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STRATEGIC ERROR AS STYLE: FINESSING THE GRAMMAR CHECKER

by

SARAH MCARTHUR SMITH

Under the Direction of George Pullman, PhD

ABSTRACT

Composition studies lacks a comprehensive theory of error, one which successfully defines error in writing and offers a pedagogical response to ostensible errors that neither ignores nor pathologizes them. Electronic text-critiquing technologies offer some promise of helping writers notice and correct errors, but they are under-researched in composition and rarely well-integrated into pedagogical praxis. This research on the grammar and style checker in Microsoft Word considers the program as an electronic checklist for making decisions about what counts as an error in a given rhetorical situation. This study also offers a theory of error grounded in the idea of attention, or cognitive load, some of which an electronic checker can relieve in its areas of its greatest effectiveness, which this research quantifies. The proposed theory of error forms the basis for a pedagogy of register, understood as typified style, and establishes that error itself can be a strategic style move.

INDEX WORDS: Error, Style, Grammar checker, Microsoft Word, Composition, Editing,

Writing

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by

SARAH MCARTHUR SMITH

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DEDICATION

To my mother and my daughter, scholars both

ACKNOWLEDGMENTS

My field of rhetoric and composition nurtures scholars of notable generosity as well as rigor and scope, and one is fortunate to be mentored by fellow writing teachers when writing a dissertation. Given the interdisciplinary nature of my research, I have also been happy to find linguists and researchers in logophile industries such as dictionary building and grammar checking software to be kind in sharing their knowledge. I have thus been the beneficiary of more munificence than I can adequately note here, including a number of scholars who have kindly met with me, phone- or video-chatted with me, and exchanged correspondence pointing me towards sources and explaining aspects of their own research, including junior as well as august senior researchers. Still, a few people warrant particular mention.

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The rhetoric and composition faculty of Georgia State University has welcomed and challenged me from the start. My thanks to Elizabeth Lopez for giving me a rigorous introduction to composition research as a social science endeavor and to Jennifer Bowie for her early encouragement towards the inclusion of quantitative elements in our scholarship. Lynée Gaillet guided me through the studies that laid the foundations for this work, and Malinda Snow showed me that there are still lively-minded scholars interested in words and sentences.

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My beloved father, who made every important thing possible in my life, was here for the beginning of this journey but is not here for the end. Papa, you are ever remembered, missed, and appreciated.

In a better world, it is true, readers might be more generous with their energies, pausing to divine the meaning of a writer or mentally to edit the errors out of his text without expecting to be rewarded for their efforts, but it would be foolhardy to bank on that kind of persistence except perhaps in English teachers or good friends. (That errors carry messages which writers can't afford to send is demonstrated by the amount of energy and money individuals, business firms, publishing houses, etc., spend on error removal, whether by correcting fluids, erasers, scrapped paper, or proofreaders.)

– Mina Shaughnessy, *Errors and Expectations*, 1977

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INTRODUCTION. Error, attention, and the grammar checker

Composition has long struggled with the question of error. In his 2008 monograph *Dead Letters: Error in Composition, 1873-2005*, Tracy Santa offers a perspective of error grounded in the history of rhetoric and composition's sporadic engagement with the topic. Cueing from Joseph Williams's theory based on reader response ("Phenomenology"), Santa incorporates Foucault's "clinical gaze" into a theory of error while extending the notion of error as deeply social and defined by its rhetorical context. Ultimately, however, Santa concludes that error has "largely evaded successful theorizing" (131), and his study does not lead to a focus on pedagogy. Making use of twenty-first century software technologies as well as the simple notion of the checklist, this dissertation is an answer both to error's elusiveness as well as to Chris Anson's call for composition to engage, as a field, with the challenge of error.

Any discussion of error in writing immediately lands in ambiguous terminology and contested territories. The everyday moniker for a usage error is "bad grammar," but some refuse that label as nonsensical, understanding "grammar" in a structural or a generative sense, as an innate human capability that cannot and need not be taught – only studied by descriptivist linguists. At the same time, further confusing definitions, prescriptivist guides often label those same mechanical and usage errors as "style" problems, notwithstanding how such an impoverished application of the word "style" reduces that word to a dry crust of the third canon's lively history. The word "error" itself also proves difficult to define, so, on the

way to its theory of error, this dissertation will necessarily disambiguate the conflated meanings of these three words: error, grammar, and style.

Anson sees composition as “unsettled as ever” about error and errors, but we prefer to dismiss them as merely “surface issues” (5). Meanwhile the politics of language insistently remind us that hot lava and tectonic clash are pushing from under that surface to create the contours of these issues. Eager to allow and encourage students to put to good use the linguistic skill they already possess in their home languages when they arrive in class, writing instructors nevertheless remain unclear about how to teach language as part of composition without imposing the cultural hegemony of prestige dialects. For decades, many writing teachers have thus chosen to ignore or minimize questions of style, as well as of linguistic errors in usage. This dissertation will offer a framework for instructors seeking to answer to conscience – as individuals, or within departments, or more broadly in our field, as we seek some consensus about how to teach amidst a chorus of dialects – by engaging with a pedagogy of register.

A potential ally in facing the challenge of error, the computerized grammar checker, has gone under-researched in rhetoric and composition. Aware of checkers’ failings and miscues from our experience of their squiggles in our own writing, we tend to ignore them in our pedagogies, even as we sense that the checkers are shaping our students’ writing in unknown ways. Since such technologies appeared in the 1970s, researchers in business, technical, and professional writing have shown more interest in them than compositionists, though even those research articles have tended to evaluate the programs in the spirit of software reviews rather than to engage critically with checkers’ role in a rhetorically driven composition process or their

increasing effectiveness, as they incorporate data gleaned from corpora of naturally occurring language.

After the 1996 release of Microsoft Word 97, which included a new grammar and style checker more effective than those in other widely used applications, a few substantive articles on grammar checking appeared, among them Alec Vernon's "Computerized Grammar Checkers 2000: Capabilities, Limitations, and Pedagogical Possibilities" and Tim McGee and Patricia Ericsson's "The Politics of the Program: MS Word as the Invisible Grammarian." Caroline Haist's "An Evaluation of Microsoft Word 97's Grammar Checker" gave a detailed assessment of the program's effectiveness, an analysis whose quantitative data has proved useful to subsequent composition theorists. Since then – so, for the past 15 years – composition scholarship on this ubiquitous application has been sparse, with the notable exception of David Major's "How Computer Editing Responds to Types of Writing Errors," on Word 2007. Finally, in 2014, Ann Curzan dedicated a chapter to the Word checker, "Checking Grammar and Grammar Checkers," in her book *Fixing English: Prescriptivism and Language History*.

Given the changing landscape of error-detecting technology as well as the rapidly transforming linguistic environment within which everyday writers – including our students – write, both the practical and theoretical questions concerning grammar checkers deserve new attention within any conversation about error and style. This dissertation will therefore examine the most recent version of the Microsoft grammar and style checker, in Word 2013, for both its effectiveness in its stated task and its rhetorical position on questions of language.

A. Research question

The central question driving this research has been “What counts as an error?” or, more particularly, “In any given writing situation, how does one decide what counts as an error?” The Microsoft Word grammar and style checker evaluates what counts as an error more often than any other single entity, so it makes sense to determine how the program makes those determinations. But a writer need not follow its advice, as any of us know who have used Word and ignored the squiggles, so the next question, leading back to the first, is how the user – a writer – decides whether to accept the checker’s recommendations. The theory of error offered here encapsulates the writer’s decision-making process that includes the checker’s feedback.

After seeking to determine what the Word 2013 grammar and style checker considers an error, this study assesses that information in light of pedagogical concerns about the hegemonic power of its prescriptions. As a function of a machine – and one that sometimes gives wrong corrections – a technological checker presents opportunities to keep questions of usage in perspective, potentially making it easier to understand and teach the register that the Word checker prescribes as one among many, even while it delivers the value-laden usage decisions encoded into the program. Like most grammar checkers, Word also offers simple options for customization that give writers increased agency and control over their own usage decisions, allowing them to select what errors and style moves the application checks for. A pedagogy that places the checker in its appropriate critical context acknowledges its strengths and weaknesses and frames its customization options as decisions about register, based on genre.

The element of attention has proven integral to this research. In *The Economics of Attention: Style and Substance in the Age of Information*, rhetorician Richard Lanham establishes attention, rather than information, as the scarce resource of a technologized “information economy” that leaves us “drowning” in information, which requires attention to “make sense” of it all (xii). This dissertation on error therefore considers how readers, writers, and the computer each give attention to the challenge of error amidst that sea of information. For the reader, perceived error distracts attention from meaning. The writer must decide how to apportion attention between allowing, ignoring, or intentionally including apparent transgressions of the usage expectations in a given register. And the computer’s attention, or processing power, gives a grammar checking program the ability to relieve some of the cognitive load of finding, understanding, and correcting errors. These exchanges, expectations, and transfers of cognitive load speak to the heart of both the thornier issues in language and the practicalities of the composing process, amidst competing demands for the writer’s, the reader’s, and the computer’s attention.

From a broader view of these questions about error, attention, and the checker, a comprehensive understanding of error has emerged. Rhetorical situation decides what counts as an error, captured in a notion of register, or typified style. Register in turn defines an essential reality for error: that in some registers, errors are less of a concern altogether. Writers and writing teachers apply this knowledge intuitively, as we write, but this theory of error articulates explicitly that an amount of allowable error is one of many defining features of any register, one that writers can use to guide how they spend their attention during the composing and editing process of any piece of writing.

To better understand the program's potential role in application and pedagogy, it is important to know how effectively the Word grammar checker does its job of error detection, and this study has conducted quantitative evaluation of the program. But its more significant offering frames that information within the discovery that error itself – popular notions of error, composition theories of error, critical definitions of error, and, most basically, the very factor of attention to error – opens an unexpected door to that better use of technology and to better writing style more generally, with or without software. That leap is possible only if we are willing to reconceive the relationship between error and style, beyond the reductive notions of both prescriptivists and descriptivists and their outmoded false binaries, based on what we can learn from register: that what counts as error in one register is, precisely, style in another.

B. Summary of Chapters

The theory of error offered in this research relies on several interlocking domains of scholarship in rhetoric and composition: research on error itself, on grammar and style, and on genre and register. This approach to error also affects and is affected by the ubiquitous technology of “grammar and style” checking, which is a product of a different research tradition (computational linguistics), and I demonstrate how my understanding of error applies in practice, for writers and in writing instruction, using the checker. It was therefore important also to include empirical and practical research on the technology: its effectiveness, interface, and implications. These several dimensions of the research fit together more like the spokes in a wheel-shaped web than as a linear narrative. Constrained by the linear necessities of the written word, their presentation has therefore required some cross-referencing and

metadiscursive markers (e.g., “as discussed in Chapter 2”) – a patter of small connective threads between the spokes. My chosen chapter sequence seeks to keep such recursions to a minimum and to ensure that theoretical topics are presented thoroughly before they are then applied and extended in the later chapters, about the technology.

After reviewing the literature on error in rhetoric and composition, Chapter 1 then updates the definition of error to provide a conceptual baseline for the study. Chapter 2 introduces the Microsoft Word grammar and style checker: the small body of composition research on the program as well as its function and technology. This chapter also presents and discusses my empirical study of the checker, with quantitative and qualitative findings, as well as my conclusions for application, pedagogy, and composition research based directly on those findings.

The next two chapters examine the theoretical research in rhetoric and composition that provide necessary underpinnings to this new theory of error. Chapter 3 looks at and reconsiders key studies on “grammar” and “style,” two terms that are often conflated with “error” and which, not coincidentally, are the name of “grammar and style checker.” Chapter 4 considers the scholarship on rhetorical genre and on register, the latter also making an interdisciplinary venture to borrow relevant scholarship from linguistics. This chapter finishes by examining stance (rather than mechanics) as the foundational determiner of style and then evaluating the stance of Microsoft style as described in the company’s own style manual.

The following three chapters present a detailed study of the interface and functions of the Microsoft grammar and style checker in Word 2013. All three of these chapters consider the examined elements of the interface as each representative of genres, in their own right, and I

include screenshots of the interface as needed and charts that quantify essential aspects of my analysis, which relies on the theoretical ground laid in the earlier chapters on error, grammar and style, genre, and register. Chapter 5 begins this look at the application with the omnipresent squiggles, error messages, and explanation panels. Chapter 6 looks at the primary element of the application that allows for some control and customization of the checker – the menu of options for selecting what it detects – and it considers both the practical and theoretical knowledge we can glean from this checklist. Chapter 7 studies the only text that offers some explicit glimpses of understanding into what the checker’s menu items mean: the Help page that explains its grammar and style standards.

The second half of Chapter 7 then conducts a register analysis of the texts of the checker – specifically, of the two elements that include complete sentences: the Help page and the usage panels. Applying the theoretical framework laid down by the theories discussed in Chapters 1, 3, and 4 and the practical information presented in Chapters 5, 6, and 7, this register analysis evaluates the language of this language-checking instrument against Microsoft’s own stated style guidelines and considers what its stance reveals -- especially, what it assumes about the users of the checker and what kind of writing it is pushing us toward.

The Conclusion presents the theory of error developed in the dissertation chapters and offers ideas for its application, pedagogy, and further research, all incorporating the technology of the grammar checker.

In an Afterword, I relate the curious tale of the unfinished next version of the Microsoft grammar checker. A new checker is overdue but still in development for Word 2016, which has otherwise already been released. What we learn from the story of this process has significant

implications for how compositionists can engage with new and developing writing technologies.

CHAPTER 1. Theories, applications, and definitions of error

Hunting for mechanical errors and teaching young writers to hunt for them boasts a long history. In *Dead Letter: Error in Composition, 1873-2005*, Tracy Santa recounts how error was, in essence, the very foundation of the field of composition, beginning when American post-Civil War college professors read their new students' mistake-ridden essays and responded by creating the freshman writing course, in an effort to deal with those errors. This course is still with us in the twenty-first century, though it now tends to focus on any number of issues other than error.

As writers and writing instructors, we take for granted that mistakes in usage and mechanics are best avoided, but we tend to avoid the topic of error in research – and in pedagogy as well, when we can. Errors, like the poor, are always with us; the title of one landmark study carried a tinge of something between defensiveness and resignation: Andrea Lunsford and Karen Lunsford's 2008 "Mistakes are a Fact of Life." Even instructors who are concerned about error in their students' writing tend to find it an intractable challenge (Anson 5). Research on error in composition has not yet focused on technological tools that might reframe the conversation, as neither has scholarship on style. Error has held minimal place in the conversation on style, and scholars who dare to study style in composition must overcome a

perennial resistance to research in style that arises from its association and conflation with error avoidance, usually labeled “good grammar.”

A. Error and style

In the vernacular sense of the word “style,” to write with style is to write well, to express oneself with panache. Nevertheless, the best-known “style guides” seem bent on eliminating personal style, leaving it as a casualty in the crusade to eliminate errors. This dissertation parses the meanings of “style” in Chapter 2, to establish how the ideas represented by this word figure into a theory of error. Compositionists often avoid the confusing word “style” altogether, but they at least agree that the best writing is that which is appropriate to its rhetorical situation. What constitutes appropriateness and how best to negotiate the politics of competing styles are all topics that have been hotly contested, however, within the histories of rhetoric and of composition.

Today, the contested territory in any discussion of error includes disagreement over what counts as an error, who has the authority – or cultural hegemony – to decide what counts as an error, and whether errors do or should matter any longer. The complex role of language in identity politics generated NCTE’s 1974 statement of “Students’ Right to Their Own Language” (SRTOL), a document that is, ultimately, about style and error. A committee tasked with creating a teacher’s guide to a pedagogy based on SRTOL was “abandoned” in 1978 without fulfilling its mission, its failure due in part to “the lack of enough high quality submissions” (CCCC, quoted in Parks 210). For Rebecca Moore Howard, this little-known history of SRTOL was “a revelation: it was never the intention that SRTOL would put an end to

sentence-level pedagogy; rather, it was to establish the basis for a new pedagogy” (47). There is work left to be done.

The lack of pedagogical direction about how to navigate these questions of language leaves a chasm at the center of the composition classroom, as those identity politics remain relevant now as then – more so, in an even more linguistically diverse student population in American universities – and composition has remained divided on questions of style and error. Inasmuch as there has been some agreement on the pedagogy of usage conventions or on style, the prevailing consensus has been to ignore both, in a “distaste for sentence-level pedagogy” (Howard 48), except in incidental instruction to students popularly known as “mini-lessons” in “grammar” (Weaver 1996, Weaver, McNally, and Moerman 2001). More rarely, a compositionist may make the case for systematic instruction in grammar and style, to build a frame within which learning writers can hang their developing knowledge from incidental discoveries and mini-lessons (Zuidema 2012). The systematic approach falls within a path charted especially by Martha Kolln, in her work with Loretta Gray (2010) and Craig Hancock (2010). Still, a few instructors have maintained “dogged adherence to the pedagogies that SRTOL had discredited” (Howard 48), but no widely accepted alternatives have arisen in their place, as error and usage have remained at the margins of rhetoric and composition research. And even Kolln, one of the best-known proponents of a teaching “Grammatical Choices, Rhetorical Effects” – the subtitle of her textbook *Rhetorical Grammar* – shies away from any association with error management (see both Preface and Introduction), despite the easy transferability of the some of the same concepts to both tasks, so damning is attention to error as a subject in rhetoric and composition.

B. Public angst about error

Meanwhile, outside academia, a loud focus on error has stayed ever-fresh. Type “grammar mistakes” into an internet search engine, set the search dates for “this month,” and invariably find a number of results, often including articles in major nonacademic publications. The title of Newsweek’s 1974 “Why Johnny Can’t Write” still serves as a shorthand for this phenomenon of public concern about perceived problems in writing and its pedagogy, and such articles have tended to focus on details of word- and sentence-level error.

Harsher judgments about error eagerly associate or conflate writing missteps with much more insidious failures of character such as selfishness, laziness, or a poor work ethic. A widely shared *Harvard Business Review* article by entrepreneur Kyle Wiens was entitled “I Won’t Hire People Who Use Poor Grammar. Here’s Why” and included a characteristic comment from this school of thought: “sloppy is as sloppy does.” Readers bothered by usage errors experience them as evidence that the writer does not care (not enough, at least) about her readers or about the endeavor that occasions the writing. Setting aside the many possible reasons that an error may appear in writing, or, rather, lumping all those reasons together, all error is read as lack of consideration. To the arguments of this dissertation, this question of consideration shifts to one of attention; indeed, Wiens specifically characterizes error as a writer’s failure to “pay attention.” Sticklers insist that attention to correctness is necessary in any and all writing – an assumption which turns out to be demonstrably inaccurate, as elucidated in this dissertation.

The dismay about writing errors continues a long tradition of desire to repair and freeze written English, which Anne Curzan traces in *Fixing English*. For most of that history, the arbiters of correctness were limited to print, usually grammar handbooks, of the kind used in

classrooms. A writer facing a moment of doubt about a usage choice in post-student years could use an old high school grammar book as a reference manual, pulled down from the shelf where it sat next to a collegiate dictionary, also a source of usage direction. A “style guide,” written by anyone willing to wade confidently into the fray of usage disputes, might give nuanced, reflective recommendations about usages, in the tradition of the ancient grammatici, or it might claim for itself the authority to declare one usage acceptable and all others wrong. Now joining the carefulness of Fowler, Follett, and Garner is a long list of prescribers, as new entries appear constantly. Some attempt to capture a sense of play, with titles such as *The Deluxe Transitive Vampire: The Ultimate Handbook of Grammar for the Innocent, the Eager, and the Doomed* (Gordon) and *Woe is I: The Grammarphobe’s Guide to Better English in Plain English* (O’Conner). Others are as imperious as Strunk and as mercurial as White.

Today, however, prescription is not limited to grammar handbooks, English teachers, and the exploded market of style guides in the popular press, nor even to digital contributions of blogs and podcasts (Fogarty, Yin) and the self-appointed grammar police in internet comment sections. For almost two decades now, correctness enforcement has achieved an unprecedented reach into writers’ moment-to-moment composing, in the automatic squiggles of the “grammar and style checker” of Microsoft Word. As Curzan points out, “its rules are the ones many writers of English encounter more regularly than any others” (92). The Word checker is therefore the most powerful, because invasive, “style” guide in language history.

After exploring composition theories of error here in this chapter and establishing a working definition, this research will therefore delve into this omnipresent technology to

determine what it can teach us about error and style and how we can make better, more enlightened use of the grammar and style checker.

C. Problems of definition and application

Curzan's history of prescriptivism makes clear that the urge to define some language as "good" and other language as "bad" has a long and hardy history in English. But no two users of English will answer questions about what counts as an error or why in exactly the same way. As Nicole Michel, a member of the Microsoft team currently working on the checker, notes, "English is exceptional in that it doesn't have a central authority which regulates the language as is the case for most other languages" (all references to Michel drawn from personal correspondence with me unless otherwise noted). An individual writer or teacher may therefore disagree with the checker about what counts as an error, even when the checker successfully detects an error by the standards programmed into it.

The word "error" turns out to be squirrely, provoking more questions than it answers. Concrete, specific examples quickly reveal the problems in any abstract, general definition. Is a split infinitive an error? Even most prescriptive guides argue that such a convention is unnecessary (Fogarty "Split Infinitives"), calling it a grammar myth – an "invented rule" (Williams, *Style* 14). Strunk advises against split infinitives in most cases (58), but in the same book White calls infinitive splitting "a matter of ear" (78). Still, some readers, including those with evaluative power over a writer, may "disapprove" of the split infinitive, as was established at my own university, in a survey of professors asking what mistakes they found bothersome in writing (WAC). A multitude of usages fall in the same arguable zone. Is a preposition at the

end of a sentence a usage mistake? weak style? a question of formality? or simply not a problem? Is capitalizing a noun for emphasis, even though it is not a “proper” noun, a mistake or a bold style choice? Reasonable people can disagree.

Any mention of error inevitably points towards questions about what criteria the speaker is using for the word. Those standards may not be grounded in principles credible to the listener. One may consider an ostensible error not severe enough to have any significance. And who actually notices or cares when a writer uses “which” instead of “that”? (In this dissertation, this question is a real one, not a dismissive one presumed to have an obvious answer.) If the misstep does not affect *logos*, does it still sully *ethos*? These problems of definition make the word “error” both confusing and unpleasant enough to tempt the avoidance of it altogether, the popular path in composition. And to a descriptivist with an activist egalitarian bent, the very notion of error is inescapably political, as no usage is inherently “wrong” or a mistake.

But “error” captures a concept that is valuable in discussing writing. Attempts to avoid the word usually generate carefully chosen replacement words, nouns and adjectives such as “nonstandard,” “variant,” “substandard,” or “deviation,” which nevertheless raise similar problems of definition, as they usually imply some yardstick that the label itself does not capture. The alternate terms quickly begin to sound like euphemisms, begging the question of meaning and further muddying rather than clarifying the dilemmas at the heart of error. Even a scholar such as Curzan, who has dedicated an entire monograph to explicating the idea and history of prescribed correctness, has no simple name or phrase to capture concisely what is erroneous about error. Discussing this very concept of nomenclature, as used in the Microsoft

grammar checker, she writes: “The use of the label ‘error’ categorically relegates nonstandard forms to the realm of error.” She cites several examples of usages that the grammar checker marks as errors but that occur in some dialects of spoken English, and she refers to them as “systematic but nonstandard grammatical features.” Noting that the grammar checker “uses the term ‘error’ with no further explanation,” she is concerned that “the most powerful prescriptive force in the world,” as she sees the checker to be, “serves to reify attitudes about nonstandard grammar being ‘error’” (79). But her “standard” that a given usage fails to meet lacks any clear definition.

“Nonstandard” and “error” do not have identical meanings, neither in technical nor vernacular contexts, and at this level of terminology analysis, subtle differences matter. But the deeper one dives into the discussion around error, the more tortured seem the efforts to find any clearer terms.

Some style guides and scholars make an effort to capture the “standard” behind words such as “nonstandard” in a phrase naming a widely accepted dialect. Often such names add an adjective or two to clarify: “Standard American English” and “Standard British English” are two labels sometimes enlisted in attempts to capture this elusive idea. Microsoft has been known to direct its employees to write in what the company called “General English” (*Microsoft Manual*, 2nd ed. 286) Compositionist and linguist Geoffrey Huck refers to “Contemporary Standard Publisher’s English” but then promptly notes the problem with both the concept and the name: “There are too many versions of it,” each harking to a different style guide, and “their multiplicity promotes confusion on the part of students” as “there appears to be no single ‘correct’ way to punctuate anything” (129). Like Huck’s, most efforts at definition land as

frustrating attempts to encapsulate a concept that the writer seems to believe, with reason, that any literate reader already grasps, even if the label fails to fully capture that concept. “*You know I mean when I say ‘standard’ English,*” the writer seems to say. And most readers are apt to believe that they do, in fact, know, even if they cannot explain the standard clearly. The general look and sound (to the mind’s ear) of written English that meets common usage standards is clear to anyone already thoroughly familiar with written English – so, to the literate – even if the devilish details remain slightly shifty.

The inescapable reality of error is that if a writer is seeking to fulfill the conventions of a register called “standard English” (however inadequately defined) and fails to do so, she has made a mistake – usually, a series of individual mistakes. Whatever “error” does mean, or can mean, the fact that a usage is accepted in her familiar spoken dialect does not mitigate the fact that it may be considered inappropriate for other rhetorical situations and thus, in those situations, an error, to many or most readers. And word usage is not the only opportunity for error in writing: “mechanics” encompasses all the textual elements that are unique to writing and are not a part of spoken speech, including spelling, punctuation, spacing, and capitalization. The grammar checker looks for errors in all these categories.

D. Loaded language in the checker

The checker participates fully in the confusion of meaning around the word “error.” As Curzan notes, its documentation uses the word “error” without further explanation on its Help page. It also employs her preferred term, “nonstandard,” again without explaining what standard is in play. The documentation of the grammar checker uses many words that indicate judgment

is likely to be as well. But a novice writer would need some explanation of this convention to make sense of this checker rule about relative pronouns. Even a highly literate reader would not be likely to have noticed the pattern of “which” with a comma and “that” with no comma, much less the underlying difference in meaning between nonrestrictive or restrictive clauses, if he were untutored in schoolbook grammar. A reader experiences the pauses in the sentence “The lavender fields, which I passed on the last day, overwhelmed me with memories of my grandmother’s linen chest”; he is unlikely to consciously note its difference from “The lavender fields that I passed on the last day overwhelmed me,” except in a grammar class that attends to formal usage prescriptions. What this item on the checker menu is designed to detect – the error it seeks – is therefore apt to be unclear to the many users of the program who never learned or have forgotten this quirk of correctness conventions. Only rhetorical situations demanding especially careful attention to traditional usage rules will require its implementation, but those are exactly the situations in which a writer is likely to want editing assistance and turn to the grammar checker for error detection and explanations. Only the writer who has antecedent understanding of dependent clauses and the “that/which” convention will be able to make use of this item. The word “questionable” does nothing to illuminate the understanding of a writer in the dark on this convention.

