From the Guest Editor:
"Creating the Contours of Grammar"

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We are pleased to present *Aspect in Slavic: Creating Time, Creating Grammar* as a special issue of the *Journal of Slavic Linguistics*. Here we offer some of the research results of the CLEAR (Cognitive Linguistics: Empirical Approaches to Russian) group at the University of Tromsø and our collaborators. This research was sponsored by a grant from the Norwegian Research Council for a project entitled Neat Theories, Messy Realities and by a grant from the Centre for Advanced Study at the Norwegian Academy of Science and Letters for a project entitled Time Is Space: Unconscious Models and Conscious Acts.[1]

All of the contributions to this special issue approach topics relating to the metaphorical representation and evolution of grammar, particularly with respect to verbs and their interpretation. In this introduction I will situate these works with respect to relevant research on the role of cognitive processes in structuring grammar (e.g., Coulson 2006, Fauconnier and Turner 2002 and 2008, Langacker 2006 and 2008), and on the metaphorical structure of aspect (Croft 2012).

As human beings, we tend to think of reality as something objectively separate from ourselves that is delivered to our perceptual organs in conveniently discrete units. However, there is ample evidence that this is a naive and incomplete view. Instead, external input is processed in an interactive fashion that creates structure beyond what is "out there". As Coulson (2006) points out, vision is an excellent example of this interactive process. At the place where the optic nerve passes through the retina, there are no photoreceptor cells, so we have

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no visual input. Yet we do not experience a hole in the visual field, because our brains fill in what would be missing. Blinking also disrupts visual input for about 100–400 milliseconds about 10 times per minute, but we don't notice any discontinuity thanks again to the completion effected by our brains. Researchers in robotics face enormous obstacles due to the differences between our human experience of vision, in which boundaries and objects are easy to see, as opposed to cameras, which are unable to detect the relevant discontinuities. Various optical illusions are made possible by the constructive nature of vision, which is context-sensitive and able to interpolate where input is inadequate due to differences in lighting, viewpoint angle, or obstructions.

Language is similarly context-sensitive and constructive. Fauconnier and Turner (2002 and 2008) present a detailed model of how cognitive processes such as conceptual integration and compression make the construction of meaning possible. The full meaning of an utterance is not encoded in the linguistic string. Instead, background knowledge and context are essential resources in making meaning possible. More crucially, use of language often involves partitioning and organizing information in creative ways, given that new structure can emerge as a result of cognitive processes. We can create distinctions: the perfective versus imperfective distinction is not something that exists objectively; instead, it is creatively projected onto perceived events, and different language communities are free to construct such distinctions in different ways. Thanks to blending, we can integrate mental spaces that clash with reality and thus conceive of things that don't exist, as in the use of modals, counterfactuals, and future tense (Fauconnier and Turner 2002: chapter 11). We can even assign multiple interpretations to a single item of realia, such as *snails* (which evokes a biological frame) vs. *escargot* (which evokes a culinary frame; Langacker 2008: 49).

Coulson (2006) makes the case that parallels between the fundamentally constructive processes of vision and of language are not merely accidental. They likely rely upon the same neurological mechanisms of connectivity, in which the behavior of any given neuron is influenced by others that connect to it, yielding networks of cells that fire simultaneously. This connectivity makes it possible to integrate specific features of input with context and background knowledge and to fill in gaps and construct borders. Connectivity also facilitates mapping relationships such as metaphor and metonymy.

This special issue focuses on how the constructive processes of language create distinctions in terms of our understanding of time, aspect, and grammatical constructions and how these processes evolve. The articles in this special issue strongly confirm the value of investigating Slavic aspect. Slavic aspect is at once crisply demarcated morphologically yet conceptually rich and thus serves as a valuable testing ground for typological proposals that claim cross-linguistic validity, such as Croft's (2012) model of aspect. The first section of this article examines the creative process itself, particularly in relation to the linguistic understanding of time, and confronts Croft's model with Slavic data. The second section focuses on the language changes described in the contributions. In this introductory article, the contributions in this issue will be referenced by the names of the authors thus: Andersen, Dahl, Dickey, Nesset, and Sokolova.

