TELICITY, ASPECT, AND THE CREATION OF "FICTIONAL TRUTH":
LUBOMÍR DOLEŽEL'S CONTRIBUTIONS TO UNDERSTANDING METAPHOR
AND COGNITION

by

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ABSTRACT

The compilation of my research as a whole shows the residual influence and continuing value of Prague School linguistic theories on the study of narrative. Alongside challenges in the study of (especially Czech and Slovak) languages, the analysis of narrative has been the main context for the application of Prague School thinking. Yet, unfortunately, most literary scholars, unfamiliar with general linguistic principles that could strengthen understanding of how narrative works, are even less aware of specific contributions made by the Prague School. This academically impoverishing and widely prevalent unfamiliarity has a calculated, even sinister, origin almost certainly related to the Prague School's intentional dispersal and the active suppression of their ideas at the hands of the Nazis and later the Soviets during their respective occupations. My hope with this thesis is to raise awareness of the Prague School's relevance to studies of the mind involved in interpreting figurative language—especially metaphor. My thesis argues for the relevance of the Prague Linguistic Circle's thought, and especially that of Lubomír Doležel, to analyses of the role of metaphor in cognition. Doležel's work on the part grammar plays in the conception of time in Balto-Slavic languages, for instance, reveals an elegant understanding of metaphor as a "medium of cognition." Doležel's discussions of telicity and aspect, specifically, and of the creative formulae involved in narrative's "fictional worlds," contribute in significant ways to developing research on artificial intelligence and the programmability of creative processes.

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INTRODUCTION
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Structuralism is history; we live and work in the poststructuralist era. But even poststructuralists have to face two age-old questions. First is literature a type of art, and thus in the company of music, painting, sculpture, dance, or is literature a medium of cognition and/or persuasion, and thus in the company of sociological or psychological case studies, journalism, propaganda, moral and metaphysical philosophizing, and political or religious sermonizing? And second, is the study of literature based on rational argument, systematic method, conceptual precision, and empirical evidence, or is it a domain of antirationality, random insight, conceptual sloppiness, and ideological dogma? Whoever has the courage to tackle these questions will find strong inspiration and lasting support in Prague structuralism.
- Lubomír Doležel, "Poststructuralism: A View from Charles Bridge"

"Problems" of Balto-Slavic Languages

How does knowledge of the grammatical structure of Balto-Slavic languages inform our understanding of the Prague School's contributions to questions addressing the relationship between metaphor and the mind? Based on systematic examination of the grammar of Czech, Russian, Bulgarian, and the Balto-Slavic language family as a whole, I have become aware of numerous aspects of the languages that cause frustration and confusion among native speakers and linguists, including ambiguity in syntax, seemingly arbitrary relationships between spelling and pronunciation, confounding declensions and conjugations for both nouns and verbs, numerous and nuanced synonyms, and perhaps most importantly, verb aspect.

While some convolutions are common across all the Balto-Slavic languages, others are specific only to certain members of the language group. Especially in Czech, the primary language of the Prague Linguistic Circle, the complexity that leads to

syntactical ambiguity seems a source of frustration and confusion. In his *Basic Course in Czech*, Josef Dohnal explains that because of the many affixes attached to words to show their case, number, gender, aspect, etc., word order is unimportant: "The difference between subject and object is expressed in English by their word order," but, in Czech, as in other inflected languages, "the word order does not express the difference [grammatical relationships] between them" (21-2). Martina Gonova, now an English-Czech translator in London, claims, however, that word order *is* important to grammatical function but also difficult to understand and lost even to native speakers: "I've always had A's in Czech and now that I was doing the translation course, I constantly had 'zeugma' [a Greek rhetorical term, meaning a usage problem] written in feedback when I thought everything was fine." In Russian, the relationship of syntax to grammar seems similar to that of English, with the subject first, followed by the verb and the object, if any. Also, as in English, adjectives in Russian are expressed before nouns (Matthews 76-85). Dr. Justyna Kostkowska, professor of English and a native Polish speaker, explains that the syntax of Polish, also highly synthetic (with suffix- and prefix-rich structures), is easiest to master through "learn[ing] whole sentences by immersion," because word order can be fluid and subjective.

One of the biggest challenges to Western speakers of Romance languages learning Russian lies in its alphabet. The Cyrillic characters themselves are difficult to adapt to for users of the Latin alphabet, but also the relationship between spelling and pronunciation is, even experts seem uniformly to agree, wholly mystifying:

> The vowel letters . . . often tend to be misleading, especially when they are not stressed[,] and unless the position of the stress is known (and this can

be acquired only with practice), it is quite impossible to pronounce the majority of Russian words, except monosyllables, correctly. (Matthews 8)

Nina Komova, a language student in Latvia whose second language is Russian, concedes that Russian is an "extremely difficult language" and that spelling is particularly daunting: "In [the] Russian alphabet there are such letters that don't have a pronunciation." American student Adam Emerson, who studied Russian for a year on a Fulbright Scholarship from Middle Tennessee State University's Honors College, echoes the consensus concerning the difficulty between Russian spelling and pronunciation. He notes that, on the one hand, "the switch to Cyrillic is a little jarring at first, but . . . pronunciation, on the other hand, is somewhat difficult. . . . Transcription [to English] can be difficult when you don't exactly know how to spell a word, due to the fact that unstressed vowels all sound almost exactly the same in Russian." After saying this, though, Emerson confesses, "I would say Polish is much more difficult when it comes to pronunciation." Dr. Kostkowska agrees, commenting plainly that "Polish spelling is a bear" because of its tiny distinctions and numerous exceptions.

Despite the numerous complexities Balto-Slavic languages share, in nearly every article I consulted and in every conversation with native speakers I had, one major source of frustration and confusion was consistent: that of verb aspect. The grammatical function of aspect is not unknown to other language families. English verbs have three major aspects: simple (*I go*), perfect (*I have gone*), and progressive (*I am going*). Yet the Slavic concept of aspect is far more embedded, with every verb presented in either perfect or imperfect aspect, on top of the six (or more) declensions for gendered nouns that the verbs must match. Even with this complex grammatical precision, though, there can be

confusion. Aspect can usually be determined synthetically, with affixes, but, just as in English, many verbs are irregular, making identification of tense difficult. Aspect in Slavic languages lends itself to further room for confusion, especially insofar as discerning an understanding of time is concerned.

Use of aspect often is unclear when expressing whether an action has been completed, is in process, or is repeating. In "How Telicity Creates Time," Östen Dahl focuses on how aspect sheds light on the conceptual creation of time based on articulating a change in events (58, 61). Dahl's editor, Laura A. Janda, helps draw the connection to the Prague School between aspect and conceptualizations of time by explaining that, based on cognitive research, language, like vision, allows speakers and listeners to construct reality through the use of context. Furthermore, the use of grammar to communicate ideas—such as modals (or conditionals, such as *may*, *might*, *should*, etc.), counterfactuals (or dialogical structures such as *if-then* statements), and the future tense—allows speakers to manipulate language in order to see beyond the reality. Vocabulary choices, of course, most obviously, can also change views of reality; in Janda's example of *snail* vs. *escargot* (2), she explains how perception of an object can change based on how it is linguistically marked. Slavic languages, Janda claims, shed highly nuanced light on the perception of time because of their use of aspect (3).

Thus, Slavic languages present major "problems"—not just for foreign learners but for native speakers as well. Although these Balto-Slavic language problems of ambiguity, pronunciation, spelling, aspect, vocabulary, etc. can be perceived as frustrations, they can also provide deeper insight into the development of certain fields of

inquiry—such as the relationship between a culture's perception of time and metaphor. The Prague School delights in scrutinizing these "enigmas."

History of the Prague School

In October of 1926, when seven linguists met at Charles University in Prague to regard a visiting German scholar presenting on the vivacity of European language families, they thought they were simply meeting to promote camaraderie in their mutual field of interest.[1] Linguistics (especially in Eastern Europe) was a realm that had not been, as of yet, widely traversed. Even with Russian formalism dictating strict prescriptive rules of figurative language and Ferdinand de Saussure's work paving ground for the coming structuralism movement, there was little advancement in linguistics *per se* at the time. Yet these intrepid visionaries in Prague recognized everyday problems in the use of the native language they shared, and, finding like-minded thinkers, they formed a bond to address Czech's intriguing linguistic challenges. They likely had no idea of the enormity of the legacy they would leave to the discipline of linguistics and history of consciousness as a whole. In the course of about twenty-five years, the assembly of seven grew to over fifty registered members, producing at least three regular periodicals (some with as many as twenty volumes), hosting two annual international conferences that met for decades, and inspiring innumerable discrete publications of research. The group of distinguished linguists was known among its contemporaries as *L'École de Prague*—the Prague School.

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[1] Mathesius, "Ten Years of the Prague Linguistic Circle," 8-9.

Vilém Mathesius, in his 1911 essay "On the Potentiality of the Phenomena of Language," considered the inaugural publication of Prague School thought, identified issues that, in his estimation, were not being adequately addressed in contemporary linguistic study. Mathesius's main concern was with phenomenology, a philosophy that subjective ideas can be studied objectively. In terms of the study of narrative, phenomenology claims that aesthetic effects on individuals can be quantified and understood by the structures of words and in the qualities of writing itself. In phenomenology, the sheer complexity of language physiologically affects both speaker/writer and hearer/reader. From the workings of the brain and muscles that connect thought to speech and perceptions of sound, to the communication between dialects, languages, and species, an infinite amount of information influenced a listener, producing physiological responses and culturally and physiologically influencing others.[2] Yet, Mathesius argued, linguists had failed to address these vast domains of potential information concerning "knowledge-building," and this scarcity of innovative linguistic research had been bequeathed for generations. The precise and myriad phenomena of language were being ignored, which had produced a fundamental error in understanding cognition and communication.

In the discipline of linguistics, Mathesius believed that experts too often observed the forest and too little the trees. Instead, he wanted to examine the limbs, the bark, the veins of the leaves and strongly to persuade others to appreciate the complex beauty that made up the forest. In his first major publication on this subject (1911), Mathesius makes

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[2] Vilém Mathesius, "O potenciálnosti jevů jazkových" [On the Potentiality of Phenomena of Language], 3-4.

this bold statement against the current state of affairs in linguistic research: "The very development of linguistics thus reveals that linguistics should not only try to discover regularities as general as possible but also to fight, even more intensely, against the excessive, mechanical [over-]simplification of language phenomena."[3] Mathesius's solution to the gross oversight of language's "phenomena" was not to focus on the "outlines of languages," as he thought the field of linguistics was doing, but to delve into individual speech oscillations and patterns. To unlock the complexities of communication, vocalizations had to be broken into the smallest components—both within an individual's speech patterns and in shared sounds—later called "phonemes."[4] The philosophically sophisticated concept of "phonemes" was one of the main contributions made by the Prague Linguistic Circle to the discipline of linguistics as an academic field.

Mathesius continued in his writing to argue for the importance of seemingly minute linguistic components. He believed that phonemes themselves had inherent complexities and would reveal further phenomena in language, both in individual words and in the contextual culture:

> The fixed character [of previous linguists' perceptions of individual speech patterns], that is, applies only to the qualities of the primary sounds themselves, not to secondary qualities, such as quantity, "sharpness" and intensity, further that it is interfered with by analogy and finally, that it does not apply at all to non-domestic words. Non-phonetic aspects of language, naturally, are left unnoticed by [earlier linguists].[5]

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[3] Ibid., 4.
[4] Ibid., 4-35.
[5] Ibid., 5.

Examining qualities of individual speech patterns such as length of vowel sounds, syntactic usages and their effects on sounds, and frequency and intonation, Mathesius believed, would shed substantial light on disagreements among contemporary linguists. The independence of a word within a sentence, the independence of syllables within words, the evolution of spelling as a possible clue to habits of gemination (that is, repetition of words for emphasis), word-categories and their relationships (if any) to stress, even practices of naming an entity based on its dominant features—all these areas of contentious debate could be clarified through a more phenomenological approach. "The mutual relation of linguistics and stylistics," and the influence of functionality on lexical and semantic aspects of speech could identify the importance of what had been considered insignificant features of language.[6] By seeing the potential to yield more knowledge and reveal complexity in all areas of language study—general and particular—Mathesius believed much could be resolved in linguistics debates.

In early 1926, Mathesius wrote another essay, "New Currents and Tendencies in Linguistic Research," in which he re-examined contemporary linguistic studies. Mathesius detailed two waves of linguistic research: the first using language families to determine historical derivation (called the "genetical-comparative" research method) and the second comparing completely unrelated languages to arrive at any commonality of phenomena (the "analytical-comparative" research method).[7] Both of these methods, however, had faults, as Mathesius revealed in his essay. The former "has been emphasized out of all proportion" to the point of accepting all outcomes as

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[6] Ibid, 4-35.
[7] Vilém Mathesius, "New Currents and Tendencies in Linguistic Research," 45-46.

unquestionably definitive. The latter, Mathesius concluded, was too broad, not focused, and therefore had "entirely failed to work out a precise and trustworthy method of research."[8]Although these methods had seemed reliable at first, they were proving more and more unstable. Mathesius saw a need for a new wave of thinking: "No one who realizes the necessity of regenerating can fail to observe that this regeneration will not be achieved without the victory of the new tendencies."[9]

Prague School thought is considered a continuation and development of Ferdinand de Saussure's theories of structuralism. In his essay on "New Currents," Mathesius specifically refers to de Saussure's premise that language should be studied historically; yet, Mathesius argued that language has contextual dependencies and is deserving of more "penetrating" analysis.[10] As Doležel explained much later, "Prague school linguists were strongly influenced by the Saussurian conception of meaning, but at the same time, they were unwilling to sever language from the world" in a rarified schematization of chronology ("Czech Poetics Today" 186). Mathesius took de Saussure's ideas further and conjectured that language could be best understood when analyzing present use *in light of* historical use—showing the enduring survivability of certain words, usages, pronunciations, dialects, etc.[11] He advanced a historical understanding of language in his 1928 essay, "On Linguistic Characterology with

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[8] Ibid., 46.
[9] Ibid., 47.
[10] Ibid., 48.; Ferdinand de Saussure, *Course in General Linguistics*, published posthumously in 1916, includes a collection of lecture notes from 1906 to 1911, which became known as *the Cours*.
[11] Ibid., 48-54.

Illustrations from Modern English."[12] In the 1926 essay on "New Currents," Mathesius advocates further, "The time has really come for general linguistic problems to be systematically studied. . . .[T]here is no central place where all the general consequences of the studied facts may be gathered and compared."[13] This provision of "place" to "gather" facts of research was exactly what the assembled members of the Prague School offered.

The Prague School actually started because of ailing eyesight. In the early 1920s, in Prague, Mathesius was producing groundbreaking research addressing "concrete problems in historical grammar."[14] His poor vision, however, made it increasingly difficult to read letters of correspondence and reports from other researchers, students, and professors—so he preferred to meet in person and discuss topics. Beginning in 1923, Mathesius met on a daily basis with Bohumil Trnka, a former student, then a coworker at the same university. A young graduate from Moscow University, Roman Jakobson, also came to visit Mathesius in order to talk in person about their shared linguistic interests. At Moscow University, Jakobson, Petr Bogatyrev, and five other students had founded the Moscow Linguistic Circle, which, although it eventually lost a handful of noted linguists to Prague, went on to become the center of the Russian formalist movement.[15] In 1925, Sergej Iosifovič Karcesvskij and Bohuslav Havránek joined the "bespoke" group of thinkers assembling in Prague.[16] Mathesius describes his presence one meeting:

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[12] Vilém Mathesius, "On the Linguistic Characterology of Modern English," 59-67.
[13] Mathesius, "New Currents and Tendencies," 60.
[14] Mathesius, "Ten Years," 138.
[15] Ronald Schleifer and Gabriel Rupp, "Structuralism."
[16] Mathesius, "Ten Years," 139.

> I had worked out a paper on new currents and tendencies in linguistic research. . . .The main theses of that paper, outlining the directions for a new approach to linguistic problems, were subjected to discussion as an ideological basis for the linguistic center which, with our joint forces, we were resolved to establish in Prague. The form of our joint activities was to be, in the beginning, meetings with lectures followed by discussions.[17]

The first recognized meeting of this "linguistic center" was on October 6, 1926, when six men (those mentioned above, plus Jan Rypka, a librarian and "orientalist" interested in Eastern literatures and languages) gathered to hear a presentation from visiting German linguist Dr. Henrik Becker on "the European spirit of language."[18] Those in attendance enjoyed the meeting so much that they insisted on meeting regularly, about once every month, inviting members of their own group and outside thinkers with interesting linguistic contributions to speak about various topics. The group desired to maintain an intimacy, and therefore limited each meeting to about seven people. In addition to these semi-formal meetings, held in the English department of Charles University in Prague, there were also informal meetings at members' homes. In its first two years, there were twenty official lectures given within the Prague Linguistic Circle.[19]

Roman Jakobson, in 1928, wrote his very short article, "Problems in the Study of Language and Literature," in which he decried primarily the downfalls of Russian formalism for literary criticism. In tough, straightforward language, Jakobson asserted that

> [Russian literary and linguistic science] require a firm dissociation from the increasing mechanistic tendency to paste together mechanically the new methodology and old obsolete methods; they necessitate a determined

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[17] Ibid., 139.
[18] Vachek, *The Linguistic School of Prague*, 8-9.
[19] Mathesius, "Ten Years," 139-141.

refusal of the contraband offer of naïve psychologism and other methodological hand-me-downs in the guise of new terminology. Furthermore, academic eclecticism and pedantic "formalism" which replaces analysis by terminology and the classification of phenomena— and the repeated attempts to shift literary and linguistic studies from a systematic science to episodic and anecdotal genres[,] should be rejected.[20]

Jakobson's solution to such naïveté came in the form of structuralism. He proposed that linguistics and narrative should be examined in terms of their structures and conventions—their "complex network of specific structural laws."[21] He, like Mathesius, emphasized the importance of "synchronism"—the tendency toward innovation in a language or text, as well as historical changes. Roman Jakobson's structuralism, like phonology, became a key component of Prague School thought.

