different from the modes we have seen thus far. In the latter, a text advances temporally or spatially. On the other hand, in the Information and the Argument modes, Smith claims, there is no such advancement, but metaphorical progression, and in such a metaphorical domain, *Primary Referents* move.³ (8) is an example of the Information mode, in which underlined phrases are Primary Referents. In (8) a metaphorical location changes from “humpbacks” to “fully grown females,” then again to “humpbacks.”

(8) Humpbacks are found in every ocean. Together with blue, fin, sei, Bryde’s, and mink whales, they belong to the rorqual family of baleen whales. Fully grown females, which are bulkier than the males, can weigh 40 tons and reach lengths of 50 feet. Humpbacks tend to favor shallow areas, often quite close to shore. ((12) on page 32)

Smith states that the Primary Referents are objects that are semantically central in atemporal modes (i.e. the Information and the Argument

³ There is no clear explanation of what ‘metaphorical progression’ is in the book. The only clue is the following statement: when [the Primary Referents in successive clauses are in different locations, the receiver has the intuition of metaphorical motion (p. 123).]
modes), and specifies criteria for identifying the Primary Referents in an atemporal text, as follows:

(9) Primary Referent:

a. is literally or metaphorically located ("Dragons are usually arranged almost heraldically round a conceptual center point").

b. is dependent on the situation for existence ("Oil has been one of the real bargains of the modern age")

c. is a Figure relative to a Ground ("The bike is near the house vs. #The house is near the bike")

d. has a property ascribed to it ("The most important kilns are those at Tao-chu in Shensi")

Using these criteria, Smith puts Primary Referents in Discourse Representation Structures (DRSs), in which they play the role of flags to indicate a path of a metaphorical movement in a text.

The last mode is Argument. Passages in the Argument mode make a claim, comment or argument. Argument passages bring things to the attention of the reader, and the author is present all the time. The following is an example of this mode.

(10) The routine transfer of power may not be the most dramatic feature of American democracy, but it is the most important. It separates us [the United States] from the majority of countries in the world, which have still not achieved it. ((13) on page 33)

The metaphorical location changes in (10): the first metaphorical location is 'the routine transfer of power' in the United States. Then, the location is shifted to 'us' in the second sentence. In the last clause, it returns to the first location with the object NP 'it.'

Besides the modes, subjectivity is also one of the constituents that compose a text. Subjectivity is "a point of view toward propositional information (p. 155)," the source of a voice through which a text is spoken. In Part III, Smith analyzes various forms of subjectivity. She also classifies verbs and linguistic forms that trigger subjectivity in order to use them in construction rules to make DRSs. Those verbs and forms include communication verbs, deictic adverbials, epithets, experiencer predicates, evidential adverbials, etc. Bearers of subjectivity are introduced as Responsible Sources into DRSs. Typically, narrators are responsible sources, and what they are responsible for is, for example, the complement of the auxiliary verb 'win the race' in (11).
(11) Mary may win the race.

(11) is represented in a sub-DRS (about which we will see more later).

3. Application to DRT

In Part II and IV, Smith incorporates her text analysis into the DR framework. In Part II, she proposes a treatment of tense in the Narrative, the Report and the Description modes. Passages in these modes are all temporal, and the greater part of the application of her analysis to the DR framework is straightforward and on the track that Kamp and Reyle (1993) has paved. In Part IV, she attempts to apply to DRT passages in the atemporal modes (Information and Argument), in which subjectivity plays a crucial role.

The attempt to apply her analysis to the DR framework is, however, not totally successful for the following reasons:

1. It is not clear what algorithm she is using in her approach.
2. It is not clear what theoretical development her DR framework brings into DRT.

Before discussing her DRSs, I should point out that (i) she gives no formal introduction to DRT or the symbols she introduces, and (ii) the formalism she proposes is not strict and includes several technical fallacies, and so it is easy for readers who are not familiar with DRT to become confused. Therefore, I will begin with a very brief outline of the framework of DRT to provide what is needed to understand Part II and IV (for more details, see Kamp and Reyle (1993)).

In DRT, a sentence is provided with an intermediate representation. Given a sentence as an input, construction rules convert it to a DRS. The rules basically consist of an introduction of new variables (= discourse referents) and a replacement of terms with variables. For example, (12) is converted by a construction rule to a DRS: \{x \mid x \text{ entered the White Hart, } John (x)\}.

(12) John entered the White Hart.