1. Creating the Contours of Time

Fauconnier and Turner (2008) claim that time is an emergent property of conceptual integration based on human experience. We experience a sequence of events such as <sunup, sundown, sunup, sundown, … > and despite the fact that each of these events is unique, we perform a mental compression that creates a cyclic model of time. The structure of time emerges from this imaginative process.

Dahl likewise claims that our concept of time is a creative construction rather than the observation of an independently existing structure. According to Dahl, we understand time in terms of static states connected by transitions from one state to another (the equivalent of Vendlerian achievements). The transitions, represented in language as telic predicates, are crucial in this model, but Dahl points out that they are themselves constructs. The construction of telic transition events depends upon the human tendency to perceive a boundary wherever there is some difference in the distribution of properties. For example, if we see a matrix of white boxes placed adjacent to a matrix of black boxes, we perceive a boundary between the two groups of boxes even though there is no line running between them. In an analogous way we construct telic transitions, which are events understood as reified objects, namely boundaries between states. Collectively these transitions define the domain of time by populating it with time points and intervals.

Dahl's model of time is consistent with Langacker's (2006) more general view of the relationship between continuity and discreteness. When presented with a continuous domain, we are faced with the problem that we cannot specify anything useful in order to anchor meaning. We need to exploit whatever contrasts we can detect in order to identify boundaries and thus create reference points. These boundaries and reference points facilitate emergent structure. An example is a reification of the type *archipelago* (Langacker 2006: 119). On the face of it, there is no such object since there is no boundary around an archipelago, nor even any non-arbitrary place for such a boundary, since it could lie anywhere between the edges of the outer islands and any other islands that are not in the archipelago, perhaps hundreds of miles away. The islands that belong to the archipelago are merely a non-random distribution of elements in the otherwise continuous domain of the ocean. The same is true of many nouns that denote collections, such as *village*, *family*, *herd*. Langacker claims that emergent structures like *archipelago* are prevalent in language, which reveals a tendency to favor discreteness. The "boundary" that surrounds an archipelago is the spatial equivalent of Dahl's telic transition, which is likewise an emergent structure. Dahl goes one step further by asserting that the very domain of time itself, rather than having a prior existence as a continuum, is actually created by telic transitions.

The basic building blocks of Dahl's temporal domain, namely states and transitions, are the same basic elements found in Croft's (2012: chapter 2) model of aspectual types. Croft sets up a geometric model for aspect with two dimensions: t = time (along the horizontal axis) and q = qualitative states (along the vertical axis, where distance indicates difference between states). In Figure 1 we see the aspectual contour for the predicate *Dver' otkrylas'* 'The door opened' as diagrammed by Croft: it begins with a state in which the door is closed, a transition in which it becomes open, and then a state in which the door is open. The initial state is represented as a horizontal dotted segment, the transition is a vertical segment that is solid because this part of the contour is profiled in this predicate, and the final state is another horizontal dotted segment.
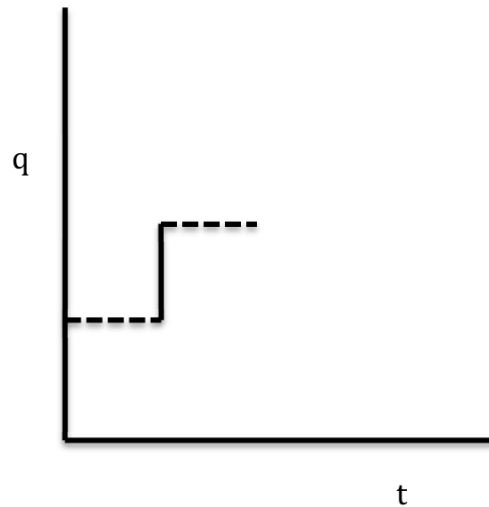
Figure 1. Contour of Achievement (Croft 2012: 60)

