Now: A Discourse-Based Theory

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In general, *now* is interpreted as the utterance time and cannot refer to a time made salient in the discourse in the way that a third person pronoun can refer to an individual made salient in the discourse:

(1) a. (?) I like to think about the summer of '97. I was so happy **now**.
     b. I like to think about my grandmother. **She** was such a happy woman.

Yet there are exceptions (cf. Banfield (1982), Hunter (2010), Kamp & Reyle (1993), Lee & Choi (2009), Predelli (1998), Recanati (2004), Schlenker (2004)). In the following examples, *now* denotes a time that lies in the past of the utterance time and is introduced at some prior point in the discourse:

(2) Five months later, I sat with her as she lay in bed, breathing thin slivers of breath and moaning... I was alone in her bleak room. Alone, because there was none of her in it, just a body that **now** held no essence of my mum.[1]

(3) The letter is marked "personal and private" and is addressed to President Franklin D. Roosevelt's secretary, Grace Tully, who was with the ailing chief executive in Warm Springs, Ga., that Thursday in 1945. The writer was Lucy Mercer Rutherfurd, who decades before had been FDR's mistress and who **now** was making arrangements for what would be their last fateful meeting at the president's rural retreat.[2]

(2) is taken from an article in which the author describes her mother's struggles with Alzheimer's. Throughout the article, it is clear that the author is recounting past events. Her use of *now* does not denote the utterance time in any sense; it rather denotes the time of her past visit. The two sentences in (3) are about a letter to FDR that was acquired by the National Archives. The author of the article describes the writing of the letter as an event in the past and clearly distances that event from the time of the acquisition. Still, he can use *now* anaphorically to denote the time of the past letter writing event.

This paper offers a theory of anaphoric uses of *now* that refer to times in the past of the respective utterance events (*past uses* for short), focusing on two questions: 1. What determines the interpretation of a past use of *now*? 2. When are past uses of *now* licensed? To the first question, I respond that English *now*

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[1] 'Her misery was now so deep, her existence so shallow...I wanted to grab her pillow and smother her – Fiona Phillips on dealing with Alzheimer's', from *Daily Mail*, August 28, 2010. http://www.dailymail.co.uk/ tvshowbiz/article-1307015/Her-misery-deep-existence-shallow–I-wanted-grab-pillow-smother-her.html.

[2] 'What was for FDR's eyes only is now for yours', *The Wash. Post*, July 29, 2010.

depends on a perspective point that, contrary to existing theories of *now*, is determined by the rhetorical structure of the discourse. With regard to the second question, I argue that *now* is licensed when a temporal break between two clauses is needed and, where applicable, a tight temporal relation is needed between a clause and a superordinate antecedent clause. The details of my theory are presented in *Segmented Discourse Representation Theory* (Asher & Lascarides 2003) and are supported by over 200 examples of *now* from newspapers and narratives. I have changed some examples slightly to improve readability or to shift the tense. Where I have made changes, I describe them in footnotes.

Previous theories of anaphoric *now*, such as that offered by Kamp & Reyle (KR, 1993), hold that *now* depends on a temporal perspective point controlled by tense and aspect. According to KR, certain sentences will introduce new times in a discourse, thereby changing the temporal perspective point, while others will inherit a previously given time and use that as the temporal perspective point. Whether or not a sentence shifts the time or exploits a given time will depend on its tense and aspect. For example, KR predict that sentences that describe events will shift the temporal perspective point while sentences that describe states will make use of a given temporal perspective point. Since, I take it, past uses of *now* require identity with an antecedent, *now* will only denote a past time when it modifies a sentence describing a state so that it can use a previously established temporal perspective point. KR offer (a) and (b) in support of their hypothesis that *now* can only modify past tense clauses describing states:

(4) a. Bill had come home at seven. (?) **Now** he wrote a letter.
     b. Bill had come home at seven. **Now** he was writing a letter.

KR's hypothesis does not stand up to the data, however. (4a) is questionable without *now* so it is not a good example, and a Google search yielded numerous examples in which *now* naturally modifies past tense clauses describing events.