Perhaps the most telling of these evaluative words is the other most frequent: “should,” which also appears 13 times. Pop psychology directs the beleaguered to cast off the burden of “shoulds” and follow their own lights. The pragmatic perspective of discourse analysis asks us to read a word closely, in its context. Carefully considering the grammar of “should” reminds us that this modal verb is part of a conditional construction. Any appearance of “should”

without an attached dependent clause indicates a missing condition. What is the implied condition? That is to say, “should, if what?” The grammar checker program, as well as prescriptivist grammar more generally, directs that the writer “should” make the suggested correction and presumes that the writer knows why: to comply with the rules of good grammar. But if the rules are unstable and the “goodness” standard is unreliable, what then is the condition? When and why would one define a given usage as an error? The answer lies in the rhetorical situation, and Chapter 4 will establish a path for a writer to use towards finding an answer – for defining rhetorical situation in a way that is pragmatically applicable and not simply an amorphous, conceptual dead end.

E. Real-world use as the standard of correctness

The prevailing answer to questions of correctness reaches back to the ancients, who decided that the standard of usage should be use. The best-known rhetoricians confirmed the necessity of correctness but already expressed impatience with sticklers (see Quintilian, Book 8 proemium). Following on Cicero, Quintilian declares that “Usage has now triumphed over Authority” (1.5.63). Granted, both were referring to the *consensum eruditorum* (1.7.45), the usage of the well-educated – a limited group of people comprised of men with money and citizenship, and we are still sorting through the masculinist, classist, and nationalist politics of language. But the yardstick of use as the standard of usage at least laid down – and largely holds to this day – that to decide if a certain use of language is correct, we appeal not to its etymology or history, to misleading notions of a pseudo-mathematical logic, or to the direction of an academy. Rhetoric implicitly acknowledged that accepting reality was practical, as well as

persuasive to one's audience: if a usage also happened to follow one of those other criteria – sometimes due to prescriptivist pressures, as Curzan describes throughout *Fixing English* – then so be it. But there was no point in trying to force language against its organic evolution, even when it produced a preferred spelling as illogical as “judgment” or contradictory rules that allowed “Regrettably” as an introductory sentence adverb but not “Hopefully,” unless and until usage changed. In the wake of twentieth-century linguistics, we can also acknowledge that in addition to the English of the educated or the published, there are also other styles and registers of spoken language, some of them used effectively in writing as well, and not only in the dialogues of fiction.

We now have means to measure use that were not available to the ancients, in corpus linguistics. In this deep well, the swirl down a rabbit hole of questions stemming from “what counts as an error?” has finally found a landing, or the promise of one. As Chapter 2 will explore, whether a given usage is considered an error in a certain context of use is becoming slightly less speculative than formerly, thanks to the ability to scan millions of words in naturally occurring texts and to learn any number of things about those texts, including about its usage standards. Still, however maddeningly to a stickler, a “standard” English will remain undefinable by a few simple adjectives, nor even by tomes of explanation, because any one concept or definition of a standard still holds multiple, conflicting conventions regarding any number of usages. Appropriateness depends inescapably on particular rhetorical situations. But corpus tools do allow us to analyze and quantify the frequency of certain uses in certain kinds of texts – not only in the writing of the educated, but in any recurring rhetorical situation

for which one can collect and analyze a corpus or make use of one of the existing, large, multi-genre corpora already available.

F. Theories of error in rhetoric and composition

In recent decades, composition research on error has come to emphasize the social context of rhetorical situation. Most studies also focus on pedagogy, in whole or in part, so the literal reader examined in those studies is often the writing teacher. In the late twentieth century, Mina Shaughnessy's *Errors and Expectations* marked a turn in theories of error, prompting composition instructors to look for illuminating patterns in the errors of their least fluent writers. She eloquently describes error as "unprofitable intrusions upon the consciousness of the reader" that "demand energy without giving any return in meaning" (12). Three years later, in 1980, David Bartholomae's "The Study of Error" was an extension of and response to her approach, based on close reading and interpretation of student error. Some of the research that has focused on the perception of error as residing in the reader reaches beyond the teacher-student dyad, such as Maxine Hairston's "Not All Errors Are Created Equal," which collected data about nonacademic professionals' reactions regarding the severity of various errors, and *Attitudes, Language, and Change* by Anne Ruggles Gere and Eugene Smith, expressing a hope for change not only in teachers' responses to perceived error but in the general public's attitude, in a broad-based cultural shift to be led by teachers (a movement that has met with only partial success). Joseph William's "Phenomenology of Error" delves thoroughly (and slyly) into the notion of error as located in the reader's perception, in his landmark essay that embeds one hundred errors in its text.

The twenty-first century opened with Chris Anson's 2000 call for research into error, "Response and the Social Construction of Error," specifically focusing on teacher response to error. As he describes it, "many teachers continue to feel torn between denying attention to error in their response because of its incompatibility with newer theoretical perspectives and experiencing the unavoidable effects of error as they read their students' writing" (4). Anson defines error as "recognized deviations from specific language conventions imposed on texts by readers with varying knowledge that they call into play depending on the context, purpose, level of formality, and other elements of their reading" (17), and his probing into this multifaceted nature of error illuminates why errors are hard to ignore, annoying even those theoretically committed to finding them insignificant, an annoyance through which errors undermine pathos as well as the aforementioned logos and ethos that error can tarnish.

Tracy Santa's 2008 *Dead Letters* offers a thorough history of both the theory and pedagogy of error, in which he confirms the social nature of error and locates its existence, like Williams, in the reader, who performs Foucault's "clinical gaze" (Santa 131). Santa notes Bartholomae's comment, nearly twenty years after writing "The Study of Error," that he [Bartholomae] had been "committed to ... determin[ing] a grammar of error" which had turned out to be a "vain hope"; instead, Bartholomae came to see error as "a social rather than a linguistic phenomenon" (71). While the plane upon which writing errors occur is linguistic, what defines a given usage as error is, finally, social.

Relevant to any study on error is Andrea Lunsford's work with Robert Connors and, later, Karen Lunsford, respectively: "Frequency of Formal Errors in Current College Writing" (in 1988) and "Mistakes are a Fact of Life: A National Comparative Study" (in 2008). The focus

of both studies is to establish the number and types of errors appearing in a wide sampling of student papers, and they compare the findings of each study with earlier research. In the latter paper, the authors make numerous, specific, but incidental comments on the observed effects of spelling and grammar checkers, which are having measurable impacts on the nature of errors appearing in student papers (796). While grammar checkers are not the focus of either study, Lunsford and Lunsford's 2008 findings bear directly on my argument and evidence regarding the impact of the technology. They note that spelling and grammar checkers are changing the nature of errors that are common in word-processed writing (799) – a change which inevitably alters expectations about what kinds of error readers then deem acceptable or severe.

Another “major shift” that the 2008 study noted as a change from 1988 is also pertinent to my research: a change in “type of paper” from “personal narrative” to “argument and research” (793), a shift in what they aptly label as “genre” (801). This change has created new challenges with error types, three of which appear on the new list of their top twenty errors, all three regarding integration of quotations, attribution of sources, and the punctuation of both according to a disciplinary style guide (796-97). Such a change in genres creates new social exigencies.

Directly or indirectly, the effects of the grammar checker figure into almost every notable finding in Lunsford and Lunsford's research, as they reflect on the changing nature of errors now in the student papers. One is the large drop in the number of spelling errors, which had comprised the top number of errors by far in papers of the 1988 study but ranked only fifth in 2008. The authors deduce that “the spell-check function took care of many spelling problems,” especially seeing that the ones which remained “are homonyms and proper nouns,

mistakes that spell-checkers understandably do not flag" (796). (Word 2013 checks both these item types, as Chapter 2 will discuss.) Another major change in error type is the new front-runner, "wrong word," now "by far the most frequent formal error" (796). Ironically, the shift turns out to be a trade-off, as the researchers notice that "many of the wrong word errors appear to be the result of spell-checker suggestions," often combined with a "simple failure to proofread" (796).

Invoking Williams's focus on the reader in "The Phenomenology of Error," Lunsford and Lunsford note that what they quantify in their study as "error" is more aptly understood as "*attention to error*" (801), the idea that forms the basis of the definition and theory of error in my study.

G. Defining error as an exchange of attention and meaning

In its conclusions, this dissertation will offer a multifaceted theory of error grounded in register and a pedagogy of error that incorporates the electronic grammar and style checker. To develop that theory requires a working definition of the word.

The tradition of scholarship tracing to Shaughnessy provides the foundation for an updated definition of error. Her understanding of errors as "unintentional and unprofitable intrusions upon the consciousness of the reader" that "demand energy without giving any return in meaning" (12) establishes error as an exchange between *attention* and *meaning*. When writers "introduce in accidental ways alternative forms in spots where usage has stabilized a particular form (as is now true in spelling, for example, or in the familiar albeit "illogical" inflections)" added attention has failed to elicit added meaning (12). Shaughnessy's theory laid

the groundwork for Williams's location of error in the reader's response as well as twenty-first-century explorations of error in Anson and Lunsford, culminating in Santa's recent monograph. A definition cueing from this tradition requires revision of Shaughnessy's on two points: the idea of intention and the locating of error in the experience of the reader. And the text-critiquing technologies of the twenty-first century expand our understanding of who or what can attend to error.

Jettisoning assumptions of intention

Shaughnessy's definition makes implicit assumptions about the writer's process when she characterizes errors as "unintentional" and "accidental," both of which deserve reconsideration. For a reader, the writer's intention is ultimately unknowable. As Santa notes, more broadly, a reader "imagines" the intended meaning of "any written text," in what is "always an act of interpretation" (5). Including this assumption about writerly intent (that is, assuming a lack of it) in a definition of error is therefore to engage in an "intentional fallacy," to apply a term from literary criticism: "the design or intention of the author is neither available nor desirable as a standard for judging the success of a work of literary art" (Wimsatt & Beardsley 468). In the same way, in a non-literary work, we cannot know whether a writer's choice of a certain usage is conscious or unconscious; if the latter, it is arguably not a "choice" at all. And the question of intention quickly becomes further complicated in light of the varied possible causes for a writer's transgressing a convention. To name a few, perhaps the writer knows the usage standard but did not notice that he typed otherwise; he does not know the convention and carefully chose the wrong word believing it to be right; he knows the standard

but made a conscious style decision to express himself in a different way; or perhaps he noticed but does not care to correct it, for one of any number of reasons, some of which are explored in the conclusions of this dissertation.

In any of these cases, while some errors seem obviously to be only typographical oversights and likely to have been unintended, Williams reminds us that we are inclined to give a writer whom we consider an expert a benefit of the doubt, trusting that her quirks of usage must be intentional, while we are likely to assume the same moves to be accidents in a student writer (“Phenomenology”).

Among sticklers, the writers most likely to receive the benefit of the doubt are themselves. Because they are aware of their own efforts at proofreading and do not question that their own usage standards are the correct ones, they assume and expect others to assume that any oversight in meeting conventions must have resulted from a rare momentary lapse, not a failure of their knowledge nor any general sloppiness. Thus, a well-educated acquaintance of mine, one of whose degrees is in English, was once complaining loudly on Facebook about people who do not bother to use “good grammar” when they write. When a friend pointed out, gently but wryly, that she had made a classic usage mistake in that selfsame post (mispunctuating a possessive), she responded without irony that her mistake was different, because of course it was “just a typo.” What bothered her, she said, was these people who don’t even bother to try to write correctly. But as readers alone with a text, we cannot know the difference between an error resulting from a lack of knowledge and one resulting from a lack of proofreading attention, a lack of facility with the mechanics of a keyboard, a learning disability, or, now, unnoticed autocorrect. We can only speculate. As a longtime student and teacher of

language myself, with an old-fashioned grammar and usage education in high school, more than one English degree, and professional writing and editing experience, I certainly know the difference between “their,” “they’re,” and “there,” but an errant form might still make its way unnoticed into a text I type. For the reader bothered by such things, the cause of my error is unknowable. (The grammar checker’s contextual spelling feature is a blessing at those moments, if I am using a word processor that offers it.)

Paradoxically, according to what we learn from Williams, readers are less likely to notice such errors in writing composed by someone presumed to know the conventions thoroughly. Whether a writer known to be skilled is then more likely or less so to be forgiven for such lapses, once noticed, depends on the attitude of the individual reader towards error. Applying Williams’s principle that readers attribute more credibility to some writers than to others, readers are also apparently more willing to do the work of supplying even unintended meaning for a writer whose skill they trust. As Shaughnessy reminds us, “Great writers ... have drawn deeply upon the energies of readers, holding them through pages of exasperating density or withholding from them conventional word order or vocabulary or punctuation” (12), but readers sometimes trust from their experience or the writer’s reputation that such authors will reward them with meaning. In the language of schools and grading, we might say that readers grant to presumably skilled writers some extra credit, from the start, which creates a buffer zone such that errors do not mar their perfect score.

Teachers reading student writing, on the other hand, may not be inclined to assume that breaks with convention are flourishes of genius. Reading and providing feedback on student papers does involve the willingness to give added attention at points of error to discern

meaning, but the meaning tends to emerge in spite of and around these transgressions of convention, not because of them.

In student papers, too, the deviations may be flashes of brilliance. Usually, however, the primary meaning that the errors themselves reveal is pedagogical – information about the student’s learning process as a writer, such as Shaughnessy writes about in *Errors and Expectations* – not about the topic of the student’s essay. And still, the meaning of the error is not straightforward: most composition teachers have had the experience of explaining a usage convention to a student whose writing reflects unfamiliarity with the convention. The student may listen, smiling and nodding, while the teacher begins to suspect that she is wasting her time – that the student knows the rule full well but simply does not want to admit failing to proofread while rushing out the door to the deadline. The student may have enacted the *Urban Dictionary* definition of “Red-line editing”: “When one could care less about proof-reading something they have typed on the computer before submitting it and only scroll through to make sure no words are underlined in red”; “Ex 2: My teacher thinks I’m pretty stupid because I used ‘their’ instead of ‘there’, an unfortunate result from my habit of Red-Line editing.” [sic]) Such a source of errors further illuminates the folly of making assumptions about writerly intention.

Locations of error perception

Having retained Shaughnessy’s understanding of error as an exchange between attention and meaning but discarded assumptions about the writer’s intention, we must also clarify the element of attention: on whose attention does error place its demands? Like

Shaughnessy, the major theorists in this tradition of error scholarship continue to focus definitions of error on the experience of the reader. They do not include the writer's experience or process in the definition of error, even if some of them explore the writer's participation in the social construction of error elsewhere in their research – sometimes in depth, especially if they are process-oriented composition theorists. In a reader-based theory of error, error exists in the product after it has left the writer, in the relationship between the writing itself and the reader's attention.

I am interested in how error is located in all three components of the exchange: the writer's process, the writing itself, and the reader's experience. And just as Shaughnessy discusses the *reader's* attention and energy in processing error, this research is also interested in the *writer's* attention and energy in processing error and the *computer's*, through the grammar checker. Where Bill Bolin, in summarizing composition theory on error, sees it as “an inherently relative and localized phenomenon” but implies that definition to be contradictory with both error's existence as “an artifact on the page” and as “a product of the interaction among reader, writer, and rulebook” (83), I understand these theories to be simultaneously true, without contradiction. The technology of the grammar checker turns the “rulebook” itself into an omnipresent, mediating reader of sorts, actively entering that interaction. Perceived error can place its demands on any reader of the text, including the writer himself or the computer.

Error elimination, or reduction, or management, is a process requiring the writer's energy and attention – with or without the assistance of an editor, collaborators, volunteer proofreaders, or anyone else who contributes to the effort of responding to potential errors. When a writer or the team producing a piece of writing leaves a heavy load of errors in the

writing, he transfers the demand for the attention and energy to process those unrewarding breaks with convention to the readers of the document. Readers who notice the missteps must, in essence, mentally proofread the writing, even if involuntarily. Readers who do not notice the errors consciously, as errors, may nevertheless stumble at a juncture when an error occurs, as they attempt to understand meaning. And if the errors are severe enough – far afield of convention – the reader may need to give considerable conscious attention to making basic sense of some sentences. (In the politics of error, viewed from this perspective, sticklers feel unfairly burdened – to the point of insult – when implicitly asked to carry the attentional load that writers leave in their texts, notwithstanding the possibility of a writer’s lesser resources towards developing literacy.)

Attention as cognitive load, shared with technology

Some early studies of word processing and of grammar checking software considered demands on attention understood as cognitive load, a concept from cognitive psychology that theorized about the mental effort being used from the available resource of a person’s working memory – their metaphorical RAM. As computers for student writing appeared contemporaneously with the process movement in composition, writing instructors expressed concern about and interest in cognitive load in the writer’s process: that the word processing software relieve or at least not unduly overtax the writer’s ability to juggle the many demands already made on the writer’s attention while composing (Curtis; Kozma; Deacon et al).

Cognitive load remains an essential concept in instructional design and in industries that deal with technologies of human-machine interaction, and it still appears occasionally in research on

computers and composition (see Figueredo and Varnhagen; Rosinski and Squire; Halstead; Fredrickson).

Ideally, a grammar checker relieves some cognitive load for its users without in turn adding demands for attention that go unrewarded. In practice, those users of Word who ignore or turn off the checker have deemed its feedback just such an unrewarding demand, its success rates at detecting error not worth the time to process the squiggles and error messages. Inasmuch as some writers do find the checker helpful, they do so because the time and attention it takes to run the checker or to notice the blue or green squiggles from background checking, the users consider rewarded, on balance, with errors caught that they are glad to have caught, errors that they could not have detected as quickly or easily, or perhaps at all, without the checker's support.

Within the frame of error defined by a trade-off of attention and meaning – with error located in the writing as experienced by the reader's attention, and having extended that frame back in time to include the act of the writer's attention – the grammar checker is a technology designed to relieve some of the cognitive load for both writer and reader. By the writer's making use of the checker with success, he can reduce the proportion of his own attention given to error management, which is a task in the service of reducing or eliminating the need for a reader to attend to error either. At the decision of the writer, the technology (when successful in its task) shoulders some of the burden of checking for both the writer and the reader, intervening in the space between, in this computer-mediated communication.

By this understanding, then, error is a perceived transgression of a usage convention deemed applicable to a given rhetorical situation, a difference which demands attention without

a commensurate reward in meaning. This perception can thus result from the reader's expectation, the writer's own standards of usage for the situation, or the writer's best sense of what the reader is likely to consider appropriate. While the reader may remain "always a fiction" (Ong), a writer can inform speculation about what the reader might consider appropriate by learning from similar rhetorical situations – writings in the same genre or a similar register. Both writers and readers acquire much of their sense of appropriate usage simply from exposure to written language: that is, from reading. An electronic grammar checker is one of several means to further inform metalinguistic awareness of specific usage conventions and, thus, writers' speculations about what their readers may consider appropriate, as the checker offers its specific choices. Whether or not the writer accepts the checker's recommendations in any one instance – what counts as an error – depends on the writer's decisions about what register is appropriate to the rhetorical situation.

I have defined word- and sentence-level error here as broadly as we must in order to avoid euphemisms: the definition includes any linguistic move that a reader experiences as the transgression of a usage convention appropriate to the rhetorical situation. We will hold to this definition even when the imagined reader is a stickler and his argument weak. As used for our purposes here, this expansive notion of error lies in the idea of transgression in a given rhetorical situation, rather than in any one illusory standard of written English, and it includes problems of mechanics. While it does not offer the comfort of an absolute code or a list of incorrectnesses, it does ask that the reader make at least some argument appealing to a convention of usage, like Anson's "recognized deviation" (5), not simply to personal taste. Beyond that one condition, however, this understanding of error does give the reader full

license as the ultimate arbiter of what counts as an error because, following on Williams, this abstraction describes reality: reader experience is all that delineates what counts as an error. Like the proverbial tree's falling in the forest, if the reader does not hear an error, it did not occur. I do add the writer as a reader of her own work, which reclaims agency for the writer.

The grammar checker, acting as an intermediary between writer and reader, delivers loud comment on those conventions and therefore influences what sounds like a falling tree – with its squiggles. The next chapter therefore explores how and how well the checker works, as we glean data and insight towards a comprehensive theory of error.

CHAPTER 2. The Microsoft grammar checker

Anne Curzan's history of prescriptivism, *Fixing English*, is a tale of the effort to define and police error. She dedicates a chapter to the Microsoft grammar checker – not simply to grammar checkers in general, but focused on this one in particular – because it holds a uniquely influential place in this history of dealings with error, due to its widespread use for decades, day-to-day, and now worldwide. Other applications have made a few inroads into Word's territory in recent years, especially free and online word processors and grammar checkers. For now, however, Microsoft maintains its long, overwhelming dominance in word processing, which began with the success of Word for Windows in the early 1990s and rests on its stronghold in volume licenses for industry. The limited numbers available on market share indicate that "More than 1.2 billion people use Microsoft Office," the group of programs that

includes Word and the grammar checker (Microsoft, "By the Numbers"). Microsoft's "docx" format still sets the standard into which other word processors such as Google Docs, Apple's Pages, and Open Office must be easily translatable, across industries and fields, including our own, as most academic publishers request electronic submissions in the form of Word documents.

Given this ubiquity of the program, students, knowledge workers, personal letter-writers, and academics alike all face the green squiggles in their Word documents, unless they turn the grammar checker off. Its default setting is "on," checking constantly. And though composition instructors may be uninterested in error, both native speakers and new-language learners see those incessant squiggles, while they produce writing in a world fretful about correctness.

In this grammar-anxious landscape, the built-in grammar checker seems to promise relief from the anxiety. Writers write, entering text, and the squiggles will mark any niggling mistakes. For a skilled writer, the checker could find those embarrassing slips that are easy to correct but sometimes hard to catch. For other writers, the explanations that pop up on a click and obscure a square of their document promise to help them understand the errors of their ways: where and why there is a problem and how to fix it. The machine will tend to the mechanics and usage, freeing us from error, while our sterling content and personal style shine through. If our attempts at verve carry us into incorrectness, the checker will catch the missteps and bring us back to the path of acceptability. The checker might not turn us into Shakespeare, but it can spare us from gaffes and make our prose a little spiffier.

With grammar checkers' older cousin, spellcheck, writers on all electronic platforms now have extensive experience: any number of applications on computers and mobile devices now include spelling-error detection within them. As described in Chapter 1, composition research has produced empirical (if indirect) evidence of student writers' thorough use of spellcheck, as spelling errors have declined considerably. Andrea Lunsford and Karen Lunsford have quantified "wrong words" as now the most common error in college essays, noting that this shift apparently results from writers' accepting the spellcheckers' suggestions to replace their misspelled words, sometimes offering wrong words as replacements ("Mistakes" 796). We do not know how many sentence-level repairs or new errors result from writers' similarly making use of the grammar and style checker, with statistics that would be analogous to those regarding the shift in spelling errors, nor do we know how effectively writers make use of the checker's tools, moment-to-moment, as composition has not yet produced a body of empirical data to establish just how much or how writers, expert or novice, use their grammar checkers. Such research is beyond the scope of this study but would be a worthwhile complement to it. A model is Amber M. Buck's case study from 2008, observing student writers and a writing tutor who are using Microsoft Word to view the student's writing, in "The Invisible Interface: MS Word in the Writing Center." One phase of Buck's research records their responses to the grammar checker's squiggles during one-to-one tutoring sessions.

We do know, both from the Lunsfords' evidence and from our experience in grading papers, as well as anecdotally from students and other teachers, that Word and other text-critiquing programs are apt to be shaping students' writing processes significantly, both for better and for worse. For some writers, the program may only create confusion, anxiety, or an

unfounded sense of security that the checker has corrected their mistakes. A computer science professor told me of a graduate student whose writing included odd, sometimes nonsensical syntax and word choices that obscured his content, making some sentences incomprehensible. When asked about his editing process – did he read the sentences aloud to see if they made sense? – the student replied that he was using the Word grammar checker, accepting all its suggestions until there were no more squiggles. Such was his highly conscientious version of “redline editing” (*Urban Dictionary*).

My persistent informal polling (like Curzan’s, 78) indicates that many advanced writers find the checker’s feedback annoying or useless. They ignore the automatic squiggles or turn them off, if they know how. Even among those who appreciate the program’s calling their attention to possible errors, very few know how to find the menu that controls and customizes the Word grammar checker.

Despite its insistent presence in writers’ experience, then, the checker nevertheless remains significantly under-researched in rhetoric and composition, even while the academic fields from which grammar checkers emerge – natural language processing and computational linguistics – continue to rapidly develop the technology of text assessment. This chapter therefore offers a survey of the relevant composition research on the Microsoft checker, a description of the development and technological context of grammar checkers, and a quantitative and qualitative evaluation of the checker’s effectiveness in key areas of its use.

A. The name of the Microsoft grammar and style checker

It is important to be clear about what software this study on error researches: the “grammar and style checker” that is part of Microsoft Word 2013 for Windows, which is the most recent version of Word to be released with a fully functioning checker. Depending on the context – and to avoid redundancy and the unwieldiness of the full phrase “Microsoft Word grammar and style checker” – I also refer to it as “the checker” or “the grammar checker,” as the application is often labeled in common parlance, when both speaker and listener know which program is being referenced. Scholars writing about the checker have each made style choices about how to label the checker that have their own rhetorical implications, such as capitalizing or abbreviating the name. Unlike some checkers within word processors, Microsoft’s checker has no brand-specific name, and references to the checker within the program itself use lower-case, so I have chosen not to capitalize “grammar checker.”

The theoretical findings and their pedagogical applications from this research also transfer directly or indirectly to other specific checkers and to grammar checkers generally, and I note in context when I am referring generically to “a grammar checker,” to “grammar checkers” generally, or to another specific checker, by its name.

Except as noted otherwise, the term “checker” does not include spellcheck, whose functions are closely linked to, but distinct from, those of the grammar checker, as explained in Chapter 5.

B. Composition research on grammar checkers

When grammar checkers first appeared in the 1970s, as stand-alone programs, then became more widely available commercially in the 1980s, composition studies showed a small flurry of interest, alongside its curiosity about word processing more generally. Peering into the nest of this unfamiliar creature to poke at it and play, writing about the checkers usually took the form of software reviews (see for example Leahy, Reid and Findlay, Madden), and the checkers were of more interest to business and technical writing – for which they were designed – than to general composition studies. (Greg Oij, who was a developer at Bell Labs for one of the original checkers, *Writer's Workbench*, explained to me that the checker was programmers' response to continually forgetting the lessons from the writing coaches, repeatedly brought in to improve their abysmal technical writing: the grammar checker could save on hiring these teachers – an instructive bit of history.)

Humanities interest in the new toy of word processing waned quickly, enough for *Computers and Composition* to publish an article entitled "The Mysterious Disappearance of Word Processing" by 1998, lamenting, as writing on software and pedagogy often does, the under-utilization of word processing's ready capabilities. The research interest of "computers and writing" scholars has rarely extended to the grammar checker. And composition instructors' proficiency in working with word processors apparently varies a little too widely: an article from only five years ago on "Reviewing Student Papers Electronically" using Microsoft Word offered rudimentary step-by-step directions on how to use Track Changes and the Comment feature (Dunford). While these are indeed important tools for a professional writing instructor to be familiar with and have the option to use, using space in a major journal

to explain the Comment function to writing professionals – instructors or otherwise – seems akin to using a major journal to explain to a twenty-first century engineer how to use an electronic spreadsheet. (What was she using before? an abacus?) The piece is sobering evidence of how unfamiliar too many compositionists may be with basic, no-longer-cutting-edge writing technologies. The article makes no mention of the Word grammar checker, which had been incorporated in the program in its current form for fifteen years, at that point.