In 1928, the Prague School made itself known through similar linguistic groups in neighboring countries. A group of Dutch linguists at the Catholic University of Nijmegen formed the First International Congress of Linguistics (ICLA) in April, posing six questions to its participants. Thirteen theses were provided to answer these six questions, and ten of them were from members of the Prague Circle (including Karcevskij, Nikolaj Sergejevič Trubetzkoy, Jakobson, and Mathesius). These theses, like other essays from the Prague School at the time, mostly identified inadequacies in conventional linguistic approaches (especially toward Slavic languages) and proposed possible solutions.[22] The first point ("thesis") examined problems and solutions that Mathesius and Jakobson had already addressed concerning comparative theories, characterology (among other things,

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[20] Roman Jakobson, "Problemy izučenija literatury i jazyka" [Problems in the Study of Language and Literature], 47.
[21] Ibid., 47.
[22] Mathesius, "Ten Years," 141-142.

the relationship between a language's consistency in characteristics and its stability [Zhurinskaia]), and descriptive grammar.[23] In the second thesis, the Prague School introduced the term "phonology" (the study of sound in language) as a means to better understand the Slavic language system. This thesis defined the concept—or research area—of phonology, suggested ways to examine it, and explained how it would improve the understanding of Slavic languages in particular.[24] The third point dealt more with structuralism and functionalism, which delved deeper into the idea of descriptive grammar; words were to be understood for their purpose (grammatical function) and their more nuanced use within that purpose—their structure. This point delved precisely into the structure of literary and poetic language and how the usage of such language differs from that of vernacular, and why it must, therefore, be studied differently.[25] Building on this point, the fourth thesis discussed problems with religious terminology and ways of speaking.[26] In the fifth, the Prague School thinkers briefly touched on problems with transcribing Slavic phonetically.[27] Geography and its linguistic barriers in ethnography were the topics of the sixth thesis,[28] which led to the seventh and eighth, addressing differences in the Slavic lexicon based on geographic location.[29] Subsequently, in the ninth, members reiterated how "Prague School structuralism" could help to resolve a

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[23] Cercle Linguistique de Prague, "Teze předložené Prvému sjezdu slovanských filologů v Praze" [Theses presented to the First Congress of Slavists held in Prague in 1929], 77-81.
[24] Ibid., 82-87.
[25] Ibid., 88-99.
[26] Ibid., 99-101.
[27] Ibid., 102.
[28] Ibid., 102-104.
[29] Ibid., 104-107.

myriad of problems in linguistics.[30] The tenth and last hypothesis contributed by Prague

School members explained how to teach these linguistic currents in schools so that

children would more deeply understand their own Slavic languages.[31]

These ten groundbreaking theses not only demonstrated to the wider international

linguistic community that the Prague School was a significant force, but also

consolidated and disseminated the foundational tenets of their beliefs, the grounds on

which they held them, and precisely how they thought such theoretical assumptions

would benefit developments in the greater linguistic community. This provocative

contribution to the discourse caught the attention not only of the ICLA but also of the

nearby Geneva School (founded on de Saussure's work), whose representatives filed the

remaining three theses submitted. As a consequence, the Geneva and Prague schools

formed a partnership. Mathesius wrote, "It became clear to us even more than before that

in the international context we were by no means isolated [in] our theoretical views . . . ;

we won friends and allies abroad."[32] By 1929, several of the members of the various

groups worked together and presented a variety of additional theses in the First

International Congress of Slavicists. These theses were published in the inaugural volume

of *Travaux du Cercle Linguistique de Prague*, which became the Prague School's

primary organ of ongoing publication of research.[33] The following year, in 1930, the

group also started the International Phonological Conference (IPC), in preparation for the

Linguistic Congress of Geneva in 1931. In the midst of the conference's vigorous

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[30] Ibid., 108-111.
[31] Ibid., 111-119.
[32] Mathesius, "Ten Years," 142.
[33] Vachek, *The Linguistic School of Prague*, 9-10.

discussions of conquering phonological problems, with fifteen foreign scientists plus the additional seventeen from Czechoslovakia in attendance, attendees also named Trubetzkoy as founding president of the International Phonological Association (IPA). The fourth issue of *Travaux* (1931) recognized the *Proceedings* of the International Phonological Conference as a highlight.[34]

In subsequent years, Prague School members strove to bring its concerns to a domestic audience through publications such as contributions to the section on linguistics in *The Knowledge of the Country* encyclopedia and its companion periodical *Word and Poetics* (1934-5). Members also had several opportunities to influence discussion abroad. Several Prague School members presented at the International Congress of Phonetic Sciences (starting in Amsterdam in 1932) and at the International Congress of Linguists (beginning in Rome in 1930). It was at the Amsterdam meeting of 1932 that the term *L'École de Prague* was first used to describe the group of linguists by someone outside of their membership, giving the group a collective identity worthy of their notoriety in the larger community of scholars.[35] The group often met to celebrate various occasions, as was the case in 1930, when they came together to commemorate the eightieth birthday of Tomáš Garrigue Masaryk, who strongly supported the emerging "school" and the promise of his younger colleagues' hope therein.[36] The School also met to fight, as happened the following year, in 1931, when several members stood together to oppose

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[34] Ibid., 10.
[35] Ibid., 10.
[36] Mathesius, "Ten Years," 145.

the purist political prohibitions of Jiří Haller.[37] Haller was a professor and editor at Charles University, and he supported the use of outdated Czech language in order to preserve dogmatic ideals and Czech patriotism. The Prague School members disagreed with this practice, arguing that it took away from the life and potential of the language to grow. The subsequent controversy was fierce and contributed to shaping the view of Haller as "obstinate," "incorrigible," a "grinder," and even "exorcist" (Chromý). In all contexts—intellectual, academic, political—the Prague School emerged as a major voice to consult and heed concerning an array of matters political, linguistic, and aesthetic.

World War II and the Nazi invasion of Czechoslovakia in 1939 caused the work of the Prague School (understandably) to substantially decline. Czech universities closed their campuses, and several members fled to other countries for their safety; the period also marked the death of a handful of key members: Nikolaj Sergejevič Trubetzkoy in 1939, and Josef Miloslav Kořínek and Vilém Mathesius in 1945. During this time, *Travaux* still ran and, by 1939, had published eight issues. Other papers were written but were prohibited from being published abroad; to this day, they are only available in Czech and Slovak. The Nazis suspended many periodicals altogether, and Soviet regulation of print and curricula "paralyzed the greater part of linguistic . . . research work" from within the School.[38] After being dominated and ravaged by German armies and the Nazis' policies, the immediate postwar Czechoslovakian exigencies were to rebuild and heal the nation, which took precedence over academic linguistic research.

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[37] Ibid., 145-148.
[38] Vachek, *The Linguistic School of Prague*, 11-12.

Still, the official end of the Prague School is an object of academic debate. Many clock the Prague School's end at 1939, but some functional remnants persisted as the years passed. Throughout the 1940s, several members, including Oldřich Králík, Jan Mukařovský, Vladimír Skalička, Bohuslav Trnka, Felix Vodička, and Josef Vachek, continued publishing collections of their studies and works about the School's thinking as a whole, as if writing the School's last will and testament, documenting its life and expressing wishes for its successors. Although some academics see 1948's establishment of Communism in Czechoslovakia definitively to mark the Circle's end, members of the School remained in that very year as a cohesive panel to answer questions from organizers at the Sixth International Congress of Linguistics in Paris.[39] Soon afterward, however, theories from the Prague School—its structuralism, formalism, and conceptual cosmopolitanism—were ruled by the Czech Communist party as "bourgeois pseudoscience" and were actively repressed.[40] In July of 1949, Jakobson wrote from New York that the School was forced by authorities to retract its findings and to sever connections with Western scholarship, instead submitting to follow the Soviet version of Marx's ideology of "dialectical materialism"[41] and earlier theories of a strictly interpreted Russian formalism. Under these constraints, by the early 1950s, the Circle "voluntarily" disbanded. Much of the behavior thereafter of some members is eyebrow-raising; in 1951, Mukařovský, for instance, publicly denounced all the tenets of the Prague School's

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[39] Ibid., 12-13.

[40] Veronika Ambros, "Prague's Experimental Stage: Laboratory of Theatre and Semiotics."

[41] Peter Steiner, ed., *The Prague School: Selected Writings, 1929-1946*, 66.

views of structuralism he formerly believed and stated that "the only true science . . . was Marxism."[42]

The compilation of my research as a whole shows the residual influence and continuing value of Prague School linguistic theories on the study of narrative. Alongside challenges in the study of (especially Czech and Slovak) languages, the analysis of narrative has been the main context for the application of Prague School thinking. Yet, unfortunately, most literary scholars, unfamiliar with general linguistic principles that could strengthen understanding of how narrative works, are even less aware of valuable, specific contributions made by the Prague School. This academically impoverishing and widely prevalent unfamiliarity has a calculated, even sinister, origin almost certainly related to the Prague School's intentional dispersal and the active suppression of their ideas at the hands of the Nazis.

When the Nazis invaded Czechoslovakia in 1939, members of the Prague School scattered, seeking safety. Jakobson and second-generation member René Wellek both fled to the United States—Jakobson to New York and Wellek to Iowa. Although the Nazis destroyed many of the original documents of the Prague School, members like Jakobson and Wellek were, thankfully, able to salvage and smuggle most of their work away from Nazi oppression.[43] As a consequence, Jakobson is probably the most well known member of the prewar Prague Linguistic Circle in American linguistics—not only because he lived the remainder of his long, postwar life (he died in 1982) in the Northeastern United States, but because Jakobson's work is arguably some of the most

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[42] Wellek, *Literary Theory and Aesthetics*, 22.
[43] Wellek, *Literary Theory and Aesthetics*, 21-33.

substantial, at least of the work that has survived. On a more comprehensive scale, however, not many of the Prague School's contributions are widely recognized, even in America. Prague School thought was effectively and significantly suppressed by the Nazis, who instead enforced the tenets of Russian formalism.[44] Furthermore, in the 1940s, the French were gaining popular ground in their developing theories of structuralism.[45] In 1946, Mukařovský was invited to speak at the *Institut d'Études Slaves* in Paris about Prague School structuralism, but the result was dreadfully disappointing and unfair. Parisian structuralists refused to translate and publish Mukařovský's lecture in French, keeping it in Czech—thus rendering the challenging Prague School approach ostensibly inaccessible to much of any potentially interested audience in the West. In these ways, Prague School structuralism had limited influence on the development of French structuralism, although both originated from the same source in de Saussure and the Geneva School.

Because of this effective marginalization of Prague School theory, the subsequent reception of structuralism in the West was heavily weighted toward the French. In Jonathan Culler's *Structuralist Poetics: Structuralism, Linguistics, and the Study of Literature* (1975), he identifies "structuralist poetics" as strictly French. This trend continued in several important theoretical books through the later part of the twentieth century. Frederic Jameson's *The Prison-House of Language* (1972), Terence Hawkes's *Structuralism and Semiotics* (1977), Ann Jefferson's *Modern Literary Theory: A Comparative Introduction* (1982), and even J. G. Merquior's *From Prague to Paris: A*

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[44] Vachek, *The Linguistic School of Prague*, 12-13.
[45] Schleider and Rupp, "Structuralism," 2-3.

Critique of Structuralist and Post-structuralist Thought (1986) only wink at Prague School contributions before ogling French structuralism and other related schools of thought. Only a few (namely, Jan M. Broekman's *Structuralism* [1971] and Douwe E. Fokkema and Elrud Kunne-Ibsch's *Theories of Literature in the Twentieth Century* [1977]) give Prague due recognition for clearly pioneering contributions to structuralism as a movement.[46]

Although all original members of the Prague School have long-since deceased, the School's spirited traditions have been preserved through organizations such as the Linguistic Association (LA) and the Group for Functional Linguistics (GFL). Especially during the 1950s and 60s, interest in the Prague School was rejuvenated, although once again censored by the Soviet invasion in 1968. *Travaux,* resurrected in 1964, published collections of members' works and talks from a variety of their meetings in numerous volumes, such as *Praguiana: Some Basic and Lesser Known Aspects of the Prague Linguistic School* (edited by Vachek and Libuše Dušková), *A Prague School Reader in Linguistics* (also edited by Vachek), and *A Prague School Reader on Esthetics, Literary Structure, and Style* (edited by Paul Garvin). Other publications continuing the tradition included a Prague School dictionary of terms and a journal of Praguian ideas on mathematical linguistics (*Prague Studies in Mathematical Linguistics*); and university courses exclusively addressing theory from the Prague School have been adopted into some university linguistic programs' curricula. However, even the second generation of Prague School thinkers in the 1960s suffered such severe censorship in the Soviet

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[46] Lubomír Doležel, "Poststructuralism: A View from Charles Bridge."

invasion of 1968 and its subsequent prolonged occupation that this time is marked as a dry period for linguistic study in Eastern Europe. In the "Velvet Revolution" of 1989, the freedom and rich legacy of Prague School thought and academic research returned once more to the Czech Republic, and

> … a remarkable resurgence of humanistic scholarship followed. The expelled scholars returned to the universities and academic institutes, the emigrés came home from exile or, at least, came for visits, and a stream of younger students finished their delayed education. It is this historical background that explains why Czech literary theory developed so rapidly in the postcommunist era [1989-present]. (Doležel "Czech Poetics Today" 185-6).

There are to date fifty to sixty individual thinkers who are credited as being members of the Prague School, and although it seems that the dynamic strength of the early Prague School is not entirely resuscitated, its work still lives and deeply influences the realms of linguistics and the study of narrative today.[47]

Overview of Chapter Contents

This thesis serves as a reapplication of Prague School thinking to recent developments in cognitive science. Considering the work of Lubomír Doležel particularly reveals the relevance of Praguian structuralism to debates about how the mind processes metaphor. Praguian concepts recognize the structural nature of metaphors that engage a deeper level of cognitive processing, both in creating and in reading literary texts, than has been understood and credited. Chapter One, "Praguian Conceptual Technology," rehearses the main theories of the members of the Prague School, including fundamental "prewar" concepts like Roman Jakobson's notion of structuralism (in the context of

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[47] Vachek, *The Linguistic School of Prague*, 13-14.

literary analysis), Nikolaj Sergejevič Trubetzkoy's notion of phonology, and Jan Mukařovský's views on aesthetics and semiotics; "postwar" conceptual developments by Doležel and Teun Van Dijk, concerning text grammar, narratology, and mathematical linguistics are also reviewed. Chapter Two, "Doležel on Metaphor in Balto-Slavic Languages," provides a more comprehensive treatment of Doležel's contributions to Prague School philosophies of language and explores the relevance of his work as it bears on recent developments in (a) the study of cognition and metaphor and (b) telicity in Balto-Slavic languages—its relation to metaphor and to Doležel's notion of creating a "fictional truth." Chapter Three, "Current Implications of Prague School Thinking," brings Prague School teachings from the 1930s (prewar Prague) and beyond (postwar Prague and the continuing legacy of the School) to bear on current scientific research on the programmability of art and creativity (i.e., whether creative processes are adaptable to computer programming and software applications). The last chapter outlines the relevance of Prague School linguistics to developing research in artificial intelligence and interactive narrative and summarizes the implications of this relevance by suggesting directions for new research.