(5) But Rokiroki, exerting all his strength, gripped the stranger's wrists so that he could not draw his hatchet. And **now** he called again to his little daughter, who stood trembling on the bank above...[3]
(6) As an explosive, its force was shown by dipping a piece of felt in it and setting it on fire. Before being dipped into the liquid air, it would not burn; but **now** it exploded, it was consumed so rapidly. The same effect was had with cotton.[4]

There are independent reasons to suspect that tense and aspect alone do not determine the temporal structure of a discourse and so cannot explain the behavior of *now*. On the one hand, clauses describing events need not shift the temporal perspective point. In (7), the time at which John finished the race is the time at which he cheered, for John's crossing the finish line and finishing the race must

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[3] *Legends of the Maori: The Tale of Rokiroki, A memory of the Mokau*, http://www.nzetc.org/tm/scholarly/tei-Pom01Lege-t1-body2-d8.html.

[4] 'Liquid Air Experiments–C. E. Tripler Lectures to a Large Audience at Chickering Hall,' in *The New York Times*, May 13, 1899.

have happened simultaneously. In (8), the time of the explosion described by the *now* clause (the clause modified by *now*) is that of 'the result'—the explosion *is* the result of dipping the felt into the liquid air.

(7) [John cheered as he crossed the finish line]$_t$ because [he finished the race in record time]$_t$.

(8) The scientist dipped the felt into liquid air and [the result was astonishing]$_t$. Normally it would not burn, but [**now** it exploded...]$_t$ (variation on (6))

In fact, when *now* is used to modify a clause describing a past event, it nearly always denotes a time given previously in the discourse, at least outside of purely narrative environments. Sometimes the anaphoric link to a previous time can be hard to see if one looks at a small bit of the discourse because the link can be quite long. Still, links are often necessary and past uses of *now* are rarely felicitous when uttered out of the blue outside of narrative environments.

Even when *now* modifies a clause describing a state it is often necessary to look at the broader discourse to find *now*'s antecedent.

(9) When Mr. Kaine agreed to run the Democratic National Committee in January 2009—even while finishing his last year as governor—his closest advisers were stunned. **Now** Mr. Kaine was facing an unwanted repeat of the same, uncomfortable situation.[5]

(10) Why was the left so accepting of the president's budget? First... Second... Finally, Mr. Obama's message was **now** being managed by a new, disciplined team.[6]

In (9), *now* requires an antecedent that will tell the reader *when* Mr. Kaine was facing an unwanted repeat of the same situation. To determine this, we have to look elsewhere in the discourse. In (10), a question is posed and multiple answers are given. The answers appear one after the other in the text, but each answer might be temporally independent of any other. The only temporal relations that we can expect from this example (based on its being a question with multiple answers) are the relations that hold between the question and each of its answers; to determine the interpretation of *now*, one must look to the question.

The anaphoric links between *now* clauses and their antecedents can be quite long for states as well. In the following example, the link spans two paragraphs:

> In addition, some historians insist that Darwin had still not achieved what Mayr (1982) calls a "populational" view of species. He did not think of a wild population as normally exhibiting a fund of variability, and he still tended to think of individual variants as unique and probably quite rare deviations

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[5] Variation from 'Will Obama Ask Kaine to Seek Virginia Senate Seat?' by M. Shear, *The New York Times*, February 10, 2011. Original: 'Now, Mr. Kaine <u>may face</u> an unwanted repeat of the same, uncomfortable situation'.

[6] 'Obama Budget Escapes Liberal Backlash, for Now' by M. Shear, in *The New York Times*, February 15, 2011. Original: 'Why <u>would the left be</u> so accepting of the president's budget?...And finally, Mr. Obama's message <u>is</u> now being managed by a new, disciplined team at the White House'.

from the normal character of the population. **This became apparent in Darwin's reaction to the widely publicized critique of the selection theory by the engineer Fleeming Jenkin in 1867** (Vorzimmer, 1970; Bowler, 1974; Gayon, 1998).

Jenkin followed the common assumption that individual variation came in two forms: trivial everyday variations and large-scale sports or monstrosities. He accepted that natural selection could act on small variations to produce local varieties or subspecies, but defended the traditional view that there was a limit beyond which such changes could not go,...