At the next step, it is further converted to \{x, y \mid x \text{ entered } y, John (x), the White Hart (y)\}. Then, according to tense and event information in (12), variables of tense and event are introduced, which ends up with \{x, y, n, e, \text{ tl } e < n, e \subseteq t, entered (x, y, e), John (x), the White Hart (y)\}. The following DRS(1) is a notational variant of the formula:
e is an event variable, t a time variable, and n a variable that refers to the utterance time of the discourse. e \subseteq t stands for the relation ‘Time (e, t),’ which expresses that an event e is temporally included within a time t. e < n expresses that e occurred before the utterance time n. This is the procedure for constructing a DRS of a single sentence. The dynamism of the discourse begins when (12) is followed by another sentence, say, “He was wearing a black jacket.” Regarding this sentence with a progressive form as expressing a state, we get DRS(2).

s \circ t' expresses that a state s overlaps with t'. DRS(2) eventually shows that John’s wearing a jacket was at the same time as his entering the White Hart.

In this way, DRT offers a powerful tool for formalizing information flow, especially the information flow of anaphoric relations and tense.
Smith’s challenge is to extend the coverage of DRT in terms of the complexity and richness of discourse. In this section, we will see three DRSs that she proposes. As for technical problems in her DRSs, see Appendix.

The first DRS is of Narrative mode.

(13) a. Mara put on her apron.
    b. She took out a lump of clay.
    c. The clay was wet. ((29) on page 110)

(13) is given the following DRS (on page 111) by a construction rule that meets (14).

(14) Narrative advancement (past tense)
    Event(1).......Event(2).......Event(3).......State(4)
    RT_1<SpT    RT_2<RT_1    RT_3<RT_2    RT_4 = RT_3,

\[
\begin{array}{cccccccccccc}
  t_{1a} & t_{2a} & t_{3a} & e_1 & x & y & t_{1b} & t_{2b} & t_{3b} & e_2 & z & w & t_{1c} & t_{2c} & t_{3c} & e_3 & u & s_3 \\
  1. & t_{1a} = SpT, & 2. & t_{2a} < t_{1a}, & 3. & t_{2a} = t_{3a} & 4. & e_1 \subseteq t_{3a}, & 5. & x = Mara, & 6. & y = her apron & 7. & e_1:= put on (x, y) & 9. & t_{2a} = t_{2b}, & 10. & t_{2b} = t_{3b}, & 11. & e_2 \subseteq t_{3b} & 12. & z = x, & 13. & w = a lump of clay, & 14. & e_2: take out (z, w) & 15. & t_{2c} < t_{1c}, & 16. & t_{2c} = t_{2b}, & 17. & t_{2c} = t_{3c} & 18. & s_3 \circ t_{3c}, & 19. & u = w, & 20. & s_3: be wet (u)
\end{array}
\]

\(t_1\) stands for Speech time, \(t_2\) Reference Time, and \(t_3\) Situation Time. DRS(3) represents that the event that Mara put on her apron took place in the past, and that after Mara put on her apron, she took out the lump of clay, and when she did it, the clay was wet.

The next example is a DRS of the Descriptive mode. As we have seen, a passage in this mode has two properties. One is that sentences have the same Reference time. The other is that the telicity that an

\[4\ I deleted line 8 from the original DRS in the book, which is a simple erratum, and changed 's' in the line 18 on page 111 to 's_3', and 's_3' in the line 20 on page 111 to 'e_3'. I also changed 'e_b' in the line 11 on page 111 to 'e_2'. As for 'w = a lump of clay,' see Appendix (6).\]
event verb has is overridden so that the event described is atelic. The following is a DRS (on page 113) for (15), in which $t_{2a-1}$ stands for a prior Reference Time. Note that her DRS fails to represent the second property.

(15)  
(a) In the passenger car the windows were propped open.  
(b) A breeze blew through.  
(c) The yellow butterflies flew in at the window.  

((32) on page 113)

```
<table>
<thead>
<tr>
<th>t_{1a}</th>
<th>t_{2a}</th>
<th>t_{2a-1}</th>
<th>t_{3a}</th>
<th>e_1</th>
<th>x</th>
<th>adv</th>
<th>mt</th>
<th>t_{1b}</th>
<th>t_{2b}</th>
<th>t_{3b}</th>
<th>e_2</th>
<th>y</th>
<th>t_{1c}</th>
<th>t_{2c}</th>
<th>t_{3c}</th>
<th>e_3</th>
<th>z</th>
<th>w</th>
</tr>
</thead>
<tbody>
<tr>
<td>t_{2a} = t_{2a-1},</td>
<td>2. t_{2a} = t_{3a},</td>
<td>3. e_1 \circ t_{3a}</td>
<td>4. dur (e_1) \geq mt,</td>
<td>5. x = the windows,</td>
<td>6. e_1: prop open (x)</td>
<td>7. adv = in the passenger car,</td>
<td>8. e_1 at adv</td>
<td>9. t_{2b} = t_{2a},</td>
<td>10. t_{2b} = t_{3b},</td>
<td>11. e_2 \subseteq t_{3a}</td>
<td>12. dur (e_2) \geq mt,</td>
<td>13. y = a breeze,</td>
<td>14. e_2: blew through (y)</td>
<td>15. t_{2c} = t_{2b},</td>
<td>16. t_{2c} = t_{3c},</td>
<td>17. e_3 \subseteq t_{3c}</td>
<td>18. dur (e_3) \geq mt,</td>
<td>19. z = yellow butterflies</td>
</tr>
</tbody>
</table>
```