From Dahl's perspective, both the states and the transitions between them are emergent structures, and these structures in turn define the parameter of time. For both Croft and Dahl, various combinations of states and transitions yield the contours of various event types, and both have recognized the importance of construal, since a given situation can be construed in various ways. For example, the distinction between Vendlerian achievements and accomplishments depends on whether an event is construed as simple or complex. Here I illustrate with Russian examples. In a statement like (1), *ugovoril* 'convinced' functions as a simple achievement and could be diagrammed as in Figure 1. However, in (2) the same verb reflects a contour like in Figure 2, where we have an initial state of rest (horizontal segment), a transition to an onset of activity (vertical segment), an activity consisting of the presentation of arguments (zigzag segment), another transition (vertical segment), and a final state where the interlocutor is convinced (horizontal segment). In recognition of the intermediate nature of this type, Croft labels it both "runup achievement" and "nonincremental accomplishment".
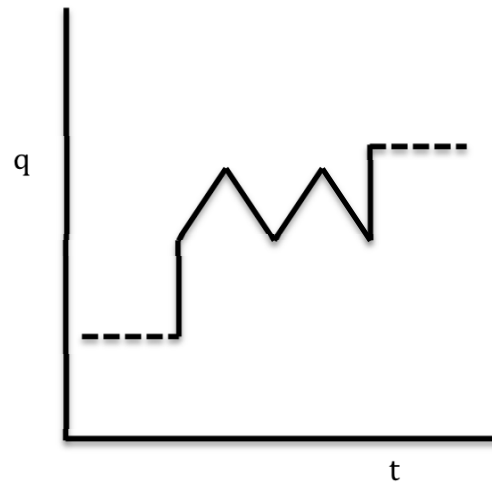
Figure 2. Contour of Runup Achievement/Nonincremental
Accomplishment (Croft 2012: 62)

(1)   Snova prixodil Semenov. Ugovoril menja vyjti vo dvor.
      Predložil zakurit', no ja otkazalsja.
                              [Andrej Gelasimov. Nežnyj vozrast (2001)]

      'Semenov came again. He convinced me to come outside. He
      offered me a cigarette, but I refused.'

(2)   S trudom ugovoril ego pojti k nam, pomog podnjat'sja po
      lestnice.   [Viktor Astaf'ev. Zatesi (1999) // "Novyj mir", 2000]

      "It took some doing to convince him to come to visit us, and I
      helped him up the stairs."

Note that the interpretation of the activity of presenting arguments in
this two-dimensional model (the zigzag segment) is problematic, since
it seems to suggest a wavering back and forth between two different
states along the q dimension, which is not really the case. Instead we
have an activity that does not necessarily lead to a change of state (al-
though in the case of a runup achievement it is coupled with a change
to a successful final state). I will suggest a revision of this part of the
model and diagram below (see Figure 6 and accompanying text).

Croft has worked out a taxonomy of aspectual contours for various event types, and these are relevant also for other articles in this special issue. For example there is a relationship between a cyclic activity like *maxat'* 'wave (repeatedly)', as diagrammed in Figure 3 and a semelfactive like *maxnut'* 'wave (once)', as diagrammed in Figure 4.
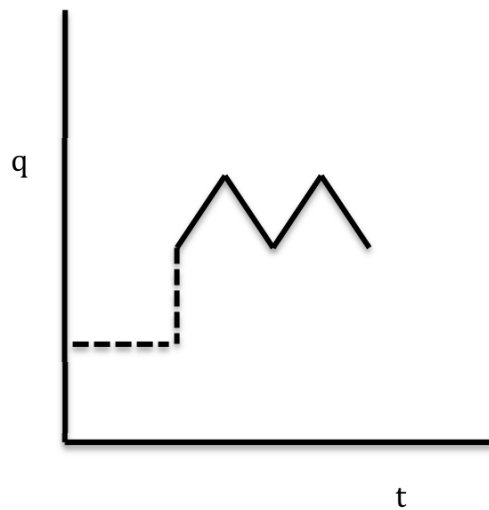

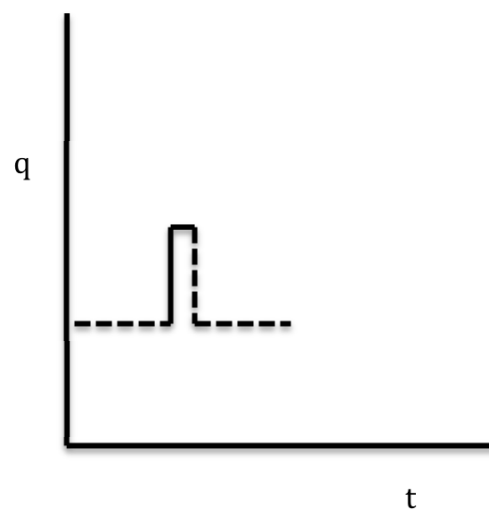**Figure 3.** Contour of Cyclic Activity (Croft 2012: 61)