In 1997, the built-in checker that appeared within Microsoft Word 97 for Windows was a significant leap forward from prior grammar checkers. Its checking was more ambitious, seeking – and finding, with some success – more error types than the program’s earlier grammar checker. Word 97 was also the first version to include background checking: the automatic squiggles, formerly only for spelling, began to appear for grammar. This new version prompted several studies in rhetoric and composition, two of which engaged substantively with both the theoretical and pedagogical dimensions of Microsoft Word. Both are still routinely referenced today, with little to update the foundational ideas they offered.

Alex Vernon’s “Computerized Grammar Checkers 2000: Capabilities, Limitations, and Pedagogical Possibilities” looks at composition’s failure to engage with grammar checkers, performs a small-scale quantitative assessment of the checker’s effectiveness at detecting error, and offers an integrated praxis for including the grammar checker in composition instruction. His study includes the grammar checker in Word Perfect, which he compares and finds to perform more thorough error detection than the checker in Word. He also notes that both programs include an option to select a writing style that automatically selects for the checker to look for certain error types and not others. Unlike Word Perfect’s 11 styles, which are each also

customizable within them to “informal, standard, [or] formal,” Word 97 offers only 5: “casual, standard, formal, technical, and custom” (which Vernon sees as simply “levels of formality,” though in fact this description applies only to the first three). More broadly, he also comments on “the inextricable link of the programs’ checking options with certain styles of writing” (344), a question of register that this dissertation will examine in depth.

Writing in the year 2000, as composition was moving into the post-process era and still considering any or all grammar instruction obsolete (a question this research grapples with in Chapter 3), Vernon insisted that “any pedagogical argument that does not consciously engage language use and convention—is itself old-fashioned.” He continued that “Most of us recognize that we cannot afford to neglect the product [the grammar checker] altogether” (334), presumably due to its inevitable influence on students’ writing – an unfounded but hopeful assertion for which I have not seen support in the composition literature, then or now. He offers a number of specific pedagogical recommendations about how to frame the checker’s feedback so that students can make effective and critical use of it, as a tool. He emphasizes the limitations of the program and notes that its imperfection can help students keep its edicts in perspective (344), and he also reports on his experience that “Microsoft Word lends itself to a discussion of style versus grammar [in the classroom], as it neatly categorizes its checking options as one or the other” (347). Regarding the checker in pedagogy, Vernon’s priority, which I share, is finding ways to “encourage students to stretch their syntactic muscles,” and he hopes they will be able to “risk incorrect usage” as they seek to express “complex ideas” (347).

The other significant article examining Word appeared two years later, Tim McGee and Patricia Ericsson’s “The Politics of the Program: MS Word as the Invisible Grammarian.” Their

title cues from Cynthia Selfe and Richard Selfe's "The Politics of the Interface: Power and Its Exercise in Electronic Contact Zones" and Joel Haefner's "The Politics of the Code," which look at – and behind – the wizard's curtain of the computer code that drives software and are both relevant here, as I conduct a query of this ubiquitous piece of software. McGee and Ericsson's research raised essential concerns about the under-interrogated prescriptive power of the grammar checker in Microsoft Word at a time when the new checker was in its ascendancy. They particularly attempt to dispel its "invisibility," a term that appears repeatedly in the scholarship of computers and composition (as in Buck's article on Word in the writing center). Because the Word checker is "a technology tool so common that we forget it exists" (Potter and Fuller 40), McGee and Ericsson fear users' tendency to accept the decisions and whims of software as inevitabilities and thus forget to question them. Invisibility is a curious charge of the grammar checker, however, since one complaint of compositionists (such as Buck) is also its invasiveness, with its omnipresent squiggles. We do become accustomed to such markings, however, like a billboard within sight of our backyard, such that they may cease to draw our conscious attention. And ubiquity so complete as to become invisibility is, finally, the very nature of deep hegemony – hence their concern.

It is often interesting to note the style and tone moves in a piece of writing when one studies style and tone, and McGee and Ericsson make some bold choices in pursuit of their argument, that both scholars and students (led by pedagogy) must vigorously critique the Word grammar checker as they use it. The researchers choose conversational usage such as contractions, recurring use of series of questions, heavy reliance on the first person, and more casual or colloquial phrasing than is typical of journal articles (such as "no small matter,"

“every bit as,” and “ever-present”), apparently in an effort to reach beyond the cold technology to the warm human. And their choice of lexicon to communicate their concerns about Microsoft’s program would be best characterized as alarmist and somewhat violent: “more dangerous than ever before,” “indictment,” “beast,” “increasing power,” “dangerously,” “disarming the Microsoft necromancer,” “revolt,” “revolution,” and “uprising,” plus an extended metaphor involving David, Goliath, rock-throwing, and slingshots.

Perhaps it is easy, from my perspective in a world that now includes ready access to other word processors, some of them free, to see McGee and Ericsson’s stance as exaggerated or over-reactive. But such warnings and intense figurative language seem apt to drive compositionists away from engaging with the “beast” that is Word, much less fruitfully so, rather than inviting others to enter, cautiously, to see how the technology is most useful, or best managed. Certainly the scholarly response to these researchers’ call has been flat, even if composition may have tacitly agreed with their alarmed stance at the invisibility ushered in by monopoly. Any rhetorician who dares study grammar checkers benefits from the detailed and insightful research presented in McGee and Ericsson, but we humanists would do well to make some peace, on a practical level, with the technological tools we have – even as we interrogate them and even as, ideally, some of us work with software developers to improve the tools available for our discipline – rather than approaching the software in an attitude of war. Paradoxically, the alarmist language of fear about the hegemonic power of the man behind the Microsoft curtain in Word serves only to reify that power. Keeping the grammar checker in its place is easier when we remember that millions of people manage to ignore its feedback all day every day, and in their Word documents and in their Outlook emails (where the Microsoft

checker is also on by default). They know that the checker is often wrong, that even its sensical recommendations do not always suit the situation they are writing for, or that it is not always worthwhile to try to root out every error in a document, squiggled or otherwise. And we can teach these realities (which are integral to the arguments of this research) to our students who do not already know them.

In the vein of not only making peace with checkers but making them better, one playful but compelling entry from *Technical Communication* deserves mention: the guest editorial “The Style Checker Manifesto.” Remembering that the Word checker, like most of its market niche, is both a “grammar” and “style” checker, consider Edmond Weiss’s defense of style checkers and grounds for a subsequent appeal on their behalf. With all their limitations, he insists, they still give valuable correction to the writers who need it most, and everyone who must read the writing of those whose prose needs heavy sentence-level editing will benefit from the improvement of style checkers. “All professional communicators would do well to spend part of the next decade inventing new and better style-checking software” (9). While I would add a few caveats – advanced writers can sometimes make even better use of certain checking features than novices can, and only some of us (though more of us, from composition) need involve ourselves in software development – it is arguably easier than ever to become involved in the creation or at least the customization of software tools, and Microsoft Word, for those who use it, is an obvious place to begin. The information and analysis in this study is offered towards that end, of making better use of the grammar checker as a practical and pedagogical tool.

One teacher who incorporated the Word grammar checker into her pedagogy and conducted empirical research on its effects found that as her students “became more familiar

with grammar checker," they also became "more confident in its uses, and more cautious about its limitations"; they also exhibited more confidence and understanding about the grammar terminology in the checker and more careful in evaluating its feedback (Potter and Fuller 38-39). At the other end of the skill spectrum from the students described in that research are advanced professional writers, one of whom gave "A Vote for Electronic Style Checkers," when responding to an argument dismissing their usefulness. He gives an example of their usefulness from his own experience – "I thought I didn't use the passive much until I began using an electronic style checker" – and goes on to say, "It is easy to point out how stupid computers are when looking at such programs, just as one can find fault with any spelling checker -- Look! The dumb computer doesn't know *its* from *it's*! Ha! Ha! But nothing could make me give up my spelling checker – many of us may soon be saying the same about style checkers" (Beckwith 197). This letter to the editor appeared almost twenty years ago, and I would argue that now is well past "soon," and it is time to make better (and better-examined) use of this tool. (I also suspect that advanced writers who leave the squiggles on make more use of its suggestions than they realize, but, again, we do not yet have the empirical research to know.)

I would be remiss to ignore one other type of computerized text-critiquing that is important to a conversation about grammar and style checkers: machine scoring of student essays. The technology for this endeavor has established itself firmly at multiple levels of education and assessment. In composition, machine grading has triggered both controversy and some research, but most of the scholarship on automated assessment still lies outside our field. Proponents of artificial intelligence tout computers' growing ability to perform tasks once

assumed the exclusive purview of humans, with technology completing some of those tasks more effectively and efficiently than people. Scholarship from other fields, such as education and linguistics, claimed as early as 2003 that machine grading software already matched human grading ability, so that the next frontier was how to improve the programs to make them better than those unreliable humans (Shermis and Burstein vii).

Not surprisingly, many writing teachers dismiss out of hand (or with extensive statistical analysis – see Perelman) the notion that machines can evaluate essays, even as they watch machine grading establish itself firmly in assessment, placement, and high-stakes testing. Relevant to this study, machine grading includes grammar checking as an evaluation metric (Leacock and Chodorow; Vojak et al; Roscoe et al). Like Microsoft products, however, the assessment programs are proprietary, so we do not have direct access to their mechanisms. What we do know, as confirmed in the collection edited by Patricia Ericsson and Richard Haswell, *Machine Scoring of Student Essays: Truth and Consequences*, is that all-or-nothing thinking does not serve us well. Pitting human versus machine, rather than critically appropriating technological tools, blocks both writers and composition teachers from making the best use of readily available software.

C. The technological roots of grammar checkers

The stated purpose of the Word grammar and style checker is to “detect error,” (Microsoft “Help”), and it also offers suggested corrections and explanations of apparent errors. These functions place it firmly in the tradition of prescriptivist handbooks and instruction that Curzan delineates. As an electronic technology, any grammar checker also operates on the

binary logic of a computer program, looking for bugs to squash. When the program finds what might be a bug, it communicates to the user in the customary mode of a computer, by popping up an error message, which, like other computer error messages, may or may not include a usable explanation for how to eliminate the error. A checking program treats an essay as an app and a perceived error as a technical glitch. Curiously, the idea of a document as roughly comparable to a program, with a definable purpose, is somewhat apt in the context of rhetoric, which presumes that an utterance has a rhetorical intention to persuade. But the infinite complexity of language and of rhetorical situations is not easily amenable to the simple binary of right or wrong usage, even if some schoolbook grammarians believe it to be so. Nevertheless, the field known as natural language processing has devoted itself to the task of analyzing language within this complexity.

The creators of grammar checking programs are highly attuned to the difference between rule-based error detection and a use-based approach, because theory and software have evolved from the former to the latter. A rule-based algorithm is essentially a computerized application of strict adherence to usage rules with a few defined exceptions, such as we associate with outdated grammar instruction. A use-based algorithm adopts, in essence, a standard of use as the guide to usage, as Quintilian recommended, and electronic text processing gives powerful technological teeth to the endeavor of finding out what language people do use. The checker in Microsoft Word 97 was one of the earliest widely available checking programs to take a use-based approach, employing corpora and parsing.

The earlier, rule-based grammar checking software had first appeared in standalone programs such as Writer's Workbench and Grammatik, both released to the public in the mid-

1980s. Major word processing programs had then begun to incorporate grammar checkers into their applications in the mid-1990s. The company which owned the then-popular word processor Word Perfect bought Grammatik and folded it into the program. (Word Perfect still includes a branded version of that checker.)

Microsoft purchased the CorrecText grammar checking application in 1992 and added its functions into Microsoft Word. Also in 1992, Microsoft hired a team of computational linguists to start developing a new grammar checking program, in-house. George Heidorn, who led the team, describes the process of creating the program in “Intelligent Writing Assistance.” The new Word grammar checker, which debuted in Word 97, was groundbreaking in several respects. One was the addition of “background checking” of grammar, such as had been implemented already for spellcheck in earlier versions of Word; now, in addition to red squiggles underneath potentially misspelled words, Word had added green squiggles under possible usage errors. The greatest change from the earlier version of the Word grammar checker, however, was in the design of the program, the fundamental basis of how the application worked, to check for errors.

In this dissertation research on Word 2013, the Word 97 grammar checker is important because the program has changed only minimally since that original iteration. As Heidorn describes its technology, “This system has at its heart a full-blown multipurpose natural language processor, which produces a syntactic parse structure and, when desired, a logical form for each sentence. The information in these data structures can then be further analyzed by rules that check for violations of grammar and style” (182). The Word 97 checker was therefore one of a new breed of text evaluators that did not rely solely on “string matching” to detect

possible errors but instead could parse the text syntactically and therefore could do “real grammar checking” (181). The “full-fledged natural language processing system” behind the checker is “also intended to be used for many other applications” (182), and, due to the limitations of memory and processing that could be packaged with Microsoft Word (the technological equivalents of attention) and the limits of the research and technology at the time (the corporate budgetary equivalents of attention), the grammar checker in Word used only part of the full capabilities of that full-fledged processor (190). Rather than a primary purpose of this parsing technology, the commercial grammar checker in Word is thus an offshoot – almost an afterthought – to apply their capabilities.

The field which creates grammar checking technology, natural language processing (NLP), brings together computer science, linguistics, and artificial intelligence in the effort to enable computers to derive meaning from ordinary human language use, for various purposes. The work traces its history from Alan Turing’s work in language and computers, through many decades of efforts at machine translation between human languages and to ongoing work in machine learning, which lies at the heart of artificial intelligence. Of the many tasks in NLP, grammar and style checking were and are essentially by-products of hotter topics of research and technological advancements such as speech recognition, speech-to-text, discourse analysis, information retrieval, sentiment analysis, and automatic summarization (a computer’s composing summaries of certain kinds of content, when trained to a genre, such as sports news). Everyday functions stemming from NLP and familiar to the billions who use electronic devices daily include voice-command applications such as Apple’s Siri, automatic translation programs on the web, dictation programs such as Dragon Dictation or those now built into

many computer operating systems, and autocorrect as well as predictive text for words in, for instance, text messages. Such are the topics of the research universe within which the Word grammar checker was developed – and with which it competes for research attention today.

Other companies also offer grammar and style checkers and other software for critiquing writing. Many stand-alone grammar checkers are still available, with new ones still appearing on the market, some of them folded into applications with multiple facets designed to help writers with the process of composing and editing text. Grammarly provides text checking for spelling, grammar, and style in several versions, one free and web-based, with others following the newer model of requiring a paid subscription, one of them as a downloadable add-in to Microsoft Word. Other publicly available applications with grammar- and style-checking functions include Ginger, Reverso, After the Deadline, Hemingway, Online Editor, PaperRater, WhiteSmoke, Grammarly, ProWriting Aid, StyleWriter, and OnlineCorrection. Some offer only free online checking, with a text box into which the user can paste blocks of text, and others offer full-featured downloadable applications on various platforms, including mobile operating systems. Some checkers are open source and designed to work with open-source applications suites such as Open Office. A third-party programmer has also written an add-in for checking grammar in Google Docs. Some applications are designed as add-ins to web browsers, such as GrammarBase for Google Chrome. Most grammar checking applications also include a spellcheck function and the capability to check for items labeled “style,” including punctuation. Some also promise to check for plagiarism.

Along the bleeding edge of technology as of this writing, computational linguistics is among several big-data disciplines interested in what is known as “deep machine learning,”

focused on developing algorithms for computers to extract more meaningful, actionable knowledge from data with less human intervention and from smaller data sets than have been heretofore necessary for reliable pattern analysis. Within less than twenty-four hours before the writing of this paragraph, Facebook just made a major announcement regarding their new DeepText program for such content extraction from text, needing less human intervention than formerly (Constine). In Facebook's hands, such a tool is focused on more invasive and aggressive targeted marketing efforts. (As data scientist Jeffrey Hammerbacher said, "The best minds of my generation are thinking about how to make people click ads. That sucks.") But it is reasonable to expect that deep learning will yield innovations applicable in composition pedagogy, if we pay attention to those developments and do not leave them only to the marketers.

Corpora

Using the then-newly NLP-based programming, the Word 97 grammar checker was first widely used program to make the shift to corpus-based analyses instead of purely rule-based algorithms. Because human language is notoriously unruly, any honest grammar book makes clear that the exceptions to its rules are too numerous to name and too illogical to explain easily, or at all – that grammar "rules" are in fact a somewhat quirky collection of conventions and traditions that can be only a loose guide to likely usage. (The best grammarians acknowledge this reality and spark curiosity about language, reflection about rhetorical purpose, not fear and shame about error, potential or actual.)

This unevenness in language makes programming for its analysis an extremely challenging and complex task, as a computer can function only in rules and binaries, while language functions in infinitudes of variety. For a writer, this multiplicity of language possibilities is a feature, not a bug; a variety of acceptable choices is the ground of the very possibility of style. For a computer, reducing the differences between style and error down to programmable binaries can be difficult or, sometimes, impossible, but this is one task of the programming team for the grammar checker. And comparing users' writing against data from immense banks of language in use, from corpora, hones the checker's ability to detect acceptable usages, beyond what a purely rule-based algorithm can provide. Reducing complexity down to yes or no questions without being reductionist about the nature of those questions – using the technology without being bullied by the technology – is also an extraordinary exercise in honesty, one that can push us to be clear, to explain ourselves to ourselves or to our students, about why one would choose certain usages, or that we cannot always explain.

Corpus linguistics is the field that offers tools to analyze language in its infinite, unruly variety, using the processing speed and power of the computer, in conjunction with human supervision, to discern patterns across potentially vast numbers of words, sample texts, and text types. Rather than a branch of linguistics, corpus study is rightly understood as a methodology used in linguistics: a tool set for analyzing language both quantitatively and qualitatively (Biber 4). For scholars of language, literature, rhetoric, and composition, then, corpus linguistics is the means through which we can gain access to knowledge offered by Big Data – the defining development of the past decade in information and technology, applied to an increasingly

broad range of human endeavors. Whether by making use of others' corpus-based research or learning how to use some simple (or advanced) corpus tools ourselves, compositionists can learn a great deal about student writing and about the writing models that can guide our students.

A corpus is "a large, principled collection of naturally occurring examples of language stored electronically" (Bennett 2). Corpora cannot tell us why humans use language the way we do (2), but they can reveal a great deal about what is done. Composition scholars interested in language and style are discovering the uses of corpus tools for collecting empirical evidence. Laura Aull's *First-Year University Writing: A Corpus-Based Study with Implications for Pedagogy* looks at specific style moves characteristic of first-year writers as compared to more advanced writers. Zac Lancaster used corpus tools in researching "Do Academics Really Write This Way? A Corpus Investigation of Moves and Templates in 'They Say/I Say,'" as did Brian Ray for "Stylizing Genderlect Online for Social Action: A Corpus Analysis of 'BIC Cristal for Her' Reviews." Aull and Lancaster together studied "Linguistic Markers of Stance in Early and Advanced Academic Writing: A Corpus-Based Comparison." And corpus tools prove particularly well-suited to the scholarship of register, as presented, for example, in linguist Douglas Biber's *Dimensions of Register Variation: A Cross-Linguistic Comparison*. (As later chapters will establish, the idea of register is central to the theory of error developed in this dissertation.)

Heidorn explains in his description of the Word 97 grammar checker's development that the programmers used naturally occurring language to test the checker's usage rules, "mostly from real corpora" (203). While some of the sentences run repeatedly through the checker were

“made up to exhibit certain grammar errors” to test the checker’s ability to find those errors, most of the test data were from “real text” (202). Because in its Word 97 iteration (and in Word 2013) the grammar checker is not able to check beyond the boundaries of single sentences, the key attribute of any corpus used to test the checker would be that it represent a variety of error types within sentences.

What corpora Microsoft uses to test usage for the checker, we do not know. Dictionary makers have been using naturally occurring texts as a major element of their assessments of language for some decades. One of the primary delights of the *Oxford English Dictionary*, for example, is its offering of the first appearance of a word in writing – a prominent model for natural-language sourcing. The third edition of Merriam-Webster’s unabridged international dictionary made history in 1961 with its reliance on studies of naturally occurring language, including oral speech, as the basis for its usage pronouncements, causing an uproar with many language traditionalists and known as “The Most Controversial Dictionary in the English Language” (Skinner). *Webster’s Third New International* came from the tradition of Noah Webster, who brought a strong dose of prescriptivism (and, lest we forget, the politics of nationalism) to his descriptions of English use, as he actively sought to reform American English spelling and American education. The publication of the *Webster’s Third* was therefore a watershed moment in the transition from prescriptivism to descriptivist linguistics – use as the standard of usage. And Microsoft Word holds within it a full-fledged dictionary, based “primarily” on “the online versions of the *Longman Dictionary of Contemporary English* and *The American Heritage Dictionary*,” as well as additional information that has been entered manually or as the result of further processing” (Heidorn 183). These two dictionaries rely in part on

natural language in their creation, and both spellcheck and the grammar checker, in turn, use Microsoft's built-in dictionary to evaluate the correctness of words in Word documents. But Heidorn does not mention the sources of the other naturally occurring language samples he and his team used to evaluate whether the developing checker was effective.

The question of what corpora or other data the programmers (or anyone) use to test the checker is a crucial one. The answer, or lack of one, speaks to the heart of the conclusions in this dissertation: what counts as an error depends on context, and context is determined by experience of documents written in a similar register. In computer slang, "garbage in" is "garbage out" ("GIGO"): results are only as good as the data entered. In text critiquing, then, usage recommendations based on naturally occurring language can only reflect what natural language was offered to the computer as data. Through correspondence with the team developing the next checker at Microsoft, I have been able to learn about the texts they are using to test the next checker, but they have no clear answer about what corpora were used for the past and current versions. Whether or how much Word 2013 has taken advantage of the last twenty years' advances in corpus collections and computational linguistics tools is unclear. According to Microsoft, the past and current versions of the checker "weren't based on annotated user data," a resource now available to the developers of future versions (Michel; all references to Michel based on personal email correspondence unless otherwise noted). Incremental improvements in performance, presented in this research, suggest that some of the advancements in NLP research have been applied in the intervening decades since 1996.

Word 97 as the foundation of the current checker

Because the grammar checker in Word 2013 has not fundamentally changed from the checker in Word 97, Heidorn's detailed description of the development of the Word 97 grammar checker is of particular interest to this research. My data (presented later in this chapter) comparing the performance of the Microsoft checker in its Word 97, Word 2007, and Word 2013 iterations establish that its 1996 architecture and functionality have not changed over these versions, showing only tweaks to its interface, some specific additions to its functions, and some incremental performance improvement. Previous researchers' analyses of the earlier versions (starting with Word 97) therefore remain of direct relevance to this study. Notably, the grammar checker is undergoing its first fresh rebuild since 1996, simultaneously with the writing of this dissertation, and is overdue for release as part of Word 2016 (an unusual situation, still unfolding, whose events and implications I explore in the Afterword). This research focuses on the grammar checker in Word 2013 as the version still in use on millions of home, business, and school computers – as are older versions of Word, still, as well. Microsoft confirms that, technologically, the grammar checkers in Word 97, Word 2013, and the versions between them are all essentially the same program (Michel).

For most of the past twenty years since creating the grammar checking application for Word 97, Microsoft has not dedicated much attention to the grammar checker for English. In response to rapid globalization, the limited research and development have focused primarily on providing grammar checking in languages other than English (confirmed in correspondence with Michael Gamon and Nicole Michel, both of Microsoft), an effort already in process parallel with the Heidorn team's work (Heidorn 183). While English may be the lingua franca of

international communication for those 1.2 billion people using Office worldwide, they also write in 107 of their home languages (Michel), for which they can make use of text assessing capabilities such as grammar and style checkers. Even the major new iteration of the grammar checker now in development is driven by a need to integrate the checker's underlying software across a growing number of languages, not primarily by a desire to hone its effectiveness in English (Michel). Any improvement in the checking tools for English would again be a by-product of other company priorities. A look at the unfinished checker, still in a kind of beta release, even reveals the possibility that the full new checker, when finally released, may downgrade rather than improve the checker's performance in detecting errors in English. Whatever changes occur will be a function of resources: of the company's attention, or lack of it, to various components of the checker.

The opacity of the black box

Research on software can be maddening, due to its proprietary opacity. The code is there – writing, of a sort, readable and analyzable – but it is unreachable unless it is open source, as the code for the grammar checker is not. We must rely on the interface itself, any documentation offered, and any analysis shared by previous researchers. Interrogating the theoretical implications of the technology produced by natural language processing for machine grading, Richard Haswell offers the concept of the “black box,” in “Automatons and Automated Scoring: Drudges, Black Boxes, and Dei Ex Machina.” “In the parlance of cybernetics,” he writes, “a ‘black box’ is any construction, hardware or software, that one can operate knowing input and output but not knowing what happens in between” (68). Because

other private corporations, like Microsoft with its Office suite that includes the grammar checker, own the programs that are evaluating student writing, and they do not share the code, these text-critiquing programs are black boxes. Not only do we not understand how they perform their assessments, but, as Haswell illustrates, in many cases we do not even know what they are assessing.

So it is with the Word grammar checker. Even the most recent studies of the program are not, in fact, recent, and they treated old versions of the software. As a field, we are not keeping up with the state of these basic and powerful technological tools. We have therefore had little sense of what even the surface of the black box looks like, especially in its current version. The Word grammar and style checker has been long overdue for an evaluation not only of its effectiveness but of its place in composition theory and pedagogy, in light of contemporary scholarship on style and error. Truly looking at and thinking about how the grammar and style checker work can reshape how we think about error and style – even to consider how style can be misperceived as error. Inasmuch as it is possible to lay bare the workings of the black box, this study therefore establishes what Word 2013 actually does, or attempts to do, and how well. What we learn from such information reshapes the way any twenty-first century writer can understand and manage error.

D. Testing the checker's effectiveness

Empirical examination of the black box that is the Word 2013 grammar checker begins by considering its function: what goes into this error-detecting machine and what comes out. The two most thorough research models for discovering what comes out of the box – that is,

finding out how well the checker works – appear in the studies by Caroline Haist (on Word 97) and by David Major (on Word 2007). A look at what went into the box – the data sets they used to test its effectiveness – reveals both the importance and the limitations of such research. The content of their data sets, especially Major's, has also provoked some of the broader theoretical questions about error and implications about register that shaped the conclusions of this dissertation. Both Haist and Major began their tests of the checker from pedagogical questions about its effectiveness, wanting to know how effectively and reliably it performed its error-detecting tasks, so that they would know whether and how to recommend its use to their students.

Models of testing methods

Because the checker cannot detect error across sentence boundaries, the test data that both Haist and Major used were banks of individual sentences. Not only were these sentences like those a traditional grammar book would use to test a student's ability to find and edit errors: they were, in fact, just such sentences. Both researchers drew primarily from exercises designed to test for certain error types, such as agreement, fragments, or case. The data was therefore effectively "tagged," analogous to the corpus linguistics sense of having descriptive information already attached to the data – labeling which any researcher would need to perform on any test sentences in order to compare the checker's results against known error types, if it were not already thus labeled. Fortunately, the criticism that such drill exercises are mind-numbing to students is not a concern with a computer. Indeed, one might argue that such drills attempt to turn students into mindless error-detecting machines. Since the grammar

checker is already a mindless error-detecting machine, sentence sets from grammar book exercises, grouped by error type, are perfectly well-suited to the task of testing the checker's abilities.