Darwin had never believed that natural selection made use of large-scale sports... Yet his letters show that he was deeply disturbed by Jenkin's argument. To understand why, we have to recognize that Darwin did not make the common distinction between everyday variations and sports... Jenkin's swamping argument was thus valid for small variations too, because for Darwin even these were quite rare and would be subject to dilution through interbreeding with the unchanged mass of the population. **At this late stage in his career, Darwin even gave up his original assumption that evolution occurred best in small, isolated populations, because he now feared that such small populations would not throw up enough individual variants for selection to be effective.**[7]

Darwin's reaction to Jenkin's critique is introduced in the first paragraph of this excerpt. The text then goes on to provide background on Jenkin's critique in the second paragraph. The third paragraph turns to the aspects of Darwin's theory that were vulnerable to Jenkin's critique and then finally back to Darwin's reaction to the critique. To determine the interpretation of *now* in the final sentence, it is pointless to look at the tense and aspect of the sentences that figure in the background explanation of Darwin's reaction. The author's use of *now* is linked to the time of the reaction introduced in the first paragraph.

The temporal relations in a text—which determine the temporal perspective point on which a past use of *now* will depend—are not determined by the tense and aspect of individual sentences together with the order in which they appear in the text. To make predictions about where the temporal perspective point lies for a particular sentence, we must look at the broader discourse. To do this systematically, we need a theory of discourse structure and rhetorical relations that tells us something about the temporal relations between units of a discourse.

The rhetorical and temporal relations offered by SDRT provide a better framework for predicting when a clause modified by *now* will shift the time of the discourse and when it will inherit a time made previously available by the discourse. Moreover, when *now* inherits a previously given time, SDRT's relations allow us to say from which clause the *now* clause inherits this time. SDRT posits both *subordinating* and *coordinating* relations. If a clause β is rhetorically related to a clause α with β subordinate to α, then β does not forward the discourse but rather provides more information about α in the form of, e.g., elabora-

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[7] 'Variation from Darwin to the Modern Synthesis' by Peter J. Bowler, in *Variation: A Central Concept in Biology*, B. Hallgrimsson & B.K. Hall (eds.), 2005, Elsevier.

tion, explanation or background. Once the elaboration/explanation/background is complete, the discourse can return to α and proceed from there.

(11) [Jack bought Jill flowers]$_\alpha$ because [it's their anniversary]$_\beta$. [Jill is going to love them]$_\chi$.

Here, β provides an explanation for α, but α is still the main point of the discourse and can be picked up by χ. If β is related to a clause α via a coordinating relation, however, β forwards the discourse so that α is no longer easily available.

(12) [Jack bought Jill flowers]$_\alpha$ and then [he painted her a picture]$_\beta$. [Jill is going to love them]$_\chi$.

α and β form a narrative sequence. α is not the topic of β in any sense; the two clauses describe independent events. β moves the discourse forward and the addition of χ, which attempts to pick up on α, yields an infelicitous discourse.

When a *now* clause, β, is subordinate to another clause α, β will inherit its time from α in the following sense: the interval of time t of the event or state described by β must (at least) overlap the time t' of the event or state described by α. Thus, a *now* clause that is subordinate to another clause will not shift the time of the discourse, regardless of the tense or aspect of the sentence. A *now* clause that is rhetorically related to an input discourse with a coordinating relation, on the other hand, will shift the discourse time relative to its co-argument in the coordinating relation. This does not entail that the *now* clause will introduce a new time relative to the discourse as a whole. Sometimes a *now* clause, β, is related to another clause α via a coordinating relation and α and β form a complex discourse unit that is itself related to another unit χ via a subordinating relation. β then shifts the time relative to α but inherits the time of χ.

(13) [The letter is marked "personal and private"]$_\eta$...[The writer was Lucy Mercer Rutherfurd]$_\chi$, [who decades before had been FDR's mistress]$_\alpha$ and [who **now** was making arrangements...]$_\beta$

Here, α and β provide independent bits of information about Ms. Rutherfurd and would therefore be related via CONTINUATION, a coordinating relation in SDRT. If we look only at α and β, the *now* clause appears to forward the discourse time—*decades before* and *now* make it clear that β took place after α. However, α and β together form a complex discourse unit that provides background on Ms. Rutherford in χ. χ in turn elaborates on η by providing information about *who* wrote the letter. Thus the interpretation of *now* can be traced back up through the subordinating relations to the letter writing event introduced by η, i.e., *now* is interpreted as the time of the letter writing event, as desired.

To limit the scope of our discussion, I focus here on two of SDRT's subordinating relations, ELABORATION and EXPLANATION, and two coordinating relations, RESULT and NARRATION, and offer examples of each.