CHAPTER ONE
PRAGUIAN CONCEPTUAL TECHNOLOGY

Structuralism and Phonology

Roman Jakobson, who left the Moscow Linguistic Circle in 1920 to move to Prague, is probably the most well known of the Prague thinkers. He was not only one of the original seven to found the Prague group but was also its first vice president. In the fields of literature and linguistics, his interests centered especially on phonology and poetry. [1] Jakobson saw literature and linguistics as especially interwoven disciplines; his familiar and influential stance that "poetry is language in its aesthetic function" was published first in his *Novaja Russkaja Poezija (*Modern Russian Poetry) in 1921, but even forty years later, in 1960, he re-published this thesis in his essay "Linguistics and Poetics" with very few alterations or addendums. [2] Whereas Russian formalism (especially from thinkers such as Tynjanov, Tomaševskij, and Vinogradov in the Leningrad branch) focused primarily on a quantitative approach to literature, Jakobson and those in the Prague School saw literature based on much more, including but not limited to social contexts and functions, literary tradition, and elevated language versus practical language.[3] "Literariness," as Jakobson identified it in 1921, was the base of the science of literature; it was the ability to "make a certain work into a literary work" through examination of the devices and tropes (such as rhyme, rhythm, parallelism, syntax, semantics, symbol, and metaphor) interplayed intentionally in literature to help

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[1] Vachek, *The Linguistic School of Prague*, 127.
[2] Roman Jakobson, "Linguistics and Poetics," 11.
[3] Fokkema, *Theories in Literature*, 12-13.

propagate meaning and emotional response.[4] Literature as a field did not dictate meanings and conventions for particular texts, as the Russian formalists believed. Meaning was suggested in the way that a particular author used literary tools available to him and then in the way that these devices fit into the larger context of the individual work—and into the larger context of the field of literature—social, historical, linguistic, etc. This postulate was the groundwork of structuralism, as proposed by Jakobson and the Prague School thinkers.[5] Structuralism came as a precursor to several other methods of literary criticism, including (but certainly not limited to) American New Criticism, the teachings on semantics and prose from Charles Morris, and the stylistic approach of William K. Wimsatt.[6]

The main idea of structuralism notably had its footholds in linguistics. Before the Prague School, structural linguistics focused on morphology and phonetics. Phonetics as generally understood is the study of sound and pronunciation in relation to the physical properties of the human vocal tract.[7] Morphology is the study of the smallest units of meaning—what might be, to English speakers, most easily associated with parts of speech like prefixes and suffixes. As an example, although *un* is not itself a word in the English language, it is a morpheme; it has a meaning that carries significance into a word, signifying *not*. Nikolaj Sergejevič Trubetzkoy married these two fields (morphology and phonetics) into the field of phonology. Trubetzkoy and Jakobson were friends in Moscow, and they had a shared interest in phonology. Jakobson invited Trubetzkoy to

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[4] Ibid., 12-13, 17, 19.

[5] Ibid., 20.

[6] René Wellek, *The Literary Theory and Aesthetics of the Prague School*, 2.

[7] Yishai Tobin, "Phonetics versus Phonology: The Prague School and Beyond," 51.

join the Prague School, and he became a key member and contributor.[8] He was even named president of the International Phonological Association in 1931.[9] Trubetzkoy's theories on phonology stated that, while morphemes were the smallest unit of meaning in a language, pieces called phonemes could also carry meaning, although by themselves they did not have an understood meaning. For instance, the difference between *cat* and *cut* in English is the difference between two phonemes, *a* and *u*. Just changing these two letters (sounds) not only alters the meaning of a word but also its grammatical implications and its rules of usage in a sentence. Trubetzkoy and Jakobson both found the concept of sound differentials fascinating and began to wonder if sounds themselves carry discrete meanings and if there might even be a pattern cross-linguistically for certain sounds to carry certain meanings in phonemes. These kinds of questions traverse from phonology into the more specific field of sound symbolism, which Jakobson studied at length in subsequent years, as seen through his collection of essays in *Language in Literature.* Both linguists focused much of their studies on phonology, experimenting with placement of phonemes in different contexts of different languages, and more closely examining their "binary and hierarchical articulatory and acoustic distinctive features."[10] These features collectively shaped the Praguian phonological principles and are still basic concepts in linguistics as part of the natural speech acts in de Saussure's

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[8] Vachek, *The Linguistic School of Prague*, 135.
[9] Ibid., 10.
[10] Tobin, "Phonetic versus Phonology," 57.

concept of *parole* (but also as part of the code of *langue*), ultimately drawing a disciplinary divide between phonetics and phonology.[11]

Trubetzkoy's theses of phonology, published in his main work *Grundzüge der Phonologie* (Principles of Phonology) (1939), related to structuralism directly. Manipulation of not only morphemes now changed the meaning of a word; phonemes and sounds themselves needed to be considered for a word's significance as well. These sounds could then be brought into the context of a phrase or clause, then into a sentence, then into a passage of thought. Each of these layers of context add dimension and understanding to the utterance. This line of reasoning relates straight back to Jakobson's theories of literary structuralism; the way in which the narrative is configured—either in its plot or metafictionally in its structure—sheds light on its meaning and, perhaps more importantly, its reception and interpretation.

In his wonderful overview of the Prague School's history and teachings (and also one of the only sources to treat the thinkers of the group as individuals), Josef Vachek clarifies that, in its movement through time and translation, the term *phonology* itself is often confused in English linguistics. The term *phonology* had been used in America for decades before the Prague School to describe the history of sounds, probably originating from Jan Baudouin de Courtenay's teachings on the concept of a phoneme in 1876. This is not the focus of Praguian phonology, which looks instead at "that part of linguistics which deals with phonic phenomena from the viewpoint of their function in language" (a definition supplied in the "*Projet de la terminologie phonologique standardisée*" at the

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[11] Ibid., 57-9; F. W. Bateson, "Linguistics and Literary Criticism," 10-11.

1930 International Phonological Conference, and re-quoted in *The Linguistic School of Prague* 40-41). Therefore, in the late 1930s, Anglo-American linguists used the term *phonemics* to refer to the Prague School concept of phonology. This, however, was misleading and suggested that Prague School phonology only focused on the importance of the phoneme, which is not quite true; the field "should by its very definition deal also with stress, intonation, pauses, etc., all of which far outstep the domain of phonemes" (41). In the 1950s, American linguists started to see this problem and tried to push the term *phonematics* (113)—but, in reality today, it seems that *phonemics*, *phonology*, and *phonematics* are practically interchangeable—another reason why Trubetzkoy and the Prague School do not get due credit for their findings on phonology.

Vachek also nods to the admonition from several in linguistics that Praguians pay too much attention to phonemes and local-level language concerns, neglecting the "higher" concerns of literature and language beauty as a whole. He admits that this is "not quite unjustified"—as, in fact, we have seen through the work of Mathesius and Trubetzkoy, who both nearly demanded appreciation for phonemes—but, "This, of course, does not mean that the Prague people have ignored the importance of content for the analysis of language. . . .It means only that the Prague linguists wanted to test the new methods on the basic level so as to gain experience for their application toward higher levels of language" (*The Linguistic School of Prague* 40). As can be readily seen in the individual work of the Prague School thinkers, "higher" level concerns of literature were always important.

Aesthetics and Semiotics

Jan Mukařovský was also interested in Praguian views on literary structuralism and the place of linguistics within it. In fact, he is considered to be the most prominent first-generation Prague School member in the field of literary studies.[12] Sadly, however, little is known about his personal life, due to the destruction of several of the early archives after the Soviet invasion of Czechoslovakia in 1948. When considering his many contributions to the Prague School, however, there is a wealth of information. In the face of the Neogrammarian movement, many of the Prague School encountered questions of standard language, especially whether or not it should be compulsory study. The Neogrammarians, on the one hand, seemed not to think so, unless understanding the history of such languages might help to understand the birth of local dialects; this position was "in complete harmony with the prevailing interests of the period when attention was centered much more in the historical origin of the facts of a given language than in their functioning, in the purpose for which they were to be used" (Vachek, *The Linguistic School of Prague* 96). Members of the Prague School, on the other hand, were deeply fascinated in the history, function, purpose, and potential for a language, which led to, among other areas of interest, Mukařovský's work in aesthetics of poetic language.

Mukařovský added to the idea of structuralism by claiming that art—and especially poetry—encompassed sign and value along with structure.[13] In fact, it was this contribution to structuralism that Mukařovský believed set Prague School structuralism apart from other schools of thought: "structuralism superseded Formalism in conceiving

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[12] Wellek, *Literary Theory and Aesthetics*, 2-3.

[13] Fokkema, *Theories in Literature*, 31.

the structure as a set of signs" ("Structuralism in Esthetics and in Literary Studies" 78).

Sign related to the notion of literature as an artifact of culture, a notion which referred

back to theories included in Russian Formalism.[14] Furthermore, Mukařovský proposed

(based on concepts from de Saussure)[15] that sign had two major components: the external

symbol (the *signifiant*) and the meaning represented (the *signifié*). Value was the reader's

perception of the sign, the foreknowledge of the subject, and, generally, what we today

might consider to be the response of a reader.[16] In his *Estetická funcke, norma a hodnota*

jako sociální fakty (Aesthetic Function, Norm, and Value as Social Facts, 1935),

Mukařovský explained that the aesthetic object of a work was what resulted from the

dance of the *signifiant*, the *signifié*, the value, and the structure; the overall internal and

external response to the work produced its aesthetics.[17] As contexts and cultures shifted

around an artifact, "the multiplicity, variety, and complexity of the material artifact" also

shifted, making the text liquid and aesthetically pleasing.[18] Much later, Doležel noted that

this approach to understanding the structure of literature not only showed the craft of the

author but also the importance of reader understanding (what we now call "reader

response"): "A *semiotic* theory of *literary* communication has to recognize the active role

of the reader, while, at the same time, re-asserting the essential control of the text and its

codes over the reader's interpretation" ("Eco and His Model Reader" 182-3).

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[14] Ibid., 21.
[15] Bateson, "Linguistics and Literary Criticism," 10.
[16] Wellek, *Literary Theory and Aesthetics*, 19.
[17] Fokkema, *Theories in Literature*, 31.
[18] Ibid., 31-32.

Because of these vital components in the aesthetics of art and poetry, Mukařovský strongly believed that poetic language differed from vernacular. Art and poetry are intentional in the way they are presented; "in [poetic language] the attention of the writer or the reader is not concentrated on *what* is being communicated but rather on *how* the communication is done" (Vachek, *The Linguistic School of Prague* 99). Through the poet's careful use of language and structure, artful language draws attention to itself—what the Prague School thinkers called *l'actualisation*, actualization, or foregrounding (Garvin 80, Vachek 99-100). "A living, non-worn-off metaphor," as we will discuss later, was one of the best uses of foregrounding, according to Mukařovský (100).

Mukařovský's thoughts on semiotics—considered by some to be "the crowning achievement of the Prague School" (Galan 82)—relate his theories of structural aesthetics in literature back to linguistics. Semiotics, in a nutshell, describes the aesthetic importance of verbal and non-verbal communication; it is "a global science of signs—verbal, visual, auditory, gestural, tactile, even olfactory—and their various implementations in everyday communicative exchange and in art" (Galan 83). His ideas about the *signifiant*, *signifié*, and value correspond directly to ideographs and idiophones in writing and communication; that is, symbols and alphabetical structures point to meaning. A non-Western speaker would look at the words on this page and simply see indecipherable markings; but someone who knows the *signifié*, *signifiant*, and values of English as represented in the Latin alphabet would know that these marks of ink represent phonetic conventions of the language that relate to morphemes and phonemes, which

represent thought and which can be compiled into sentences that communicate complete trains of ideas. This is the very basic application of semiotics in linguistics.

Mukařovský took semiotics further to describe literature and art, saying that, because literature in its logistical form is composed of signs and symbols, it is part of a bigger picture of communication, all depending, as his theories of aesthetics suggest, on the *signifiant*, the *signifié*, the value, and the structure of a work.[19] René Wellek, a second-generation member of the Prague Circle, remarks that Mukařovský's contributions to the Prague School and to literary criticism provided great insight into how the pieces of aesthetics fit themselves into literature, art, and societal contexts:

> Mukařovský, in his best writing, kept an admirable balance between close observation and bold speculation and propounded a literary theory which illuminates the structure of the work of art, its relation to the universe of symbols and the history of literature, both as literature and social fact.[20]

Mukařovský's balanced and bold views of the structure of art and aesthetics grew to be some of his most successful and renowned research, and it has aged well in a variety of fields. Much of Eastern European live theatre has used Mukařovský's views on sign, applying knowledge of *signifiant* and *signifié* to stagecraft, scene design, and even costume design. In particular, Slovakian puppet theatre applies several of the teachings of Mukařovskian semiotics and Praguian structuralism to weave together costumes to demonstrate character and occasion (Bogatrev). In 1927, the avant-garde Czechoslovakian theatre group "The Liberated Theatre," led by Jiří Voskovec and Jan Werich (who refer to themselves as V+W) appropriated semiotic teachings in order to

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[19] Ibid., 32.

[20] Wellek, *Literary Theory and Aesthetics*, 32-33.

satirize language, music, sign, symbol, and space in their performances, which delighted the Prague School thinkers—and the public (Ambros 50). V+W used methods based on semiotics and sign that have been clearly tied to the Prague School, including *aktualizace*, "the de-automization of automatized words, devices . . . , or genres by introducing archaisms as well as long forgotten styles, drawing attention to the expression itself and reflecting PLK's [*pražský lingvistický kroužek*, or Prague Linguistic Circle] response to literary history," (58).

In 1934, Mukařovský went further, applying his semiotic theories to film theory, comparing the signs of literature to the capabilities of "talkies." He started to look at camera angles, space, props, characters, sets, etc. as all being representations of sign and value. For instance, a close-up on a crying actress gives a skewed look into the "reality" of the story, which sends a signal to the audience that was intentionally manipulated by the director. Film and theatre are different from literature in providing visual direction and control; whereas, in literature, the readers must form a picture in their minds based on words (markings) on a page (Galan 96-106). Moreover, film has a distinct control over the representation of time and space that literature and even theatre do not, and Mukařovský (and his readers) found these distinctions fascinating.

Some considered Mukařovský's semiotic detour from verbal art to be unprofessional, but others considered it vastly relevant to the culture at the time:

> Jakobson [who also wrote on film theory] and Mukařovský were not playing hooky, straying from their proper line of inquiry into the problems of verse and of poetic language. If, so long as the structuralists devoted their attention to poetry alone, they remained within a self-enclosed and seemingly self-referential world of verbal art, now the movie screen offered them, as it were, a window onto the outside world of

everyday affairs. . . .Rather, through their study of film signification, they conclusively proved that even this apparently perfect mimetic art is subject to semiotic conversion. (Galan 106)

In other words, Mukařovský and others in the Prague School continued through their careers to show that their theories had multiple applications—in language, in art, in literature, in theatre, in film, and even, as we will see, in mathematics.

Text Grammar and Mathematical Linguistics

One part of Mukařovský's hypothesis of semiotics and aesthetics is that "there are certain preconditions in the objective arrangement of an object (which bears the aesthetic function) which facilitate the rise of aesthetic pleasure."[21] These *preconditions* refer to another very important component of Prague School structuralism in literary studies as examined by Lubomír Doležel: literary grammar. Doležel was a second-generation member of the Prague School, studying under prewar member Bohuslav Havránek. Doležel's focus was primarily on stylistics and mathematical linguistics, combining the two by applying mathematical principles to the mapping of linguistic styles.[22] It seems fitting, therefore, that Doležel would be the one to tackle the debate of text grammar and literary grammar, both being very formulaic approaches to literature.

One mutual wave of Russian formalist thinking sweeping through the minds of Veselovskij, Bremind, Todorov, and Propp (by association) was that of variants and invariants of literature, suggesting that many aspects of literature (such as character, motif, and narrative structure) were fixed. Just as prescriptive grammar dictates that a

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[21] Fokkema, *Theories in Literature*, 32.

[22] Vachek, *The Linguistic School of Prague*, 124.

sentence should be precisely formed in order for thought to be understood, larger units of discourse also have a grammar to follow in order to suit convention; and just as the Chomskian movement of universal or imbedded grammar holds that all humans have a wired sense of language, so narrative has a rooted structure that lends itself to certain story plots and outcomes. This was called text grammar. When text grammar is used in narrative in order to heighten "literary performance," it is referred to as literary grammar.[23] Similar fields include rhetoric, the ancient study of the structure and power of persuasive speech, and discourse analysis, the study of verbal language, especially in certain cultural contexts and movements.

Doležel, however, disagreed with developments in these fields. In his main work, *O stylu moderní české prózy* (On the Style of Modern Czech Prose, 1960), and in his study "From Motifemes to Motifs" (1972), he scrutinizes the theory of text grammar as a whole, arguing that Propp in particular had faulty logic and confused terminology. Doležel argued against a "universal" text grammar and instead put forth the notion that variants and invariants only work in relation to each other in literary grammar, and this is especially apparent when examining levels of meaning closer to the individual text. For example, an allegory can only have allegorical characters and settings if the language (or etymology) of the names themselves suggests a symbolic meaning. Doležel's final word challenges Propp's notion of story's "grammar":

> . . . the structural theory of narrative cannot be reduced to the study of invariants. . . .There is no fixed universal "grammar" of narrative; at the same time, there is no unlimited freedom for the author's idiosyncrasy.

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[23] Teun A. van Dijk, *Some Aspects of Text Grammars; A Study in Theoretical Linguistics and Poetics,* 333-341.