There are other ways to test the checker, and Major, like Vernon, also evaluates the checker with a small corpus of student essays. But it is difficult to control for the multitude of factors that shape error occurrence in such naturally occurring texts, which usually cannot control for the multitude of relevant variables in a piece of writing and which require extensive tagging, if one is to determine how successfully the checker detects specific error types, as was the goal for Haist, for Major, and here in this study. I have replicated only the sentence-delineated testing in my study.

Both Haist and Major ran sets of sentences through the checker and counted the frequency with which it returned accurate and inaccurate flags of errors. Running the data involves pasting the sentences into a Word document, making sure that the checker is set to start checking in all or certain of the categories it offers, and then collecting the quantitative and qualitative information on what the checker marks as an error and what feedback it offers on those errors. (The technical steps for reaching the checker menu are presented in Chapter 6 which analyzes its text.)

The data banks

Both Haist and Major have been kind enough to share the data sets of sentences they collected to test the checker – Haist's with the permission of Canadore College, which houses the data bank used in her study. This sharing has created a unique opportunity for this study

to compare results across several iterations of Microsoft Word, current and historical. These data sets also provide a continuity linking the results of composition research on grammar checkers across decades and set a precedent for future research, of sharing data used to test technology, to see if other scholars can replicate results. (Ideally, we will develop shared data banks of sentences or tagged corpora – sturdy, reusable, customizable test instruments – that can evaluate new software in comparison with existing technology, at any point going forward.)

The ability to see these two sets of data allows for an evaluation of their similarities and differences, which determines how well the statistics from Haist and Major present an apples-to-apples comparison between Word 97 and Word 2007 with my new results, on Word 2013. I was also able to reuse their data for my tests, further strengthening the comparison. A look at the nature of the errors in the sentences reveals apples-to-oranges differences between their data banks that may explain some of the differences in their quantitative findings.

Limitations and differences in the test banks, testing categories, and methods

Major's data is stored in plain-text documents that can be opened as Word documents. Unfortunately, because Haist used her more than 2000 data sentences for other research purposes as well as for testing the checker, they were last formatted for use in databases, and this only available version of the sentences buried them in a great deal of unrelated text and formatting intended for the machine. To be usable, the data would have required a copious amount of cleaning and processing that were beyond the scope of this research. I therefore chose to use Major's sentence banks for testing Word 2013 for this round of research, and fuller use of Haist's data must await future study. I was able to make use of a subset of her sentences

(which included many that Microsoft itself had used as examples in the program) – those that she included as illustrations in her final report – and they led to some curious discoveries.

Both Haist and Major established their own categories of errors to test, rather than simply using categories delineated by the item names on the checker menu. This choice makes sense, not least because it is not clear from some items names such as *Noun Forms* or *Punctuation – style suggestions* what errors they check for (as explained in detail in Chapters 6 and 7). The categories in the checker have also changed slightly over the versions. Due to the vagueness of some item labels, it is unclear whether the added categories have represented new checking abilities or simply subdivided existing abilities formerly grouped together on the menu. In the spirit of critical engagement rather than passive acceptance of the software's choices, a writing teacher is likely to have her own areas of concern about student error and be curious to know whether the checker can be helpful in those categories, rather than simply allowing the checker to set the agenda on errors. Some of the test-bank categories align with item names in the checker (*Subject-verb agreement*) while others do not (e.g., Major tested for "Apostrophes" as a category, for which there is no specific item by that name on the checker menu). While Haist's and Major's lists of categories were not identical, some were similar enough to allow for nearly direct comparison, between the two of them as well as with my new results, so these were the categories chosen for this study.

For the straightforward quantifications required in this type of study, Major makes his method clear about one quantity that can skew results: what to do with false positives. In presenting his findings, he creates a separate table column for offering the percentage that includes these data, by subtracting it from the total score (leaving the checker with a negative

success score at accurately detecting some error types). Haist does not include a description of how she treated false positives in her results, and her research was long ago, such that she cannot recall how she incorporated this aspect of the data. Because false positives are one of the most-noted annoyances of the checker, the absence of this information is a loss. Also, Haist includes a comprehensive percentage total for many but not all categories of error types, and her methodology for choosing which to include is not defined. I was able to include data on false positives in the subset of sentences that I collected directly from the examples sentences in Haist's report.

Finally, one significant difference between the two earlier studies does create some unmeasurable limitations on the apples-to-apples comparability of their results: Major chose to test only the items listed in the *Grammar* section of the checker menu, unchecking all the items on the *Style* menu. Haist tested both, and she discusses in her findings how she experimented with checking and unchecking various items on the menu, from both sections, noting how the change affected the checker's ability to catch certain types of error (2). Major was seeking to determine how effectively the checker detected true, severe, alarm-bell errors, not ostensibly optional style choices. For users, this distinction can quickly become caught in the bog of vocabulary discussed in Chapter 3, on grammar and style, regarding what counts as an error and how we use these labels. And as Chapter 6 and 7 will discuss, some of the items listed under *Style*, some readers (and writers) would consider true errors. For Haist, the items still checked in the menu when using the "Casual" style option in Word 97 failed to catch significant errors such as "fragments, run-ons, and errors in possessives and plurals" (2). But Major's choice not to leave any *Style* items selected in Word 2007 disallows the possibility of comparing

with Haist or with new data in certain categories, which I have thus chosen not to test.

Following from Haist's discoveries, it is also possible that activating the items in the *Style* section might have improved the checker's function in the categories of error, or "grammar," that Major did test using only the *Grammar* section items, but there would be no way to know without re-running the data in Word 2007 with those items checked – not a worthwhile endeavor for the purposes of this study. Notwithstanding Major's choice to deactivate the *Style* items and with only one exception, the overall arc in the equivalent categories from Haist's to Major's results and then to mine did not show a degradation of measurable effectiveness from Word 97 to Word 2007 to Word 2013,

One inevitable dimension of difference between the two data sets appears at the level of individual errors and will be discussed as part of the findings and conclusions in this chapter, as it interweaves with this study's broader conclusions about error pedagogy, register, and research.

Given how little the Microsoft grammar checker has changed from Word 97 through Word 2013, compositionists desiring further detail on the program's functions and effectiveness would do well to read both Haist's and Major's studies. Each provides not only quantitative data on the checker but detailed insight into the checker's functions and recommendations relevant to pedagogy.

Methods

For this testing of the checker's effectiveness, I aligned my methods as closely as possible with the earlier researchers', for consistency and thus comparability of results. I chose to test in

the seven categories which Major tested and for most of which Haist also offered summary percentages in the same categories. (In one group, Run-ons and Comma Splices, she combines two categories that Major keeps separate, so I have combined both into one category, which I label Comma Splices in my graph, but also considered the subsets. And though she ran many tests on various pronoun types, she does not offer a summary percentage for Pronoun Case. Also, her reported figure on apostrophes included all possessives but not other apostrophe use, while Major tested apostrophes but focused on their use in possessives, so this error type is nearly but not exactly identical across the two.) I used Major's test data, grouped in individual documents under the labels he uses in his report, each of the seven documents holding between 100 and 116 errors, some sentences containing more than one error. I selected for the checker to activate all 35 items on its menu while checking.

To code the data, I counted the number of times that the checker accurately flagged the mistakes in question and the number of missed mistakes. Notably, as discussed in my findings, there were few false flags. There were numerous instances in which the checker marked an error accurately but labeled it inaccurately: I did not distinguish between these two checker response types in quantifying errors marked, for reasons I discuss in my conclusions to this chapter. I calculated the number of detected errors in each of the tested categories as a percentage of the total number of errors of that error type; these percentages are listed in the bar graph in Figure 2, compared with Haist's and Major's percentages.

I also conducted a study of the 123 test sentences that Haist included as examples in her report on the checker, which she had identified by error type and as to whether the checker had

succeeded or failed in detecting them. I tested the sentences using the same method as used for Major's data, and the graph of findings in Figure 3 compares my results to Haist's.

E. Findings on the checker's effectiveness

Comparing quantitative results from my tests of the Word 2013 checker with Haist's and Major's results from testing earlier versions, patterns emerge about the checker's effectiveness. The most important is that, across all versions, the checker is indeed helpful at catching certain kinds of errors – especially those shown in the first graph below, in Figure 2 – but that its reliability varies widely between categories of error type. When Major ventures a summary percentage that calls the checker 30% effective at catching errors overall, that number is of limited usefulness. Analogous would be to say that a pug and a Great Dane can reach a cake on the kitchen counter 50% of the time, on average. The statistic may be true, but the quantification is not as useful as one would hope.

The checker's ability to detect certain errors can range from 0%, which is Major's finding on dangling modifiers, to 80%, Haist's finding on a highly specific pronoun error: misuse of the reflexive pronoun "myself." Other items fall anywhere within that range. (In keeping with the Lunsfords' findings on spelling errors, Major found notably high success rates on spelling, 90%, and "hard words," 96%, but both are detected by spellcheck, not the grammar checker, and are therefore beyond the scope of this study.)

The graph below reflects the checker's best-performing categories, which are of significant error types. Among those categories, as illustrated in the graph (in Figure 2), the data reveal that the checker is at its best when detecting sentence fragments or problems with

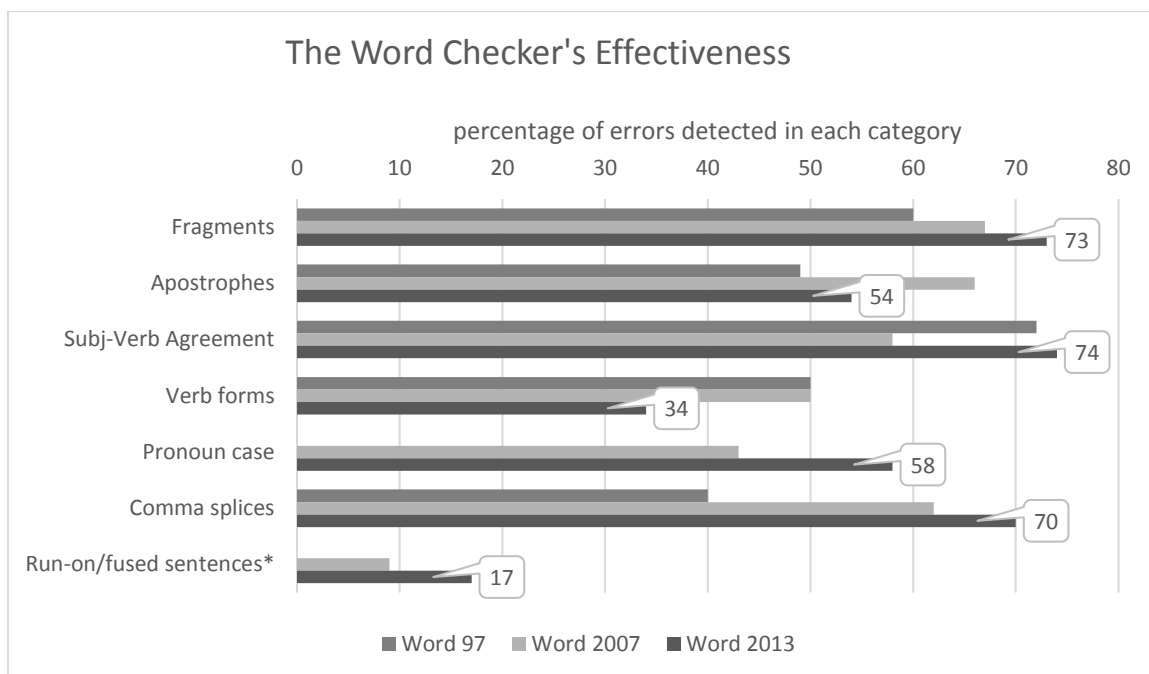


Figure 2. Word's effectiveness

** Because Haist combined data for run-ons and comma splices into one category for quantification, there is no separate category for run-ons on the graph. The percentage for Word 97 comma splices includes them. If the other versions are any indication, detection success on comma splices was probably much higher and fused sentences much lower than the 40% Haist reported for the combined total. In Word 2013, the overwhelming majority of run-on sentences that the checker caught contained a conjunctive adverb such as "then" or "however," usually followed by a comma. Otherwise its performance on run-ons was only 2%.*

apostrophes, comma splices, subject-verb agreement, certain types of verb forms, and pronoun case errors. In a majority of these top-performing categories, Haist's, Major's, and my tests confirm that the checker performs well above 50% in detecting missteps of usage or mechanics and as high as 70%, 73%, and 74% in some categories. Even acknowledging the limitations of the data sets as described above, these numbers are promising, because they indicate that the checker can give real support in areas where many writers struggle to master the performance of conventions that rank high on the "severity index" of errors (Anson's term).

The note explaining the asterisk by "fused sentences" describes a weakness of the checker. Sentences that contained a conjunctive adverb followed by a comma, as in, "Junie likes

to jump in puddles however, Georgie likes to keep his feet dry,” the checker usually marked as comma splices, even though they are not. (For them to be true comma splices, the commas would have needed to appear before those adverbs, rather than after.) A few it marked as *Sentence Structure* or *Comma Use* problems. Of the true run-on sentences that lacked these markers of a clause transition (which the checker could then evaluate for the adequacy of its punctuation at those transitions), it detected only 2%.

This failure to detect run-ons confirms a broader finding about the checker: that it is weak in checking at problem junctures where punctuation is missing entirely. If, for example, a writer failed to type a period between two sentences, the checker is unlikely to catch that mistake, even if the next word successfully begins with a capital letter. The checker might flag the run-on as *Wordiness* or for *Comma Use*, but probably it will miss the missing period entirely, as it missed the run-ons in the test data. Like a computer compiling code, the checker needs the cue of the end punctuation to start checking within each sentence.

The program’s performance on the many other errors for which it checks, not included in the chart, is generally lower, though success spikes in certain categories, presumably because it is easier for the checker to parse the relevant words in the sentences constructed with those error types. Haist’s data in her report show that the checker performed better than average with some highly specific targets such as the use of “who” or “whom” (70%) and misuse of “myself” (80%). Haist’s report also analyzes the checker’s success on other precise error types for which Major did not create test sets, such as superfluous use of a colon before a list (also 80%) (Haist 9, 13, 27), in a sentence such as “And the winners are: Peter, Paul, and Mary,” which Word 97 would accurately mark as incorrect. But she notes that it gives incorrect markings on

most other uses of colons, such as a comma used in place of the colon that appears after this independent clause: "And here are the winners: Rosencrantz, Guildenstern, and Ophelia."

The nosedive in effectiveness on finding problems in verb forms, now at 34%, is surprising, and its cause is unclear to this researcher, especially in light of Major's 50% success rate with the same test sentences on Word 2007. Nevertheless, the checker failed to mark "I have saw myself at the bottom of the heap" as including an error. One possible explanation about this miss is offered in the next section, on the checker's shift over time, but ultimately the loss of function on this error type remains startling.

Usage that depends most heavily on meaning, such as whether a relative clause is essential or nonessential, is an inevitable stumbling block, as the computer cannot read the writer's mind to know the difference. The checker does not have enough information to know how to punctuate either of these two sentences appropriately: "The instructor who was her favorite dance partner chose the set list"; "The instructor, who was her favorite dance partner, chose the set list." Major rated the checker's success in this category at 6% (153). And its inability to detect problems that cross sentence boundaries renders it unable to mark otherwise straightforward problems, such as of inconsistent verb tense or of pronoun antecedent. Vernon sees such cross-sentence errors as some of the most common in novice writing (340).

My day-to-day experience working extensively with the checker also reveals miscellaneous limitations that are important for a writer to know, when apportioning his attention between various tasks. The checker does not look for error in words written in all uppercase letters, and it does not mark words that accidentally include a number, as in "alacr4ity." Sometimes there is a lag in automatic checking, so that the squiggles do not appear

instantaneously when a document opens or a word is typed, while the program takes a few moments (or minutes) to process the sentences; this absence of markings can be misleading, for a writer who does not know to look again after a few minutes. Occasionally, background checking simply does not occur, for unknowable reasons. Usually it will begin again after a closing and reopening of the program, but in the meantime it can mislead a writer into thinking that there are no detectable errors in a piece of writing. With no known need to close and reopen, a hurried writer might share a document with undetected errors after assuming it has been grammar-checked and thus perhaps having given less attention to proofreading without the checker.

Another quirk of the program is its need to check for certain kinds of errors in sequence, rather than simultaneously. In a sentence from Major's data testing pronoun case, "Me and him often meet each other for lunch," the checker first marks "Me and him" as a word order problem, for the need to put the first person in the latter position, to "Him and me." Only after the user accepts or rejects this correction does the checker then mark the words again for the problem in case, to be corrected to "He and I." This limitation sometimes leaves the impression that the checker has not found the second-marked error type in the sentence, if the user is ignoring the first round of correction. The checker occasionally marks a long group of words as "wordiness" when a more specific error type is lurking within those words, but until the writer repairs or clicks "Ignore" on the "wordiness" error, the checker cannot mark the more specific mistake. (In some cases, the non-specific "wordiness" message or some other error message has actually been triggered by the other mistake within the word group, but because of the nature of the error, the checker is having trouble parsing the sentence. (I discuss with this phenomenon,

an understanding of which is central to making effective use of the checker, in the conclusions of this chapter.)

All these specific strengths and weaknesses of the checker are valuable for writers to know. The success rate on the significant error of subject-verb agreement is high enough that if the checker marks an error as a possible misstep in this category, that odds are good that the marked verb needs a new ending. Parallelism, on the other hand, doesn't make the list of the checker's strong suits (see Major 153 for all his ratings), so a writer should know that it is probably unwise to rely on Word for corrections in this area, especially if it is a known personal weakness.

Improvement over time and versions

Another finding from examining the data across these several studies is that the overall arc of the grammar checker's effectiveness is one of improvement over time. If you have used Word for many years and sense that the quality of the grammar checker feedback has improved, the data tell us that you are correct. Even within the limitations of these study results compared here, a clear trajectory emerges spanning these three versions of the checker: more accuracy in the errors that it tags and fewer false flags that mark sentences as having errors when they do not. Having run his data on both Word 2003 and Word 2007, Major notices the same pattern in two categories within his own research, across those two versions of the checker (162-63). Even on the same basic platform across multiple iterations of the program over time, the tweaks introduced to the checker are in fact improving its performance,

apparently by using advances in the technology of natural language processing and corpora, in light of the nature of some of the errors caught (such as contextual spelling, as Major notes).

The subset of data that I was able to use from Haist's test bank is comprised of the 123 example sentences she includes in her published report that evaluates Word 97. Running these sentences through the checker in Word 2013 confirms a trajectory towards more accurate error detection. The bar graph in Figure 3 illustrates the findings: fewer markings on non-errors and false flags (the first and third bar sets), more errors accurately detected, and fewer errors missed.

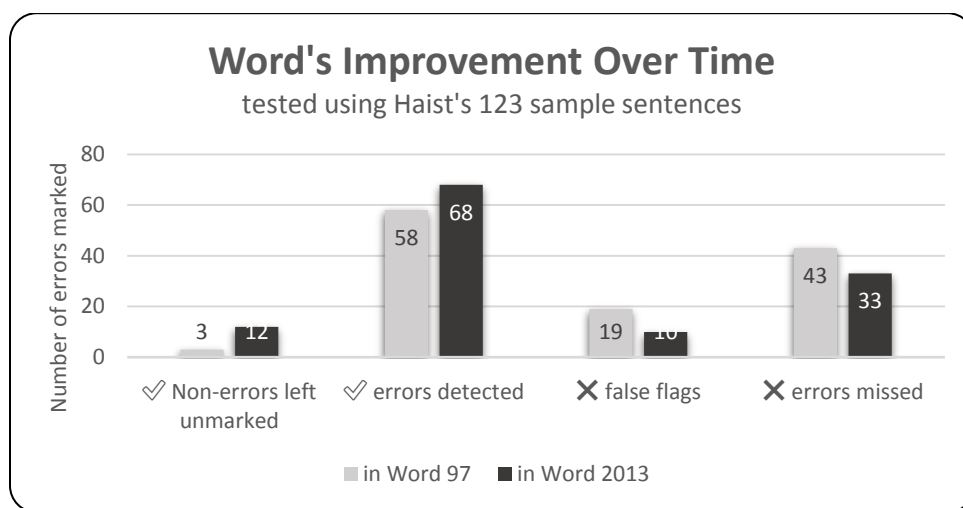


Figure 3. Word's improvement over time

There is a small cost to fewer false positives that is not evident from the graph: in some cases, less aggressive checking for true positives – actual errors (by the program's own definitions). The 33 “errors missed” in Word 2013 include 11 errors that were formerly among the 58 accurately detected, in Word 97. This loss of 11 cancels out some of the gain of 22 from the 43 that were missed in Word 97: the newly missed errors reduce the gain. This loss is relevant to a pattern Vernon notes in WordPerfect, which succeeds in marking more errors than

Word but also produces more false flags (344). The shift towards fewer of the false flags that annoy readers is one possible explanation for the drop to 34% in detection on verb forms, discussed above, as perhaps they are an error type difficult to parse and analyze. And even when those verb forms were accurately flagged as incorrect – in Major’s study, at 50% of instances – they were prone to triggering inaccurate suggestions for how to correct them, a metric which Major quantifies: he notes that only half of those 50% that were flagged (so, 26% of the total verb form errors tagged in the data) offered accurate suggestions for replacement (153).

Whether the sacrifice of more feedback on genuine errors is worth the relief of not needing to evaluate quite as much inaccurate feedback depends on the user. For a writer or editor who needs a meticulously proofread document or manuscript, more error messages would mean more opportunities to evaluate each possible error for oneself, likely worth the time and attention to dismiss false flags. But to many users, the inaccurate messages are only a distraction, and the incorrect corrections damage the ethos of the program and raise the likelihood that users will distrust and ignore the error messages it offers. Such inaccuracies demand too much of cognitive load to lack a corresponding reward of error correction. According to a leaked document from Microsoft regarding the development of the new checker, user feedback indicates that Word users like their experience of the checker to be “less noisy” (Michel, “Grammar Checking” 2). Users like knowing that a marked error is probably something they or their readers are likely to consider an error, and at any rate a writer will probably never know of the errors the checker misses, unless he has a particularly vocal reader giving feedback on errors. More likely, readers will note the errors – and any sully of the writer’s own ethos – in silence.

Wrong error messages in right places

One issue that recurred during my evaluation of the Word 2013 checker confirms the findings by other researchers on earlier versions: that the checker sometimes marks an error that is indeed in need of marking but labels it wrongly, as another error type. Haist notes this problem recurring in multiple error categories. As Vernon puts it, “Checkers frequently flag a troubled sentence but incorrectly identify the issue. Something is wrong, they just can’t determine what” (344). As he sees it, this problem of mislabeling can prompt some compositionists to discourage “basic writers” from using grammar checkers, so as not to aggravate their confusion about usage. Most error messages labeled their errors correctly, and I did not track this issue for quantification, as to my knowledge nor have any other composition researchers. (The quantitative data most closely related to this issue comes from Major, who distinguished between the number of errors accurately flagged versus those “corrected,” which has to do not simply with error type but with the accuracy of the suggested correction, if any. See 153.) The misnaming of run-on sentences as comma splices, mentioned above, is a subtle example of this problem. During my study of the error messages (analyzed in Chapter 5), I noticed many of these mislabelings, such as mistaking a sentence fragment for a subject-verb agreement problem or vice versa.

These error messages that appear for the appropriate sentences but with the wrong error types are a cousin of the false flags, which label sentences that have no discernible transgressions of usage. Like the fully superfluous error messages, the partially erroneous ones are problematic for unskilled self-editors who cannot recognize their inaccuracy.

F. Conclusions, pedagogical implications, and further research on effectiveness

The broader conclusions of this dissertation will incorporate the findings of this chapter's research on the checker's effectiveness into the foundational questions about error that this study is pursuing, but these findings deserve their own conclusions here before we proceed.

Of the many insights one can draw from the quantitative and qualitative findings on the checker, a few stand out as most relevant to this study on error and point towards the necessity of the further evaluation of the checker in the coming chapters.

The most noteworthy are that a) the checker is genuinely effective at detecting certain significant kinds of error and b) its overall arc is of improvement, over time and versions. Writers can know that the error messages in Word 2013 are not a waste of their attention, and teachers can know that students who use the checker are likely to be receiving at least some helpful editing and explanations of usage concepts that approximate or echo pedagogy or, at least, a grammar textbook. (Chapters 5 and 7 look at the content of these messages in depth.)

The finding that the checker's effectiveness also varies widely among error types carries several important implications. For one, it can be only one of several proofreading strategies, for the writer who wants to minimize error thoroughly. Also, it must be supervised, its recommendations evaluated, because it makes misguided suggestions regularly. These two facts are no surprise, and they confirm not only earlier research but logic and experience. Yet they remain the most important generalizations for any writer who is looking to the checker for guidance and any teacher who wants to discuss it with her students.

What has not been emphasized in earlier research is that more specific familiarity among these variations in the checker's ability can significantly improve one's knowledge of how to use it – how it is reliable and not, in the spirit of knowing one's tools. "Proofread your papers yourself – the checker misses stuff and makes wrong corrections!" is a familiar refrain without much teeth. But "Use the checker to notice how often you use the first person, and decide if it's too much for this kind of paper" or "Remember that the checker almost never catches dangling modifiers, and you've been having trouble with those" – these are useful, specific suggestions.

To maximize its usefulness, a writer will do well to learn about these strengths and weaknesses. From category to category, this research has yielded useful findings, and further research can continue to improve our familiarity with our tools. A compositionist who has read this chapter is now aware of many of the Word checker's strengths and weaknesses already – for example, that the checker performs well but not perfectly at finding subject-verb agreement errors – and can incorporate curricular opportunities for students to discover them as well. Writers can also compare their writing needs to the likelihood of accurate feedback from Word, to see whether it succeeds in areas where they are most concerned about avoiding error or in which they have personal difficulty detecting an error type. This discovery process can be part of exploring broader questions about rhetorical situation, as this research demonstrates in future chapters.

It is my hope that developing some familiarity with the grammar checkers most used by their students will become a presumed goal of writing instructors, as well as part of the basic training in composition pedagogy. McGee and Ericsson also articulated this need for us to "dig into" new programs, or those we already use, if we have not explored them already (465), but

this practice is not yet standard in the field. Compositionists can begin simply by paying more attention to the checker's error messages while doing their own writing. Reading some of the research on the checker's effectiveness, such as Major's and Haist's, is also an easy way to deepen understanding of how the checker works, and one can hope that future research will begin to supplement, summarize, and regularly update what little now exists, as new software appears. Ideally, composition research will begin to take seriously the responsibility to refresh and share knowledge about everyday use of these text-critiquing technologies, within departments and across the field.

Because the checker sometimes catches but mislabels actual errors and occasionally offers entirely erroneous messages, it is crucial for writers to bring with them their own knowledge of usage conventions, if they are to be able to evaluate the checker feedback. They are not likely to master editing for errors or for style with the grammar checker as their only grammar teacher. Its explanations are limited, sometimes confusing or even erroneous (see Chapter 7), and, despite its improvement, the checker still offers some false flags and no doubt always will. It also checks for a number of usages that are considered errors in some contexts but not in others. The remainder of this dissertation delves in some depth into this question of "what counts as an error when," as that query interweaves with use of the grammar checker. Knowing what counts as an error in a given rhetorical situation – how to decide what counts as an error, is the only way to decide what is, functionally, a false flag in a given context. For a writer with foundational understanding about rhetorical situation, the checker becomes a tool in helping them cultivate that awareness of possible errors and of style moves.