Figure 4. Contour of Semelfactive (Croft 2012: 60)

Figure 3 shows an initial rest state followed by an onset transition and then an activity consisting of repeated cycles (zigzag line). The repeated cycles represent repeated waving motions in the case of *maxat'* 'wave (repeatedly)'. Figure 4 begins with an initial rest state, a transition and peak and then a transition back to the state of rest that is also the final state. The transition and peak profile the movement of the hand in a single wave in the case of *maxnut'* 'wave (once)', after which the hand returns to its original position.

There are several problems with Croft's model, and they are best addressed with respect to Nesset's study of Russian semelfactive verbs, which highlights the relationship between cyclic activities and semelfactives. According to Nesset, semelfactives are associated with four properties: uniformity, instantaneousness, non-resultativity, and single occurrence. Uniformity refers to a repeated cycle yielding conceptually identical acts, such that each wave is basically the same as every other wave. From the perspective of the observer, a wave is a very brief, instantaneous act. Waving is non-resultative because the hand returns after each wave to the same position and neither the hand (nor anything else) undergoes a change of state. With a semelfactive verb we witness just a single occurrence, in this case, just one wave. While a prototypical example of a semelfactive verb in Russian will show all four properties, deviations are possible along all of these parameters. The occasionalism *rabotnut'* 'do one lick of work' defies uniformity, since work is not usually conceived of as a series of identical cycles. *Kutnut'* 'go on a binge' is non-instantaneous. *Prygnut' čerez zabor* 'jump over the fence' is arguably resultative in that the subject arrives at the other side of the fence. And semelfactives are compatible with quantifiers that specify multiple occurrences, as in *kriknut' tri raza* 'scream three times'. Still, a single occurrence of a uniform, instantaneous, and non-resultative act is the standard for recognizing a semelfactive event.

Unfortunately, Croft labels the semelfactive as "cyclic achievement". This is problematic because the semelfactive is not a type of achievement: the state at the end is typically the same as the state at the beginning, as argued by Nesset. Also, Croft's diagrams fail to emphasize the relationship between cyclic activities and semelfactives. This could be remedied if we revise Figure 4 as in Figure 5. Note that Figure 5 is closer to Talmy's diagram (2000: 68); he likewise recognizes "mutiplex" verbs that can denote a series of cycles and their relation-

ship to "full cycle" verbs that denote just one cycle from such a series with similar diagrams. Note also that this diagram would also account for the semelfactive type found in Russian when non-determined motion verbs are perfectivized with the *s-* prefix as in *sxodit'* 'go some place and come back once'.
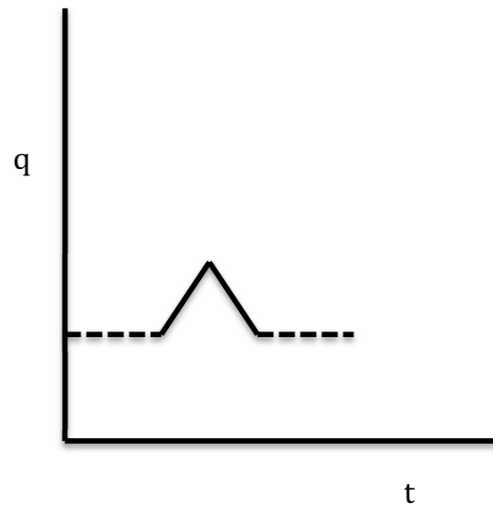