> Every narrative act is simultaneously norm-obeying, norm-creating, and norm-destroying.[24]

Doležel's stance against a universal literary grammar fits well with the Prague School mindset. Though Praguians did focus on the internal workings of a text in order to decipher meaning and reception, they also focused on external forces such as history, culture, authorship, intentionality, etc. Indeed, although Mukařovský's statement of preconditions seems to allow only one path to aesthetic pleasure, he adds that "any object or action, regardless of how it is organized" is capable of attaining aesthetic pleasure.[25]

The nuance of Doležel's position may be easier to explain in this way: there are two approaches to grammar—prescriptive grammar and descriptive grammar. Prescriptive grammar is what is often taught in schools, where the teacher knows what is right and wrong, what is and is not proper speech, etc. It is the students' responsibility to learn these rules and to reproduce them. Descriptive grammar, on the other hand, observes how people use grammar and glean rules from usage and effectiveness of communication. In this comparison, prescriptive grammarians are like the narratologists of the Russian Formalist movement, hoping to parse the text grammar and literary grammar in narrative. Doležel and other members of the Prague School are like the descriptive grammarians, taking into account how the world around is affecting narrative processes and how narrative itself adapts structure for effectiveness.

Doležel, however, appropriated some aspects of text grammar to branch into a field known as mathematical linguistics. Mathematical linguistics includes three

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[24] Fokkema, *Theories in Literature*, 30.
[25] Ibid., 32.

branches, quantitative analysis of language phenomena (also called statistical or quantitative linguistics), algebraic description of language phenomena (also called algebraic linguistics), and theories of machine translation (Doležel, Sgall, and Vachek, preface). Though Doležel has many writings on all fields of mathematical linguistics, it seems he writes most on quantitative linguistics because it gives him that ability to observe language in many different contexts and describe its effectiveness in objective, mathematical terms. "This [quantitative linguistics], on the one hand, makes it possible to base the analysis on the methods of modern mathematical statistic, and, on the other hand, its results can be used for constructing a description of the quantitative structure of language and for an explanation of the functional features of language units" ("A Statistical Law of Grapheme Combinations" 34).

For example, in his essay, "The Prague School and the Statistical Theory of Poetic Language," Doležel uses statistics to address Mukařovský's theories on the differences between poetic and communicative language. His research question asks,

> What are the specific features of poetic texts and of poetic language in general, which distinguish this class of texts from all other nonpoetic (communicative) and pseudo-poetic texts? . . . Is it possible to find, describe and explain (in a sufficiently exact way) structural (intrinsic) features which would make it possible to divide the set of texts of a given language into two subsets (subclasses) poetic and non-poetic? (97-98)

Doležel goes on to describe the difference between foregrounding and automatization and makes an effort to clear up a common confusion: "Foregrounding does not mean distortion of the rules of the language system; it is to be understood as distortion of the social norms of language behavior" (98). In other words, foregrounding is dependent on literary context; a reader expects different language "behavior" from a newspaper than,

say, a poem. Then Doležel works to show this theory through "statistical interpretation which . . . is a higher level in the development of the theory" (100). He applies stylostatistics to diverse areas of language, looking specifically at sentence length in works of drama, poetry, newspapers, cookbooks, natural science texts, and law texts. Stylostatistics is a field of mathematical linguistics that examines characteristics of texts by assigning them numerical values. Some well-known metrics of stylostatistics include "Busemann's index (adjectives-verbs ratio), Yule's K characteristic, Taylor's 'Cloze Measure,' etc." (100). Using nineteen texts, he first looks at sentence length between genres and sees that the result is "minimally informative" (101), so he works within genres first to test for homogeneity and stationarity. Within poetry, Doležel looks at sentence length among several contemporary Czech poets, showing non-homogeneity in Czech poetic style. Then, looking at various Czech newspapers, he sees a homogenous pattern in sentence length. He determines through his many tests, then, that poetic language is often foregrounded (distorting norms) and that it is, indeed, quantitatively shown to be fundamentally different from purely communicative language:

> F-language is not fixed—it is mobile. . . .There are historical epochs in the development of literature which programmatically strive for the stereotyped, normalized, "usual" poetic language; after such epochs, as a rule, new centripetal tendencies arise which bring the poetic language again to its most proper nature, as displayed by stylistic variability and verbal creativity. (103)

Through his objective desire to "heighten" Mukařovský's views on the structure of poetic language, Doležel was able to use mathematical principles to show the validity of Prague School thought. This is the aim of Doležel's work in mathematical linguistics.

Although Doležel did not agree with the notion that narrative has an inherent universal text grammar that can enrich understanding the text, he did believe that language can be observed within the scope of the work it does in order for both author and reader more deeply to understand its functions and purposes.

CHAPTER TWO
DOLEŽEL ON METAPHOR IN BALTO-SLAVIC LANGUAGES

Fiction-making becomes overtly what it has been covertly: a game of possible existence.
- Lubomír Doležel, "Mimesis and Possible Worlds"

Cognition and Metaphor

Metaphor originates from the Greek verb *μεταφερουν*, meaning *to carry* or *to bear*, and from the noun *μεταφορα*, meaning *transfer*, suggesting that a word, phrase, or text can transport meaning from a literal realm to a figurative one. Linguists and cognitive psychologists generally map metaphors with two terms: a source domain and a target domain (Lakoff 203). For instance, in the metaphor "Love is a journey," *journey* is the source domain; it is the source of literal understanding—the real world origin of comprehension. *Love* is the target domain of understanding—the figurative and more abstract topic that the goal of the metaphor is to better understand. The speaker uses a word from the domain that listeners generally—often experientially—understand as a means to arrive at an abstract domain—the target; the listener can use his/her knowledge of a journey to enlarge knowledge of what love is. When a metaphor is dismantled in this way, listeners are able to understand the target more complexly—which is why humans so often use metaphor as a means of expression (Lakoff and Johnson 232).

Because of this process of negotiation for meaning, metaphor is very powerful; receivers of the information decode the message for themselves—participating in the creation of meaning rather than having meaning dictated to them. For this reason—its subtle manipulation of meaning—metaphor is used especially in didactic texts and teachings of faith. The greatest teachers in history, from Christ to Ghandi, from

Mohammed to Buddha, often spoke in metaphor to influence large crowds of listeners. People who may resist mandates on what to think or how to behave find it enjoyable to be drawn into the mental processes of comprehension through metaphor. The use of metaphor manipulates learning at a profound conceptual level.

There is definitely an educational as well as pleasurable component to metaphor. Metaphor uses memory of an experience—an action or sensation—to define an intangible or abstract concept. Metaphor incorporates brain and body to enhance philosophical understanding. Just as "learning by doing" is more effective than learning by lecture, metaphor offers a kind of learning by mental doing, or even a "learning by remembering doing," relying on a person's ability to recall a familiar process and the corporal experience in order to better understand a less familiar or abstract one. Although the exercise is mental, it requires previous experience in a sensual realm and whole body interaction to be most effective. Virginia Steinhoff, in "The *Phaedrus* Idyll as Ethical Play," a witty pedagogy based on Plato's Socrates, asserts that a teacher should "Bewilder [her] students with metaphors and images so that [she] can avoid lengthy explications of crucial propositions. . . ." Steinhoff's satirical Socrates advises, "Make fun of yourself, and go ahead, be ironic: students should go away with so many questions about you, as well as about your discourse, that you risk scandal and oblivion in the long run. But know you were right to anticipate this and incorporate it into your teaching. Some students will long remember you" (40, qtd. in Covino 40). Although Steinhoff's essay is lighthearted, she is sincere in her assessment of metaphor as a bold, provocative,

and engaging means of presenting information—encouraging students to elevate their own perceptivity to that of their instructor, not unlike Socrates himself.

Metaphor is not only employed in educational and didactic application but in almost every aspect of daily life. George Lakoff claims:

> . . . [O]rdinary everyday English is largely metaphorical, dispelling once and for all the traditional view that metaphor is primarily in the realm of poetic or "figurative" language. . . .As soon as one gets away from concrete physical experience and starts talking about abstractions or emotions, metaphorical understanding is the norm. (204-5)

While it is certainly true that metaphors are used almost constantly, the most sophisticated metaphors can especially be found in works of narrative. In fact, metaphors are often associated (in most minds) with the context of high school English classrooms, where vexed students often ask themselves if authors intended such semantic manipulations as are claimed for them. As young adult novelist John Green has explained in one of his online videos:

> Let me tell you, as an author who intends symbols and metaphors, that question is not interesting. . . .The reason that reading critically, like reading for theme and symbol and metaphor, is important is because those things are ways into the big, interesting questions—many of which are the same questions that math is trying to answer! ("The Education Continuum WARNER CHILCOTTED")

I will revisit Green's observation on the juxtaposition (recall Doležel's) of literature, math, and metaphor later in this chapter. His important point here is that narrative would be much less engaging if not for metaphor. In keeping with Plato's observations in *Phaedrus* and *The Republic*, beauty requires context. A story expressing reality can be uninteresting, but when narrative art elucidates reality and engages association with deeper elements of it through the use of metaphor, the experience becomes beautiful. In

fact, some might say that metaphor is the main element that propels ordinary writing into literature. Metaphor allows a story to shed the mundane task of registering events and venture into exposing invisible truths to survey a greater, more ethereal and penetrating realm of human experience. *Dick and Jane* books, for instance, which present in basic language the daily doings of Dick, Jane, and Spot, present literal story without metaphor but could hardly be considered literature.

Mukařovský's writings on dead and living metaphor show how metaphor becomes a powerful tool for expression. Mukařovský deepened the concept of Praguian structuralism by revealing that art encompasses sign and value with structure (Fokkema 31). As mentioned in the previous chapter, Mukařovský proposed (based on concepts from de Saussure) and related to Russian Formalist theories of literature that sign (Bateson 10) includes the external symbol (the word, signifier or *signifiant*) and the meaning represented (the concept, signified or *signifié*). Value refers to a reader's perception and recognition of a sign, including any previous knowledge of an experience with it (Wellek 19). Aesthetics of a work are achieved through the signifier (*signifiant*), the signified (*signifié*), the value, and the structure; the overall internal working and external response to a work produces its observed aesthetic (*Estetická funcke, norma a hodnota jako sociální fakty*). In his book *Historic Structures*, which examines the significance of the Prague School in literary theory, F. W. Galan surveys Mukařovský's views on aesthetics. Galan echoes Mukařovský's emphasis on living metaphors that allow cognitive connections to be made which may not have otherwise been possible: "According to [Mukařovský's] view, metaphor is no mere pairing and alternation of two

previously unrelated terms, but, at least as importantly, the fruit of a novel perception of resemblance between two things which ordinarily stand far apart" (92).

The cognitive process of interpreting metaphor is, as shown by recent cognitive studies, highly complex work for minds to perform, a process scientists and philosophers have been trying to understand for thousands of years. "Hypothesising on the cognitive processes involved in understanding metaphors dates back to the time of Aristotle [in 322 B.C.], but so far the neurobiology behind the phenomenon remains largely unknown" (Rapp *et al.* 395). For a long time, scientists have theorized that metaphor is processed primarily in the brain's left hemisphere, in the language processing centers called Broca's area and Wernicke's area (Nauert). Additionally, there have been two primary theories for metaphor processing advanced in the past decade or so. In one theory, called indirect or sequential processing, the brain first analyzes a text for literal meaning and, if none is found, proceeds (in a sequence of cognition) to endeavor to find a more figurative meaning (Krause). In the other theory, called lateral processing, the brain's left hemisphere decodes literal language while the right, simultaneously, processes figurative meaning. The main evidence for these theories comes from studies of people with brain damage and their unique interpretations of metaphor; those with left-hemisphere lesions could still decipher metaphor, but those with right-brained damage could not (Hillenkamp *et al.*, MacKensie *et al.*, and Winner and Gardner). While each theory assumes a notion of restricted communication between sides of the brain, the whole functioning of the human mind encompasses both left and right hemispheres.

In 2004, a psychological study by Alexander Rapp from the University of Tuebingen's Department of Psychiatry found that signal disparities, while interpreting metaphor, fired primarily in the left hemisphere but also simultaneously in the left inferior frontal and temporal gyri and in the cortical folds, along with other places. Such evidence requires a notion of "mental linkage of different category domains normally not related to each other" (395), and contradicts the indirect/sequential theory, in which cognition of metaphor occurs sequentially in time. Rapp's predecessor in this study, Bottini *et al*., conducted a very similar experiment but achieved different—yet also interesting—results. Bottini's study showed more processing in the right hemisphere than Rapp's. The biggest and most convincing explanation for why this disparity in data assessment occurred lies in understanding the complexity of the employed metaphors. In Rapp's study, metaphors were fairly straightforward: "An A is a B," such as, "The alarm clock is a torturer." Yet, in Bottini's study, metaphors were far more complex, using figures that involved characterizing behavior: "The policeman who didn't give straight answers was jumping ditches" (Rapp 399). Bottini's experimental results persuasively demonstrate how intricately the human brain works in its multiple domains to decipher metaphor in the context of sophisticated narrative.

Furthermore, in 2006, Zohar Eviatar and Marcel Adam Just produced three major discoveries in their studies of cognitive processes of figurative language. In their experimental results, figurative processing was found to activate the language centers (again, widely understood to be located in the left hemisphere) in complex ways: irony ignited the right and center gyri, while metaphor processes had overall significantly

higher brain activation (as shown in Figure 1). Speaking on the differences in results

among Bottini's, Rapp's, and his own studies, Eviathar made the following claim:

> In our study, the stimuli were complex, in that they were stories. However, all of the metaphors were both apt and conventional, such that they were plausible in the context of the stories. Thus, it may be that the critical difference between the study that found RH involvement in metaphor comprehension and the two studies that did not, is the necessity to evaluate the context of metaphor. That is, when the task involves lexical access of the words in the sentence, as with the simple metaphors of Rapp et al., or with our lexicalized metaphors, we see LH activations, and when it requires a higher level of analysis, as in a plausibility decision, we see recruitment of RH regions. (Eviathar)

The results of Eviathar and Just's study underscore the importance of metaphor—novel

and familiar—in narrative and of metaphor's challenges to diverse parts of the language
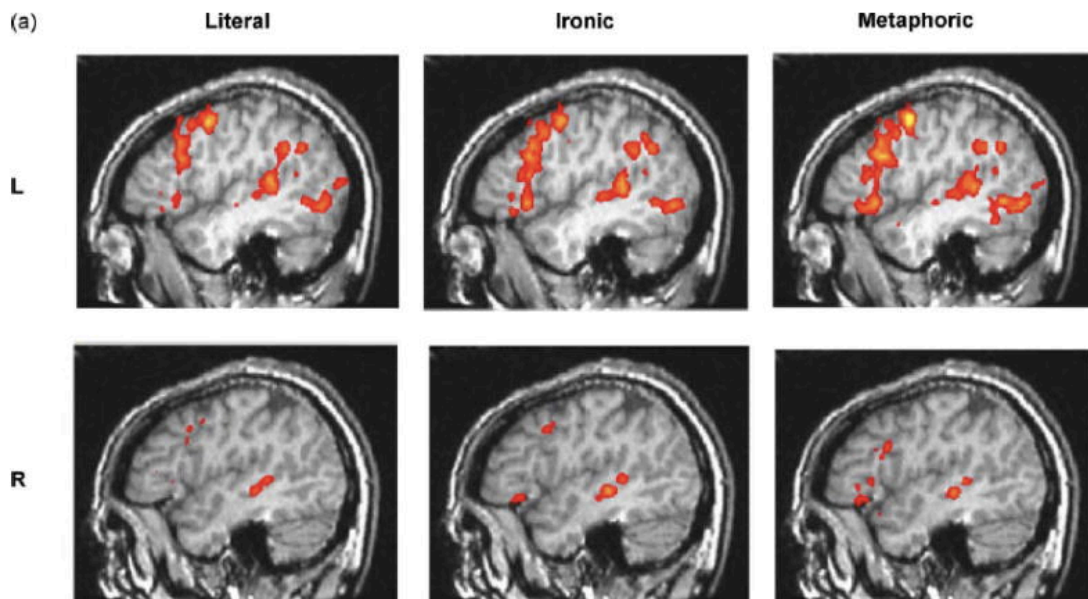
processing centers.

FIGURE 1: Eviathar and Just's image results of figurative language processing (2006)

Mounting recent studies reveal that figurative language and especially metaphor stimulates activity in more domains than just the language processing centers of the brain. In his article for *The Humanist*, Kenneth Krause explains the methods and implications of recent findings on processing metaphor:

> . . . [N]ew technologies, featuring functional Magnetic Resonance Imaging (fMRI), have allowed scientists to probe non-invasively into the brains of healthy volunteers and to discover, first, that other parts of the brain share in [metaphor-processing] responsibilities and, second, that Broca's and Wernicke's regions contribute to other important tasks as well. (Krause)

Indeed, several recent studies have focused on the discovery that metaphor processing ignites areas of the sensory cortex. In 2012, Dr. Krishnankutty Sathian of Emory University conducted a series of studies, which showed that textural (or sense-domain) metaphors such as "a rough day" not only take longer for people to process but actually cause people to think in terms of corresponding senses (Cherry). This finding also held true in Chen-Bo Zhong's and Katie Liljenquist's research at the University of Toronto and Northwestern University, respectively. When subjects were asked to detail "an immoral act in their past" and then were offered either a pencil or an antiseptic wipe as a gift after the test, subjects who used textural metaphors to describe their "ethical failures" took the wipes, as if they needed to physically clean themselves after detailing a stain in their past (Sapolsky). Sathian further explained that he would like to study metaphors that involve other senses such as sight, taste, and sound to see if these produce activity in other sensory domains:

> The idea is that we really want to sort of parse the metaphors that we're using into different domains because we have predictions for which sensory cortical areas would be activated according to the domain of the

metaphor that we test. So for example, regions that process visual shape, regions that process color, like "He was green with envy" or "He went red with rage"—that kind of thing. (Cherry)

It makes perfect sense for the sensory centers to fire when presented with a metaphor: as mentioned from the study of linguistics, processing metaphor often requires memory of the physical experience from the source domain. Anaki, Faust, and Kravitz found in 1998 that time given to process a lexical (descriptive) metaphor causes more firings in the visual cortex, perhaps because subjects need more time to visualize the source domain in order to fully comprehend the target domain. If the metaphor is visual, such as "robin's egg blue," it causes the brain to first imagine a robin's egg and then to recall, exactly, the shade of blue that the target is claiming to represent.