A look at mislabeled errors reveals further useful knowledge about the nature of those erroneous and partially erroneous markings: that even when the checker is technically wrong in giving an error message, the marked sentence is usually in need of some editorial attention. That is to say, even if there is no actual disagreement between the subject and its verb, if the grammar checker is marking the sentence with a subject verb-agreement error, it is having trouble parsing the sentence. As Vernon described the mislabeling on errors that needed flagging, "Something is wrong, they just can't determine what." Not in every case, but in many that I observed incidentally while studying the error messages, if the checker cannot accurately determine whether the subject and verb actually agree, there is usually a problem in the sentence structure that lies somewhere on a scale between error and a "style" problem. (Chapter 3 will consider the definitions of style; for now it must suffice to say that here I am using "style" in the sense of word choice and sentence structure that are rhetorically effective, reaching beyond error avoidance and into effective linguistic moves.)

For example, Haist notes that the Word 97 checker is notably better than earlier checkers at catching disagreement errors when the subject and verb are separated by other words and phrases (7) – the same circumstance that makes this error more difficult for a human proofreader to catch. But as described by Vernon and, again, like a human, the checker is increasingly less likely to detect this error the more convoluted the syntax becomes. The checker stumbles on the same sentences that are likely to cause a human reader to stumble. Still more important, for the writer who wants not only to avoid error but to cultivate an effective, readable style, keeping a subject and its verb close to one another usually increases comprehension, readability, and flow – is good style, recommended by the best of our style

teachers (see Williams and Colomb 123 at “Avoid Interrupting the Subject-Verb Connection”). Thus, even when the checker is wrong, the fact of an error message often offers useful information. When the checker misfires, there has often been a taxation on its parsing ability, which often correlates to an added demand on the attention of a prospective human reader; the writer must decide whether she has compensated that demand with meaning.

Provoked by the findings in the unnecessary or erroneous error messages, one also realizes that the checker is likely to mark some of a writer’s style moves, perhaps his best writing, as errors. As O’Shaughnessy reminds us, authors sometimes make lexical or syntactic demands that a reader finds worth the trouble: that such text rewards added attention with added meaning (12). While Hemingway may have been well-served by his human editor, Maxwell Perkins, together they did not need an electronic grammar checker in order to create prose that pleased and moved their intended audience (which is not to say they might not have enjoyed making use of one). And even Hemingway’s style, which (based on the analysis of the checker’s style in Chapter 7) one assumes would fare especially well under technological scrutiny, does not always emerge unmarked when tested by an automated grammar checker; we know because such a test is one of the literati’s favorite gotcha exercises for this kind of technology (e.g., Crouch; or *Economist*; or Pullum “Monkeys Will Check Your Grammar”). But such critiques ignore the genuine usefulness of the checker, which geniuses know how to ignore when it is not helpful but which they and anyone can still use towards more masterful style.

Writers and writing teachers should be aware of this reality – that even (or perhaps especially) strong style moves can prompt error messages – a fact which is integrally related to the comprehensive theory of error offered in this dissertation. Vernon talks about how

grammar checkers “have trouble with more elaborate sentences” and aptly suggests that the checker’s failures can be also a pedagogical boon, as “teaching the program’s limitations might help ease students’ feelings of intellectual inadequacy” (344). Certainly, this perspective can encourage writers to engage critically with the program and not accept its directions as unquestionable edicts, as McGee and Ericsson warned against (466). Beyond the shame-reducing comfort that the checker is not always right, full critical engagement with the checker prompts a writer to understand that the checker is directing towards a plain and simple style (as confirmed in the register analysis of the checker’s texts, in Chapter 7), but that not all writing follows those same rules.

For example, when an error message labeled *Simplify* pops up to direct a writer to remove added conjunctions between items in a series, this error flag may have appeared at precisely the moment when a writer veered from the ordinary, or from plain style, into a linguistic move that rewards with richer implication. In the usage panel that explains the error, Word suggests that the writer use “We hoed, we sowed, and then we reaped,” instead of “We hoed and we sowed and then we reaped.” But the writer will ideally learn the confidence to know that the original version may be worth keeping (even on that very sentence in Microsoft’s examples) for its rhythm and for the way this style irregularity – a minor transgression of convention – calls attention to this sentence and the ideas in it. In evaluating the error message, the writer may be aided by any knowledge he has of correctness conventions, from what is called grammar class. But even without such knowledge, he may also be able to decide that, in the particular writing situation, it is either clearly more effective or worth the risk to keep it as he wrote it – that he can make an argument for the usage (even to himself, for making this

editing decision) – in the way that Min-Zahn Lu’s students make such arguments to one another about style choices in “Professing Multiculturalism: The Politics of Style in the Contact Zone.” For skilled writers, such inner negotiations form a large part of editing for style, and writing instructors can make explicit for students how they can do so as well, incorporating the tool of the grammar checker while teaching an escape from reductionist thinking about the spectrum between error and style, not a mindless compliance with it.

The nature of the data sets, the need for corpora

An additional conclusion emerged from incidental observations during my work with the data sets, regarding the question of how to select data for composition research on the effectiveness of grammar checkers.

With the advantage of an ability to examine Haist’s and Major’s data sets directly, what soon becomes clear is another dimension to the situatedness of error: in this case, the highly variable nature and patterns of error types. The checker’s success at detecting any one type of error depends on how the convention is broken. There are many ways to flout a rule, and as I ran the data I began to notice certain patterns of error that seemed likely to skew the quantitative results on those sets.

So, for instance, Major’s data set testing the subject-verb agreement rule reveals a large number of subjects indicating quantity, such as, “Thirty feet make a useful length of hose” (which the checker did not mark as an error) and then, “Thirty feet makes a lot of noise,” which the checker did (accurately) mark as an error, under “makes.” The number of these examples using quantity words – sentences which require an understanding of meaning and would thus

be challenging for a machine and, in some cases, for a human, to choose the correct verb for – prompts one to wonder if they are not over-represented in the data set. Their frequency seems disproportionate to my encounters with this error type day-to-day or in student writing. (Their appearance here would have been determined by the particular grammar-book exercises Major chose for creating his test bank.) If they are over-represented among the subject-verb agreement errors, they would skew the numbers to make the checker seem less effective than it is.

But the question then arises: Over-represented compared to what, and less effective compared to what? On reflection, I realized that I had momentarily been caught in the seductive prescriptivist illusion of a written English so standard that a set of sentences – some set of sentences – could be created that would be fully and accurately representative of its usage. While the challenge of choosing relevant data is at the heart of any empirical research, studies of language have the particular challenge of unacknowledged assumptions about a mythical standard English.

In reality, if we want data sets that reflect the style and usage habits that we want to help our students learn, we must choose among the myriad examples of writing that reflects the infinite possibilities, and we must understand and name what kind of writing we are using – what genres, what registers, what typified rhetorical situations. To find out how much useful feedback a grammar and style checker performs on business writing, we need samples of business writing. To find out whether the checker is any help at all on poetry writing, we need to test it on poetry. To test what kinds of feedback it is likely to give on our own students' papers and whether those error messages are helpful, we need to test the checker on writing that resembles our own students' papers as closely as possible. To do so, more of us must learn

how to make use of existing corpora with relevant tagged texts, such as COCA or MICUSP, and we must learn to build small corpora of our own and master some of the simple corpus tools for analyzing them.

Because, for now, grammar checkers such as the one in Word cannot check for error and style across sentence boundaries, we also need to build and share banks of tagged individual sentences that test the checker on the kinds of errors we see most in our students' writing. And the best sources of such sentences will be our students' writing itself, as it naturally occurs in their papers. Even as grammar checkers advance to be able to check across sentences, collecting sentence pairs or paragraphs with characteristic usage errors or style missteps will continue to allow us to test whether the checker detects them. Such sentence banks for testing a checker's effectiveness would assist not only individual instructors or researchers but administrators choosing software for their departments or institutions.

And as deep machine learning advances, composition is likely to be able to cull increasingly meaningful data even from small corpora, including knowledge about students' errors and style.

Corpora and corpus tools are valuable in many types of scholarship on style and usage, as the conclusions to this dissertation will discuss. But this test of the grammar and style checker's effectiveness revealed some specific ways that we must consider the nature of our corpora and sentence banks, if we are to understand what the checkers detect.

CHAPTER 3. Grammar and style, misnomers for correctness

Though the Microsoft checker's purpose is detecting error, as indicated by the documentation on its Help page, it is not called the "Microsoft Word Usage and Error Detector," but a "grammar and style checker." This nomenclature follows a widespread if contested use of the word "grammar" to mean "avoidance of error." What the programmers mean by "style" or group in the *Style* section is hazier, a haze unsurprising in light of the general fog around the meaning of the word "style."

Both scholars and everyday writers conflate the meanings between all three words – "error," "grammar," and "style" – especially when one's actual intended meanings might be better served by the terms "mechanics" or "usage." These labeling problems carry significant consequences for both writing and research. The predominant meanings of "error" and "style" each lie, simultaneously, at both ends of a fraught continuum, with the multifarious meanings of "grammar" creating a murky bog between them. Chapter 1 explored the meanings of "error" and theories of error in composition. This chapter explores the definitions of "grammar" and "style" and the confluences of both with "error" as each is relevant to understanding the Microsoft grammar and style checker and to a theory of error.

A. Grammar: a needless war

In common parlance, the usual label for a usage error is "bad grammar." Writing instructors often adopt this meaning of "grammar" as well, as an all-purpose label for error, but the rhetoric and composition literature disputes the legitimacy of this meaning.

The infamous “grammar wars” within composition – and, more heatedly, between composition and the public – roil under our work in writing instruction, even for those who wish to avoid the conflict and choose to ignore grammar, in whatever way they define the term. Linguist Geoffrey Pullum seems to have coined the phrase “grammar wars,” in his lightly satirical 1983 plea for “Punctuation and Human Freedom,” which refers to a then-recent *Atlantic Monthly* piece written by fellow linguist Geoffrey Nunberg as “entitled ‘The grammar wars’” (Pullum 419). Nunberg’s original article was actually called “The Decline of Grammar,” but he does mention the “cold war that endures to this day,” ever since “the linguists” of the mid-twentieth century “succeeded in convincing most of the educational establishment of the rightness of their views” – to give up prescriptivist doctrines about grammar – but “could not sway the body of educated public opinion.” Apparently the linguists of the 80s felt beleaguered, sensed that many compositionists were with them, and decided to draw some battle lines, firm up their position, and ask others to declare their fealty as well.

The war with the public is essentially one-sided: those outside academia conduct it alone, loudly protesting error, blaming its presence on the lack of “grammar” instruction in schools. Within composition, the linguists’ position had already won. Though grammar – syntax – remained and flourished as a topic for deep analysis among professional linguists, if largely with a focus on oral speech, it began to disappear as a topic for amateurs – which is to say, students – in English, composition, or elsewhere. Grammar in any form had become an unpopular topic in research and pedagogy, after reports such as those from the commissions and conferences of Braddock, Hillocks, and Dartmouth, together denounced “formal grammar” instruction as useless. And after a flurry of research on sentence-level style through the mid-

eighties, reviving pedagogies based on ancient rhetoric (e.g., Corbett and Connors) as composition co-opted rhetoric as its rightful intellectual ground, the study of style too was soon to enter its long drought (see Elizabeth Weiser, 26, documenting the disappearance of style articles in CCC). Robert Connors declared the “Erasure of the Sentence” to have occurred in composition research in 1985.

Composition is still answering to the war metaphor, if in efforts to move past it, in titles such as “Beyond the Grammar Wars” (Hancock and Kolln). The counterproductive imagery of war continues to reduce a nuanced pedagogical endeavor to simplistic antagonism. The battle lines of the ostensible conflict are drawn between linguistic descriptivism and grammarian prescriptivism: two sides of what we can now finally proclaim as a false all-or-nothing dichotomy. Writers attempting to navigate the challenge of appropriate usage look to understand how language and punctuation are being used in rhetorical situations similar to their own – to describe that writing – as a frame of reference for their own writing choices. Some instructors seek to help students discern those habits of discernment and appropriateness. While authoritarian, ruler-wielding, rule-obsessed English teachers make a convenient straw man for the anti-prescriptivists, not every instructor interested in syntax or in usage is small-minded or incapable of range and subtlety. It is time to leave the battlefield and invite one another to dance, a move visible in the work of compositionists who are also linguists, such as Curzan in her comprehensive study of prescriptivism, *Fixing English*; in the research of Laura Aull and Zac Lancaster, applying linguistics strategies for first-year composition; and in Geoffrey Huck’s *What is Good Writing*.

B. Interconnected definitions of grammar

Believing that questions of invention and, perhaps, arrangement, better contribute to fulfilling a mission of cultivating our students' critical thinking and rhetorical efficacy, many in contemporary composition choose to grapple as little as possible with any topic that might be understood to fall under the wide umbrella of all that the term "grammar" can encompass – which can mean everything involving attention to sentences, words, error, style, punctuation, usage, syntax, or word endings. As Anson demonstrates in his essay on error (which he does not call grammar), we have an uneasy relationship with our decision to ignore these issues (5), but there has not seemed to be a path out of the unease. Prompted by the grammar checker, this dissertation hopes to point towards such a path.

That grammar, however unclearly defined, is of central significance to rhetoric and composition is reflected in the fact that an essay entitled "Grammar, Grammars, and the Teaching of Grammar" remains the single most reprinted journal article in the field, several decades after its publication (Caouette 57). Written by Patrick Hartwell, it was published in 1985, the same year that sentence pedagogy entered the witness protection program. The piece met and apparently still meets a felt need for permission to ignore the teaching of any topic that might be defined as grammar. Most writing instructors suspect, at the beginning of their careers, or know, after years of pedagogical experience, that the purpose of teaching what we have historically called "grammar" is unclear, that they lack adequate training to teach it, and that, inasmuch as the semi-spoken goal of teaching "grammar" is the elimination of error in writing, the effort tends to fail. A tradition of research, which Hartwell cites, avers that the teaching of "formal grammar" (also unclearly defined) is not only unhelpful to the task of

improving student writing (itself often defined in tautologies) but “harmful” – if only because it steals time from other pedagogies that might improve student writing (Hartwell 105, quoting the most-quoted line from the Braddock report; Paul Heilker sees all discussion of “grammar” since the appearance of this report as “a long series of responses to [this] single quotation” 111).

Hartwell counts himself among the “anti-grammarians” (106): “[t]hose of us who dismiss the teaching of formal grammar” (107) and for whom “the grammar issue was settled at least twenty years ago” (105). His primary and explicit goal in this essay on grammar is to banish it from the writing classroom as useless (107) – finally, again, and forever – and he insists that “we, as researchers, move on to more interesting areas of inquiry” (127). When he calls grammar “uninteresting,” he means, explicitly, uninteresting to himself, in what he calls a “scientific sense” (108), wherefore he presses the entire field of rhetoric and composition to join him in “moving on” – letting him have the last word while they themselves cease to study all topics that he gathers under the heading of grammar research or pedagogy. When he repeatedly cites linguistics, he means (and also repeatedly cites) Chomsky, not computational linguists such as those then at Bell Labs who were building grammar checking software. Hartwell calls upon the full canon of outdated theorists who have before him banished grammar instruction, unclearly defined. And, in light of that lack of clarity, he offers a useful disambiguation of the word “grammar,” albeit only to be sure that all five of his proposed definitions are accounted for and dismissed. His definitions have proved perennially useful, enough that many compositionists who argue opposite to Hartwell’s position – that some form of what one might call grammar instruction warrants a reconceived place in writing classrooms – use his own definitions in the service of their arguments (see Ray, *Style* 12; Bacon 291-92; or

Butler, *Out of Style* 125-28), if usually without noting that Hartwell himself came to different conclusions based on those same definitions. His disambiguation forms a touchstone in composition and is thus worthy of attention, as we consider what “grammar” means in relation to the grammar checker. His research is also overdue for reframing.

Proffering five definitions, Hartwell offers “Grammar 1” as the actual patterns of word order in language and “Grammar 2” as the study of those patterns, which is to say, a topic in professional linguistics (109). Similarly, Grammars “3” and “4” work together as, respectively, usage (“linguistic etiquette”) and “school grammar,” the attempt to teach linguistic etiquette, using grammar-based explanations of sentences and word use (110 and 119). “Grammar 5” is “grammatical terms used in the interest of teaching of prose style” (124).

Hartwell seems to consider his Grammar 1 – the order of words that makes sense to human beings – as the only true meaning of the word grammar. Grammar 2, linguists at work, perhaps falls under his canopy of legitimacy. But because the human ability to understand and generate sensible sentences need not and, ultimately, cannot be taught – only acquired through extensive exposure – and since neither writing instructors nor composition students are professional linguists, so ends the conversation about teaching grammar. The rest of the essay, to Hartwell, is an exercise in swatting the irrelevant flies that remain.

He dismisses the most familiar meaning of the word as unworthy of discussion: “Grammar 3 is, of course, not grammar at all, but usage.” This denotation of “grammar” is the one intended by the “grammar” checker (as Chapter 5 will establish), and fraught difficulties regarding usage and error are exactly the dilemmas most likely to have brought readers to the article in search of understanding. Never mind the egalitarian linguistic principles behind

“Student’s Right to Their Own Language” and the reality that “grammar” means “correct usage” not only in students’ own language but to most of the general public, as well as in the everyday parlance of many compositionists. The airy, dismissive tone – his “of course” is one of many disingenuous style moves in the essay – appeals to the vanity of the expert: the writing teacher dreading usage instruction (“Grammar 4”) or already frustrated with his own attempts to teach error elimination. Contrary to the linguistics ethos upon which Hartwell depends for his theoretical ground, his calling usage “not grammar” is like someone’s insisting that “ain’t” is “not a word.” (See Curzan’s chapter on “Dictionaries and the Idea of ‘Real Words’” 93-113.) But he uses this denotational sleight of hand to sidestep usage as if it were not an issue, much less the very issue at the heart of the grammar wars.

In retrospect, it is notable that this article appeared after, not before, Martha Kolln’s “Closing the Books on Alchemy,” in which she offers a critique of the flaws in the studies that have insisted on an end to grammar instruction in schools. She notes that, among other analytic flaws, the composition researchers condemning “formal grammar” have persistently failed to define what they mean by that phrase (140), and that their conclusions are often tautological (147). But Hartwell tipped his hand from the opening line of his essay (that “the grammar issue was settled for [him] twenty years ago”). Any research he has since read on the topic has served only to reaffirm his foregone conclusions, and the rest of the essay demonstrates a great deal of interest in persuading other compositionists to share his lack of interest. Thus, after presenting extensive research based on twentieth-century linguistics, Hartwell then draws conclusions about “grammar” pedagogy that do not follow from his own data. In his blanket dismissal, he rejects grammar terms for use in teaching rhetorical style, such as Kolln advocates

– “Grammar 5” – as “simply beside the point” (124). To which we must rightly ask, what point? Lest we lose sight of Hartwell’s purpose, it is to convince composition that every category of study and pedagogy related to grammar is useless. Readers cannot be surprised that, having sidestepped the thornier issues surrounding grammar (and “grammar”) in composition, he concludes by urging us all to “move on,” given that he had made up his mind before the research began.

For this research and more broadly, the most significant oversight in Hartwell’s study is his refusal to see the interconnections between his own five careful definitions, which are not the separated categories that he makes them out to be. The latest theories in professional linguistics (“Grammar 2”) may not have reached schoolbook grammar (“Grammar 4”) or may be too complex to present fully there, but the two are still endeavors not entirely isolated from one another, or need not be. Many terms used by professional linguists, such as the names of the parts of speech, are the same ones coined centuries ago for the purposes of grammar pedagogy and rhetorical style instruction, now still used in multiple contexts. And the inherent structures of meaning in language that need not be taught (“Grammar 1”) are the basis upon which rest most decisions about usage and punctuation (“linguistic etiquette,” “Grammar 3”). A writer needing to know whether to use “affect” or “effect” can ask, “Is it being used as noun or a verb in this sentence?” A writer trying to understand why a sentence sounds wrong and needs restructuring, or may be missing punctuation that a reader expects, can ask, “Does this group of words include two independent clauses, or is it a sentence with a participial phrase?”

And, finally, to discuss style (“Grammar 5”), one needs some shared vocabulary for talking about words in sentences. Lacking “grammar,” every writing instructor must somehow

reinvent the wheel of naming words' functions. Attempts to separate efforts at style instruction or error-avoidance pedagogy from the vocabulary of grammar doom both endeavors to failure, because it is difficult or impossible to discuss the intuited, acquired structures of human grammar without a terminology for the conversation.

C. Grammar as the vocabulary of error and style

It turns out that terminology – the simple question of whether, how much, and how to use traditional grammar terms in any part of the process of teaching or learning about writing – is the true, unacknowledged battle line in the grammar wars. A compositionist opposed to “formal” grammar instruction might find it acceptable to describe to an individual student “the group of words here at the beginning of your sentence, which starts with an -ing word and that writers often use to describe what comes next in the sentence,” where she would find it unacceptable to say “dangling participle, because it does not modify the subject.”

This terminology problem is pivotal in a study of the grammar checker, because familiarity with grammar terms affects the user's ability to understand this and other grammar text-critiquing programs. As the discourse analysis of the grammar checker texts will reflect (in Chapters 5, 6, and 7), the error messages, menu, and documentation of the Microsoft checker occasionally avoid the terminology of schoolbook grammar where it might have been useful, but in most cases the checker freely uses such terms to make the program's functions and the nature of errors clear. A user's ability to comprehend and make best use of the checker then depends, in all those cases, on the user's familiarity with grammar terms and concepts.

Hartwell introduces a useful acronym from technical writing that captures a perennial problem of experts communicating to non-experts: “COIK,” meaning “Clear Only If Known” (119). Sometimes labeled “expert’s disease,” COIK names a problem known to any teacher who has communicated about a topic with which she is highly familiar, trying to explain it to novices. For one who already knows a great deal about a subject, it is often difficult to comprehend just how opaque the information and associations can be, to someone who does not know the field already. An explanation that sounds like brilliant pedagogy even to a fellow teacher, already well-versed in the topic, can nevertheless be incomprehensible to a student. Steven Pinker calls this difficulty, central to so many writing tasks, “The Curse of Knowledge: a difficulty in imagining what it is like for someone else not to know something you know” (59).

To Hartwell, COIK describes any attempt to describe grammar to non-linguists, or to describe effective style moves to one not already familiar with them. But familiarity such as he describes can come, as he accurately notes, only from extensive reading. While it is true that writers cannot enter Bartholomae’s parlor conversation if they have never heard it – read it – it is also true that the linguistic knowledge acquired through reading is only implicit. Metalinguistic awareness and an understanding of usage conventions and style moves are the explicit knowledge that allows a writer to make conscious decisions, when integrated with their implicit knowledge. And “grammar” words – in all five senses – are the terminology of that awareness.

Of especial relevance to this research, Hartwell includes a section devoted to “Redefining Error,” explaining that errors such as sentence fragments are “not conceptual failures at all, but performance errors” (120), to which this dissertation responds: precisely.

“Linguistic etiquette” might be of little interest to some linguists or to Hartwell, but as he himself notes parenthetically, “Usage issues – Grammar 3 – probably represent a different order of problem” (121). Indeed they do. While he may consider questions of usage “linguistically unnatural” because they are “departures from the grammar in our heads” (121), the urge to establish rituals of behavior, dress, and especially language – conventions linked to but not always defined by practical purposes – is thoroughly human. The idea of writing as performance is also now a foundational concept in contemporary theories of style, such as Chris Holcolmb and M. Jimmie Killingsworth in *Performing Prose: The Study and Practice of Style in Composition*.

In the public conversation, Mark Halpern elucidates the linguists’ misunderstanding of usage questions in a 1997 response to Nunberg’s original essay on grammar. As Halpern aptly notes, “To call any recorded utterance ungrammatical,” as linguists understand the term, “is to make a strange, almost meaningless statement; it is like criticizing the way the stomach produces digestive juices.” Such innate processes do not need “review and revision”: “The law of gravity can take care of itself.” Usage, on the other hand, is “[a]rbitrary” and “man-made” [sic], a set of “conventions,” and “needs all the help it can get.” Notably, in the twenty-first century, some of the best help for understanding these socially determined ungrammaticalities comes from linguistics itself, with its emerging corpus and computational tools. And the grammar checker, developed by linguists, is one the best available tools for alerting writers of some of these conventions, which they call “grammar rules,” not at all as effortless as stomach juices.

D. Interconnected definitions of style

Because the technical language that describes sentence construction is grammar terminology, the word “style” is sometimes used to mean “good grammar,” where “bad grammar” is used to mean “error,” in the sense of transgressing usage conventions held as correct by the person using the word. *The Elements of Style* and its ilk muddy the difference between style as strict adherence to a prescribed set of rules – that is, avoiding bad grammar – and style as effective writing, achieved by treating the plain style they propagate as the only way to write well. Unfortunately, compositionists often use the same limiting terminology for style, while at the same time allowing “style” to imply something much broader and more inspired, but ambiguous. Like “grammar,” above, “style” therefore also needs some clarification.

The meanings of “style” are notoriously confusing, both within and outside rhetoric and composition. Though this third canon dominated rhetorical studies for large swaths of our history, students can complete first-year writing without understanding what “style” means when applied to writing. English majors, including graduate students, earn degrees without receiving any instruction as to what constitutes style in writing beyond punctuating their bibliographies according to a style guide. Much less is attention given to describing and cultivating their own unique writing styles, except perhaps in the courses quarantined under the “creative writing” label.

Mary Bucholtz captures these two meanings of “style” that seem diametrically contradictory when she notes that “the same term is used both for the most idiosyncratic aspects of individual personal expression and for regimented conformity to an institutional

standard" (27). At opposite ends of a spectrum from the personalized to the standardized, we find "stylish" at one extreme (Sword) and, at the other, a need to avoid any errors that transgress MLA – or Chicago, AP, or another disciplinary "style" guide. Use of the term to describe a writer's signature way of using words also seems at odds with the dictates found in Strunk and White's *Elements of Style*, the grey grandfather of American language prescription, recently found to be the number one most frequently assigned book in American colleges ("Open Syllabus"). As this study will show, the Microsoft checker can help a writer with both ends of this spectrum, avoiding error and cultivating skill in self-expression, despite the program's limitations and sometimes subverting assumptions about the checker's stated purpose.

The broadest vernacular use of the word style denotes "a way of doing something," and the "something" can be anything. Its connotation is positive, as in, "He has style," or neutral, as in, "Let me describe her organizational style." That the "grammar and style" checker includes "style" in its name and a *Style* section in its options thus implies something vaguely promising about its ability to improve our writing, to make us stylish – perhaps vivid, clever, entertaining, or thought-provoking. Notably, despite its primary association today with clothing and fashion, the etymological root of "style" lies with writing (in the Latin "stilus," for an early writing implement). To have style, or a style, is to inscribe oneself, and to do it well.