`mt` stands for an amount of time, and `dur (e_2) \geq mt` means that the duration of time of $e_2$ is longer than (or equal to) the time represented by `mt`. Smith introduces `mt` as a tacit durative time adverbial, which she claims serves as a coercion trigger to change the telicity of a verb to atelicity. However, `mt` in DRS(4) does not work in the way she expected. `mt` is a discourse referent introduced by Kamp and Reyle in order to deal with measure adverbials such as (16) and (17).

(16)  
Mary wrote the letter in an hour.

(17)  
Mary practiced the piano for an hour.

The distinction between (16) and (17) is made with the following DRSs:

(18)  
\{n, e, t, x, y, mtl Mary (x), letter (y), e \subseteq t, t \geq n, one hour (mt), dur (e) \leq mt, [e: x write y]\}

(19)  
\{n, s, t, x, mtl Mary (x), one hour (mt), t \subseteq s, t \geq n, dur (s) \geq mt, [s: x practice the piano]\}

As (16)–(19) show, `mt` functions when its duration of time is specified.
Since \( mt \) in DRS(4) is not specified, it can be any interval, which ends up making the use of \( mt \) vacuous.

The last example is of the Information mode. As we have seen, subjectivity plays a significant role in this mode. Smith tries to incorporate the subjectivity of (20) (Primary referent in this case) in a DRS.

(20) Within the next fifty years fish farming may change us from hunters and gatherers into marine pastoralists.

She states that the complement of the auxiliary verb ‘may’ is a Primary referent, and proposes that the Primary referent be represented by the sub-DRS in DRS(5).

\[
\begin{array}{ccccccc}
  t_{1a} & t_{2a} & t_{3a} & x & s_1 & y & A \\
1. & s_1: & \text{may} & (...) & 2. & t_{1a} = t_{2a} = t_{3a} & \\
3. & A = \text{Author} & 4. & A = RS & \\
5. & x = \text{fish farming} & 6. & y = us & \\
7. & \ldots = \text{Primary Referent} & \\
\end{array}
\]

What is interesting about DRS(5) is that Smith’s approach is to consider the modal auxiliaries as constructions that narrators commit to and compose, while in traditional semantics, modal auxiliaries have been treated in modal logic. Unfortunately, however, she gives no semantics for her DRSs. Therefore, it is not clear how her discourse referents are semantically treated, though their semantic treatment is what interests us.
4. Visual Verbs and the Distinction between Temporal and Atemporal Modes

In the previous sections we have seen that Smith shows that modes play a significant role when texts are composed, and that information flow through tensed clauses and metaphorical movement in atemporal clauses is related to the modes. Though her attempt to incorporate her analysis into the DR framework is not successful due to lack of a formal precision, the text analysis Smith offers is worth pursuing.

Smith divides the five modes into two classes. One class, consisting of the Narrative, Report and Description modes, is temporal. The other class, consisting of the Informative and Argument modes, is atemporal. She calls the two classes the temporal and the atemporal modes, respectively. As Smith discusses, tense behaves differently between the two (i.e. temporal and atemporal) modes: in the temporal modes, tense is something that is captured, for example by the framework of Reichenbach’s time. On the other hand, in the atemporal modes, tense loses its proper role (which I call ‘deactivation’ in this paper), and subjectivity is called into play. The purpose of this section is to show that vision is similar to tense in that it is also deactivated when subjectivity is strong.

There are two streams of study of vision. One is a study from a cognitive standpoint (Van der Does and Van Lambalgen (2000), Van Lambalgen and Van der Does (2002), Jackendoff (1983, 1987, 1990, 1992)). I follow this standpoint, and assume that vision is similar to tense in that both are not something concrete or reliable, but rather