There has been even more disparity in results between the cognitive processing of "dead metaphor," as Mukařovský and George Orwell ("Politics and the English Language") identify them, and novel metaphor. Dead metaphors are those that have become meaningless in their everyday use, such as *foot of a table*. According to a study in 2007 by Schmidt, "hackneyed stimuli" such as dead metaphors are processed purely for grammatical understanding, like phrasal verbs or idioms; "Novel ones with multiple possible meanings, however, must be dealt with more methodically in a much coarser field in the RH" (Schmidt). Several brain scans have captured visual data in the working processes of metaphor cognition, but none are quite as telling as Azrouan's results in 2011. Azrouan examined firings for words and phrases with a literal relationship (LT, such as *burning fire*), for unrelated words (UR, such as *indirect blanket*), for conventional metaphor (CM, such as *lucid mind*), and for novel metaphor (NM, such as *ripe dream*).

CM   NM
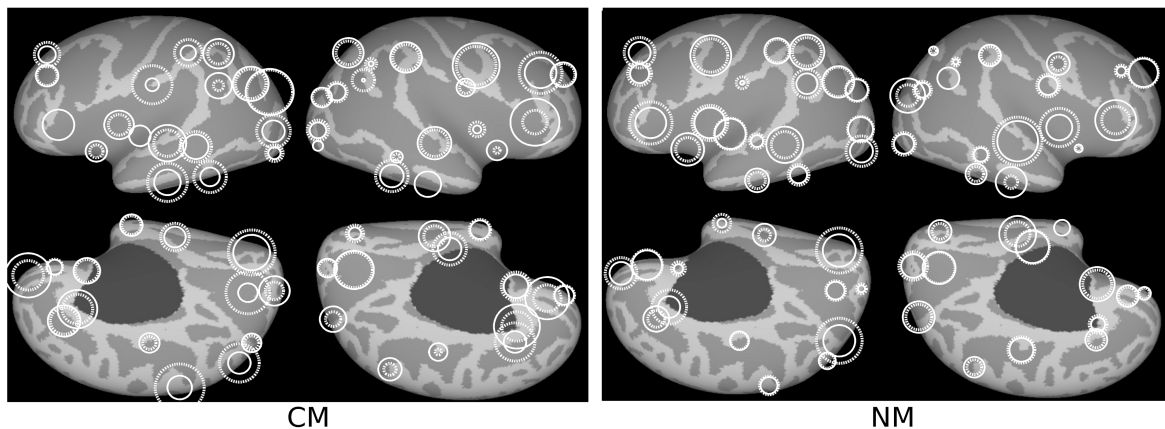
FIGURE 2: Arzouan's (2011) imaging for conventional metaphor (left) and novel metaphor (right)

Figure 2 shows the mapping of brain activity for the CM (conventional metaphor) and NM (novel metaphor). The diameter of the circles represent the time spent in that area of the brain. Bigger circles show longer spans of time (although still only milliseconds), and smaller circles represent faster processing. Dotted circles represent incoming information, and solid circles represent outgoing information. The findings discovered that, while literal translations remained primarily in the left hemisphere, there was much more incoming and outgoing information between hemispheres when processing metaphor. For conventional metaphor, there was more incoming and outgoing information in the left hemisphere; but for novel metaphor, there was additional activity in the right hemisphere because of a need to process through memory, sensation, experience, etc. rather than just through linguistic understanding.

> Both types of metaphors, conventional and novel, were handled by *more balanced networks*, indicating that information flow from the two hemispheres is needed to understand them. . . .Our results indicate, however, that the flow of information in *the integration mechanism* is different for the various expression types. In the NM [novel metaphor] network . . . *semantic integration is not merely a passive process* but an

active one involving both transmitting as well as receiving information from various sources [both internal and external]. . . .[I]t is now obvious that language comprehension is not undertaken only by a couple of language "centers," but it involves a large network of regions working in concert in a complex and dynamic manner. (Arzouan et al., emphasis mine)

In other words, not only does metaphor processing, as previously stated, require a cooperation of incoming and outgoing information back and forth on both sides of the brain; comprehension of novel metaphor is particularly multifarious and multihemispherical.

Brains are separated into two domains that have different responsibilities and functions. Although the left hemisphere is the primary hub for language processing, it takes all parts of the brain to comprehend meaning—especially when metaphor is involved. The left hemisphere aids in linguistic understanding and comprehension, but the right hemisphere provides multiple contexts for memory, social structures, visualization, and sensory processing. The two halves work with each other to fully grasp, process, and apply metaphorical understanding.

Metaphor is not only complex in its processing but also in its production. Karel Bareš makes an interesting synthesis between the study of word formation by E. M. Mel'cer and his own knowledge of the rubber-making industry to show that the creation of effective metaphor for didactic purposes involves a powerful command of language. To describe rubber becoming a commodity, there is first the identification of compounds, then derivatives, then metaphorically based terms (135). Accordingly, in the study of linguistics, a similar route of English word-formation tends to follow in the making of metaphor: single-morpheme words are first created, then they are broken apart into

compounds—multiple morphemes—and the parts are recombined to make new words; thus words "elasticize" into a new realm—a metaphorical one. Being able to identify and construct metaphor in the service of communicating complex ideas is a sign of utmost language competency.

It seems that human beings return to the use of metaphor for communication not only because of its ability to express complex ideas or emotions but also for its propensity to challenge. Human minds adapt naturally to the work of producing, creating, and comprehending metaphor, a recognizable cognitive exercise but also a practice in aesthetics. Květa Koženviková's essay, "The Language of Literature and Foreign Language Teaching" (196-210), draws heavily on Praguian thought when explaining the necessity of metaphor in narrative. Her point on metaphor, influenced by Havránek's notion of automation, states the important aesthetic difference between dead and living metaphor. Havránek defines automation as "use of linguistic devices, in isolation or in combination with each other, as is usual for a certain expressive purpose, i.e. such a use that the expression itself does not attract any attention" (qtd. on 198). In other words, using tropes, sounds, and other linguistic tools of communication for no major exchange of ideas results in a lifeless message—what Mukařovský and Orwell would call a dead or dying metaphor. If automation is, as Havránek says, the uncreative use of language that draws no energy into the narrative, then Koženviková says that metaphor is the opposite: actualization or foregrounding is "the use of devices of language in such a way that this use itself attracts attention and is perceived as uncommon, . . . e.g. a living poetic metaphor, as opposed to a lexicalized one, which is automatic" (198). Explicitly,

actualization draws on the power of novel metaphor to show a reader something new and refreshing in narrative; Doležel said in his essay "Statistical Theory of Poetic Language" that "a metaphor is a case of foregrounding because it implies unusual, rare combination of words" (99). Koženviková further explains the Prague School's view on poetic aesthetics (something is aesthetically pleasing when it has balance between its *signifiant*, *signifié*, value, and structure [Fokkema 31]) and suggests that deviations of language norms are exactly what make art *art*. Just as the linguistic dance in aesthetics proposed by Mukařovský produces a written piece that is inherently pleasing to readers, novel and actualized metaphors that draw attention to newness in expression result in cognitive complexity experienced as pleasure and offer an enhanced reward for readers.

It should be said that Mukařovský's writings on balance in aesthetics opens the door for a discussion of primordial psychology—certain innate characteristics that exist within all people. Infants show more signs of satisfaction and relaxation when they are balanced in a stable and secure holding; such balance (that is, the absence of the fear of falling) is pleasing because it is in-born. This is an interesting inverted metaphor: an intangible (the innate fear) gives statistic definition to a tangible (a work of art). Such principles of inner balance and emotional security are regularly used in interior design, architecture, and other similar applications, utilizing primordial psychology to achieve a desired aesthetic. Certain "cool" colors, such as blues and greens, are commonly soothing, while "warm" colors, like red and orange, tend to stimulate. Horizontal lines are generally perceived as relaxing, but strong verticals are intimidating and rigid. Perhaps the "nature vs. nurture" value of these perceptive elements is debatable;

nevertheless, the feelings evoked by the use of such universal physiological cues translate into psychological messages that cause people to respond in certain ways. For instance, the color green and long horizontal lines in a room might remind a person of pastoral settings—fields of winter wheat in vast plains—and generally evoke a sense of calm because people are theoretically pre-disposed (hardwired from Paleolithic eras) to respond favorably to nature (savannahs). Like metaphor, the obtained psychological sense, the abstract target-aesthetic, is the result of exposure to tangible source-stimuli, requiring mental association with "hard-wired" physical and emotional experience.

In his book *Some Aspects of Text Grammars* (1972), Teun Adrianus Van Dijk claims that the use of metaphor is one of the most significant choices a writer can make to enhance the semantics of a text (240-1): "the very productive nature of processes of metaphorization is one of the most decisive creative aspects of the rules of natural language" (241). Van Dijk also claims that metaphor is one of the most complex "figures of thought" in writing, not just for the writer but also for the reader because it requires knowledge of the text *and* context with special simultaneous attention to sentential features and to macrostructures of meaning (242). Van Dijk spends substantial time explaining common semantic structures of narrative (especially the S-Structure, or sequence thought) then details how metaphor, in five possible ways, throws these structures on their heads by requiring a reference point to something outside of the text (250).

Van Dijk explains that metaphor itself has a type of expected grammar or formula. For example, the phrase "My brother is as strong as a lion" is often used, but not

"My brother is as strong as a thick rope" (252). Yet, when this latter sort of novel metaphor is used in a text, it allows a reader the opportunity for an even deeper appreciation of metaphorization (252-257)—probably because, as explained earlier through the various cognitive studies, novel metaphor challenges and therefore rewards the brain to a greater extent. Van Dijk explains that, by using T-structures (transformative information) in narrative, even more depth to metaphor can be added by incurring an unexpected change (257-262). His conclusion is that there are degrees of metaphoricity that can (and should) be implemented, at least in part, to challenge both the writer and the reader (268-272). Van Dijk's contemporary Lubomír Doležel has much more to say on the importance of metaphor in narrative for both the reader and writer, as will be explored in the third section of this chapter.

Telicity and Aspect in Relation to Metaphor

The scholars of the Prague School began their outreach to the international linguistic community by writing papers addressing problems with the Slavic languages, particularly those including aspect—one of the Balto-Slavic languages' most challenging features, as outlined in the introduction to my project. Aspect is different from the three tense categories—present, past, and future—and simply denotes characteristics of completion in tenses. In Czech, for example, tense is denoted in regular verbs through conjugations of suffixes that match gender and number. Depending on the ending of the root, the conjugations change; Czech has four classes of verb endings, with six declensions in each class, as shown below:

Class 1: -at and -át conjugations for verbs *dělat* (to do) and *dát* (to give)	
Singular	Plural
1. (*já*) *dělám*/*dám* (I do/give)	1. (*my*) *děláme*/*dame* (we do/give)
2. (*ty*) *děláš*/*dás* (you do/give)	2. (*vy*) *děláte*/*date* (you all do/give)
3. (*on*/*ona*/*ono*) *dělá*/*dá* (he/she/it does/gives)	3. (*oni*/*ony*/*ona*) *dělají*/*dájí* (they do/give)
Class 2: -ovat and –ýt / ít conjugations for verbs *kupovat* (to buy), *mýt* (to wash), and *lít* (to pour)	
1. (*já*) *kapuji*/*myji*/*liji* (I buy/wash/pour)	1. (*my*) *kupujeme*/*myjeme*/*lijeme* (we buy/wash/pour)
2. (*ty*) *kupuješ*/*myješ*/*liješ* (you buy/wash/pour)	2. (*vy*) *kupujete*/*myjete*/*lijete* (you all buy/wash/pour)
3. (*on*/*ona*/*ono*) *kupuje*/*myje*/*lije* (he/she/it buys/washes/pours)	3. (*oni*/*ony*/*ona*) *kupují*/*myjí*/*lijí* (they buy/wash/pour)
Class 3: -it and –et / ět conjugations for verbs *prosit* (to ask) and *rozumět* (to understand)	
Singular	Plural
1. (*já*) *prosím*/*rozumím* (I ask/understand)	1. (*my*) *prosíme*/*rozumíme* (we ask/understand)
2. (*ty*) *prosíš*/*rozumíš* (you ask/understand)	2. (*vy*) *prosíte*/*rozumíte* (you all ask/understand)
3. (*on*/*ona*/*ono*) *prosí*/*rozumí* (he/she/it asks/understands)	3. (*oni*/*ony*/*ona*) *prosí*/*rozumí* (they ask/understand)
Class 4: -out and –ci conjugations for verbs *zapomenout* (to forget) and *nest* (to carry)	
1. (*já*) *zapomenu*/*nesu* (I forget/carry)	1. (*my*) *zapomeneme*/*neseme* (we forget/carry)
2. (*ty*) *zapomeneš*/*neseš* (you forget/carry)	2. (*vy*) *zapomenete*/*nesete* (you all forget/carry)
3. (*on*/*ona*/*ono*) *zapomene*/*nese* (he/she/it forgets/carries)	3. (*oni*/*ony*/*ona*) *zapomenou*/*nesou* (they ask/understand)

FIGURE 3: Czech conjugations for regular verbs (Lommatzsch, qtd. in Lang)

Yet recall that the concept of aspect in Slavic languages is far more complicated than English aspect for several reasons. One, every verb communicates tense that is either perfect aspect (representing completed action; called *vid dokonavý* in Czech grammar) or imperfective aspect (showing continued or repeating action; called *vid nedokonavý* in Czech grammar). Anke Lang, grammarian for the Czech language educational website *Local Lingo*, states that even though "[t]here is no one rule specifying how to form perfective and imperfective verbs in Czech and each verb has to be learned," many perfective verbs take a prefix (such as *s-*, *za-*, *při-*, or *u-*) while imperfective verbs often require a stem change (such as *–ova-*, *-va-*, or *–ěva-*). Using the verb *kupovat* (to buy) from the second class of regular verbs in the chart above, Lang shows that there are several imperfective and perfective forms of the verb (and this is not even an exhaustive list):

vid dokonavý (perfect aspect)	*vid nedokonavý* (imperfect aspect)	definition
koupit	*kupovat*	to buy something
odkoupit	*odkupovat*	to buy from
přikoupit	*přikupovat*	to buy more of the same
vykoupit	*vykupovat*	to buy out
zakoupit	*zakupovat*	to buy (formal)

FIGURE 4: Czech perfect and imperfect aspect conjugations for *kupovat* (to buy) (Lang)

Second, it is difficult to tell whether an action has been completed, is in process, or is repeating. Consulting the chart alone, one can see that the imperfect and perfect aspects actually share the same definition, but the duration of the action, shown through the verb

tense itself, can still be confusing, even in the context of a sentence. An example Lang gives is the sentence "*Eva šla nakupovať*" ("Eva went shopping"). Even though this is the imperfect form, meaning that Eva repeats her process of shopping, it could also be that she has gone and has since returned or that she has gone but has not yet returned. Third, many verbs are irregular, so there is confusion in understanding meanings of word combinations. On Lang's grammar website, she provides a list of fifteen irregular verbs, saying that they are the most common and more important for language learners. Finally, verbs must match the gender and declension of their noun subjects for gendered nouns. This is not as challenging of a complication in Czech as it is in some other Balto-Slavic languages, where verb conjugations not only denote tense and aspect but also gender and number.

Rudzka-Ostyn observes that idiomatic verb phrases, which consist of more than one word, usually a verb with an adverbial particle and/or preposition, such as *slow down*, *get down to*, or *depend on*, are difficult to teach to ESL and EFL students. These phrasal verbs trouble language learners because "they so clearly go from the concrete to the abstract" in the way that they use directional words that actually have little to do with physical direction (1). Metaphor does the same. In the Balto-Slavic languages, the grammatical formation of phrasal verbs include both perfective and imperfective forms. English phrasal verbs and Balto-Slavic aspectual phrases move in the same way that metaphor does. Interestingly, some Polish linguists similarly use a metaphor to help Polish learners understand when and how to master aspect and telicity in their grammar. Apparently, the use of the metaphor of moving time to explain the perfective aspect and

of the moving subject or moving self to explain the imperfective aspect is helpful for

Polish grammar learners (Radden 1991, qtd. in Divjak et al 1).