Searching for a meaning of style that is specific to writing, for the purposes of scholarship in rhetoric and composition, Brian Ray delves into competing definitions of the word in his recent book *Style* and concludes that we need not choose between them – that the meanings inform and hone one another and he "encourages teachers and scholars to see the

value in multiple, interlocking definitions of style (17). While this perspective is liberating for a historical study, allowing us to draw fruitfully from multiple traditions of scholarship, it makes sense to note some sustainable generalizations about the word's denotation within the field, for functional clarity's sake. As Paul Butler defines it, style is

the deployment of rhetorical resources, in written discourse, to create and express meaning. According to this definition, style involves the use of written language features as habitual patterns, rhetorical options, and conscious choices at the sentence and word level. (3)

Together these two sentences capture the essential themes that have recurred in style theory for centuries: meaning, patterns, rhetoricity, and choice. He also includes in his definition references to the sentence and to the word, delineations important not only to distinguish style from other canons of rhetorical study but relevant to this research on the grammar checker, as the Microsoft program can check for errors only within the boundaries of a single sentences.

Butler hastens to add that the "*effects*" of style are not limited to the boundaries of the sentences in which words appear, as those effects reflect and connect to "broader areas of discourse and beyond" (3). He presents style's connections to invention as a central theme of contemporary style scholarship (see his chapter on "Reclaiming an 'Inventional' Style in Composition"), an idea reiterated by Holcomb and Killingsworth, and, especially, Gideon Burton in [*Silva Rhetoricae*](#). As the first canon has been the darling of rhetoric and composition in recent years, in an education environment that seeks to train students in critical thinking, it makes sense to delineate style's connection to the broader concerns of a paper's meaning when promoting it as an area of research. Still, a focus on words and sentences, diction and syntax,

word choices and word order, is essential to a definition of style; is in keeping with the long history of theories about style; and gives us a much more specific place to start any discussion of style than, for instance, simply calling style “a way of writing.” The definition Elizabeth Weiser used when conducting research on the declining frequency of style articles in composition captures the essence of style definition more simply, and fully enough: “purposeful attention to language at the sentence level” (26). With Butler and Weiser as a ground, then, we turn to a theory of style offered in recent composition scholarship.

E. Disambiguating style

In a 2015 essay, “Cross-Disciplinary Approaches to Style,” Nora Bacon proposes a structure for understanding style, in a brief theoretical article disguised as a tandem book review. Cueing from Hartwell and after summarizing his five “Grammars,” Bacon offers a parallel five definitions, this time of style. Her Style 1 is “individual style,” in Bucholtz’s sense of “individual personal expression.” This meaning is also the everyday, vernacular meaning of “style,” popularly applied both to writing and to other endeavors. Bacon calls her Style 2 “house style,” which is Bucholtz’s “regimented conformity to an institutional standard” such as MLA, APA, or an in-house style guide. For her Style 3, Bacon replicates Hartwell’s Grammar 3, “usage,” and explains that “[m]any books with *style* in the title will explain the distinction between *fewer* and *less*, warn against misusing *literally*, and offer tips on punctuation.”

Beckoned by the model of Hartwell’s five definitions and eager to align with it, Bacon offers two more definitions, both of which she describes as “stylistic grammars” such as he grouped under “Grammar 5.” In brief, “Style 4 is plain style” (292) such as encouraged by

Strunk and White or Joseph Williams's *Style: Ten Lessons in Clarity and Grace*, and "Style 5 is elaborated style" (292) such as, perhaps, a teacher of poetry writing might hope to help a student writer to develop.

Like most discussions of style, Bacon's ignores the foundational question of stance: the implicit position on questions of substance that necessarily drives the choices about usage or tone – undergirds all writing decisions, in fact. (Chapter 4 will explore the question of stance.) Still, her taxonomy introduces some welcome clarity to a discussion of style. She also improves on her exemplar, Hartwell's five Grammars, by lending each of her styles not only a number and a description, but an edifying one-word adjective to capture the essential concept of each: "individual style," "house style," "usage," "plain style," and "elaborated style." Furthermore, her names are cogent and accessible enough to serve not only for theorists in rhetoric and composition but for pedagogy and in public and professional contexts, as most of them are terms familiar to many already. The categories do invite critical engagement, however, to further clarify the meaning of "style" not only for the broader purposes of style theory in composition but for its use in the Microsoft checker.

A weakness of Bacon's taxonomy lies in the addition of Styles 4 and 5 at all. Certainly "plain style" has held a pride of place in rhetoric's long history. Defined by the ancients as the appropriate register for ordinary conversation, plain style surged in popularity during the scientific revolution of the sixteenth century. It continues its officially privileged status among writing styles right up to the present day, in which, for instance, the US government passed the ["Plain Writing Act of 2010,"](#) not the first of its kind. The notion of plain style is also relevant to the Word grammar and style checker, as plainness is apparently the goal towards which the

defaults in the program presume the user wants to reach, as evaluated in this study's analysis of the checker. But the idea of plain style can seem monolithic in theory, deceptively so, when its illusion of transparency and simplicity often obscures its actual opacity and complexity, in practice. Bacon's choice for a Style 5 deepens concern about her addition of these two select style types, as the "artfulness" that she considers representative of "elaborated style" sounds conspicuously like the "Asiatic," "feminine" style condemned by the ancients as not only showy but, and therefore, "feminine" (see Quintilian 12.10.12-16). Contrasting plain versus elaborate styles is certainly a worthwhile theoretical endeavor, but privileging these two style tendencies, among many, as more uniquely worthy of definition and as ostensible opposites seems unnecessarily limiting to the very idea of style, as well as of style scholarship and pedagogy.

Remaining are 1. personal style, 2. house style, and 3. usage. The interrelations between just these three deserve delineation and have implications for the discussion of genre and register theories in Chapter 4, as well as for the language in the grammar and style checker. Perfunctory direction about usage (her Style 3) – along with the mechanical details of punctuation, documentation, and certain spellings or abbreviations – tends to be the central component of what Bacon calls a house style (her Style 2). She defines house style as "a set of conventions that become regularized and quite strictly enforced by a community of writers and editors in order to ensure consistency in publications," and she mentions as her example the *MLA Handbook* (294). She does not specify the size of the community she envisions, but between her label for the style and her description of it, she seems to intend this term to range from an in-house style sheet for a small organization to the manuals, such as MLA, that prescribe a

disciplinary style to millions (the latter having invariably begun as in-house style sheets, later expanded, published, and adopted by others, not necessarily in that order).

As Bacon sees it, usage (along with, and as part of, named styles such as plain or elaborated) “live[s] in service” to “individual style” (Style 1), which has to do with pleasure, play, creativity, and voice (292). House styles are a thing set apart, to “occupy their own worlds” and serve their own institutional ends (292). But a better application of her taxonomy would not set them apart and would instead consider house styles as existing at a different point on a continuum of agency and choice – defining a group consensus by which individuals must (or choose to) abide. Such an understanding of house style would be in keeping with the rest of her definitions and foster exploration and clearer delineation of the parameters, exigencies, and purposes of each notion of style.

Personal style is the realm within which an individual writer can and must choose how to express meaning: through what words, in what medium or format, and following what usage conventions. House style is prescription. The keynote of Bacon’s definition of house style (Style 2) – disciplinary, institutional styles – is strictness and enforcement, primarily of usage (her Style 3). A defined style, codified in a sheet, guide, or manual, sets restrictions around the individual writer’s freedom to choose.

At the same time, those prescriptions are themselves a subtle expressive vocabulary: to choose between MLA and APA styles, in a paper that could adopt either, communicates to a reader information about what field the writer understands himself to be writing within, just as the standardized choices within those styles have practical ramifications. For example, APA’s use of initials rather than first names relieves sources of gendered first names but also makes it

impossible to refer to an otherwise unknown researcher by a full first and last name, in text. To conform to the style requirements of a journal in which one is publishing an article renders the choice of APA or MLA not meaningful as a reflection of the writer's personal rhetorical preferences, but the choice to seek publication in that journal at all – a journal which has chosen one style standard over another – communicates in a different way about the writer's sense of disciplinary identity, as well as the journal's. An editorial board is likely to layer on additional requirements of house style, beyond those in its chosen disciplinary style guide, further limiting the writer's freedom to make personal choices of usage or format, but such limitations are among many that writers are willing to accept, balancing their individuality with the group's standards, to be able to participate in the group publication.

Writing outside the edicts of a style guide, where most writing occurs, writers sometimes seek out descriptions – for them to use as prescriptions – of usage standards or other writing concerns such as documentation or format, hence the burgeoning industry in grammar guides, including the grammar and style checker in Word. At the heart of all discussion about style lies the act of the individual writer, creating a piece of writing, and hoping it will be effective in its rhetorical purposes. Even writing assembled from snippets or created by committee must pass through the members of the committee (even if the writer, or the committee, is now sometimes a machine – a development related to but beyond the scope of this research). All the handbooks, house style guides, usage instructions, and grammar checkers are ostensible efforts to assist in the endeavor of guiding or enforcing decisions about linguistic choices. Some are harsh or rigidly rule-obsessed, but many explore exceptions, context, and nuance. They describe and prescribe. The individual writer can read their

descriptions and ignore them – just as she clicks “Ignore” in the grammar checker – or she can adopt them as useful, or necessary, or required (if they are) by an institutional affiliation. But the individual human writer still, and always, is tasked with the decisions about whether it is rhetorically effective to follow or break the rules, as well as how much attention she wants to give to the endeavor of knowing or checking for the rules at all. This zone of choice, about usage or anything else in a piece of writing, is style.

If the context within which a writer creates a piece of writing has strict disciplinary guidelines or expectations, the range within which he can unleash his personal writing choices narrows. Perhaps the most restrictive version of such style and usage limitations is some forms of corporate writing, in which the writer must compose for an organization by merging with a corporate identity, perhaps also generating unsigned documents that treat the corporation as the author and represent the entire organization as a single entity. In such cases, the main task of the writer can be like disappearing, but he may be expected to do so masterfully, making stylish choices on behalf of the corporate voice that the worker in the next cubicle could not create. Such writers are the target user base of the Microsoft grammar and style checker.

F. Conclusions about style

The definition of style in this research, then, is a discipline-specific application of its vernacular meaning, as an individual’s way of doing something, with positive connotations. Compositionists’ understanding of style as focused on the word and the sentence also applies, and it suits the use of the word in the checker. But the impoverished notion of style as mere mechanics, unrelated to rhetorical concerns of meaning, motive, and persuasion, ignores the

motive force of this word. The Word grammar checker detects many mechanical or usage issues, including those listed as *Style* in its menu. Among the meanings of style, this research remains most interested in Style 1 – personal expressive choices – for which usage (Style 3), as well as the house styles (2) that prescribe usage, remain contexts, not substitutes for, personal style choices. The reasons why a certain usage developed in English may be random or unreasonable, but the choice to embrace or ignore a given usage convention is a style decision based on stance, which this dissertation explores as a foundation of register.

Between the province of individual choice and the dominion of enforced usage lies typified style, or register. In this zone, a writer has no explicit style sheet to demand compliance; she lacks both the restriction and the support of others' linguistic authority, in her authorship. With no style guide for direction, she is ostensibly free to decide what is appropriate to the rhetorical situation, but she usually knows of many unspoken conventions, limits, and expectations regarding what she is writing – and if she does not know them, she usually wants to find out. The first step in determining the appropriate typified style for a piece of writing is understanding its social context and purpose: questions of genre, which the next chapter will explore.

The domain of error, as researched, defined, and theorized in this dissertation, is primarily usage – Style 3. This dimension of error – in usage and mechanics – is also what the grammar and style checker is designed to detect. In a sense, one could take the grammar checker menu as a built-in enforcer of a certain house style – a form of Style 2, as it manages those usage errors – which is why it is important to know what that house style is (the quest to define which is the topic of Chapters 5, 6, and 7). But the goal of this research is to understand

the role of usage errors within true style, understood as Style 1, personal style. And the explicitly substantive dimension, the ground, of any style is stance, to be presented in the next chapter, on genre and register. Grammar is the vocabulary for talking about words in sentences – regarding both usage, style, or other concerns of word endings and word order.

G. A note on grammar in the pedagogy of style and error

This research will rely on the theories and definitions of grammar and style presented in this chapter for an understanding of the grammar checker and of register, as well as their relationship to error, but at this juncture it is important simply to note that it is worthwhile to find out what students understand these words to mean, and to share a working definition with each group of students. A brief introduction to the idea of grammar as the study of language, such as linguists perform, and of grammar terminology as simply words that describes the function of words in sentences, is a first step on the path to moving beyond the pathologized notion of some words as “bad grammar.” Understanding “grammar,” at the level of a composition class, as simply vocabulary enabling shop talk about style and, yes, error, intrinsically opens up the notion that one can make arguments about what counts as an error and when – these applications are the purpose of grammar words, in a writing class.

And it is especially useful to find out what a writer means when using the word “style.” Clearing away some confusion about “style” guides and usage prescriptions can open the path to a discussion about personally expressive style and the relationship between the three. Bacon’s styles 1, 2, and 3, as refined here, can finally and quickly make sense of that word, not only in an advanced seminar on style but even in first-year writing.

CHAPTER 4. Approaching style through genre, register, and stance

Research on genre lights a path to clearer theory, application, and pedagogy in both style and error. Disciplinary consensus on the meanings of “genre” and “register” provides functional tools for text analysis, for both writers and readers, that sets a frame for understanding how to make style decisions. Some of these theories even have simple and direct applications within grammar checking programs such as Microsoft Word. Filtering the idea of error through notions of register also shifts a writer’s relationship with the checker to a more critical as well as practical engagement with its functions. This chapter will therefore explore the concepts of genre and register, especially the idea of stance in a register. Finally, as a case study in stance, we will look at the Microsoft style.

A. Rhetorical genre

Notions of genre— of text type – live at the intersection of the elements that define a rhetorical situation: purpose, audience, context. When similar rhetorical situations recur diachronically, giving rise to patterns in rhetorical responses, genre names often emerge to give concrete labels to those similar responses. Genre exists at the nexus of the elements that rhetoricians analyze and that compositionists teach, and genre labels contain, albeit provisionally, that nexus point. With an idea of what genre she is writing in, a writer can make decisions about what kinds of writing best suit the situation. Those decisions include choices about error and style – in all the potential meanings of “style” discussed in Chapter 2, including personal style, house style, and usage (Bacon’s 1, 2, and 3).

The foundational ideas of rhetorical genre studies, still dynamic in the conversation today, lie in several theorists whose work entered the conversation in the late twentieth century: Carolyn Miller, Mikhail Bakhtin, and M.A.K. Halliday. In her 1984 essay "Genre as Social Action," Carolyn Miller formulated a "stable classifying concept" for rhetoricians to use in establishing "what constitutes a genre" (151). Seeking a "rhetorically sound definition" based on "typified rhetorical action" in recurring situations, she posited that genre must be centered "not on the substance or form of discourse but on the action it is used to accomplish" (151). Her theory, based in pragmatics, incorporates aspects of J. L. Austin's speech act theory and Alfred Schutz's concept of typification. She distinguishes between Burke's "motive," whose "emphasis is on human action," and Bitzer's "exigence," which emphasizes "*reaction*" (155). The titular "social action" of her essay cues from Burke's idea of motive.

Miller thus privileges neither form nor content but action as the defining aspect of genre. She mentions style in her review of other theorists, but it does not figure significantly in her own definition of genre, still widely used: "typified rhetorical actions based on recurrent situations" (159). And though she acknowledges form as a component of genre and mentions linguist M. A. K. Halliday's interest in text types (157), she grounds action as the pivotal element of her theory.

Where Miller's essay gives attention to form but treats style only fleetingly, Bakhtin weaves issues of stylistics throughout his conception of genre. In his "Problem of Speech Genres," Bakhtin defines genres as "*relatively stable types*" of "utterances" (60) and insists that there is "an organic, inseparable link between style and genre" (64): "Where there is style there is genre" (66). Bakhtin repeatedly cites three indispensable elements of any utterance:

“thematic content, style, and compositional structure” (60). Like Miller’s privileging of “action,” Bakhtin’s primary understanding of genre is based on an utterance’s intent, believing as he does that all speech is dialogic, which is to say, a social action. The “particular actual reality” of a given utterance in “particular real conditions of speech communication” (86) creates context – a rhetorical situation – and, therefore, meaning. Having established the novel, in his earlier literary criticism, as an inveterate borrower from all other speech genres and therefore a “hybrid” genre (“Dostoevsky” 11), Bakhtin extends this notion of hybridity to offer the liberating theory of genre itself as dialogic (“Speech Genres 92-93), and “we speak in diverse genres without suspecting they exist” (“Speech Genres” 78). He sees these genres, in active use, as constantly borrowing from and shifting between genre definitions, in the process of re-creating existing genres and creating new genres, as well as reenacting old or existing genres, amidst new utterances.

Both Miller and Bakhtin assert that genres emerge not from the edicts of critics or scholars but organically, from the people who use them: readers and writers. According to Miller, “the ‘de facto’ genres, the types we have names for in everyday language, tell us something theoretically important about discourse,” and she includes “such homely discourse as the letter of recommendation, the user manual, the progress report, the ransom note, the lecture, and the white paper” (155). Bakhtin similarly shows persistent interest in expanding the reach of rhetorical genre definition beyond the three offered by classical rhetoricians – forensic, legislative, and epideictic (more accurately, broad registers rather than genres) – and across the full range of utterances, from “the multivolume novel” to “the fairly variegated

repertoire of business documents” (61). For these seminal theorists, genre is a concept that develops pragmatically, at the point of social action.

Theorists such as Anis Bawarshi and Mary Jo Reiff, John Swales, Aviva Freedman and Peter Medway, Charles Bazerman, and Amy Devitt have extended research on genres into the explosion of new digital genres and technological tools. Devitt considers both Miller and Bakhtin to have rejected formalism but not form (31), and she asserts in “Re-Fusing Form in Genre Study” (2009) that “it is time now to return form to genre study” (27). Respecting the rhetorical interest in context while also citing Bakhtin’s frame of insistence on linguistic attention to utterance, Devitt directs us to understand the forms, and the genres themselves, as rhetorical moves and as fluid, rather than as immutable prescriptions for writers to fulfill, and she argues for the necessity of attention to form at the level of language, including style.

Questions of form cut to the heart of the grammar wars, explored in Chapter 3. Just as anti-prescriptivists fear that excessive attention to grammar lurks within any attention to grammar, and just as any attention to error is presumed to be obsession with correctness, so questions of form in genre have historically led immediately to concerns about formalism, about ignoring content for ostensible superficialities of form. Such concerns prompt us to ask what the “form” in “formal” denotes: what form, whose form, defines the conventions for a formal writing situation?

Since the rise and proliferation of the internet and digital mediums, the amount of written text exchanged between people every day has increased exponentially. The genres that carry this writing have precedents (“antecedent genres,” in the parlance of rhetorical genre theory) in older genres such as the letter, diary entry, press release, or pamphlet. But the new

genres simply did not exist in quite their current forms and purposes until recently, because the technologies of delivery did not exist. Many of the genres delivered through the new mediums adopt a hybrid style that blends elements of oral, conversational speech with familiar, more formal conventions of writing, thus rendering much of this new writing more casual than most written language exchanged in past eras.

“Casual” shares its etymological roots with “chaos,” and grammar sticklers have been quick to denounce the new mayhem of conventions, or lack of clear conventions, as a descent into linguistic Babylonian mayhem, a worry that linguists such as David Crystal (*Internet*) and John McWhorter persistently refute. Anyone who has ever seen “Casual” on a party invitation knows that there are still expectations as to what constitutes appropriate dress for those occasions, that there is not a chaos of liberty including pajamas and gym clothes for the event. However, denied the consistency of their usual work wardrobe, some partygoers may feel at a loss for how to navigate the range of choices available to them in “casual” situations, and their sartorial choices may reflect their confusion. Our contemporary cultural climate of writing – especially the relentless parade of electronic messages, of all types and purposes – leaves many writers feeling similarly confused about what suits their occasions. Genre offers a guide.

B. Genre as the mediator of conventions

Genre theory has laid a foundation for finding the commonalities and genuine differences between types of writing, with theories that adapt well to analytic comparisons of print- and screen-transmitted writing. In “Genres in the Internet: Innovation, Evolution, and Genre Theory,” Janet Giltrow and Dieter Stein see “Computer-Mediated Communication

(CMC)" as "an ideal field for the testing, comparing, and revising of concepts of genre" (1). The utterances composed through Microsoft Word and Microsoft Outlook are some of the most common types of computer-mediated communication, and the Microsoft grammar checker is one of the primary tools built into both applications for mediating the choices that the writing human makes for the reading human who constitutes an audience.

According to contemporary genre theory, the purpose of asking the question "what genre is this?" is pragmatic: what is the intended action of an utterance? If there is a recurrent, typified action across a group of utterances, then recognizing any one instantiation of this action, this genre, gives both writer and reader useful information about how to proceed: how to make appropriate content, style, or presentation choices when writing – or what to expect when reading. To those who seek to join a new discourse, understanding the genre of an utterance type that they hope to replicate is essential to their successful participation. Most genre conventions can be discerned simply through observation, if one has access to examples of the genre: a newcomer to Facebook, to writing a press release, or to blog commenting can learn about the norms of the community simply by reading others' offerings, which guide a novice who seeks to discern what constitutes appropriate content and style. A newcomer to a type of text is, in effect, performing a genre analysis, even if not using the language of academic rhetorical analysis to do so. And genre theorists perform an analogous process, if from a different positionality, when they analyze an existing genre.

As discernible recurring actions create the exigency for genres, the typification of form and content gels in conventions. When certain items of information, forms of address, or linguistic moves recur again and again across individual utterances of a genre, those moves can

become standardized enough that readers and writers come to rely on them. Once any dimension of a genre reaches that level of conventionalization, then managing, fulfilling, or playing with those expectations becomes the writerly act of performing a genre.

Amidst the richly hybrid interactions of daily life, genres thereby serve as the overarching, mediating forms that negotiate between the known and the unknown, between writers and readers, and they perform this mediation through conventions. If writers can recognize an appropriate genre, they gain a sense of what their readers' expectations might be, conventionalized in that genre. When readers recognize a written utterance as an attempt to perform a certain genre, they then bring knowledge of what to expect when they engage with the text and markers of its generic status. Genre conventions create, and are created by, expectations as to what form and content fulfill the intended action of an utterance. In a birthday card, one expects a handwritten note that tries to make the birthday boy feel loved, or liked, at least. In a resume, one expects contact information at the top, some familiar sections arranged in one of only a few recognizable sequences, careful editing for usage, and polished layout. In a shopping list, even one shared with family members, one is unlikely to be much concerned with spelling; a reader who demanded such meticulousness, just to be reminded to buy quinoa, might be seen as unreasonable. In an email from a student to a professor, one hopes for brevity, clear sentence structures, and linguistics choices that are not overly familiar, but the student may be unaware of these implicit conventions, absent explicit instruction. Genres are the containers for the social exchange that occurs in a piece of writing.

Having some understanding of the genre in which she is composing guides a writer's choices not only about clarity of purpose (intended "social action") but about many dimensions

of the document: about its usual content, its likely audience, characteristic structure, and expected medium and format for delivery. The element most pertinent to the needs of my research here on error, style, and the grammar checker is language: what knowing genre indicates to a writer about style expectations or, more accurately, register.

C. Register as a bridge between genre and style

As rhetorical genre captures a notion of typification across utterances with the same intended action, so the idea of “register” captures the idea of typification of language use across text samples, whether from the same or different genres. In Chapter 3, this study considered unique personal choice as the crux of style, in its vernacular meaning, and M.A.K. Halliday also characterizes style as a quality of individual expression (*Inheritors*). Following on Thomas Reid, who in 1956 had adopted this rather utilitarian term “register” to capture the idea of typified style. Halliday defined register to name a “clustering of semantic features according to situation types” (*Language* 68). As in the genre theories of Miller and Bakhtin, genre in Halliday’s “systemic functional linguistics” focuses on action – on function – and has proved useful to rhetoricians.

Register serves as a bridge between genre analysis and style analysis. Scholars interested in both genre theory and style take up the analytical tool of register. In *Register, Genre, and Style*, linguists Douglas Biber and Susan Conrad provide effective working definitions of all three, with a particular desire to distinguish the distinctive tools of register analysis from those of genre and style. According to the authors, “The description of a register covers three major components: the situational context, the linguistic features, and the functional relationship

between the first two components" (6). Register analysis thus looks at some of the same information as both genre analysis (attending to the situational context) and stylistic analysis (attending to linguistic features), but with different analytic goals. Whereas genre analysis looks at complete texts and explores the typified form and content of the utterances' action, register looks at text samples across multiple utterances and examines their recurring textual features. Genre analysis notes elements that are characteristic and standard in the genre but may not perform a literal semantic function – moves such as standardized openings and closings in a letter. (For instance, an addressee might not in fact be literally "Dear" to a letter writer, and the ritualized greeting convention is not intended to imply that he is). Register analysis, according to Biber and Conrad, analyzes linguistic elements for their semantic function, to determine what purposes certain recurring verbal moves enact.

The idea of register as defined by function makes register analysis a well-suited complement to the type of genre analysis prominent in North American rhetorical studies (see Bawarshi and Reiff 78-103), which defines genre by social action. And where genre focuses on context, structure, and rhetorical situation, register focuses specifically on text, on language.

By this widely held notion of register, our grammar handbooks, rhetoric textbooks, and popular and disciplinary "style" guides are all efforts to codify and transmit definitions of registers by describing (as prescription) their characteristic linguistic features. For instance, "academic writing" qualifies as a register, more accurately labeled a meta-register, as are other broad registers such as business writing, journalism, or creative writing. Each has a potentially infinite number of sub-registers, as writers adapt a register's general standards to more specific categories of rhetorical situation, some of them defined by discipline, some defined by level of

expertise, and many of the sub-registers emerging from genre needs. Genres and their variants demand registers and, sometimes, variations of those registers. Within the meta-genre of the academic paper, “annotated bibliography,” “book review,” and “abstract” are each sub-genres that may demand slightly different sub-registers of academic writing. The plain style valorized by a style guide such as Strunk and White is, thus, an effort to prescribe a broad “plain register,” which in turn provides an umbrella for a potentially infinite number of more specific registers that emerge from and adapt to various disciplines, rhetorical situations, and actions. Many of these actions are typified and captured in genres, which are a key pointer towards appropriate register.

The more advanced or expert a genre, the more likely that it demands a specific register. So, for example, differences between the academic registers of a high school history paper and a high school English paper may be nearly undiscernible, but professional historians and literature scholars will have developed a range of typical sub-registers to fulfill the linguistic needs of a range of genres.

Distinguishing register from style, Biber and Conrad aver that “[t]he key difference [of the style perspective] from the register perspective is that the use of these [style] features is not functionally motivated by the situational context; rather, style features reflect aesthetic preferences, associated with particular authors or historical periods” (2). So while both register and style analyze linguistic features, only register evaluates the functional choices, according to these linguists. Style, according to their definition set, is not functional.

D. Style as functional

Reserving only aesthetics for style threatens to leave it stranded as mere window dressing, a place recurrently familiar from its long history, starting as far back as Ramus. Except in their insistence that it is non-functional, Biber and Conrad's definition of style is otherwise nearly identical to theirs for register. The only other distinction they make between style and register is that style is personal to the author, and here lies the real significance of style, rather than in a misguided belief in its absence of function. The element of personal choice is the defining element of "style," linking it to forces of agency.