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5 Van der Does and Van Lambalgen (2000), Van Lambalgen and Van der Does (2002) and Jackendoff (1983, 1987, 1990, 1992) have their roots in Marr (1982), who proposed the three-dimension model of vision. Especially, Van der Does and Van Lambalgen (2000) are direct successors of Marr, and propose a new theory to provide models for each degree of visual precision. They propose a method to deal with the fact that visual perception is approximate in many ways. The visual uncertainty is captured with models having indexes directed by a partial order (of certainty). Intuitively speaking, an object is assumed to be like a thread that can be divided into finer threads. It is a (bonding) function $h_{zd}$ that relates these threads: with $h_{zd}: M_t \to M_z$ each individual $d$ in $M_t$ is recognized as $h_{zd}(d)$ in the coarser $M_z$. In this theory, the vision of a perceiver, who ‘sees’ something, is studied. On the other hand, my purpose is, as I will discuss in this section, to study linguistic restrictions on what a perceiver can see and what he cannot.
something cognitive, which is the cause of deactivation. The other is a study of the logical properties of vision (Barwise and Perry (1983)). In both streams, the linguistic restrictions that visual verbs have when they are combined with phrases expressing events have not been studied. In what follows, I will show that the distinction between the temporality and atemporality is crucial to a study of linguistic restrictions that visual verbs, miru (‘see’) and mieru (‘look,’ ‘be visible’) in Japanese have. In Section 4.1, I will discuss how the distinction between temporality and atemporality is important for the study of the relation between natural languages and vision. In Section 4.2, I will classify events into four types (i.e. visual, extracted, judged and non-visual events) and see what relation each type has with ‘miru.’ In Section 4.3, I will show that visuality is deactivated when subjectivity is strong, and in Section 4.4, discuss the relation between ‘mieru’ and the four types of events.  

4.1. The Distinction between Temporality and Atemporality

In this section I will show that the distinction between temporality and atemporality is used when a speaker chooses phrases to compose a sentence, depending on whether he is describing/reporting a scene he sees or is making a general statement. Consider the following sentences:

(21) *Look! A man is a fireman.

Suppose that the speaker noticed a man in a fireman uniform at a restaurant, and that the man is the only man there. In this case, though the form ‘a man’ in (21) meets the novelty condition, (21) is unacceptable.  

6 In what follows, I will use the term ‘events’ to include states.

7 Note that (i) is acceptable, though it has the same syntactic structure as (21).

(i) Look! A wildcat is attacking a horse!

A possible explanation is stated as follows: (21), (ii) and (iii) are not descriptions of the scene, but information about John or the man.

(ii) John is a fireman.

(iii) The man sitting over there is a fireman.

For a predicate to be new information, the referent of the subject must be already anchored in the scene (as old information,) which contradicts the fact that ‘a man’ in (21) is new information.
(22) If a man is a fireman, he is brave.
The difference of acceptability between (21) and (22) lies in the fact
that (21) is supposed to be a description of the scene the speaker sees,
which is typically used in temporal modes, while the generic-if sentence
(22) is used in atemporal modes.
The same is observed in the following sentences too:
(23) A: (At a hospital) Look, John is walking along the corridor.
   B: *Now he can be walking!
(24) (Looking at someone in bed at a hospital) How can he be
drinking beer?!
When the speaker describes or reports what he sees, he cannot use the
combination of the progressive form of ‘walk’ and the modal verb
‘can,’ as shown in (23). On the other hand, he can say (24). In (24)
he is not reporting an incidental fact, but rather making a rhetorical
statement that anyone in bed should not drink beer. These sentences
also indicate that the distinction between temporal and atemporal modes
is significant.

4.2. Four Types of Event
We report what we see, surrounded by things in the world. But
things are not so simple. Suppose that a speaker is standing by an
empty pool, in which a float is on the water. He might report this
scene as (25).
(25) Dare-mo oyoide-i-nakat-ta.
    wh-mo swim-Prog-Neg-Past
    ‘No one was swimming’
Though he is right in reporting (25), he cannot say (26).
(26) *Watashi-wa dare-mo oyoide-i-nai no-wo mi-ta.
    I-Top wh-mo swim-Prog-Neg Comp-Acc see-Past
    ‘(Int.) I saw no one swimming’
On the other hand, there is no problem for him to say (27).
(27) Watashi-wa ukiwa-ga uite-iru no-wo mi-ta.
    I-Top float-Nom float-Prog Comp-Acc see-Past
    ‘I saw a float floating’
These examples indicate that events should be classified in terms of the
visual verb miru ‘see.’ In what follows, I will propose that there be
four types of event:
(i) visual events,
(ii) extracted events,
(iii) judged events,
(iv) non-visual events,
and that phrases expressing (ii) or (iv) cannot be combined with miru.

Let us begin with visual events. They are events that visually exist in utterance situations. (28) is an example of a visual event.

(28) Jon-ga hashitte-iru.
John-Nom run-Prog
‘John is running’

Naturally, the verb miru can be combined with (28). A slightly intricate case is when a sentence has negation, since negation works in two ways. Suppose that there is no sight of John on the athletic ground (‘Negation 1’). In this case, a speaker cannot report the scene as (29).

(29) Watashi-wa Jon-ga hashitte-i-nai no-wo mi-ta.
I-Top John-Nom run-Prog-Neg Comp-Acc see-Past
‘I saw John not running’

However, when the speaker saw John sitting under a tree on the athletic ground, he can say (29) (‘Negation 2’). (29) is acceptable in the case of Negation 2, since the event ‘John is sitting under a tree’ was visible, and the speaker used John-ga hashitte inai ‘John is not running’ as a paraphrase of John-ga ki-no sita-ni suwatteiru ‘John is sitting under a tree.’ I will include events of Negation 2 as visual events, and classify events of Negation 1 as extracted events.