Although some grammar instructors have been able to use metaphor and the

understanding of literal to abstract as a means to better understand grammar itself, there

is still a specific block for understanding phrasal verbs. Comrie continues to say that,

even in English, these phrasal verb forms are difficult to conquer:

> Because foreign learners do not see this path [from concrete to abstract
> and/or from literal to metaphoric/idiomatic], many phrasal verbs are
> difficult to understand and to use even if they know both the verb and the
> spatial meaning of the particle. It is not surprising therefore that even
> advanced learners of English understand many of them [phrasal verbs]
> poorly and, as research has shown, use them sparingly, if at all. The
> difficulties are situated at the levels of both form and meaning. . . .The
> most frequently encountered problem occurs, however, when particles are
> used metaphorically, i.e. when their literal meanings are extended to
> abstract, non-visible domains such as thoughts, intentions, feelings,
> attitudes, relations, social and economic interaction, etc. (1, 4)

Phrasal verbs are difficult to grasp because they are linguistically and cognitively at the

same level of complexity as metaphor is; when they are used to demonstrate metaphorical

principles, they become even harder to grasp. However, as mentioned earlier, metaphor's

intention as a mode of expression is to make the target domain easier to understand

through its relation to a source domain. Therefore, using metaphor, when mastered,

should bring about more precise comprehension.

Understanding the progression between concrete and abstract, the source and the

target, the literal and the metaphoric, etc. is not just helpful for seeing the relationships in

metaphor; it is also illuminating in trying to understand difficult grammatical principles

such as those implied in the use of tricky phrasal verbs. Comrie observes in explaining

her teaching methodology that

> since it is easier to talk about abstract nouns by seeing them as concrete movements . . . , verbs of motion can and will be used to designate abstract, non-visible [i.e., metaphorical] changes: (A) physical, spatial motion → (B) abstract motion. . . .Once, however, you [students] gain an insight into the literal and extended or metaphorical meanings of a particle, these "different meanings" turn out to be closely related. (2, 5)

Rodriguez-Puente, in a similar article on the difficulties of phrasal verbs in many

languages, agrees that after looking through various linguistic corpora, phrasal verbs can

be formed in one of six ways—one of which includes the addition of an aspectual

particle, which leads to metaphorization. He illustrates this method with the history of the

formation of the English phrase *give up*, where *give*, a verb showing a transfer of

possession, was combined with the aktionsart particle *up* first in A.D. 1150 to

communicate an idea of abandonment, surrender, and defeat—transferring individual or

communal agency (will) to a deity (considered physically higher in Heaven), through the

physical act of sacrifice or prayer. Over time, the history of usage shows that the phrase

became metaphorized: *giving up* habits, behaviors, and other non-tangible ideas (77-78).

Rodriguez-Puente summarizes, "[I]f one thinks about how a metaphorical shift [from

literal to metaphoric] may have led to a contemporary, non-compositional issue," difficult

grammatical concepts like telicity, aspect, phrasal verbs, etc. can "be easily understood"

(77).

It may be important to take a moment here to explain aktionsart, another linguistic

concept of aspect and telicity seen especially in many Eastern European languages. This

word comes from German, meaning "kinds of action," and because no English equivalent

exists, the German word has become the most widely used. Comrie explains the concept

of aktionsart as clearly as possible for English-speakers, saying that, while "aspect [is]

grammaticalisation of the relevant semantic distinction, aktionsart represents

lexicalisation of the [semantic] distinctions, irrespective of how these distinctions are

lexicalised; this use of aktionsart is similar to the notion of inherent meaning" (6-7). In

other words, aspect relates to the grammatical place of the action, whereas aktionsart

refers more to the contextual meaning of the grammatical action. She then, however,

gives another distinction specifically for the Slavic languages:

> The second distinction, which is that used by most Slavists, and often by
> scholars in Slavonic countries writing on other languages, is between
> aspect as grammaticalisation of the semantic distinction, and aktionsart as
> lexicalization of the distinction provided that the lexicalization is by
> means of derivational morphology. . . .This restriction of the use of the
> term "aktionsart" in Slavonic linguistics was introduced by Agrell (1908);
> a comprehensive account of the aktionsarten of Russian, in this sense, is
> given by Isačenko (1962); for Bulgarian, see Ivanova (1974). (7)

Because of the confusion that the use of *aktionsart* can cause, most linguists (especially

those speaking of Balto-Slavic languages) try to avoid it, and its usage has faded out over

time. In the case of Rodriguez-Puente's use of *aktionsart* for his example in the previous

paragraph, he is explaining that the word *up* shows a lexical (literal, then metaphoric) and

not a grammatical property or function of the word in its combination with *give* in the

phrase *give up*.

Telicity refers to the characteristic of durative time—that is, an action in

process—and whether or not it has terminated. The term *telic* is of unknown origin, but

most scholars believe it was coined in 1957 by Howard Garey in his study on "Verbal

Aspect in French" (*Language*, Volume 33), referring back to the Greek term τέλος,

meaning *end* (Comrie 44). Bernard Comrie, in his book about the difficulties of aspect in language, uses the example "John is singing" and "John is making a chair" to explain aspect and telicity. While both of these verb tenses indicate duration, their difference is in their terminal results. The action of making a chair is finished when John's chair is completed. Even if he stops and takes a break from making his chair, someone can still say, "John is making a chair"; he may still be in the process of "making" even if he is not actively doing the action in a given moment. If he is singing, however, he can stop whenever he wants, and the action will be finished. In this example, "making a chair" is telic and "singing" is atelic. Comrie provides a grammatical rule of thumb for further clarification:

> The telic nature of a situation can often be tested in the following way: if a sentence referring to this situation in a form of imperfective meaning (such as the English Progressive) implies the sentence referring to the same situation in a form with perfect meaning (such as the English Perfect), then the situation is atelic; otherwise it is telic. . . .Thus a telic situation is one that involves a process that leads up to a well-defined terminal point, beyond which the process cannot continue. (44)

So, again, in this example, "John is singing" (atelic) can be changed to "John had sung" (as in "John sang"), and it still makes sense in a past tense narrative, for instance, even if he had not finished the act; but "John is making a chair" (telic) cannot, in a past-tense narrative, be "John had made a chair" (as in "John made a chair") without losing sense, because the end result has not yet been achieved (44-5).

In the Balto-Slavic languages, telicity takes its own paradigm. At the recognized beginning of the Balto-Slavic language family, these languages used the imperfective/perfective distinction in the past tense (as did many older Indo-European

languages), called the aorist and imperfect opposition. But now, although lost in some modern languages, current distinctions between perfective and imperfective forms are not just restricted to the past tense, and, in Balto-Slavic languages, they are now "without any systematic parallel in the other branches of Indo-European" languages (Comrie 88-9).

> Given the naturalness of the combination of stativity and imperfectivity, it is easy to see why many languages have a special form to express progressive meaning: progressive meaning combines nonstativity with continuous meaning, and in referring to non-states the distinction between continuous and perfective meaning is more important than in referring to states, which are typically continuous; thus, if a formal distinction is to be made anywhere, it is more logical for it to be made within descriptions of dynamic situations than within descriptions of static situations (51).

Even for many native speakers in the Balto-Slavic languages, the simultaneous use of stativity and imperfectivity is, indeed, useful but not as simple at Comrie makes it sound. Again, many native speakers—including members of the Prague School—see many complications with the aspectual property of the language. As we will see, Doležel and others believe that speakers of the Balto-Slavic languages have a special perspective on metaphorization because of these linguistic "problems."

In "How Telicity Creates Time," Östen Dahl claims that aspect sheds light on the concept of creating time by communicating a change in events (58, 61). Telicity refers to context by establishing a before and after for certain periods of time, therefore "creating" that period, Dahl proposes (45). In languages like Russian, telicity is represented through the use of the perfective aspect (47). Because of this relationship, Dahl raises the poignant question of whether there are actually events in time or just changes in state. "[T]he very fact that we can speak about events [through reification and narrative] implies that they are seen as entities, albeit abstract ones" (55). Reification and telicity

metaphorically "create" time because they "introduce temporal structure in a representation of the world." This creation of the temporal domain is dependent on semantics—traditional propositional/truth-conditional semantics and consequential/eventuality semantics, to be exact (58). The key, according to Dahl, is within the dynamicity of the predicate; his example is "The temperature is 22 degrees" vs. "The temperature has risen to 22 degrees" (61). Only the second expression conveys a sense of time, of a before and an after and, therefore, "creates" an implied notion of time. Language allows speakers and listeners to construct reality through the use of a context conveyed in grammar. Slavic languages lend particular insight into the perception of time as a construct, in which the metaphoric component is embedded in the grammar, because of their distinct use of aspect (Janda 3).

In structures of narrative, where whole worlds are made from words and grammar, time is also a constructed element presented metaphorically. Simon Kemp of John Hopkins University says that readers often can't think of narrative without thinking of space and time:

> [T]he metaphorical line of narrative stands in the place of time . . . but also . . . does not stand in place of time alone: narrative line is composed of both chronology and signification. . . .[T]ime and meaning inevitably become spatialized through metaphor when we talk about narrative . . . [which has great] implications for narrative theory.

Readers' innate creation of narrative time that the use of telicity in grammar produces in Balto-Slavic languages has many of the same attendant cognitive complexities as the processing of metaphor itself. Metaphor in language reveals its presence in phrasal verbs and telic action through idiomatic, everyday speech. In narrative—metaphorical

representations of reality, or Doležel's conception of a "fictional truth"—the complex, multihemispherical processing and comprehension of metaphor plays a crucial role.

Doležel's Fictional Truth, Creation of Time, and the Importance of Metaphor

Lubomír Doležel, born in Lesnice, Czechoslovakia, in October 1922, was, since a child, aware of the strong Nazi influence in his life. He was forced to move to Croatia in 1938 for study and then moved back to Litovel, Czechoslovakia after the German occupation. After he graduated from grammar school in 1941, he joined the anti-fascist National Association of Czechoslovak Patriots and was arrested and imprisoned by the German Gestapo in 1944. He was first placed in the "Small Fortress" concentration camp in Terezin (also known as Thereseinstadt, its German name), then was moved to Wroclaw, Poland, and Zwickau, Germany. He was released once the US Army occupied Zwickau at the end of World War II in 1945, and when the universities were restored by the Czechoslovakian government, he began study at Charles University, with those who were left of the Prague School, learning from members like Bohuslav Havránek, Josef Kurz, Felix Vodička, and Vladimír Skalička. It is possible that, because of Doležel's rebellious streak, he wanted to learn from a group of thinkers who had been targeted and censored by the Nazis and Soviets in previous years. In any event, he graduated in 1949, and again, with his Ph.D. in 1958, after successfully defending his thesis *On the Style of Modern Czech Prose Fiction*, now considered a classic text of the Postwar Prague School era (Brewer).

Doležel worked for the Czechoslovak Academy of Sciences as a researcher of Slavic Philology in the Institute of Czech Language (1958-60) and as the head of the Mathematical Linguistics department (1960-5). He then went on to serve as a visiting professor at the University of Michigan at Ann Arbor (1965-8), then stayed on in North America as professor of Czech language and literature at the University of Toronto (a colleague of Chomsky and Frye) (1969-88) until he eventually retired. Through his retirement, he was still busy lecturing throughout North America, South America, and Europe. In 2009, he returned to the Czech Republic and now lives peacefully in Prague. Doležel's work focuses primarily on stylistics, narrative semantics, mathematical linguistics, narratology, cybernetics, and, his most well-known theory, the conception of possible worlds and fictional truth. In each of these fields, Doležel dwells specifically on the links between linguistic microstructure and narrative macrostructure, leaning heavily on Praguian ideas of structuralism and context (Brewer). Although, of course, Doležel's writing is brilliantly composed and thoughtfully engaging, he has a unique and refreshingly cheeky writing style that seems consistent with his defiant past opposing the Nazi regime.

Doležel's body of scholarship is interdisciplinary—as is that of many of the Prague School members. This interdisciplinary approach is essential to understanding the link between the structure of narrative, the importance of telicity, and the complexity of metaphor. How can one understand a metaphor if he/she does not "know" the "truth" of a source domain—the reality? This interface of metaphor and "truth" is exactly what Doležel's major body of work revolves around in his concept of truth in fiction. Only

when the truth of a source domain is established at an experiential level can a metaphor

be useful as a means to reach beyond one truth to another—the target domain.

When reading Doležel's work, it becomes clear how his interdisciplinary interests

coincide. He argues in many of his works, for instance, that when metaphor is used

effectively as a means of establishing truth in narrative, a higher truth penetrates from the

fiction. This alternate truth relates in complex ways to the real and applicable world

outside of fiction. Therefore, the "state" of the narrative changes—an aspect learned from

the idea of telicity in Balto-Slavic grammar. Typical narratives revolve around events in

the story that then change the course of action into plot, but some narratives instead

progress based on changes in state or emotion (as in psychological development or

transformation of consciousness). Doležel calls these "event-based narrative" and "state-

change-based narrative," respectively. He proposes that state-change-based narrative is

the most engaging form of narrative for both the architect of narrative and for the reader.

This delicate collaboration of literary semantics, grammar, cognitive psychology,

narratology, and mathematical linguistics can only be achieved through the

interdisciplinary perspective acquired through Prague School thought.

In his article, "Truth and Authenticity in Narrative," Doležel congratulates the

interdisciplinary shifts between philosophy and literary studies but is quick to point out

that philosophers and logicians are lacking in their appreciation of fictional truth and in

their understanding of literary semantics—that is, the "base" of literary theory and "the

formative component of text grammar" ("Narrative Semantics"). In other words, fictional

truth is the most important feature of a text's structure, yet it was being ignored by many

scholars:

> The inability to distinguish between the system and its particular uses, the ignorance of the systematic relations between form (expression) and meaning, the general blindness to the structural organization of sign systems and "messages," the concentration on isolated words or at best on sentences, rather than on discourse structure—these are some of the common and persistent shortcomings of many philosophical and logical contributions. (8)

However, Doležel also turns to literary scholars and accuses them of not completely

analyzing truth in narrative either, saying that not everything is a "truth," "non-truth," or

"neither truth nor non-truth," as some literary scholars try to postulate (9). Doležel

references Mukařovský as having said, "The question of truthfulness does not make sense

at all in poetry" (qtd. on 9). Philosophers, literary scholars, and Doležel all agree, on the

other hand, that "in *some sense* we do make truth-value assignments to fictional

sentences" (9), and the key is that authentication happens *within the fictional world*. He

defines two important components of authentication identifiers within the fictional world:

the *ersatz*-sentence and actualism. The *ersatz*-sentence is the litmus test for truth within a

text; it signs that something is "true if it expresses (describes) a state of affairs existing in

the fictional world of the text; [although] it is false [in the real world]" (9). Actualism, on

the other hand, shows what readers believe to be true in reality outside of the text: "there

exists an empirically observable world—called the actual world, while the possible

alternatives of the actual world are constructs of the human mind" (10).

    A narrative is, in essence, a metaphorical truth—a true fiction; "Through the use

of grammatico-semantic cues the reader makes a deictic shift from the real world to a

position inside of the narrative by taking a cognitive stance from within the storyworld"

(Christopher 174). In other words, there is a suspension of disbelief as long as the reader

is reading the semantic cues presented by the author. Doležel re-emphasizes this point in

his essay on "Fictional Worlds," which details the important relationship between

fictional truth, gaps, and inference. His theory on "gaps and implicitness" explains that

text has explicit and implicit texture that draws on fictional semantics. "[I]mplicitness is a

universal feature of texts," he says; "unsaid meanings are implied" (4). Doležel argues

that text is a weaving of obvious and inconspicuous information that all work together to

form the reader's following of the storyline and opinions of the story's quality. Here,

Doležel draws on the theories of Dijk and others interested in "text processing," the way

a reader interprets a text through its linguistic characteristics. Doležel details the

differences between intuitive and ideological text interpretation, both of which, he says,

"impose rather than recover implicit meaning" (4). This is the point where inference

comes into play and where metaphor becomes useful, especially when the narrator's

"truth" is different than the fictional truth or actual truth ("Mimesis and Possible Worlds"

490; "Truth and Authenticity").

　　　　Because fictional truth occurs within the context of the narrative, according to

Doležel, the hands of the fictional agents within the narrative shape it. The first model he

describes is the binary model, where there is an anonymous third-person narrator (or Er-

form narrator, as he calls it) and characters (or personalized narrative agents). In this

model, the narrator establishes truth, and characters can either abide by that truth or

establish a lie, as in the case of *Don Quixote*, Doležel's example.

In Doležel's other model of narrative, a non-binary model, authentication moves to a grade based on the position of the narrator: "The graded authentication function is defined as a function which assigns different grades (degrees) of authenticity to narrative motifs" (16). There is the Er-form narrator already mentioned—the omniscient, anonymous narrator—but there is also the subjectivized narrator who establishes truth that can be "belief-worlds of the agents" and can thus be manipulated based on agents' attitudes and actions (16). This is shown in the example from *Madame Bovary.* There is finally also the *Ich*-form narrator, or the first-person narrator, who will obviously have a relative truth. In instances when the narrator does not know others' belief-worlds, there is often "meticulously specified" sources (18) shown in body language, facial expressions, actions, tone, etc.