As a rhetorician, I consider all elements of an utterance to be functional – to be part of the effort at persuasion, in the tradition of "everything's an argument" (Lunsford, "Everything"). And in Lanham's attention economy, the dichotomy between style and substance has disappeared, replaced by his "oscillatio" between the two, in which style becomes substance and substance style. Aesthetics, too, are functional – far from mere. Granting to Biber and Conrad that stylistic descriptions can indeed analyze the "aesthetic preferences" of "particular authors" (2), the distinction between register analysis and style analysis that I draw in this research, confirmed by the other elements of their definition, is that register analyzes recurring linguistic features across multiple authors, where style looks at the characteristic moves of a given author, often across multiple utterances. (Such recurrence of linguistic moves forms the basis of the branch of stylistics that focuses on analyzing an individual author's style.) While more than one writer may share similar characteristic moves, intentionally (through imitation) or incidentally, such similarity remains in the dimension of personal style until it achieves some level of standardization, as a set of conventions. The line

between incidental style similarities across multiple writers and a register would thus be contingent and shifting, more a zone than a line, like the demarcation of what counts as an error discussed in Chapter 1.

Cueing from the vernacular meaning of style in the sense of personal style as well as Biber and Conrad's explication of style as personal aesthetic choices, "style" in writing, then, still means personal linguistic moves that distinguish the writer from others composing in the same register or genre. While a writer may have a style similar to other writers, any choices not demanded by social action nor constrained by a sense of appropriateness (to the Romans, "decorum") would qualify as style. This understanding of style confirms and reinforces the idea of personal style from Nora Bacon as well, in her Style 1, "individual style."

Registers, then, are typified styles, sometimes standardized and codified. If anything, the aesthetic and individual choices of an author's personal style are more functional, not less, than his conformities to the typified styles required in a register, the latter often recognizable as such and thus less redolent with meaning. A departmental email explaining the procedures for conference expense reimbursements can be expected to include a brief polite greeting, step-by-step instructions, warnings about common obstacles in the process, and perhaps a token apology about the turnaround time or cost cap. These moves are conformities to the register. An aesthetic choice to present the information in an extended metaphor of retrieving one's dog from the pound would make an unexpected statement, as would usage choices for unusually formal or informal vocabulary, or angry obscenities, or a disregard for spelling and usage conventions. Some of these moves would read as pushing the boundaries of the register appropriate to this situation; others, transgressing them.

The standardization can be top-down (prescribed) or bottom-up (evolving organically), and a prescribed typification will never become a true usage standard unless it is also widely adopted and accepted. If a convention is to evolve from use, it must recur as a characteristic linguistic move often within a field, discipline, or set of genres, such that it becomes widely imitated by many writers as an effective way of writing in their rhetorical situations. If enough writers adopt a set of characteristic language choices, that set can become a standard, an expectation of the appropriate way to write in those contexts. If the register becomes deeply standardized, some of its characteristics may be captured and codified in print, perhaps in a published "style guide" and even adopted as an enforceable set of rules, as in Bacon's Style 2, "house style."

E. Individual agency and prescriptivism

Style choices, aesthetic and otherwise, therefore encompass all those linguistic moves made in whatever freedom remains after the exigencies of convention in an utterance have been answered or as expressed in the defiance of those conventions. This range of felt opportunity may be small, after the writer meets the requirements of genre and register. The boundaries of decorum are also fluid, in that most registers allow for selective transgression of appropriateness conventions from a writer who otherwise adheres to them (see Williams's "Phenomenology of Error"). Some genres and registers allow for a great deal more style freedom than others. But whatever the breadth of this range of choice, style is the zone within which the individual writer has opportunity to leave a personal stamp on a piece of writing (even if she does so in anonymous corporate writing). This idea of rhetorical style brings its

definition more in line with the vernacular meaning of style, in writing and in other fields, as well as with Bacon's distinctions between individual style and house style.

A writer may choose to use the language of a certain register or be compelled to do so. When writing in a given register is the writer's choice, one may consider those register conventions to be an aspect of the writer's personal style. For example, if the writer of a love letter chooses language that is both formal and intimate, akin to impassioned classical poetry, adopting that register is a personal style choice. On the other hand, context sometimes constrains a writer to write within a conventionalized register, and then the choices that remain most free to the writer's personal decisions are style – sometimes including transgressions of the register. If, for example, readers of a weekly school memo expect the language to be conversational, polite, and informative and each item brief, a writer of the memo who meets those expectations and also adds humor to the items is exercising personal style. Style, then becomes a manifestation of agency, in moves that comply with, defy, or cannily play with the expectations of register. Brian Ray's recent study of tongue-in-cheek Amazon reviews on a gender-marketed product, the Bic pen "Crystal for Her," demonstrates writers playing with register expectations within the familiar genre of product review as a form of satire and protest.

How, then, does the grammar and "style" checker fit into the individual writer's task of navigating expectations for a given document? Is it primarily a tool for tagging prescribed handbook conventions, or is it somehow an instrument in crafting a personal voice that has more panache and flair? The answer lies not between these options but at both ends simultaneously. While the programmers of the checker may hold, and use the checker to transmit, strong opinions in line with the prescriptivist handbook tradition on various usage

questions, the computer is neutral, a machine with a programmed search tool, generating messages for the end user, who can choose whether to edit in keeping with the exigencies of various rhetorical situations. While a checker might mark clichés as poor style and suggest revisions, an individual writer – and her audience – might find such expressions well-suited to her ends, in certain utterances: familiar or folksy, perfect imagery for an idea she wants to communicate.

F. Stance: the substance grounding any style

Defining register as style typified across multiple authors, the “classic style” analyzed in depth in Francis-Noël Thomas and Mark Turner’s *Clear and Simple as the Truth: Writing Classic Prose* is aptly understood as a register. The authors, writing vigorously in this classic register themselves, analyze it in detail. Avowing that writing is “an intellectual activity, not a bundle of skills,” they understand style – and thus, for our purposes, register – to be “defined by its conceptual stand on truth, presentation, writer, reader, thought, language, and their relationships” (4). None of these foundational questions underlying every piece of writing “concerns a surface phenomenon – like sentence length” (22) – which is one of the many “surface phenomena” the Word checker scans for, under the *Style* heading. Thomas and Turner present the stance of the “classic” register and contrast it, throughout the book, with the stances underlying other registers (“styles”). They include mention of the corporate or “standard impersonal business style” (12).

Proving their assertion that classic style’s “conceptual stand” on these elements can be “expressed briefly,” the authors summarize its underlying worldview thus:

Classic style... adopts the stance that its purpose is presentation; its motive, disinterested truth. Successful presentation consists of aligning language with truth, and the test of this alignment is clarity and simplicity. The idea that presentation is successful when language is aligned with truth implies that truth can be known; truth needs no argument but only accurate presentation; the reader is competent to recognize truth; the symmetry between reader and writer allows the presentation to follow the model of conversation; a natural language is sufficient to express truth; and the writer knows the truth before he puts it into language. (4-5)

The “scene” upon which classic style models itself is “conversation” (41): “an individual speaking to another individual” (43); the “cast” of writer and reader have an “assumed symmetry” between their intellects (52). As a philosophical foundation for style, the authors consider this stance to be an “enabling convention” for “the specific purpose of presentation” (5); a writer need not hold these principles as literal truth in order to adopt the stance for the purposes of writing, which is a performance (37).

Thomas and Turner’s categories of analysis are rhetorical and akin to related categories in Burke’s pentad or Bitzer’s rhetorical situation, but theirs are specifically presented to explore stance in relation to a typified style, thus providing a useful analytic frame for register analysis in this research. As the authors illustrate, one can use their framework to analyze any writing style – any register that enacts a typified style – and they mention many other registers and examine some in depth, including those they name as the plain, reflexive, contemplative, romantic, prophetic, and oratorical styles. One register they call “practical style” proves highly

applicable to the language register of the Microsoft checker. They examine this register in detail, and summarize it thus:

In the model scene of practical style, readers and writers hold standard job slots in existing institutions. The reader has no leisure and does not want surprises; the reader reads not for personal reasons but to accomplish a job. Accomplishing the job depends on the communication of information, and practical style serves the purpose of keeping the information flowing efficiently through institutions.... The writer is not an individual writing to another individual but a job description writing to another job description. There is a job to do and practical style is the appropriate tool for doing it: the style is thus fundamentally optimistic, pragmatic, and utilitarian. The motive is the job; eternal and non-contingent truth is irrelevant except as it bears upon the performance of the job – even then its eternal and non-contingent nature is beside the point. (86)

Classic prose and practical prose have similarities with one another, and both are built on the ancient antecedent register of plain style. But the two emerge from wholly different stances on most of the elements of a style, the underlying tenets on which a writer must assume a foundational position and perspective.

Performing from these different stances, the classic and practical registers evidence contrasting linguistic moves. Both value “clarity and directness” (81) and both are “precise and efficient” (82), but for different reasons: the classic style, to present an eternal truth clearly; the practical style, to accomplish a task efficiently. One test for the difference in the two styles is their response to skimming. While practical writing is composed to be amenable to scanning,

classic writing is not. Reading only the openings of classic paragraphs, one is likely to miss essential knowledge. Thomas and Turner describe what they call the “‘last-third’” test: covering the last third of each sentence in a passage. If, without these endings, the reader can still generally comprehend the writing and, uncovering them, finds predictable information there, the writing is likely to be practical style. In classic style, that last third regularly holds an insight, an unexpected perspective, or a connection between the preceding elements that is the main point of the sentence (87).

The authors call Strunk and White the “best known teachers of practical style,” but they deftly tease out the emptiness of some of the reassurances in *The Elements of Style*. They describe the book as “little more than an apparently arbitrary mixture of grammatical digest, handy list of common mistakes, and expert handholding” and consider it “drastically incomplete” but “a masterpiece of psychological insight,” as they note its “tone of common sense that masks, at key points, an essential vacuousness,” with such directives as “‘Choose a suitable design and hold to it” (83-84). This book has kept such a stronghold on the popular imagination that its conflicting messages about register, in the plain style it directs, can leave writers confused. (See Mignon Fogarty’s reflective essay on this book’s unique and problematic niche in style guidance.) In the context of our developing theory of error, it is best understood as a little tome of good cop, bad cop, with Strunk as the stern prescriptivist and White as the softening realist, who adapts to (and in some cases acknowledges explicitly – see the comment on split infinitives in Chapter 1) the exigencies of situation – of register.

As the “best teachers of practical style,” Thomas and Turner offer Joseph Williams and Gregory Colomb, as presented in Williams’s *Style: Toward Clarity and Grace* and their other

publications with similar titles. According to Thomas and Turner, Williams and Colomb's presentation "makes decisions about all the major questions that define a style" (84). Relevantly to my working definitions of genre and register offered in this chapter, they note the relationship between readers' expectations of a text and the difficulties that ensue for a reader when writing "resists" those familiar patterns (84). Because "[p]ractical style comes from deciding that what matters in style is the reader" (85), it is worth noting here that this Williams is the same whose "Phenomenology of Error" located error itself in reader expectations and experience, which perspective inevitably contributes to his understanding of style. According to Thomas and Turner, Williams and Colomb's presentation of practical style is "missing only one thing, namely, an explicit acknowledgement of its fundamental stand, and an acknowledgement that its fundamental stand is one of many alternatives" (85). As with Strunk and White, to read Williams and Colomb, one would think that the style they describe is simply style, not *a* style – one style among many, which take different stands on the foundational questions. The addition of this perspective, that multiple registers are possible and are equally correct, depending on their rhetorical situations, proves central to this dissertation, as it shapes not only the best use of the grammar checker but the very notion of error.

G. Official Microsoft style

As it turns out, another style guide lays down a frame uniquely relevant for analyzing the language of Word grammar checker: the *Microsoft Manual of Style*. Now in its fourth edition, which appeared in 2012, this book is available in paperback and in one electronic format (Kindle), and it began like most style guides, as an in-house document to guide

Microsoft employees on appropriate choices in their writing. The current *Manual* significantly revises the previous version, published in 2004 and called the *Microsoft Manual of Style for Technical Publications*, then in a third edition. (That version came with an accompanying PDF version on CD, as the current edition does not.) Though the 2012 revision incorporates significant updates, the overall structure and much of the content of the fourth edition are the same as the third, so it is worth noting that, historically, the *Manual's* core audience, unlike style guides that were developed for academic organizations (MLA), social science researchers (APA), publishers (Chicago), or journalists (AP) has been and remains technical writers, even if its guidance transfers well to other contexts, especially business and professional writing situations.

The language of Word's user interface and documentation are prime examples of Thomas and Turner's "practical" prose, written to help the user to do a job: in this case, the task of checking Word documents for what the programmers consider error. Microsoft is the corporate author of the *Manual*, as well as of the grammar checker's code and all its documentation. This guide can thus provide a window into the thinking that guides and constrains Microsoft employees in their writing of such utterances as the menu of the grammar and style checker or the explanations that appear on its online "Help" page.

Half of this 438-page book is a tabbed, alphabetized reference, the "Usage Dictionary," where one can find directions on appropriate usage as well as some definitions of technical terms. Much of the content in the chapters that precede the alphabetized guide also treats usage and punctuation conventions, the kind of "surface features" that Thomas and Turner describe as incidental compared to the foundational decisions about stance that decide a style. Still,

statements and implications about Microsoft stance – explanations about the rationale behind these surface-feature choices – are interwoven in directions throughout the guide. And, most pertinently for our purposes in this chapter, of analyzing the register, the book opens its first chapter, “Microsoft Style and Voice,” with explicit treatment of questions of stance, especially in its first section, “Principles of Microsoft style.” Its direct statements allow us to compare Microsoft style’s stance – the set of assumptions underlying any performance of the Microsoft corporate voice in writing – to Thomas and Turner’s description of the stances in “classic” and “practical” styles.

In the vocabulary of “style” versus “register” established in this dissertation chapter, Microsoft style functions as a register rather than as a personal style, but it lies in a curious middle ground. According to Microsoft’s most recent annual report, the company employs 111,000 people ([Microsoft, “Business”](#)). As a set of language conventions adopted, encoded, and enforced by editors at one of the largest corporations in the world, Microsoft style functions as a specific variant of a meta-register we could call “corporate style,” itself a type of practical style, in turn a sub-register of plain style. Also, the apparent success of the guide (in its multiple editions) indicates that it fills a need for an encoded standard of writing that encompasses both business writing and technical documentation, in the digital age, beyond the Microsoft corporation. (Without published sales data on books, Amazon sales rankings offer a rough proxy of the book’s success, where it sells well against a handful of similar published guides such as those from Yahoo! and IBM.) If the conventions encoded in the guide represent expectations that are the standard for many writers, across genre types, then its prescriptions can be accurately said to describe a broad register.

At the same time, however, the early chapters in the *Manual* emphasize that there is a Microsoft style and voice – one voice – and it is the task of any Microsoft employee to adopt and perform that style, to speak in that voice, blending, folding, disappearing into it. It is one voice, singular, to which the corporate and unnamed author of the book (presumably, many authors speaking as one writer) refers repeatedly: “a consistent and friendly voice,” a “recognizable” voice (3). Examples of “Not Microsoft style” include “You must register with Microsoft to receive free technical support,” considered too dictatorial; “Microsoft style” would be “Your technical support is available when you register with Microsoft” (4), a cheerful offer. While the writers avail themselves of the royal we, referring apparently to Microsoft employees, they nevertheless state without irony that this performance of one “unified voice” is “critical for creating a relationship of trust and engagement with our users,” the legions of Microsoft customers who are users of the company’s software, hardware, and services.

The illusion of a business corporation as one corpus, one body, one person with one voice, carries a cascade of further implications that such a stance implies. Its ethical, legal, and rhetorical implications are well beyond the scope of this research and would constitute a worthy extension of it, into the question of corporate language analyzed through the lens of prescribed register versus personal style, especially as informed by Deborah Brandt’s scholarship on corporate ghostwriting (“When People Write for Pay”). For my purposes in this dissertation, “Microsoft style” functions as a register – a set of encoded conventions that proscribe individuals’ writing choices, whether because they like the guidance offered in the Microsoft guide and voluntarily apply it to their writing or because they work for a company that uses this *Manual* and are required to follow its house style.

It is worthwhile to stay curious about who the ghostwriters are – both the programmers and the writers of the documentation – and how their worldview drives their writing style and their choices of what “grammar rules” to include in the checker’s checking functions.

Furthermore, while some use the word “style” is unavoidable, given that my sources, including the *Microsoft Manual* as well as Thomas and Turner, Strunk and White, and Williams and Colomb, use “style” not “register” to name the typified linguistic styles they are describing and prescribing, it is important to note that I consider these “styles” to be registers, because of that typification.

H. Stance in the Microsoft register

Whether or not the programmers of the grammar checker succeed in meeting the standards of “Microsoft style,” Chapter 7 will explore. The remainder of this chapter will establish what those standards are, by analyzing the statements about the register’s stance, in the *Microsoft Manual of Style*, and comparing the stance to both classic and practical styles, as presented in Thomas and Turner. My theory of error based on register understands stance as the ground of a register and style as the performance of that stance. Using the Microsoft grammar checker to apply the theory in practice and in pedagogy asks that we understand its register: both the style it is written in and the style it directs us to write. The *Microsoft Manual* gives us a unique window into the register it is written in, or is expected to be written in – unique because explicit: all writing has a style that navigates an understanding of register; most writing does not have a published style guide defining the target register.

The Microsoft guide was created to provide the company's employees instruction for writing in the prescribed register across many different genres. As the first chapter acknowledges, "the content we [employees at Microsoft] produce varies widely depending on audience, subject matter, and intent" (3). Still, the goal, as with most house style guides, is to standardize many elements that can be standardized, establishing norms for maximum consistency across all those genres. Features that can be regularized within or across registers, as well as genres, the manual defines and prescribes.

According to Biber and Conrad, register analysis looks at situational context, linguistic features, and the relationship between the two. Thomas and Turner's questions on stance allow us to create a template for analyzing a register on just such issues. And the *Microsoft Manual of Style* answers those questions, speaking explicitly to the stance that should underlie all company communication in the Microsoft register, "the same values regardless of the writer, subject, or medium" (3). The *Manual* offers direct statements of those values.

A close reading of the *Manual's* propositions reveals Microsoft style to be a model specimen of practical style. Its statements of stance also add some parameters necessitated by the nature of the company's business, as a technology company with a worldwide audience that includes non-specialist end users.

Foundational to the classic register is its stance on truth – that the truth is knowable, pure, not contingent, evident when presented accurately, and in no need of argument (REF). Moreover, in the classic stance, a disinterested desire to share some known truth is the very motive and purpose of speaking. But the Microsoft register keeps to practical prose and does

Stance: Classic versus Practical

STANCE ON	CLASSIC	PRACTICAL
Purpose or motive	The writer's disinterested desire to articulate truth	The reader's need for information to accomplish a task
Truth	Can be known Needs no argument but accurate presentation	Irrelevant except as it bears upon the performance of the job to be done
Scene	Conversation between two individuals Assumed symmetry between writer and reader	The writing and the reading of it are "instrumental to some other end." (81) "The cast is hierarchical, not symmetric." (82)
Writer	Knows the truth before expressing it, Motivated by the desire to present the truth Has learned a writing style, not invented one. Is revealed rather by choice of topics and what is said about them	has a job is to "serve the reader's immediate need by delivering timely materials" (81)
Reader	Competent to recognize the truth "An indefinite audience, treated as if it were a single individual" (81)	"engaged in solving a problem" 81
Language & thought	Prose is a clear window Every word counts, because _____	"writing is an instrument for delivering information with maximum efficiency and in such a way as to place the smallest possible burden upon the reader, who has other – more important – burdens to bear" (81) "the writer is imparting information and does not want his writing, as such, to be noticed; it should fulfill every standard expectation and be as easy to parse as possible." (83) "permits skimming, because the cream is always in the same place" (86)
Successful presentation	aligns language with truth	"allows the reader to acquire timely information with a minimum of distraction" (81)

Figure 4. Stance: Classic versus practical

not take any particular stand on eternal truth. While the manual directs employees towards "trustworthiness" and "responsibility" (3), the guiding principles of company style are

pragmatic, as the primary purpose of most Microsoft communication is, directly or indirectly, to help the users of Microsoft products make use of those products. This motive rests on the imperative to maximize profits for the company, and it extends to include goals interwoven into all Microsoft communication, such as a desire that employees “Be inspirational” and “Emphasize what users can accomplish, rather than what they can’t” (4). In Microsoft prose, as Thomas and Turner describe for practical writing, “eternal and non-contingent truth” is simply “beside the point” (86). Facts appear in an utterance when they meet a functional need, and inaccurate facts would be impractical.

Whereas the “scene” of the classic stance is of leisurely, disinterested conversation initiated by the writer, the underlying stance of the Microsoft register assumes the posture of a technical manual, which the reader seeks out for help resolving a problem and performing a task. Inasmuch as the exchange resembles a conversation, it is one with a technical support person, with a few elements borrowed from a sales register (to encourage a positive disposition towards Microsoft products), as in “Be empathetic” because “we [at Microsoft] see meeting [users’] needs as being in both our interests” (4). And where the classic register is “efficient but not rushed” (47), demands attention to every word, and does not lend itself to scanning, the Microsoft register assumes a more hurried reader who scans text and needs Microsoft to make it “easier to read” (Microsoft 8), in keeping with the practical register that “places a premium on being easy to parse” (Thomas 82). The reader of Microsoft writing is likely to approach the writing as a supplicant, a software user in need of technical information, and the exchange is thus “asymmetrical,” as Thomas and Turner describe a practical communication.

The writer and reader who form the usual “cast” of a typical Microsoft interaction are thus the Microsoft employee and the user of Microsoft products. The writer is presumed to hold technical knowledge that the reader does not have, which would be helpful – sometimes urgently so – to the reader. All aspects of Microsoft style reflect this exigency, of the need to understand technical applications. For example, one reason to make “consistent terminology” a register standard reaches beyond the need for clarity to a desire to “promot[e] learning technical concepts and a better understanding of them” (3). Thus, teaching users to be more comfortable, familiar, and proficient with software is a constant underlying goal of all Microsoft communication, reflected in its language.

The *Manual* defines some additional specific requirements that are unique to Microsoft style, as compared to generic practical or corporate style, but which are becoming more common exigencies in a global and technologized economy. For instance, extending the stance on ease of parsing, Microsoft presumes a vast potential readership that includes a worldwide, multilingual audience for whom syntax and vocabulary need to be kept simple and sentences short (34), a theme that recurs again in descriptions of how to write for readers who may have disabilities (13; 47-50). Another audience also shapes Microsoft style profoundly: the non-human reader. Many texts must be crafted for ease of machine translation and search engine optimization (35, 29). Writing on behalf of a major corporation, the Microsoft employee must also consider the audience of lawyers across every country in the world where the product might be used (45). Ultimately, then, Microsoft style often requires the impossible: that a writer compose for every reader in the world simultaneously, informatively and inoffensively, in direct contrast to the “classic writer,” who is “an individual, not the organ of a bureaucracy, and

so he says what he believes rather than what a committee has decided it can live with" (Thomas & Turner 47). Coming from a "job description writing to another job description" (Thomas & Turner 86), the text of a Microsoft utterance is precisely that committee production, written for another (unmanageably large) committee.

Language, in the classic register, is "sufficient to express the truth" (5) and "classic prose is perfect performance" (34). Language in Microsoft style aspires to more utilitarian ends. Pivotal to Thomas and Turner's analysis of language is its relationship to "thought," because the classic writer must deal with "abstractions," which classic language is presumed well able to manage and remain "clear and exact" (63). The function-oriented topics of Microsoft writing would tend toward the concrete rather than the abstract – steps in a process, buttons on a machine – so there is little concern about the adequacy of language to capture grand abstractions.

We do well to remember, however, that many of us in this electronic era are accustomed enough to the meanings and functions of technical terminology that we may lose sight of how abstract the language is, how disembodied the concepts, until we hit the terms we do not understand. In a world entirely reducible to unseen binaries, ones and zeroes that direct electrical currents to turn functions on or off, we quickly forget how purely metaphorical are the terms and iconography of the interface through which we manage those functions: "buttons," "swiping," "cutting," "pasting"; pictures of an old-fashioned phone receiver, a magnifying glass (for "search"), or a long-obsolete floppy disk – none of which resemble the phone, the disembodied digital mechanisms of searching, or a "disk" (with nothing round – perhaps a solid state drive) that we physically hold in our hands. When we come upon a term repurposed

in a way familiar to the programmers of an application but unfamiliar to us, as users – such as “menu” or “backstage view” or one of many 3-letter acronyms – we experience frustration with language that may be adequate to capture the abstractions of the machine, but only if the technical writers choose and present those terms with clear enough explanations. Whether or not the language of the Microsoft grammar and style checker rises to that challenge of communication, simultaneously practical and abstract, is the subject of the next three chapters, which look at the program’s presentation of content: concepts of usage and error, presented using both grammar terms and everyday language.

Microsoft’s role as a technology company that sells software – a niche specific to the company but far from unique – shapes its register. In an empire built on computer code, the foundational model for successful language, including human language, is computer language. Far outpacing Thomas and Turner’s abstract “thought,” function is central, and the model function is a program driving a machine. The ghostwriters are programmers, computational linguists, and perhaps technical writers. A Word document’s generic analog to a Bakhtinian utterance, in Microsoft’s register, is a computer program. To fulfill its rhetorical ends, a program needs to accomplish its programmed task and not crash. This motive force of the corporate culture affects both the language of the grammar checker and the attitude towards error that the programmers bring to deciding how human language works.

Finally, the measure of success in Microsoft prose aligns precisely with practical style: does it give the reader “timely information with a minimum of distraction”? (Thomas and Turner 81). A look at the feedback on the Microsoft community message boards, where users ask questions and seek answers to problems with Microsoft software, reflects uneven success on

fulfilling this metric. Anecdotally, Microsoft has a reputation for releasing software that is not effectively debugged – proofread, if you will – along with inadequate documentation. Any evaluation of the language of the checker, such as this research will present in Chapters 5, 6, and 7, ultimately must contend with the defining paradigm of the register that is “Microsoft style”: the program, and the question of whether the user can accomplish an intended task, or set of tasks, using a Microsoft product. This paradigm applies both literally and metaphorically to our examination of the grammar checker in Word, to both the application and the documentation.

I. Conclusions, application, and pedagogy

The discoveries about register in this chapter provide essential foundations for the theory of error developed in this research, especially the idea of stance as the driving substance of register and style as its performance. This perspective of register refutes and, indeed, inverts the idea that usage – as prescribed by a style guide of either the “effective writing” type (Williams and Colomb), the disciplinary type (MLA), or the company type (the Microsoft *Manual*) – could be the defining “element” of style and instead claims stance, as explicated by Thomas and Turner, as the true motive force of style, including the typified style of a register.

One direct application of the ideas of genre and of register, for writers and for pedagogy, has to do with the “style types” discussed in Chapter 2, such as casual, standard, formal, technical, and custom. These options appeared in the Word checker menu (to be presented in Chapter 6) and were mentioned in the research of Haist, Vernon, and Curzan as appearing in the versions they researched, but this option for customization does not appear in Word 2013,

which runs on the Windows operating system. (Word 2011, for the Mac, still offers this option, and Word Perfect's Grammatik offers a longer menu options for this type of customization.) For any grammar and style checker that offers these pre-defined options for choosing a writing style, the items and their labels present a ready opportunity to discuss what is in fact register with writing students, to make them conscious that they are writing in a register, that there are options – that they are making choices about style due to their assumptions about appropriateness, and the checker can tailor its checking accordingly. Even on items which the checker detects ineffectively, the act of thinking about and choosing a register brings this issue into the writer's awareness.