Extracted events are events that are not visible in utterance situations. The followings are examples of this type.

(30) Dare-mo oyoide-i-na-katta.
wh-mo swim-Prog-Neg-Past
‘No one was swimming’

(31) Jon-ga kessekishite iru.
John-Nom absent be
‘John is absent’

(32) (In an empty corridor) Gakusei-ga minna heya-ni haitteiru.
students-Nom all room-Loc be-in
‘All students are in their classrooms’

The events expressed by (30)–(32) are invisible, since what the speaker sees is an empty pool, people except John, and an empty corridor, respectively. As shown in (33)–(35), events expressed by (30)–(32) are not what the speaker can “see.”

(33) *Dare-mo oyoide-i-nai no-wo mi-ta.
wh-mo swim-Prog-Neg Com-Acc see-Past
‘I saw no one swimming’

(34) *Jon-ga kessekishite iru no-wo mi-ta.
John-Nom absent be Com-Acc see-Past
‘(Lit.) I saw John absent’

(35) *(In an empty corridor) Gakusei-ga minna heya-ni
students-Nom all room-Loc
haitteiru no-wo mi-ta.
be-in Com-Acc see-Past
‘I saw all students in their classrooms’

The third type is *judged events*. Judged events are events whose existence a speaker infers or judges from a scene that he sees. (36) is an example of a judged event.

(36) Megu-ga monooomoi-ni hukettei-ta.
Meg-Nom thought-Prt be-absorbed-Past
‘Meg was meditating’

Suppose that Meg was not meditating, but sleeping. In this case, (37) is false in a strict sense.

(37) Watashi-wa Megu-ga monooomoi-ni huketteiru no-wo
I-Top Meg-Nom thought-Prt be-absorbed Comp-Acc
mi-ta.
see-Past
‘I saw Meg meditating’

However, it is also true that the speaker did not tell a lie. It was just that he thought Meg was meditating. Though the distinction between visual and judged events is not clear-cut, (37) shows that there are events in which the principle of veridicality (‘a sees φ ⇒ φ’) is too strong from a pragmatic point of view.

The last type is *non-visual events*. The following examples are of this type.

(38) Jon-ga se-ga takai.
John-Nom height-Nom tall
‘John is tall’

(39) Ame-ga hutte-iru kamosirenai.
rain-Nom fall-Prog might
‘It might be raining’

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8 See Barwise and Perry (1983) about the principle of veridicality.
It is well-known that complements expressing states cannot be combined with visual verbs in Japanese and English, as shown in (40).

(40) a. *Jon-ga se-ga takai no-wo mita ((Lit.) 'I saw John tall')
b. *I saw John tall.

(cf. Van der Does and Van Lambalgen (2000))

The acceptability of these sentences is low, since se-ga takai ‘be tall’ expresses a constant state of John, which we cannot "see." However, English is not the same as Japanese in that miru can be combined with a complement expressing a temporary state, while "see" cannot, as shown in (41) and (42).9

(41) *I saw the moon red.

(42) Watashi-wa Tuki-ga akai no-wo mi-ta.

I-Top moon-Nom red Comp-Acc see-Past

'(Lit.) I saw the moon red'

In this section, we have seen that there are four types of event, and that it is not the case that the speaker can "see" all events: complements expressing extracted or non-visual events cannot be combined with miru. In the next section, I will discuss the cases in which visuality is deactivated.

4.3. Deactivation of Visuality

As Smith discusses, in the atemporal modes, generic sentences and sentences with subjectivity are typically used and tense tends to lose its proper role. Vision is the same as tense in this respect. When subjectivity is strong, visuality becomes weak. To see it, let us begin with a slightly intricate case. In Japanese, when a quantifier phrase floats, the domain of quantification should not be restricted, as shown in (43).

(43) a. Gakusei-ga hutari naite-i-ta.

student-Nom two cry-Prog-Past

'Two students were crying'

b. *Gakusei-ga junin haitteki-ta. Karera-wa hutari

student-Nom ten come-in-Past they-Top two

naite-i-ta.

9 In English, stative complements, whether temporary or not, cannot be combined with see, (see Van der Does and Van Lambalgen (2000).)

(i) *We saw the lamp stand on the table.

(ii) *We saw Jack be drunk.
cry-Prog-Past

‘(Lit.) Ten students came in. They, two, were crying’

The acceptability of (43b) is low, since the domain of the floating quantifier (i.e. ‘hutari’) is restricted to the ten students. The difference between (44) and (45) in terms of acceptability is explained in the same way as in (43).