The use of an *Ich*-form narrator, of course, creates complications. There might be gaps in the storyline or in the truth, and/or the narrator might be an unreliable or manipulative source. This, according to Doležel, is seen often in Russian literature, in the form of *skaz* narrative ("Mimesis and Possible Worlds" 491). Furthermore, an interesting point about Doležel's argument on the binary model of authentication authority is that, as opposed to others (such as Martinez-Bonati) who say that the narrator points to truth, "the narrator's statements cannot be assigned truth-values, since they do not *refer* to a world, but rather *construct* a world" (13). In fact, in his article, "Fictional Worlds: Density, Gaps, and Inference," Doležel makes the point that the author is constructing fictional worlds, and they are, furthermore, incomplete:

> To construct a fictional fact, the author has to create an authenticating texture; if he/she writes nothing—that is, produces zero texture—no

> fictional fact comes into existence, and thus a gap appears in the fictional world. . . .Reading and processing the fictional text, the reader reconstructs the fictional world constructed by the author. Now, the question is what does the reader do with the gaps. (2, 3)

The reader has the opportunity (and obligation) to infer information about the story in order to understand fictional facts. This, however, can only be done through presupposition, which Doležel describes as "our store of knowledge, in our encyclopedia . . . [which is] absolutely necessary for the reader to comprehend a fictional world" (5, 8). Ultimately, Doležel's major point is that a fiction cannot by definition live up to fact, and that is acceptable; it is a reader's responsibility to respect the fictional truth constructed and to enjoy the creative act of recreating a story in his/her mind as he/she reads what authors have laid out; "otherwise, their worlds appear as disjointed fragments or senseless puzzles" (9).

So the reader must have encyclopedic knowledge about non-fictional truth—that is, what readers experience outside of the fiction. This is a part of the source domain. Along with that, readers must also have their fictional truth established through the narrative agents, and this fictional truth acts as their source domain within the narrative. Both non-fictional truth and fictional truth are necessary in order for a reader to attain the target domain that the author is constructing through metaphor and through the narrative as a whole.

In his essay "Mimesis and Possible Worlds," Doležel suggests that the "empty domains" of a fictional world's structure warrant the careful use of aesthetic principles and tools at hand, such as the writer's style and genre conventions of the period (486). One of the major tools an author uses to authenticate fictional truth, to help the reader fill

in the gaps, to construct a world, to fill the empty domains, *et cetera,* is metaphor. In fact, Doležel claims in his 1980 article, "A Short Note on a Long Subject: Literary Style," and reiterates in "Mimesis" that minimized completeness allows the author to maximize on creativity and deeper meaning (487). Metaphors are a method of communicating a difficult concept via passage from an easier, more literal one.

Doležel makes an effort to acknowledge the importance of metaphor in "Mimesis and Possible Worlds." For the majority of the piece, he discusses how readers' minds are challenged by determining the point where truth meets fiction, noting that it is a cognitive feat to be appreciated. By the end of the article, however, Doležel finally juxtaposes that admiration by commending authors and poets for their constructive imagination and ability to create and store worlds (489).

Furthermore, Doležel doesn't just think that metaphor is *part* of narrative; in "Mimesis and Possible Worlds," he states that narrative *is* metaphor. Although the essay refers to and is even named after mimetic semantics, which explains that fiction mimics reality, Doležel explains here and elsewhere ("Czech Poetics Today") that mimesis restricts the possibilities for fictional truth. Instead, it takes all of the skills of the writer—including the use of metaphor—to create a possible world (186-7). For Doležel, fiction is a representation of reality designed to guide readers to a deeper understanding of reality. "A fiction writer describes, studies, presents fictional characters just as a historian does with historical personalities" (479). These "possible worlds" explored through fiction are limitless and have three main theses. One option is that they are possible but not actualized (482-3); the world and narrative therein are real enough that they can be

imagined, but they will still never become a true reality. The second possibility is that the fictional world is "unlimited and maximally varied" (483-4), meaning that it is simply too large and fantastic to become reality. The final choice is that the possible world is accessible/observable from the real world through "semiotic mediation" (484-6); the world feels almost too real through the craft of the text.

Doležel even goes on to say that the semiotic modes are metaphoric and multiple, covering a range from gestures, to visual elements like colors and shapes, to linguistic forms of language and orthography, etc. All of these (but especially language) serve as tools to create a new reality: "With the semiotic potentials of the literary text, the poet brings into fictional existence a possible world which did not exist prior to his poetic act" (489). Literary construction of a fictional world is uniquely powerful because the cognitive intricacy of working through a text uniquely feeds the mind the ability to imagine a possible world: "[s]emantic complexity is a prime manifestation of the structural self-sufficiency of fictional worlds" (488). Denying a reader the ability to deconstruct and absorb text denies him/her something far more than just a story:

> A theory of reading which annihilates the literary text blows up the main bridge between actual readers and the universe of fictions. The reader of such a theory isolated in his narcissistic self-processing is condemned to lead the most primitive mode of existence, existence without imaginary possible alternatives. (485-6)

Relying on truth to establish a fiction is a great feat—*great* as in *daunting* and *great* as in *wonderful*. The ability to not only construct a world but to revisit it over and over for escapism and enjoyment is a fantastic privilege that can only be achieved through well-crafted narrative. But what happens when truths collide and contradict, as stated in the

example of *Don Quixote*? Doležel makes the point in his articles "Fictional Worlds" and "Truth and Authenticity in Narrative" that metaphor allows the reader to substitute his/her preconceived truth from his/her personal "real-life encyclopedia" of experience for another—the writer's metaphorical truth—and therefore change his/her perception of the world ("Fictional Worlds" 7-10); yet "in the domain of literature no norm is safe" ("Truth and Authenticity" 21). Deviations from one's reality because of metaphor and a fictional truth, Doležel happily points out, should not be seen as a negative but as a sign of growth and evolution of literary complexity and personal progress: "Nothing could demonstrate more clearly the ability of literature to produce new sense than such an experiment" (23).

Doležel's point that metaphor allows readers to substitute one truth for another especially resonates with speakers of the Balto-Slavic languages—like those of the Prague Linguistic Circle and many others involved in Eastern European linguistic movements prior to World War I. Just as telicity creates time in its highlighting of a state change, the creation of a fictional truth can be considered a major state change within the mind; "The genesis of fictional worlds can be seen as an extreme case of world-change, a change from non-existence into (fictional) existence." The writer is the first to construct, but the world is first constructed for the reader through the narrator ("Mimesis" 490). Furthermore, the act of reading recreates time. Doležel hails the writer as a performative artist and architect, not only incredible in his/her ability to create worlds only through the use of symbolic orthography, but able to store those worlds within the binds of a book, which can be revisited again and again: "From the viewpoint of the reader, the fictional

text can be characterized as a set of instructions according to which the fictional world is to be recovered and reassembled" (489).

Furthermore, in his main piece on the linguistic structure of narrative, narrative semantics (aptly titled "Narrative Semantics"), Doležel re-emphasizes Georg Von Wright's notions in the 1960s on event-based and state-based narrative, with each having a possible static or dynamic form (132-3). "It is obvious that for the story formation, dynamic motifs are of primary importance" (133)—narratives are much more stimulating if events or states change within the storyline. Usually, Doležel notes, states are changed by means of events: his example is when a window goes from the state of "being closed" to "being open" because of someone or something going through the action of opening the window (132-3). However, he clarifies that this relationship exposes "one of the most complicated problems of narrative semantics: . . . the differentiation between events-processes and events-actions. . . .[I]ts significance can be illustrated, for example, by the difference between a motif of natural death and a motif of violent death (murder or suicide)" (133). Doležel defines action as "a change of state brought about intentionally and purposefully by an animate (human) individual (or a group of individuals) called an agent" and a process as "an unintentional and purposeless change of state brought about by an inanimate (for example, natural) force" (133).

Many other components play important roles in this question of narrative semantics, including the affectants (the performer of the action) and the affectum (the object of the action [134]), the force manifestation (an "absolute affectant" [135]), the objects ("the absolute affectums" [135, 137]), the instrument (any tool used by he

affectants), the force ("an affectant which is absolutely inconvertible" [137]), the agents ("inconvertible affectants with respect to objects, convertible affectants with respect to patients"), and the patients ("convertible affectums with respect to agents, inconvertible affectums with respect to processual force"). These agents in narrative semantics and the importance of action and state change are quite complicated and not unlike a confusing game of *Clue*. However, the key to notice is that all of these components revolve around one main idea: change of state found in action. Just as telic verbs create time by showing a before and after in state, action in narrative creates change among agents, plot, and the fictional truth. Doležel's whole thesis in narrative semantics dwells on the importance of dynamicity of state based on the use of action within a period of time and a fictional truth. These components are essential to "story coherence . . . in order to account for the intuitive concept of unity and wholeness (totality) of a story" (130, 141). Without the understanding of telicity and its creation of time especially in the mind of a Balto-Slavic language speaker, without the understanding of the importance that metaphor makes in creating a fictional world within multiple areas of the mind, and without the knowledge of semantic structuralism to a larger whole of macrostructure, Doležel would more than likely not have been able to see their connections to the importance of narrative complexity.

CHAPTER THREE:
CURRENT IMPLICATIONS OF PRAGUE SCHOOL THOUGHT

Work in the field of theory of poetic language is both difficult and inspiring. The
inspiration has its source in the overlapping (interjacent) character of this field of
knowledge, for it is well-known from the history of modern science that borderline areas
are likely to prove the most fruitful and worthwhile for the scientist.
- Doležel, "The Prague School and the Statistical Theory of Poetic Language"

A Literary and Linguistic Legacy

In Twenty-first Century America, we are in, as Doležel identifies it, the
poststructuralist era. This period embraces a retrospective mixture of Prague School
structuralism, French structuralism, and American structuralism. Poststructuralism has
four major components: deconstruction, pragmatics, the empirical nature of literary
study, and hermeneutics. In deconstruction, there is not a huge divide aside from the
accepted scope of polyfunctional language—that is, the Prague School incorporated
many different discourses (ie, scientific, legal, philosophical, and economic) and
therefore is sometimes considered unfocused in the eyes of literary studies (Doležel
"Poststructuralism: A View from Charles Bridge" 635-639). In the area of pragmatics
(the theory of links between signs and their environment), there exist three types of
pragmatics between the Prague School and poststructuralism: indexical (between
messages and signs to users or interpreters), interactive (between language and human
behavior both in speech and interpretation), and ideological (between form and
understanding of form). An understanding of indexical pragmatics is intact among both
schools of thought; both Praguians and poststructuralists agree that signs and
interpretations change on context. (Think, for instance, about adverbs; their specific

meanings change based on the verbs they modify.) Interactive pragmatics, however, are exclusively poststructuralist. Still, this field does not necessarily contradict Prague School thinking, but instead builds on it, proposing that users of sign are movable points in the situational matrix, as Doležel describes it. Ideological pragmatics is where the controversy begins. Poststructuralists see Prague School ideological pragmatics (deeply rooted in original structuralist thought) as merely an angle of close reading—not focused enough on historical and tangent concepts related to a piece of literature. The Prague School teaching, however, holds that ideological pragmatics is just another aspect of structuralism and that structuralism, as a whole, takes into account historical and "tropographical" context. Prague School theories would further argue that literature, art, and science are more closely connected than poststructuralists consider them to be (639-643). "The ideologue first represents the world in terms and categories of a certain, usually authoritative, ideological system; then the ideologue interprets the literary work in those same terms and categories" (640). When considering the empirical nature of literary study, poststructuralism has its fingers in structuralist thinking, especially when dealing with the centrality of literary communication and in its insistence on conceptual rigor. Yet, in hermeneutics, poststructualism reigns supreme, though its established form is rooted in Prague notions of the "zigzag" relationship between reader and writer (especially supported by Mukařovský, Jakobson, and Vodička; Doležel 643-648). Ultimately, Prague School structuralism's time has passed, and poststructuralist views occupy center stage in current literary studies.

"Contemporary Western literary theory is severely fragmented," Doležel says at the start of his article "Czech Poetics Today." He continues, "We are again in a period when the critical establishment accepts, loudly or tacitly, the opinion that the model of writing about literature is literature. 'Fear of influence' hinders the formation and cultivation of research traditions and prevents accumulation of knowledge about literature" (485). Doležel then goes on to boast proudly about the three generations of the Prague School, a "cohesive" group of innovative thinkers focused on solving problems. These scholars had one major focus that makes them uniquely important: "they believe that the study of literature can be pursued as a cognitive activity, governed by general, interdisciplinary principles of knowledge acquisition, representation, and transmission" (486). Doležel believes this desire for objectivity comes from the suppression and censorship seen for nearly sixty years in Czechoslovakia throughout the Twentieth Century; "[these scholars] learned from personal experience that dogmatic ideology is the worst enemy of humanistic research" (486). Though it is nearly impossible to approach a text without subjective opinions, the members of the Prague School and their successors tried their hardest to study narrative rationally and empirically, looking at the measureable factors inside the piece—like its structure, its sounds, its symbolism, etc.—and surrounding it—such as its history, its authorship, its reception, etc.—instead of the thoughts and feelings within themselves that might otherwise taint the meaning of the text. Doležel himself says, "Thematic structures are shaped by the text's verbal, poetic, and rhetorical devices"—not completely by the reader's reception (187). This attention to

a text's inherent message through close examination of its internal and external parts, I believe, is Doležel's proudest accomplishment of the Prague School legacy.

Prague School teachings in phonology have also penetrated many other fields of study such as psychology and speech therapy in physical training. By breaking language into smaller units and analyzing their effects both on the speaker (phenomenologically) and on the listener, doctors and psychologists are able to more closely connect individual responses to language and perception. This train of thought continues into philosophy and biology, specifically in the work of Noam Chomsky, who is probably most recognized in the history of linguistics and who was heavily affected by the Prague School. Chomsky raised an important question: What is the connection between thought and language? Related questions still baffle philosophers and biologists. In other disciplines, mathematicians are applying ideas of phonology to questions of cross-linguistic patterns of grammar, treating sentences and syntaxes as mathematical formulas. Furthermore, mathematics and physics have been employed to study phonemes and phonetics (especially acoustics) extensively. By measuring the frequencies and patterns of acoustics when people (in one language or, for more interesting results, in several languages) pronounce phonemes, mathematicians and physicists have been able to identify patterns that can help with technologies such as speech-to-text programs and techniques that are applicable to speech rehabilitation programs.

Not only is language deeply ingrained in many aspects of our lives, but methods of understanding and studying language also incorporate many fields of study. As a result, multiple important contributions of the Prague School have not only helped to

further an understanding of language and literature but have also revealed ways to use language as a means of understanding so much more.

Creative Formulae

One of the most common criticisms of Prague School thought is that it looks too deeply, too closely at the intrinsic nature of text and language and does not take into account the larger thematic structure and the intentions of the author. While some on the side of the Prague School say such criticism is not unwarranted (Galan 106), others recognize such close scrutiny as necessary and inexcessive (Doležel "Czech Poetics Today" 186). The main aspects of Prague School teaching examined in this thesis—especially phonology, structuralism, and mathematical linguistics—all demonstrate how pieces work together to create a whole. Furthermore, the Prague School thinkers often pushed for acknowledgement of outside factors that also influenced a text: "Prague School linguistics . . . were unwilling to sever language from the world. Their ideas . . . were based on the assumption that language refers to, communicates about, represents the world" (186).

Although it is undeniable that Prague School research has shown the invaluability of microstructure in narrative, poetry, and many other forms of communicative art, they also understood that there is a balance between structure and style. The composer's careful use of tools, tricks, and devices make the text a work of art. While Doležel and many others of the Prague School resist the idea of text grammar and a "universal language" of narrative, there are undeniable structures that produce certain results—and

they are all available to the architect. Using Mukařovský's theories on semantic gesture as an example of a "stratificational system expressing a work's totality," Doležel notes that, "Each writer/poet imprints his or her semantic gesture on the literary structure, making it as unique as his or her own personality" ("Czech Poetics Today" 187). Furthermore, in the introduction to his book *Narrative Modes in Czech Literature*, he says that structural scrutiny of a text is still incomplete without acknowledgment of the creative liberties the author uses in composition:

> [N]arrative modes are rather broad categories with a considerable flexibility and rich "internal" variability. . . .Idiosyncratic stylization opens the possibility of infinite variation within one and the same narrative mode. Every writer is given the opportunity to experiment in an original way with the given narrative modes. The study of narrative styles is fascinating on its own merits; however, it will gain a firm theoretical basis only when the idiosyncratic styles are related to the underlying systems of narrative modes. (12)

Elsewhere, Doležel acknowledges again that "the form of narrative symposium used . . . is not mere fashionable whimsy" (121) and hails the possibilities available from author to author.