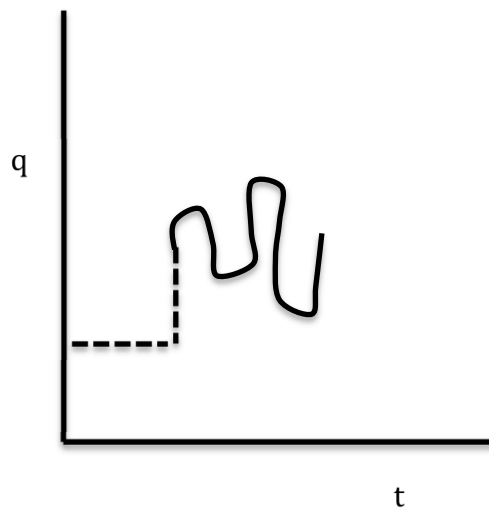**Figure 5.** Revised Contour of Semelfactive

Figure 6. Contour of Heterogeneous Undirected Activity

A further problem is that not all undirected activities are cyclic. As Nesset points out, many are heterogeneous, like *rabotat'* 'work', and would perhaps be better captured as in Figure 6, where the squiggle represents any kind of undirected activity and within the squiggle, displacement along the q axis does not correspond to different states. However, one needs to keep in mind that the difference between cyclic and heterogeneous activities is not a crisp +/− boundary, but probably more gradient, since a verb like *pet'* 'sing' can be construed as either repeated cycles of notes, or can profile the fact that different notes are sung. Nesset's research shows that there are highly prototypical sem-elfactives (like *maxnut'* 'wave') and progressively less prototypical ones (like *rabotnut'* 'do one lick of work'), and ideally a model would be flexible enough to account for this observation.

Dickey describes a grammatical distinction present in Old and Middle Czech where in the third person the *l*-participle could occur either with or without the auxiliary verb. Dickey argues that when the auxiliary was present, as in *vyšel jest* 'he has gone out', the effect was that of a perfect with current relevance, where the state is profiled, as in Figure 7.
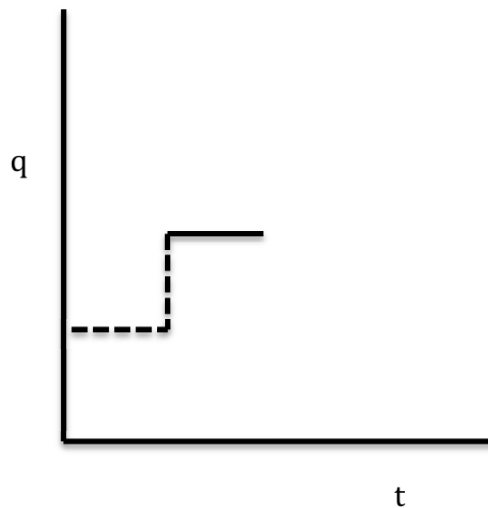

Figure 7. Contour of Acquired State (Croft 2012: 58)

By contrast, in an unauxiliated expression like *vyšel* 'he went out', the state is not profiled, leaving only the transition, which could be diagrammed as shown previously in Figure 1. The distinction in Old and Middle Czech was thus between a construal that profiled the final state expressed with the auxiliary and a neutral past-tense construal without the auxiliary that profiled only the transition.

Andersen tracks the past tenses in different stages of Common Slavic. In both the early and the later period there is an aspectual distinction between aorist and imperfect, but in the middle period the two have merged to yield a single past tense. In the early period, the aspectual contours of Figures 1, 2, and 5 can represent the aorist for various verbs depending upon their construals; what is crucial is that each of these contours profiles a telic transition (a change of state). By contrast, Figures 3 and 6 can represent the imperfect, where we profile activities rather than a transition at either an inception or endpoint. In effect, these contours have collapsed in the middle period: the qualitative state dimension is no longer grammatically relevant, leaving only the time dimension, where the single remaining preterite only expresses tense. This remaining time dimension is then redifferentiated aspectually when the new imperfect is built and the difference in profiling described here becomes relevant again.

2. Evolution of the Contours of Grammar

Sokolova's study of the metaphorical interpretations of constructions with the verbs *sypat'* 'strew' and *gruzit'* 'load' does not directly address time and aspectual contours. The author finds that prefixed perfective verbs are more focused on objects and more likely to reify an event as a change of state. This process of reification facilitates metaphorical interpretation and is a good place to start our discussion of the evolution of contours of grammar.