(44)  Booshi-no otoko to manto-no otoko-ga haitteki-ta.
      hat-Gen man and mantle-Gen man-Nom come-in-Past
      Hutari-no otoko-wa biiru-wo tyumonsi-ta.
      two-Gen man-Top beer order-Past
      ‘(Lit.) A man in a hat and a man in a mantle came in.
      Two men ordered beer’

(45)  *Booshi-no otoko to manto-no otoko-ga haitteki-ta.
      hat-Gen man and mantle-Gen man-Nom come-in-Past
      Otoko-wa hutari biiru-wo tyumonsita.
      man-Top two beer order-Past
      ‘(Lit.) A man in a hat and a man in a mantle came in.
      Men, two, ordered beer’

The problem is that the explanation by the domain restriction predicts wrongly that the following sentence is unacceptable.

(46)  Booshi-no otoko to manto-no otoko-ga
      hat-Gen man and mantle-Gen man-Nom
      iriguchi-ni araware-ta.
      the-entrance-Loc appear-Past
      ‘A man in a hat and a man in a mantle appeared at the
      entrance’
      Otoko-ga hutari naka-ni haittekuru no-wo mite
      man-Nom two inside come-in Comp-Acc see
      watashi-wa iyana-yokan-ga si-ta.
      I-Top bad-premonition have-Past
      ‘(Lit.) Seeing that men two entered inside, I had a bad premonition’

In (46) it is not that the speaker is reporting what he saw, but that he expresses his worries (which is subjective) about the fact that there are two men entering the restaurant (e.g. that two men come in together might mean that they are robbers.) In other words, the complement of ‘miru’ in the second sentence expresses an abstract event, not the actual event the speaker saw. This is an example in which visuality is deactivated with subjectivity.
That visuality is deactivated when subjectivity is strong is observed in other cases too. Compare (33) and (40) with the following sentences, in which psychological verbs such as odoroku ‘be surprised,’ fushigini omou ‘be puzzled’ and hottosuru ‘be relieved’ are used. The complements of (47) and (48) express extracted and non-visual events, respectively.

\[(47)\] Watashi-wa dare-mo oyoide-i-nai no-wo mite
I-Top wh-Prt swim-Prog-Neg Comp-Acc see
was-surprised/puzzled/relieved
‘I was surprised/puzzled/relieved at seeing no one swimming’

\[(48)\] Jon-ga se-ga takai no-wo mite
John-Nom height-Nom tall Comp-Acc see
was-surprised/puzzled/relieved
‘(Lit.) I was surprised/puzzled/relieved, seeing John tall’

The difference between (47) and (33) is that ‘mire’ in (47) does not mean visual perception, but rather visual recognition of the scene. The same is true of (48) and (40).

The following sentences also show that subjectivity makes visuality weak.

\[(49)\] a. ??Watashi-wa kare-ga komatteiru yoosu-wo mi-ta.
I-Top he-Nom be-in-trouble state-Nom see-Past
‘(Lit.) I saw the state of him in trouble’

b. Watashi-wa Jon-ga komatteiru yoosu-wo mite,
I-Top John-Nom be-in-trouble state-Nom see
tasukete-ageru koto-ni shi-ta.
help Comp-Acc decide-Past
‘(Lit.) Seeing the state of him in trouble, I decided to help him’

\[(50)\] a. ??Watashi-wa ame-ga hutte-iru jookyo-wo mi-ta.
I-Top rain-Nom fall-Prog situation-Acc see-Past
‘(Lit.) I saw a situation in which it was raining’

b. Watashi-wa ame-ga hutte-iru jookyo-wo mite,
Top rain-Nom fall-Prog situation-Acc see
kappa-wo kiteiku koto-ni shi-ta.
raincoat-Acc wear Comp-Acc decide-Past
‘(Lit.) Seeing the situation in which it was raining, I
decided to wear a raincoat'
In (49b) and (50b) the main sentences are stated with the speaker's subjectivity.

As shown in the sentences above, visuality is deactivated with subjectivity. For deactivation, there is a condition: it is required that the speaker actually witnesses some scene. In the case of (46) it is the two men coming into the restaurant, and in the case of (49b) the look of John. Even in (51), in which visuality is very low (i.e. miru can be interchanged with shiru ‘know’), the condition must be satisfied: the speaker must witness a scene from which he judges that the situation is not good.

(51) Keisei-ga hurina no-wo mite, teki-wa
situation-Nom bad Comp-Acc see enemy-Top
nigedasi-ta.
ran-away-Past
‘Seeing that the situation was not good, the enemy ran away’

English is different from Japanese in that the condition must be satisfied in Japanese, while not in English. ‘Miru’ cannot be used, for example, in the translation of the following sentence.

(52) a. Seeing that tomorrow is Sunday, I will go swimming.

b. *Asu-ga nichiyo-dearu no-wo mite,
tomorrow-Nom Sunday-be Comp-Acc see
watashi-wa suiei-ni-iko.
I-Top swimming-go

In this section, based on my assumption that vision is similar to tense, I have shown that visuality is deactivated with subjectivity. In the next section, I will look at another visual verb ‘mieru.’