This ability to manipulate the norms and conventions of narrative is part of what makes communicative art a repeating necessity and joy for our global culture. Humans are wired to create, to play, and to explore new things, and the ability to maneuver the tools of language and narrative is one of the most accessible methods of doing so. Many say that writing is an inborn talent, but in fact, the linguists of the Prague School have demonstrated (at least somewhat) several "formulas" of narrative. It is then the responsibility of the writer to have fun with the formula and to explore the creative boundaries and freedoms available within this formula. This, Doležel says, is the best

way to "demonstrate the ability of literature to produce new sense" ("Truth and Authenticity" 23).

Artificial Intelligence and Programmability

Observers, of course, see such creative formulae in action constantly through countless new stories, movies, television shows, songs, works of art, etc. that are being created every day. In recent years, though, new forms of multimedia have allowed modern novelties in narrative. The 1970s saw the beginning of a new form of narrative that not only gave narrative control to the author but to the consumer as well. A new form of narrative emerged especially in children's literature—"choose your own adventure" (CYOA) books, a style of interactive narrative that emerged from game theory, role-player games (RPGs), and the psychology of children's play behavior. R. A. Montgomery of Vermont Crossroads Press was previously involved in government and military RPG development programs, and his publishing company was known for inventive and pioneering children's literature. He was approached in 1976 by author Ed Packard, who had written the book *Sugarcane Island*, which Montgomery recognized as RPG literature—something he had never seen before. He quickly agreed to publish it, and it was the first of many books of a series he called "The Adventures of You." Eventually, Montgomery sold these and other RPG titles to Bantam books, teaming with Packard and Doug Terman, another writer from his previous publishing company. From 1979 to 1999, Bantam's "Choose Your Own Adventure" books became a hit, with 148 titles and 100 more spin-off titles, with a total of 20 million copies sold in 38 languages. As more and

more CYOA stories were being written, storylines became more and more complex, but, interestingly, ending options became fewer and fewer; whereas early titles had over forty end possibilities, later titles sometimes had as few as eight. Since the early 2000s when Montgomery and his team chose instead to form their own publishing company ChooseCo, the popularity of CYOA literature has decreased ("About Us").

Another theory for the decline of interest in CYOA literature is the growth in accessibility for new revolutions in gaming. RPG narrative-based tabletop games such as *Dungeons and Dragons* (D&D) grew in popularity around the same time as CYOA (with origins in 1974 but not widely published until the late 1990's); but, more than that, household gaming systems with interactive narrative games became more and more accessible to consumers. Some of the first of these games came to computers even before complex graphics, resulting in a genre of narrative RPGs called "text adventures" or "text RPGs." In fact, the first text RPG was a D&D-inspired game simply called *Dungeon*, which appeared in 1975. To this day, most text RPGs have dungeon-based second-person-perspective storylines, where the player finds him/herself in a monster-infested dungeon and must escape (Salvi).

As video game graphics improved, so did the complexity of storytelling in narrative gaming. RPGs like the *Dragon Quest* (1986) and *Final Fantasy* (1987) series for the Nintendo Entertainment System (NES) featured single-player storylines where players took on the role of a protagonist and played their ways through the plot to meet (and sometimes combat against) other characters, obtain objects, go to various locations, and reach an objective. These games were hugely popular (and still are), and as more and

more technological advancements happened with software development, storylines became more and more complex. Some later games, such as 2004's *Fable* and even the controversial first-person shooter *Grand Theft Auto* games (1997-2014) are called "open-world" RPG games, where players have nearly full control over their characters and storyline. These games became the CYOA of the video game world, allowing players to completely write their own plots and storylines.

Now, the newest wave in RPG gaming has been Massive Multiplayer Online Role Playing Games (MMORPG, or simply MMO). These games allow players to connect to the internet in order to play interactively with other players, working together to build their characters, their storylines, and their fictional world.

Although it may not seem apparent at first, this progression of interactive narrative has deep roots in literary theory and even Prague School theory. As Espen Aarseth attests in her book, *Cybertext: Perspectives on Ergodic Literature*, "To claim that there is no difference between games and narratives is to ignore essential qualities of both categories. And yet, as this study tries to show, the difference is not clear-cut, and there is significant overlap between the two" (qtd. in Frasca). First, the study of narratology and the structure of narrative "come into play," so to speak; any sense of digital or interactive narrative includes a programmability of narrative, directly involving the work of not only structuralists and poststructuralists seen in the Prague School and beyond, but even those present in Russian Formalism, Saussureanism, and other branches of Eastern European linguistics and narrative theory. In direct correlation to Dahl and Doležel's perspectives

on telicity, aspect, and state change, RPGs depend on action from the outside player—a force from outside the fictional world—to continue with the fictional realm.

In fact, this very concept of digital state change relates directly to Doležel's most recent area of research, cybernetics. Cybernetics, according to the *Encyclopedia Britannica,* is a branch of control theory that applies to complex systems; it is "associated with models in which a monitor compares what is happening to a system at various sampling times with some standard of what should be happening, and a controller adjusts the system's behaviour accordingly." In the late Twentieth Century, cybernetics formed two major branches: the Western view applied cybernetics to more scientific fields, such as technology, biology, and sociology, and the Eastern view (common in Eastern Europe, where Doležel would have been) more broadly applied cybernetics to "not only the science of control but all forms of information processing as well"—including narrative structure ("Cybernetics"). Doležel used his interest in mathematical linguistics and applied those practices to the study of cybernetics to observe how a state change in narrative can change the storyline and/or the reader's reception of fictional truth.

Cybernetics also has footholds in artificial intelligence. Early cyberneticists in the 1940s (especially in Europe) wanted to study the brain as something more than "an organ of representation"; they believed the brain worked by receiving information and "doing something about it" (Ashby 379, qtd. in Pickering 6). This belief is still prevalent in robotics today, that "the cybernetic brain was not representational but *performative*, . . . and its role in performance was *adaptation*" (Pickering 6). Early models of artificial intelligence, therefore, were electromechanical systems that took in certain information

and performed another action based on that information. By this model, a run-of-the-mill thermostat is considered one of the most common AI machines; it is programmed to take in information about its surroundings and to react accordingly (6-7). Since the interwar period, these "servomechanisms" have become more and more complex, responding to their environments and appropriately adapting: "Cybernetic devices . . . explicitly aimed to be sensitive and responsive to changes in the world around them, and this endowed them with a disconcerting, quasi-magical, disturbingly lifelike quality" (7). Indeed, many familiar and unfamiliar with the field of cybernetics and/or artificial intelligence feel that there is something unsettling about it all. Maybe it has to do with the human-but-not-so-human quality of a mechanical brain, or maybe the paranoia comes from the thought that machines may somehow be able to perfect and out-perform human minds, leading to some sort of robotic uprising. However, robotic representation of the processes of the brain need not be feared.

Our recent understanding of the workings of the brain has shown that cognitive processes work from very small portions through a hierarchy to higher-level observations. Ray Kurzweil, in his TED Talk "Get Ready for Hybrid Thinking" (and also in his book *How to Build a Brain*), explains that our minds work essentially through a series of modules that build information onto themselves in order to fully understand the contexts of certain situations. In his example to explain this concept, he first describes the very miniscule module that, for instance, can recognize the crossbar to a capital A. When these receptors see such a crossbar, they communicate to modules that can recognize the complete letter A, and when this module communicates to other modules that can

recognize the letters P, L, and E, they communicate together to recognize the word *apple*.

He continues to say,

> Go up another five levels, and you're now at a pretty high level of this hierarchy. It's stretched down into the different senses, and you may have a module that sees a certain fabric, hears a certain voice quality, smells a certain perfume, and will say, "My wife has entered the room." Go up another ten levels, and now you're at a very high level—probably in the frontal cortex—and you'll have modules that say, "That was ironic," "That's funny," "She's pretty." You might think that those are more sophisticated, but actually what's more complicated is the hierarchy beneath them.

This explains that, although figurative language is a "higher module," it is not as complex as the pieces that constitute such a module; in fact, those smaller pieces are more complex and instead work together to form the larger module of understanding. This sounds *exactly* like Prague School teachings on structuralism and phonology. From this, Kurzweil explains that artificial intelligence is now beginning to develop a similar system of hierarchical thinking:

> How are we doing today? Well, computers are actually beginning to master human language, the techniques that are similar to the linear cortex . . . [In an episode of *Jeopardy*, the computer program WATSON] got this query correct: "A long tiresome speech delivered by a frothy pie topping," and it quickly responded, "What is a meringue harangue?" . . . It's a pretty sophisticated example of computers understanding human language, and it actually got this knowledge by reading *Wikipedia* and several other encyclopedias.

This somewhat silly example has huge implications for artificial intelligence's comprehension of metaphor that sounds eerily similar to Doležel's theories of fictional truth. Remember that Doležel says, in order to understand a fictional truth, readers need access to two "encyclopedias," the *ersatz*-statement that tells what is true in the fictional

realm and the knowledge of actualism, the "real-life encyclopedia" that tells us what we know to be true outside of the narrative.

As mentioned, the creation and understanding of metaphor is showing itself to be one of the most complex processes of the human mind, but by accessing online information from smaller structures to larger ones, an artificial mind might be able to replicate these processes. If we apply Praguian concepts of local-to-global structure, mathematical representation of linguistic utterances, access to "two truths" through a state change, and measurement/observation/action through cybernetics, an artificial mind might be able to comprehend and possibly even produce metaphor. This has huge implications for the future world of artificial intelligence.

From something as supposedly silly as video games and interactive narrative to something so groundbreaking and life-changing as artificial intelligence, Prague School theories have vast repercussions. The appreciation for local linguistic structures, the rational and objective measurement thereof through mathematical linguistics, the understanding of the importance of state change and time change through the grammatical concepts of aspect and telicity, and the implementation of multiple truths through metaphor and fictional truth all have teeth in several fields of literature, human cognition, and the future of artificial intelligence. Therefore, the Prague School of the prewar period should not be discounted.

CONCLUSION

The vast majority of us imagine ourselves as literature people or else math people, but the
truth is that the massive parallel processor known as the human brain is neither a
literature organ or a math organ; it is both and more.

-John Green

In the epigraph at the beginning of this thesis, Doležel asked for students of the Prague School to consider two questions: "First is literature a type of art . . . , or is literature a medium of cognition and/or persuasion . . . ? And second, is the study of literature based on rational argument, . . . or is it a domain of antirationality . . . ?" ("Poststructuralism: The View from Charles Bridge" 648). This thesis, among other things, has been an attempt to answer these questions through a look into some of the major teachings of the Prague School, the writings of Doležel, and recent studies on cognitive processes of metaphor, showing how Prague School thought not only has implications for literary theory but for human (and artificial) cognition as a whole.

Is literature art or cognition? Doležel, in his own work, shows that it is both. We have seen that the mind requires a consolidated effort to process figurative language and major tropes of narrative, it requires understanding of a fictional truth as well as knowledge of an outside "real world" truth, and it requires information from local structural components, as minute as sounds and phonemes, in the words that compose the literature itself as well as outside variables such as knowledge of grammar and of the *signifiant* and *signifié*. However, literature also requires freedom and creativity on the part of the narrative architect to make use of such tools and factors in a way that is

aesthetically pleasing to an audience. Literature—as seen through its use of metaphor—is both art and a surprisingly profound form of cognition.

Is the study of narrative rational or antirational? Again, Doležel shows that it is both. We have seen through Doležel's information on mathematical linguistics, through information about Balto-Slavic concepts of grammar (especially in the tricky areas of aspect and telicity) that thematic elements of narrative require complex observation of empirical areas. However, as Doležel states in "Czech Poetics Today," "[E]very theorist proceeds from certain individual assumptions and ideological preferences" (186). Because each of our "real-life encyclopedias" is based on unique experiences and assumptions, each reader has a different interpretation to a narrative—and even slight differences are significant to a linguist. The study of narrative is both rational and antirational.

These two questions imply duplicities in which it is difficult to view the world. Human minds, which scientists often want to limit to "left-brained" and "right-brained" functions and capabilities, are complex—working in all areas all the time, as studies on the processing of metaphor have shown. Math and art are not nearly as far apart as two "hemispheres" make them seem; we need to open our minds to correspondences between domains (academic, global, physiological)—as members of the Prague School did.

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APPENDICES

APPENDIX A: TERMS AND DEFINITIONS

ACTUALISM: knowledge of what readers believe to be true in reality outside of the text (71)

ACTUALIZATION: the use of language to draw attention to itself (35, 55)

AKTIONSART: lexicalisation of semantic distinctions, irrespective of how these distinctions are lexicalised; similar to the idea of inherent meaning, referring more to the contextual meaning of the grammatical action (63-64)

ASPECT: a feature of tense that denotes completion (8-9, 58-61)

AUTOMATION: use of language to simply express linguistic meaning and not to draw attention to itself as a form (55)

BINARY MODEL OF NARRATIVE: Doležel's theory of narrative structure, where there is an anonymous third-person narrator who establishes truth and personalized narrative agents who can either abide by that truth or establish a lie (72)

CHARACTEROLOGY: the relationship between a language's consistency in characteristics and its stability (17-18)

"CHOOSE YOUR OWN ADVENTURE" NARRATIVE (CYOA): a type of interactive narrative in which readers reach a certain point in the plot before they can turn to a different page and choose from a selection of outcomes (86)

CYBERNETICS: a branch of control theory that applies to complex systems, in which a monitor checks what is happening at a certain time and compares it to what should be happening and an outside controller adjusts the system accordingly (89)

DEAD METAPHOR: metaphors that have become meaningless in everyday use (52)

ER-FORM NARRATOR: the third-person narrator of Doležel's models of narrative who establishes truth (72)

ERSATZ-SENTENCE: a statement of fictional truth that contradicts with the truth outside of the narrative (71)

FOREGROUNDING: the use of language to draw attention to itself (35, 55)

ICH-FORM NARRATOR: in Doležel's models of narrative, a first-person narrative who establishes a subjective fictional truth (73)

INDIRECT PROCESSING: a theory of text processing, postulating that the brain first analyzes a text for literal meaning and, if none is found, proceeds (in a sequence of cognition) to endeavor to find a more figurative meaning (48)

LATERAL PROCESSING: a theory of text processing, postulating that the brain's left hemisphere decodes literal language while the right, simultaneously, processes figurative meaning (48)

LITERARY GRAMMAR: a grammatical structure of larger texts that is meant to heighten the storyline and form of a narrative text (39)

MASSIVE MULTIPLAYER ONLINE ROLE-PLAYER GAME (MMORPG, MMO): a style of interactive gaming in which players connect to the internet, take on a persona and avatar, and play with others to achieve a goal through a narrative plot (88)

MATHEMATICAL LINGUISTICS: a form of linguistics that includes three branches: quantitative analysis of language phenomena (also called statistical or quantitative linguistics), algebraic description of language phenomena (also called algebraic linguistics), and theories of machine translation (40-41)

NON-BINARY MODEL OF NARRATIVE: Doležel's theory of narrative structure, where authentication moves to a grade based on the position of the narrator (73)

NOVEL METAPHOR: a new and original metaphor that draws a unique connection between two domains (52)

PHENOMENOLOGY: a study of linguistics that purports that aesthetic effects on individuals can be quantified and understood by the structures of words and in the qualities of writing itself (11)

PHONEME: the smallest components of vocalization (12)

PHONETICS: the study of sound and pronunciation in relation to the physical properties of the human vocal tract (29)

PHONOLOGY: the study of phonemes (29-30)

ROLE-PLAYER GAMES (RPG): interactive games in which players assume a persona and usually an avatar in order to take part in a narrative plot (86)

SEQUENTIAL PROCESSING: a theory of text processing, postulating that the brain first analyzes a text for literal meaning and, if none is found, proceeds (in a sequence of cognition) to endeavor to find a more figurative meaning (48)

SIGN (AND VALUE): in Mukařovský's theories of aesthetics, an aesthetic principle relating to the notion of literature as an artifact of culture including two major components: the external symbol (the *signifiant*) and the meaning represented (the *signifié*) (33-34)

SIGNIFIANT: in Mukařovský's theories of aesthetics, the external symbol of a sign (34)

SIGNIFIÉ: in Mukařovský's theories of aesthetics, the meaning represented in a sign (34)

SOURCE DOMAIN: in metaphor processing theory, the symbol that draws a tangible image in order to further understand a more abstract concept (44)

STATE CHANGE-BASED NARRATIVE: Doležel's theory of narrative structure, in which storyline is propelled by events and state changes (78)

STRUCTURALISM: the study of linguistics that disseminates the pieces of language and examines it from the inside out (17)

SYNTHETIC (LANGUAGE): a language that heavily uses affixes to show part of speech, grammatical function, and/or meaning (7)

TARGET DOMAIN: in metaphor processing theory, the abstract target of understanding of a metaphor (44)

TELICITY: the characteristic of durative time or an action in process and whether or not it has terminated. (64)

TEXT ADVENTURE/TEXT RPG: an interactive game in which players must work through a narrative storyline by giving textual commands (87)

TEXT GRAMMAR: the theory that narrative has a rooted structure that lends itself to certain story plots and outcomes. (38-39)

(SIGN AND) VALUE: in Mukařovský's theories of aesthetics, the reader's perception of the sign, the foreknowledge of the subject (34)