Sokolova shows that metaphor is not merely a conceptual mapping from a concrete domain to an abstract one. It can also be accompanied by differences in preferences for grammatical constructions. This usually means that the metaphorical expressions use a more restricted range of grammatical constructions and often prefer constructions that are less common for non-metaphorical uses. For example, in non-metaphorical uses *sypat'* 'strew' can be found in both the Goal-Object construction in (3), where the strawberries are the direct object and thus

the goal for the sugar, and in the Theme-Object construction in (4), where the goal is the casserole that the berries go into. There is also a Hybrid construction in (5) that marks the Theme (snow) with the instrumental case and the Goal (windows) with a prepositional phrase (these examples are adapted from Sokolova).

(3) Zasyp'te klubniku saxarom.

     'Cover the strawberries with sugar.'

(4) Zasyp'te jagody v kastrjulju.

     'Pour the berries into the casserole.'

(5) Veter syplet snegom v okna.

     'The wind strews snow against the windows.'

Metaphorical uses of *sypat'* 'strew' tend to use the hybrid construction, as in (6), and frequently use it in the reduced version (with the goal omitted), as in (7).

(6) On sypal citatami v sobesednika.

     'He strewed quotations at his interlocutor.'

(7) On stal ugrjumym, sypal zlymi šutkami.

     'He became gloomy and strewed angry jokes about.'

   Gruzit' 'load' also allows metaphorical uses, but these are more frequent in the Goal-Object construction, often with the Theme omitted, as in the prefixed perfective *zagruzit' čeloveka* lit. 'load a person', which means 'confuse a person' (with the omitted theme of *informaciej* 'with information'). Sokolova shows that metaphorical use specifies not just the conceptual shift of mapping from the source domain (strewing or loading) to the target domain (speaking), but also specifies the range of grammatical constructions and their distribution differently from concrete use.

   Whereas metaphor reduces the range of a grammatical phenomenon in the case of *sypat'* 'strew' and *gruzit'* 'load', there is a tendency, noted by Nesset, in the opposite direction, namely extension in the

historical development of semelfactive verbs in Russian. Old Church Slavonic probably did not have a well-established category of semelfactive verbs, but there were seven verbs that referred to bodily acts that were arguably good candidates for semelfactives. An example is *plinǫti/pljunǫti* 'spit', which can be understood to refer to a single cycle of an activity consisting of repeated identical non-resultative spitting acts. The small cohort of Old Church Slavonic semelfactive candidate verbs all had the *-nǫ-* suffix, giving them a formal mark that was found in only fourteen unprefixed perfective verbs. The combination of similar semantics and shared morphology presented an opportunity for recognizing these verbs as a special group that could then be further extended. Not all Slavic languages realized this opportunity to the same extent, but in Old Russian we see that by the 11th century the group of verbs referring to bodily acts had grown to thirty-two (with items such as *maxnuti* 'wave once'), a total of fifteen auditory and optical verbs (such as *kriknuti* 'scream' and *blesnuti* 'flash') were added in the 12th and 13th centuries, and in the 17th century a verb of motion (*nyrnuti* 'dash off') appeared. The semelfactive category continues to grow in Contemporary Standard Russian, particularly with new verbs referring to behaviors (like *psixanut'* 'freak out'). Nesset gives us a detailed account of how this historical process progressed as the semelfactives became a clearly recognizable and productive part of the Russian aspectual system.

Historical changes relating to Slavic aspect are also examined by Andersen and Dickey. Andersen details a complex set of changes in which an older distinction between the imperfect and the aorist collapses, motivated by some partially overlapping paradigms, and then how a similar distinction was constructed anew by implementing an agglutinative string of affixes to build a new imperfect. As described in the previous section, the earliest and latest stages in this set of changes show an aspectual distinction that is attenuated in the middle stage, where the merged preterite expresses merely past tense. Andersen's account is compatible with the data we have on the distribution of past tense forms in texts of Old Church Slavonic: the aorist functions as a generalized past tense freely formed from both perfective and imperfective verbs, whereas the innovative imperfect is marked and with few exceptions limited to imperfective verbs (Eckhoff and Janda forthcoming).