4.4. Mieru in Japanese

The visual verb mieru has two meanings. One of the meanings is ‘to be visible’ or ‘can be seen,’ and the other is ‘to look,’ as shown in (53) and (54).

(53) Taiyo-wo miru-to, kokuten-ga mie-ta.
sun-Acc see sunspot-Nom visible-Past
‘(Lit.) When I saw the sun, sunspots were visible’ (=‘When I saw the sun, I could see sunspots’)

(54) Sore-wa watashi-ni-wa inu-ni mieru.
it-Top I-Prt-Top dog-Prt can-be-seen
‘(Lit.) It can be seen like a dog to me’ (=‘It looks like a
When 'mieru' has complements expressing events, it is ambiguous in two ways, as shown in (55) and (56).

(55) Mizu-no nakade boo-ga magatte-iru no-ga
    water-Gen in stick-Nom bend-be Comp-Nom
    mie-ta.
    visible-Past
    '(Lit.) In water, that a stick was bent was visible' (=‘I could see a bent stick in water’)

(56) Mizu-no nakade boo-ga magatte mie-ta.
    water-Gen in stick-Nom bend visible-Past
    '(Lit.) In water, a stick looks like bent' (=‘A stick looks like bent in water’)

In the case of ‘mieru,’ the speaker cannot control or choose what to see, as shown in (57).

(57) Raion-da-to-wakatteitemo watashi-ni-wa sore-ga inu-ni
    Though-I-knew-it-was-a-lion I-Prt-Top it-Nom dog-Prt
    mie-ta.
    visible-Past
    ‘Though I knew it was a lion, it (still) looked like a dog to me’

Visual information comes from a scene, so to speak. Since subjectivity is irrelevant here, what the complement of ‘mieru’ expresses can be any event. Compare (58a, b) with (59a, b), in which the former are acceptable, while the latter, in which miru is used, is not.

(58) a. Watashi-ni-wa kare-ga komatteiru yoosu-ga
    I-Prt-Top he-Nom be-in-trouble state-Nom
    mie-ta.
    visible-Past
    ‘(Lit.) The state that he was in trouble was visible’

b. Watashi-ni-wa ame-ga hutte-iru jookyo-ga
    I-Prt-Top rain-Nom fall-Prog situation-Nom
    mieta.
    visible-Past
    ‘(Lit.) The situation in which it was raining was visible’

(59) a.??Watashi-wa kare-ga komatteiru yoosu-wo
    I-Top he-Nom be-in-trouble state-Acc
    mi-ta. (=49a))
    see-Past
‘(Lit.) I saw the state of him in trouble’

b. ??Watashi-wa ame-ga hutte-iru jookyo-wo
   I-Top rain-Nom fall-Prog situation-Acc
   mi-ta. (=50a))
   see-Past
‘(Lit.) I saw a situation in which it was raining’

In the next section, I will discuss the relation between ‘mieru’ and the four types of event.

4.5. Mieru and the Four Types of Event

*Mieru* can be combined with phrases expressing visual events or judged events, as exemplified in (60) and (61), respectively.

(60) Ukiwa-ga uite-iru no-ga mie-ta.
   float-Nom float-Prog Comp-Nom visible-Past
   ‘(Lit.) That a float was floating was visible’

(61) Jon-ga isogashiso-ni shite-iru no-ga mie-ta.
   John-Nom busily do-Prog Comp-Nom visible-Past
   ‘(Lit.) That John was working busily was visible’

However, in the case of extracted events, the acceptability of sentences is influenced by the uncontrollability of *mieru*. Suppose that a speaker is looking at an empty pool in (62) and (63).

   window-Loc John-Nom swim-Prog-Neg Comp-Nom visible-Past
   ‘(Lit.) From the window, that John was not swimming was visible’

(63) Mado-kara dare-mo oyoide-i-nai no-ga mie-ta.
   window-Loc wh-mo swim-Prog-Neg Comp-Nom visible-Past
   ‘(Lit.) From the window, that no one was swimming was visible’

Though both of the events expressed by the complements in (62) and (63) are what the speaker extracted from the scene, they are not the same in terms of controllability. The speaker has no control over what to see, and (62) contradicts this condition, since that John was not swimming is not directly derived from the scene, but triggered by the speaker’s expectation: for example, the speaker might have expected
John to swim, or was told that John was swimming there. On the other hand, (63) has nothing to do with controllability, since any empty pool means that there is no one swimming.

As for non-visual events, 'mieru' can be combined with phrases expressing a temporary property, but not with phrases expressing a constant property, as shown in (64) and (65), respectively.