(14) ELABORATION: if β elaborates α, $t_\beta \subseteq t_\alpha$
    [As she started to recover from her hip injury,]$_\gamma$

[we discovered she had lost the capacity to speak properly.]$_\alpha$
[She was **now** able to emit only a series of sounds mixed with the occasional word.]$_\beta$

If a clause β elaborates on a clause α, then it provides more information *about* α and t_β should therefore be included in t_α. In the example above, γ describes a state that situates the states described in α and β in time. SDRT will treat α as subordinate to γ through a type of elaboration though I will not go into details here about frame adverbials. Because β provides extra information about the discovery mentioned in α—it explains in what sense the author's mother had lost her capacity to speak properly—we get ELABORATION(α, β) Given that β is subordinate to α and α is subordinate to γ, *now* inherits its time from γ and is interpreted as being included in the time of the state described by γ, as desired.

(15) EXPLANATION: if β explains α, $start(t_\beta) < start(t_\alpha)$,
[At this late stage in his career]$_\chi$,
[Darwin even gave up his original assumption...]$_\alpha$
[because he **now** feared that such small populations would not throw up enough individual variants for selection to be effective.]$_\beta$

The explanans must precede that of the explanandum, at least by a bit. In this example, χ situates α (and β) in time, so again, α will be subordinate to χ. β provides an explanation for why Darwin gave up his original assumption (α) so we get EXPLANATION(α, β). The time of *now* overlaps the time of α and, because β falls in the scope of the elaboration between χ and α due to its dependency on α, must be included in the time of χ.

(16) RESULT: if β is a result of α, $start(t_\beta) > start(t_\alpha)$
[In the looting that followed the regime's collapse, last April, the huge prison complex, by then deserted, was stripped of everything...]$_\gamma$
[The coalition authorities had the floors tiled, cells cleaned and repaired, and toilets, showers, and a new medical center added.]$_\alpha$
[Abu Ghraib was **now** a U.S. military prison.]$_\beta$

Again, a cause should occur, or at least start to occur, before its effect. In (16), γ describes the stripping of a given prison complex. Clause α continues the description of the process that resulted in Abu Ghraib's being a U.S. military prison yielding CONTINUATION(γ, α) (and NARRATION(γ, α), see below) and RESULT(α, β). β thus forwards the discourse time relative to γ and α.

(17) NARRATION: if NARRATION(α, β), $t_\alpha < t_\beta$
[But Rokiroki gripped the stranger's wrists...]$_\alpha$
[And **now** he called again to his little daughter...]$_\beta$

Clauses related by NARRATION describe independent events, one of which happens entirely after the other as in (17).

The temporal relations from SDRT set us on the right track for determining the temporal perspective point in a discourse. To give a complete story about

now, however, we need to be able to predict when past uses of *now* will be licensed. In almost all of the examples I studied, *now* suggested some sort of contrast or recent change (cf. Lee & Choi 2009, Recanati 2004). For example,

(2) ...there was none of her in it, just a body that **now** held no essence...
     suggests that the body recently held an essence of her mother.
(18) Abu Ghraib was **now** a U.S. military prison
     suggests that Abu Ghraib had not been a U.S. military prison before.

This effect surely follows, at least in large part, from the semantics of *now*. In fact, when we take *now* away, we often lose that effect. Consider the following example from Lee & Choi both with and without *now*:

(19) Minswu, who was (**now**) in second grade, was very lonely.

With *now*, (19) makes salient the fact that Minswu wasn't always in second grade. This effect is lost if we omit *now*.

  Nevertheless, one should resist forcing a requirement of contrast into the semantics of *now* as Recanati (2004) and Hunter (2010) do. First of all, while some examples make a contrast explicit:

(20) Before being dipped into the liquid air, it would not burn; but **now** it exploded, it was consumed so rapidly.

other examples, like (2), leave it implicit. In these cases, there is no discourse unit that could be related to the *now* clause with a relation like CONTRAST. Still other examples don't seem aptly captured by any interesting notion of contrast, e.g. (5): 'And *now* he called again to his little daughter...'. The *now* clause does enforce a temporal break with the clause that came before but this is arguably not a contrast, as witnessed by the fact that *and* cannot be felicitously replaced with *but*, the paradigm marker for contrast. Finally, some examples involving *now* don't even seem to suggest a recent change or division between two times.