Dickey offers us the first study of the loss of the auxiliary from the compound past tense in Old Czech. The Old Church Slavonic *esmь obidělъ* 'I have offended' perfect was inherited by all the Slavic languages, but in North Slavic this grammatical construction replaced both the aorist and imperfect as a generalized past tense. In Russian, for example, this happened rather early, and the auxiliary was also lost for all forms, whereas in Czech this change came later and resulted in the loss of the auxiliary only from the third-person forms. Although in Modern Czech the remaining first- and second-person auxiliaries mark only person and number, in Old and Middle Czech there was variation between auxiliated and unauxiliated forms in the third person. Dickey makes the case that in approximately the 14th–16th centuries, there was a distinction between a marked auxiliated perfect tense and a neutral unauxiliated past tense (see the difference in contours diagrammed in the preceding section). This was an opportunistic distinction motivated in part by an important difference between first and second person on the one hand and third person on the other. An event presented in the third person normally references a neutral ground, which is maximally subjective in terms of the speaker and hearer. The speaker and hearer are thus "offstage" observers. First and second person expressions are by contrast necessarily objective in that the speaker and/or hearer are the observers that ground the reference; they are necessarily "onstage". Whereas one cannot retain first or second person and at the same time remove them from the ground, there is a potential for variation in the third person, adding an "onstage" grounding role that makes the relevance of the result emphatic. In other words, the third person provides an opportunity to detect differences in an otherwise continuous domain of past time reference. On the basis of corpus examples and statistical analyses, Dickey presents compelling evidence for this distinction, which was active for several centuries before it was abandoned in the evolution of Modern Czech.

There is a similarity between Dickey's and Andersen's studies insofar as both describe historical changes with "transitional categories". These transitional categories reflect either distinctions that emerge and then disappear (in the case of current relevance for auxiliated vs. unauxiliated forms in Old and Middle Czech), or distinctions that disappear and then reemerge (in the case of the aspectual distinction between aorist and imperfect).

3. Concluding Remarks

The articles in this special issue make important contributions to contemporary linguistics both in terms of theory and in terms of descriptive detail. The account of time presented by Dahl comports well with what is known about metaphorical thinking and general cognitive strategies, which tend to seize upon opportunities for detecting discrete differences and for using them as points of reference. Dahl's model of time is likewise compatible with proposals by Langacker and Fauconnier and Turner. Croft's model of aspectual contours provides a valuable means to visualize the relationship between aspect and time, but his model requires some revision in order to represent semelfactives and their relationship to cyclic (homogeneous) and heterogeneous activities. With our revisions, Croft's diagrams can be used to capture aspectual distinctions invoked by Andersen, Dickey, and Nesset, although there remain issues of prototypicality and gradience that are hard to integrate into Croft's model. Our contributors show that historical changes are not merely losses and innovations, but complex aggregates of phenomena with various motives, including: morphological ones, as in the case of syncretic affixes (Andersen) and the *-nǫ-* > *-nu-* suffix (Nesset); and semantic ones, as in the case of the semelfactive meaning (Nesset) and the meaning of current relevance (Dickey). In the development of metaphorical uses we also see syntactic motives in addition to semantic ones (Sokolova). Taken together, these contributions point toward language as a harmonious if complex system in which the same strategies apply across various phenomena, creating the contours of grammar.

References

Coulson, Seana. (2006) "Constructing meaning". *Metaphor and symbol* 21: 245–66.

Croft, William. (2012) *Verbs: Aspect and causal structure.* Oxford: Oxford University Press.

Eckhoff, Hanne M. and Laura A. Janda. (forthcoming) "Grammatical profiles and aspect in Old Church Slavonic". *Transactions of the Philological Society*.

Fauconnier, Gilles and Mark Turner. (2002) *The way we think*. New York: Basic Books.

⸻. (2008) "Rethinking metaphor". Ray Gibbs, ed. *Cambridge handbook of metaphor and thought*. New York: Cambridge University Press, 55–66.

Langacker, Ronald W. (2006) "On the continuous debate about discreteness". *Cognitive linguistics* 17: 107–51.

⸻. (2008) *Cognitive Grammar: A basic introduction.* Oxford: Oxford University Press.

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