(64) *Fuji-san-ga takai no-ga mie-ta.
   Mt. Fuji-Nom high Comp-Nom visible-Past
   'That Mt.Fuji was high was visible'

(65) Tuki-ga akai no-ga mie-ta.
   moon-Nom red Comp-Nom visible-Past
   'That the moon was red was visible'

Since mieru is not influenced by subjectivity, visuality is not deactivated. It is the reason why (66) is not acceptable.

(66) *Fuji-san-ga takai no-ga mie-ta node,
   Mt. Fuji-Nom high Comp-Nom visible-Past because
   odoroi-ta.
   be-surprised-Past
   'Since that Mt.Fuji was high was visible, I was surprised'

In Section 4, I have shown that visuality is similar to tense in that both are deactivated in sentences with a strong subjectivity, which typically appears in the Argument mode. Though I have not treated the Information mode in this paper, deactivation of visuality is observed in sentences such as generic-if sentences that are typically used in the Information mode too. (67) is an example of a generic-if sentence with 'miru.'

(67) a. Watashi-wa kare-ga komatteiru yoosu-wo miru
   I-Top he-Nom be-in-trouble state-Acc see
to itumo tasuketeshimau.
   whenever always help
   'I help him whenever I see him in trouble'

b. ??Watashi-wa kare-ga komatteiru yoosu-wo
   I-Top he-Nom be-in-trouble state-Acc
   mi-ta. (=49a)
   see-Past
   '(Lit.) I saw the state of him in trouble'
5. Concluding Remarks

A text is rich, but it is not just an unorganized complex. Smith’s idea that a language user composes texts with the discourse modes and other stylistic functions such as subjectivity proposes a perspective for enriching traditional formal semantics with text analyses. Unfortunately, as a reviewer, I have to say that her attempt to incorporate her analyses into DRT is not too successful. However, this should not be a reason not to open her book. For readers who are interested in exploring a new methodology for text analysis, this book would be a good source of insights. In this paper, I have proposed that there are four types of event, discussing what role these types play in terms of the visual verbs miru and mieru in Japanese, and have shown, on the basis of my assumption that vision is similar to tense, that visuality is deactivated in sentences which are typically used in the atemporal modes.

Appendix

This Appendix is for readers who are not familiar with DRT and are interested in reading the book. ‘(p. XX–YY)’ stands for ‘DRS (YY) on the page of XX.’

1. (p. 64–13) 12 \rightarrow t2

2. (p. 87–22) Line 2 (i.e. e \in \{Event\}) can be deleted. Line 4 (i.e. y = a book) does not meet Kamp and Reyle-style DRT. See note 6.

3. (p. 90–30)

(30) Mary read a book.
1. \( e : = \text{read} (x, y) \)
2. \( e \in \{\text{Event}\} \)
3. \{Viewpoint(I, e) = \text{Perfective}\}
4. \( t_i, t_j \in I \)
5. \( t_i = f(e), t_j = F(e) \)
6. \( t \in I, t \geq t_i, t \leq t_j \)
7. \( x = \text{Mary} \)
8. \( y = \text{a book} \)

\( e \subseteq t \) should be inserted (the same in (31) on page 91). \{Viewpoint(I, e) = \text{Perfective}\} of line 3 is not a set notation. It is not clear how the equation works here without its definition. The variable \( t \) should be put on the top of the box in this DRS. Lines 2 and 4 are usually defined in a lexicon. Line 6 is meaningless, given lines 4 and 5.

4. (p. 91-30, 31) \( t_i \) and \( t_j \) can be deleted (redundant).

5. (p. 108-23) Line 5 should be changed to ‘\( t_2 = t_3 \).’

6. (p. 111-29) Smith uses a notation such as “\( w = \text{a lump of clay} \)” in her DRSs. Since she gives no definition of the equation symbol she uses, it is not clear what she means by it. But at least in a standard DRT, this type of equation leads to an undesirable result; ‘\( w \)’ is an individual variable, while a quantified expression such as ‘\( \text{a lump of clay} \)’ is not. Line 8 should be deleted. \( e_b \) in line 11 should be changed to \( e_2 \). ‘\( s \)’ in line 18 should be changed to \( e_3 \).

7. (p. 113-32) ‘\( \text{dur} (e_3) \geq \text{mt} \)’ makes no sense, unless the property (such as the length of time) that ‘\( \text{mt} \)’ has is specified.

8. (p. 255-20) The RS in the following DRS makes no sense.

(20) A few days later I called on Dr P and his wife at home, Mrs. P showed me into a lofty apartment, which recalled fin-de-siècle Berlin.
There is an interesting point about the analysis of (20), which is that the 'recall' relation between the lofty apartment and fin-de-siècle Berlin is regarded as what the narrator is responsible for. This is a new insight which traditional semantics has missed.

(p. 256–21) ‘p = Proposition’ makes no sense.

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