(21) In attacking the problem of the ambiguity of human language, computer science was **now** closing in on what researchers refer to as the "Paris Hilton problem".[8]

In this case, the *now* clause simply seems to elaborate on the first clause; it does not make salient any shift from one time/state/event to another. Interestingly, *now* can be dropped from this example without change of meaning.

  The contrastive feel of so many examples involving *now* results, I claim, from the fact that *now* requires a much closer relation with its antecedent than the discourse relations from SDRT enforce. *Now* actively restricts attention to a limited temporal interval. Where the addition of *now* narrows the temporal interval that would be denoted by a clause without *now*, this narrowing makes salient that which came before or that which comes after the narrow interval, giving rise

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[8] 'A Fight to Win the Future: Computers vs. Humans' by J. Markoff, in *The New York Times*, February 14, 2011. Original: 'computer science <u>is</u> now closing in...'

to a contrastive effect. SDRT requires, for example, that if EXPLANATION(α, β), where α is the explanandum and β, the explanans, then t_β must begin before t_α. This is consistent with t_β lying completely in the past of t_α or starting well before it. When β is a *now* clause, however, the temporal relation between α and β is much more restricted: the time of β will immediately precede α as in (15). The relation between *now* and its antecedent in a subordinating relation will be as close to inclusion as the temporal relations provided by SDRT allow. For coordinating relations, a *now* clause enforces a sharp, temporal division between itself and its co-argument; it precludes temporal overlap.

I predict that *now* will be licensed when a sharp division is needed between two clauses related by a coordinating relation where this division is not enforced by the coordinating relation or where the relation is ambiguous without *now*. Neither CONTRAST nor CONTINUATION enforces a temporal relation on its arguments; CONTINUATION is coordinating and CONTRAST generally is. Suppose we omit *now* from (3), in which the *now* clause is related to α with CONTINUATION, and from (6), in which the *now* clause is related to α via CONTRAST:

(3') [The writer was Lucy Mercer Rutherfurd]$_\gamma$, [who decades before had been FDR's mistress]$_\alpha$ and [who was making arrangements...]$_\beta$

(6') [Before being dipped into the liquid air, it would not burn]$_\alpha$; [but it exploded, it was consumed so rapidly]$_\beta$

The examples are less clear because CONTINUATION and BACKGROUND do not alone enforce a temporal break between their arguments.

Now is particularly useful when used in complex discourse units that are subordinate to other units. Consider (3). Both clauses in the parenthetical provide information about Ms. Rutherfurd and so are connected via CONTINUATION. But while α provides general background information on Ms. Rutherfurd, β provides information on Ms. Rutherfurd *qua author of the letter under discussion*. β enforces a temporal break between itself and α and requires temporal overlap with γ. In this way, β marks the end of the background interlude and a return to a higher topic in the text, in this case, the letter writing event. The excerpt from which (15) is taken shows a similar cycle: Darwin's reaction to Jenkin's critique is introduced in one paragraph, the text then provides background and finally ends with a return to Darwin's reaction. This return is marked by the *now* clause which enforces a temporal break with the background material that precedes it and a temporal overlap with the immediately superordinate discourse unit, that in which Jenkin's critique is introduced. Like remarks can be made for (6). α and β are related via contrast and the *now* both enforces a much needed temporal break between the two clauses and returns the discussion to the topic of the reaction of dipping a piece of felt into the liquid air.

Because ELABORATION already requires temporal inclusion, I predict that *now* will be dispensable when it figures in a clause that elaborates on a clause α so long as the *now* clause does not figure in a complex discourse unit that is, as a whole, subordinate to α. This is what we see in (21). Nevertheless, *now* is often used in elaborations to emphasize a certain discourse structure or topic. Consider (2): 'Alone, because there was none of her in it, just a body that

now held no essence of my mum'. *Now* could be omitted without affecting the discourse structure or the time of the latter clause, but by using *now*, the author emphasizes the changes that she watched her mother undergo. *Now* emphasizes the fact that the whole elaboration in which it figures—that of the author being alone in her mother's room and so on—itself figures in a much broader discussion about her mother's change of state. Thus we find *now* used in elaborations when the discourse topic concerns a change of state, even if the *now* clause doesn't immediately figure in a contrastive discourse structure.

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