The checking application Grammarly offers an extensive menu of options for selecting not only a register but a genre. Within its seven register categories – *General, Academic, Business, Technical, Medical, Creative, and Casual* – appear numerous specific genre types as well, such “novel” and “script” within *Creative*, or “business letter” as a separate category from “business email.” Apart from any other considerations of grammar and style checking in pedagogy, simply the existence of these many categories, which the programmers at Grammarly consider typified enough to present as distinct from one another, is a waiting pedagogical opportunity for presenting and exploring the foundational idea of register as shaping choices about error, as well as style, tone, and many other dimensions of writing, including content. We can, for instance, ask our students what register and usage expectations might be different between a novel and a script, or between a letter and an email. This question enacts critical engagement with the idea of register and genre.

In a grammar checking program such as Word 2013, which lacks these options, one can simply choose the checker's detection options in keeping with a writer's own register needs – this was the only function of “writing style” options in any case: to pre-select what is checked and unchecked in the menu. Deciding which menu items to select or unselect for error checking is then an uncomplicated, direct application of the theory offered in this study, and those choices to check for one item and not another are a straightforward answer to the question “what counts as an error in this piece of writing?”

CHAPTER 5. The rhetoric of the interface: squiggles, error messages, and usage panels

Perspectives from this study on the nature of error, the quirks of the grammar and style checker's effectiveness, and unspoken assumptions about register change one's experience of using the checker. In the human-machine interface, the most obvious and frequent visual manifestations of both checkers are the colored squiggles under various words, where grammar checking is likely to blend hazily into spellchecking. If writers click on those underlined words, they then see what the program is trying to tell them about a possible error, and they can accept or ignore its recommendations, which are the subject of this chapter. For many users of Microsoft Word, their only experience of the grammar and style checker is likely to be seeing and perhaps clicking on these wavy lines from Microsoft's “background checking.” Actively choosing to run the checking functions, if one knows how to do so, produces the same wavy lines.

Other elements of the interface – those that give a writer the means to manage the checker’s functions – are hard to find, buried behind a scant few clickable icons and pages with vague, misleading names. The next chapter will walk through the most concerning example, which is the opaque, multistep process required to reach the menu for selecting which items the application checks for. Many regular users of Word are therefore unaware of even the simplest controls that would help them make better use of the application. Microsoft documentation on the checker is sparse, and even how-to websites and “for dummies” types of guides, published independently of Microsoft, give only minimal explanation of how to find and manage the grammar and style checker.

To analyze the texts of the checker for both their explicit content and their implicit messages about error, as they inform the theory of error in this research, we must needs find those texts. They fall into two general categories: those linked to specific errors in a document, and those offering controls and explanations that apply to the overall functioning of the application. We will explore the elements of the interface in the sequence that a user of Word is likely to discover them. This chapter will examine the elements of the checker in that first category: those that give information on specific errors detected. These texts appear in and beside the writer’s document:

- the colored squiggle under a possible error, which appears automatically unless the program is actively set to stop “background checking”
- the error message that pops up beside the squiggled word or punctuation, a small box which appears if one right-clicks on the error

- the usage panel, titled *Grammar*, which by default appears along the length of the right side of the screen offering further explanation about the suspected error type, if one left-clicks on the word “Grammar” in the error message that popped up

And the next two chapters (6 and 7) will then present and examine the elements of the interface that allow the user to manage how the checker works and to glean some information about what it checks for:

- the *Spelling & Grammar* “button” on the “ribbon” under the *Review* “tab”
- the *Proofing* page of options, which leads to the grammar checker menu
- the grammar checker’s menu of options
- the explanations of what each option checks for, on the Help page

Understanding of the program’s content on language and error lies in these final two aspects of the interface, the menu and the Help page. Given that some of these and some other elements are hard to find, I will offer step-by-step descriptions of how to reach them (with screenshots, where needed) as I introduce each aspect of the interface. In all three chapters, I will enlist the rhetorical tools of close reading and genre analysis to examine each text type, to determine what its content and form tell us about the checker and about error.

A. The squiggles as genre

We begin with the squiggles, as they are a user’s most likely first experience of the grammar and style checker, even if the user does not know that the program includes a checker. They are thus the entry point into using the checker as well as into research about the checker. Each aspect of the checker offers a function and form that link it to other utterances, in a chain

of social actions. Viewed through a genre lens, each text in the checker has its antecedent genres, and the collection of all the texts of the checker exist in what genre theorists would describe as a genre set, each triggering, answering, and depending on the functions of the others in order to perform its communicative functions. The rhetorical analyses in this research focus on verbal texts, albeit with some incidental attention to the visual rhetoric of elements of the checker, where relevant to those texts. But the non-verbal element of these colored wavy lines deserves more than passing attention, as they are not only the user's first but one's primary interaction with the checking functions of Microsoft Word. And for a user who does not know to right-click on the squiggles nor how to turn off background checking, these colored wavy lines may be their only interaction with the grammar and style checker: they may simply keep rewriting their sentences themselves, without input, trying to silence this visual noise that tells them there is a mistake.

Considering the squiggles for genre analysis opens the toolbox of genre theory for understanding their form and function. Like many elements of the interface, the squiggles are relics of their functional predecessors in pre-digital contexts. By design, they resemble the pen-and-ink markings of a teacher or editor on paper. "Blue pencil editing" marks proofreading errors that still need correction on near-final copies of manuscripts to be published (the actual "proofs" of "proofreading). Word has used several colors for its wavy underlining, and Microsoft reserves red for the squiggles of spellcheck. (The next section of this chapter describes Word's different use of red, blue, and green squiggles.) Red is the totemic color of teacher error markings, circling and underlining various words in student drafts that need attention.

This tradition of the red pen is one aspect of response to error that has received repeated attention in composition pedagogy research. Connors and Lunsford unearthed early-twentieth-century scholarship that developed an extended analogy between the teacher's red pen and a "royal scepter" of an "absolute monarch" (Barnes, quoted in their "Teachers' Rhetorical Comments" 201). Weaver relies on metaphors of violence in discouraging the "infamous" red pen as a weapon one can "wield" to "go straight for the jugular of the Error Beast" [sic] (Weaver and McNally 27, 26). As a compositionist who believes editing better saved for a separate and later stage of drafting, Weaver sees red-pen error marking as "defacing the student's work" and "demoralizing the student as a writer" (27). These analogies to blood-spilling and violence – not to red as, for instance, liveliness, health, or fire – are popular in composition studies, prompting many writing instructors to rely on ink in other colors for their markings, as confirmed by Connors and Lunsford's later research in error ("Frequency") and then Lunsford and Lunsford's. Like the green and blue squiggles of the grammar checker, these ink colors other than red are usually ones less visible to the writer, both for better and for worse, as they are arguably less intrusive but also simply harder to notice, when one wants to spot them easily.

The grammar checker's wavy lines under words and punctuation marks partake of this genre tradition of teacher and editor mark-up, because they share a generic function (as is definitive of genre, in the tradition of Miller's "social action") as well as form: the function of marking error, in the form of the colored marking of words. In the language of genre studies, we could call the familiar visual rhetoric of red, green, and other-colored pen marks of teachers an "antecedent genre" of the squiggles in Microsoft Word, which then carry with them the history of those pen markings, both their explicit and implicit messages and baggage.

Perhaps the least intrusive, most difficult to spot, and – for those interested in the violence metaphors – least maiming of the teacher markings on paper are those in pencil: while a student is unlikely to erase them, she theoretically could, reclaiming her paper to a near-pristine and untraumatized state. For erasability, electronic mark-ups maintain a standing advantage in this dimension: for all the frustrations and limitations of working within the limits of a given technology, one of the joyful possibilities of word processing on a computer is the ability for a teacher, editor, or the writer himself to mark an utterance however brightly or even intrusively but then delete the markings and return the document to its pre-marked state. Similarly with the squiggles of the grammar checker’s feedback, one can select “Ignore” to its suggestions (in the pop-up box or the usage panel), and the squiggle disappears.

B. The meanings of squiggles

Word has used several colors of squiggles to mark errors. According to Microsoft’s online documentation ([the Help page called “Choose how spell check and grammar check work”](#)), the grammar and style checker uses *green* wavy lines in a user’s document mark possible usage errors in word choice, word order, punctuation, or spacing in Word 2013. The grammar and style checker is distinct from the spelling checker, which generates *red* wavy lines under words that spellcheck deems likely to be spelling errors. The spellcheck software depends on less-complex algorithms than the grammar checker and has a higher rate of accuracy, as discussed in the Chapter 2 evaluation of its effectiveness (and see Major 153, 160).

Confusing the question of error types somewhat are *blue* wavy lines, which have served different purposes in different versions of Word over the years. In some versions, blue

squiggles have marked formatting inconsistencies, according to visual “Styles,” which control a wide array of formatting options and customizable presets for formatting, such as indents and fonts. Microsoft’s pages of online help documentation offer conflicting information, making it difficult to discern the meanings of the different colors, but it seems that the blue squiggles in Word 2013 are reserved for “contextual spelling” (Microsoft, “Choose how”). Blue wavy lines therefore mark words that are easily confused with one another, such as “affect” and “effect.” In such pairs, both words do exist (unlike many other types of typographical errors that the spelling checker marks), but in contextual spelling pairs, the program detects that the writer may have intended the other meaning and, therefore, the other spelling. (Further muddying the question of squiggle colors and notwithstanding the online description, my own copy of Word 2013 uses only red lines and blue lines, the latter apparently for both “grammar” errors and contextual spelling. Similarly, my copy of the unfinished Word 2016, on a different computer, uses only red and blue lines, in the same patterns, despite documentation indicating that the green lines are still in use for grammar errors for this version. Such inaccuracies in the Microsoft documentation are not uncommon.) In any case, the squiggly lines are small, and only an attentive eye will notice the shade of difference between a green or blue line (in a version of the program which shows both), as compared to the red squiggles of the spelling checker.

Grammar sticklers tend to fixate on precisely such homonyms as the contextual spelling feature marks. Gift mugs and internet memes celebrating “grammar” are apt to be emblazoned with snarky reminders about “they’re,” “their,” and “there” or “its” and “it’s.” It is pleasant to be able to report that the checker now offers help in catching such errors.

Whether this “contextual spelling” feature falls within the purview of the grammar checker software or the spellcheck software is unclear, as its domain lies at the crossroads of the two functions. Because a computer is unable to read a writer’s mind, determining whether the writer probably intended to type “affect” or “effect” depends largely on the part of speech of the word, as it is used in the sentence. In the case of this particular pair of words, for instance, each spelling can be used as either a noun or a verb, but “affect” as a verb is statistically more common, “effect” as a noun.

In another example of erroneous documentation, Microsoft indicates on the Help page (“Choose how”) that to “Improve the spelling checker results” one should select a “Use contextual spelling” checkbox. Unfortunately, no such checkbox is to be found in the interface. A page of options related to the checker, *Proofing*, offers a checkbox item labeled “Frequently Confused Words,” apparently dedicated to contextual spelling. Figure 5 below gives a screenshot of this page, and I have circled this checkbox item. (The next chapter, which deals with the checker’s controls, explains how to reach this page.)

Overall, in my research, the types of error marked by blue squiggles would qualify as “grammar” mistakes, in the vernacular use of that word as meaning “usage.” Contextual spelling would more accurately be labeled a spelling error (hence the name), but it would require string matching or parsing from the grammar checker to discern its context. The grammar checker already relies on information from the same built-in dictionary used by spellcheck, as Heidorn describes (183), so there is already some intersection between the functions of the grammar checker and the spelling checker. Contextual spelling seems to employ technology that combines functions from both: checking spelling to establish that these

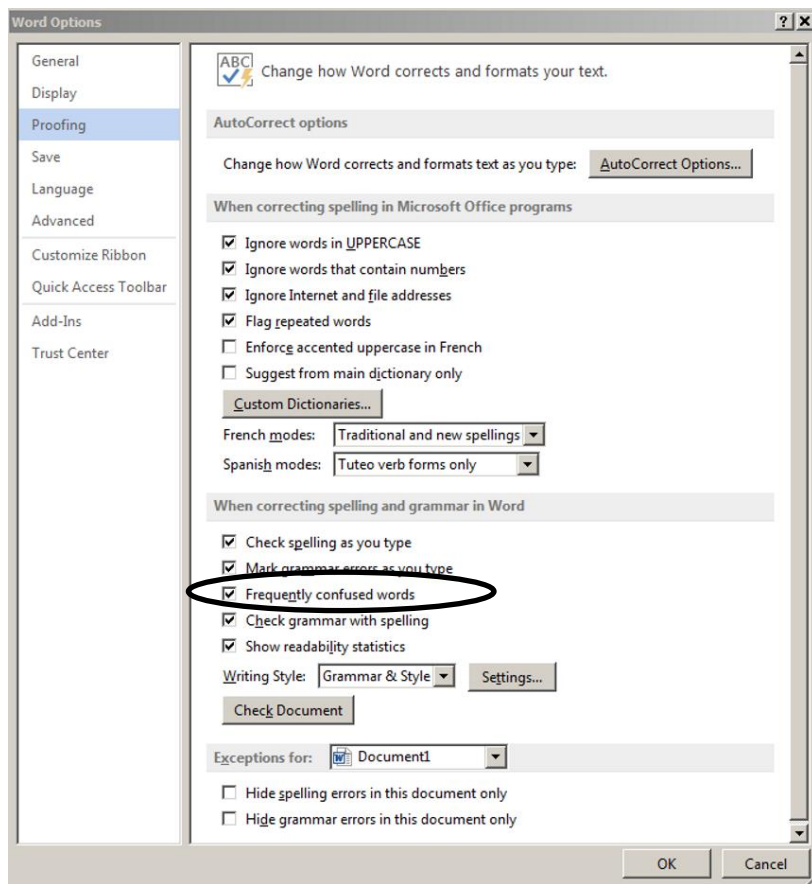


Figure 5. The Proofing page

are existent words but that they are frequently misspelled, then using the parsing program of the grammar checker and using string matching with corpus samples to understand how the word is being used in the sentence, to decide whether the word that appears is likely to be the correct spelling already or needs to be marked for the user, as a likely error.

The computer's level of feedback on "grammar and style" errors versus "contextual spelling" errors also differs, for reasons that are not clear. The variance between blue and green lines would be inconsequential if the checker then responded the same way to both error types. But it does not. Right-clicking on a squiggled error – whether spelling, grammar and style, and contextual spelling – opens the small pop-up box of options and suggestions (about which more

below, in the next section). Sometimes there is a glitch in the program at this juncture, such that nothing happens when one right-clicks – an occasional but uncommon occurrence during data testing for this research. But for most errors a small box pops up, the error message. Sometimes the word “*Grammar...*” appears within that box, and one then has the option (if one knows to do so) to left-click on it, thereby opening the vertical window down the right side of the document, presenting more explanation and information about the error. In the absence of a straightforward explanation from Microsoft about which error types receive which level of presentation, extensive data testing would be required to know exactly what those categories are and how sharply the program delineates between them. My best sense based on close attention to the responses is that all spelling errors receive red squiggles and only the in-document pop-up box; contextual spelling errors receive blue squiggles and only the pop-up box (no further explanation); and among errors caught by the various rules of the grammar and style checker, with green or blue squiggles, some receive only a suggestion in the pop-up box, while others receive a fuller treatment by also then offering the usage panel of further explanation, down the right side of the screen.

Autocorrect adds another dimension to the checker’s capabilities, correcting presumed typographical errors without ever offering a wavy line to draw the writer’s attention to the change, but it applies only to spellcheck. Word does not autocorrect usage, through the grammar and style checker – yet. Spellcheck and autocorrect are therefore not part of this discourse analysis, but the headings for both are visible on the *Proofing* page that appears above, in Figure 5, which presents settings for the grammar checker. Without autocorrect for usage,

the only way to accept a correction from the grammar checker is to right-click on the squiggle, view the one or more suggested corrections, and accept a recommendation or click to “Ignore.”

Before any error squiggle for usage appears (green or blue), there is usually a lag of at least few seconds, sometimes longer, while the program processes the sentence and determines whether to mark it. Spelling errors receive red squiggles as soon as a word is typed in, when the writer hits the space bar signaling the end of the word. Occasionally – usually during an edit that changes an existing sentence – a blue squiggle will appear that is a miscue; when one right-clicks on the word, no error message pops up, and the squiggle disappears.

C. Managing the squiggles during composing

It is possible to turn off all the squiggles, so that the program does not mark potential errors on each word and sentence immediately after the user types them (this “background” checking was an innovation of Word 97). The ability to turn off the automatic squiggling is separate from the ability to turn off autocorrect: the user can choose either without the other. Regardless of which settings are turned off from operating in the background during typing, the user can then run a spelling or grammar check (or both together) on all or part of the document, during or after composition, a timing point of some interest to composition.

Whether one allows background checking or prefers to wait – and which approach an instructor recommends to his students – depends on a variety of factors, including a writer’s personal process during composing. Many instructors recommend that writers separate the drafting process from the editing process, based on research indicating that the two modes require different types of thought that are likely to interfere with one another. As computers

and then background checking entered student writing in force other past several decades, some scholarship on word processing therefore considered the squiggles problematic (McGee and Ericsson 462) and some still do (Curzan 64). A recursive understanding of the writing process may allow that the ability to correct errors as one writes, including with the marks of the checker, facilitates better and clearer composing at every stage of the process. Writing instructors can suggest or require that students try new approaches to their process, including how and when they incorporate the checker into their writing or editing. Ultimately, writers must determine what works best for themselves individually, and they can experiment with turning background checking (the squiggles) on or off. Familiarity with the checker reduces the attention required to make use of it, which shifts the equation regarding cognitive load.

D. Error messages popping up on a click

If one right-clicks on a squiggled word, space, or punctuation mark, the small box that pops up, directly next to the error, presents several possibilities, often including a suggested replacement for the marked error. Usability research would be needed to confirm this

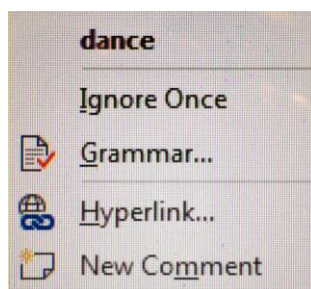


Figure 6. A pop-up error message

speculation, but my anecdotal evidence indicates that these pop-up boxes are likely to be the limit of many users' experience of the checker. Here (above, in Figure 6) is an example of a

typical pop-up box, this one correcting a misuse of the singular verb “dances,” with the plural subject “They.” (Of note, the Word 2013 checker failed to detect the disagreement with other plural subjects that were not pronouns, including “Wolves,” “Daydreamers,” “Firefighters,” and “People.” It is also unable to detect the error in “they tangos,” but it catches “they jitterbugs.” Such is the unevenness of its ability.)

When this box pops up on a click, dragging the mouse over any one of its five lines highlights the word or words in that line, and left-clicking there then prompts the program to perform an action. The first three lines offer choices of how to use the grammar checker. The first option is probably familiar to most users: clicking on the suggested correction. Word will then replace the highlighted word in the document with the suggested word (sometimes a phrase). The second line presents another means to make the squiggle disappear. It sometimes reads “Ignore” and sometimes “Ignore Once,” as here. Whether “ignoring” more than once implies an entire rule (such as, here, subject-verb agreement) or only a specific word (“jitterbugs”) is unclear. This box does not, in my observation, give both options at the same time. The nearly identical box that pops up for spellcheck errors, in contrast, offers an “Ignore all” option (as well as “Add to Dictionary,” which will then ignore the word in all this user’s future documents as well as this one). The closest option to “Ignore all” for an error presented by the grammar checker would be to turn off the item that checks for the error type, in the checker’s menu, if one knows what error type has been triggered and can find the menu, two tenuous propositions.

For users of Word who do not know that they can left-click on the line “Grammar...” to open a panel with further information, this pop-up error message in Figure 6 is apt to be the

limit of their interface with the grammar checker. This small box does not indicate why it considers a word to be a likely error, so such a user must depend on her own understanding to guess why the program might make that assessment. This lack of a label and explanation of the error (only a suggested replacement, and not in all cases) would reduce the mental noise that checker adds in the middle of the drafting process, for a user who opens this box while composing. At the same time, lack of further explanation could leave the writer wondering why a word is marked as an error. Whether this pop-up suggestion without explanation would add to or relieve some cognitive load for the user would depend on her prior knowledge of usage conventions. In either case, the writer could and must rely on such knowledge and her by-ear sense for whether it is her original drafting or the offered choice that is likely to be correct, as the box labels the error type neither with everyday words nor with any grammar terminology.

An example of an error message for contextual spelling appears here, in Figure 7. (Of note, the checker could not detect this error with the other subjects I tried – “hailstorm,” “maelstrom,” and “windfall.”)

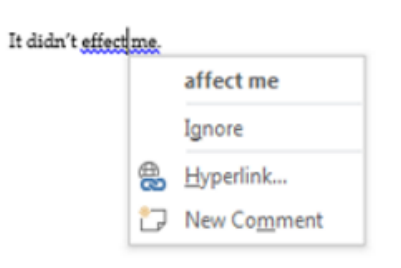


Figure 7. A pop-up error message for contextual spelling

The program offers to “Ignore” this error but does not make clear whether the program will then ignore potential errors of the same type in the remainder of the document. (There is

no “Ignore once” option in this panel.) Note that this box does not include a *Grammar...* line, so there is no option to open a panel with further explanation about this error. (The final two lines that appear in these error message boxes, *Hyperlink* and *New Comment*, are not functions of the grammar checker.)

For a user not bringing to the Microsoft Word grammar checker a scholarly laser gaze to analyze its functions, there would be no discernible pattern as to why some errors offer a label and further explanation of the error type (to be described below) and on others, as here on “effect,” there is no label or explanation. If a writer did not understand the reason for this error message’s suggestion but knew that such explanations exist, because he has seen them, he is likely to feel befuddled and frustrated as he looks for a clickable path to better understanding.

Close observation reveals a third category of response type: those that offer a label name in the pop-up error message, as well as the clickable *Grammar...* line, but no suggested replacement for improving the passage. One of the more common error types triggering this kind of error message is for a sentence fragment, pictured here in Figure 8. Because the

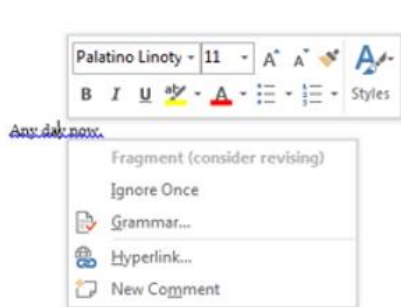


Figure 8. A pop-up error message with no suggested correction (fragment)

machine cannot know the writer’s intended meaning, it does not hazard a guess at revision. (In this screenshot I have also included the box of editing options which pops up when one right-

clicks on this error, as it did not on “effect.” This box of selected options is useful when its functions are those needed but is only added cognitive load when not.)

E. The genre of “error message”

Among the questions that genre theory directs us to ask are those about an utterance’s social action, its context, and its form. Metagenres often provide insight into a broader understanding of the utterance’s function, as do antecedent genres, subgenres, and the genre sets within which an utterance operates. A box that appears in the middle of a document and suggests a replacement for a word marked as an error continues the analogy and the literal inheritance of the teacher’s or editor’s mark-up. A professional copyeditor might offer a replacement word without explanation, as does this box. A teacher may or may not suggest replacement words at errors and edits, depending on what stage of drafting a student has reached and what pedagogy the instructor has chosen to follow, whether well-informed or not regarding its likely effectiveness. The composition theory of “minimal marking” might point an instructor towards marking certain kinds of errors but not offering replacement suggestions or explanations, instead assigning to the student the task of discovering the error type and perhaps editing it to correctness in a later draft (Haswell). Some such systems recommend even less than a squiggle: only a small mark in the margin next to a line with an error.

At the opposite end of a marking spectrum would be a teacher’s offering an explanation about why he had marked a word, more akin to a grammar mini-lesson than a publishing-house copyedit. He could offer such explanation in one word (“voice”), in an abbreviation (“CS” for comma splice), or in a full sentence (“This is two sentences run together,” for a run-

on.) He could comment with or without grammar terminology (“agreement”) and with or without a suggested replacement word (“many,” to replace “a lot of”), depending on his assessment of what knowledge would be useful to the individual student. Feedback would necessarily depend on the amount of time and attention the teacher was able to give to writing such explanations or to discerning what the student’s learning needs might be – both time-intensive tasks that place a high demand on the teacher’s cognitive load while he evaluates multiple aspects of the writing, as well as the logistical demands of marking the papers, whether by hand or electronically, which may also contribute to the cognitive load, in the need to manage the software’s functions and glitches.

Among mark-ups of writing, the pop-up box containing an error message with its suggested (or prescribed) correction seems more akin to a copyeditor’s in-line edit than to a teacher comment. Historically, teacher comments might have amounted to little more than editing student papers; such were the findings of Connors and Lunsford, who aver that “Teachers’ Rhetorical Comments on Student Papers,” engaging with content, essentially did not exist in the first half of the twentieth century, when only error correction, plus perhaps an additional layer of copyediting, and then deciding on a grade were the totality of a typical teacher’s interaction with a student paper (200). But contemporary composition pedagogy points instructors away from such copyediting as both inefficient and ineffective as a use of the resource that is the teacher’s attention towards the improvement of student writing. These boxes thus have a strong antecedent genre in a composition pedagogy, but not one grouped with our best practices.

The inline edit that is the boxes' antecedent genre in professional copyediting is both efficient and effective to its task of correcting proofs. Indeed, such proofreading functions in word processing software can considerably ease the cognitive load of the many workers who process documents as one of their regular tasks. Such proofreading seems to be the primary use of the grammar and style checker, as well as the spelling checker, in its 1.2 billion copies around the world. Any composition research on the rhetoric of the checker cannot miss that the name of the group of programs that offers this resource is Microsoft Office, not Microsoft School or Microsoft Writer's Garret. The uses we make of the checker as educators, students, and other writers require adapting to a program made for office workers, as becomes more evident when we analyze its primary interface, these pop-up boxes of error messages.

F. Error messages and computers

This chapter has established the action, the form, and some of the context and antecedent genres of the pop-up error message, in writing-related disciplines of composition pedagogy and publishing. It is important to look at another aspect of the rhetorical situation that also profoundly shapes the form and function of these messages: the technological context. Grammar checking – and natural language processing more broadly – is a frontier where words meet numbers and the humanities meet electronics. A rhetorical analysis of the pop-up boxes from the grammar checker would thus be remiss to ignore the metagenre of the error message, as it exists more broadly in computing.

The pop-up error message in the grammar checker is not simply modeled on the computer error message or shaped by the binary thinking that creates computer code and

reports on a glitch: it is itself just such an error message. Language, ideas, and argument may be infinitely complex and irreducible to black-or-white, right-or-wrong dichotomies, but computers have no other means of functioning. Everyone, among the majority of us who use computers regularly for work and play, is familiar with the computer error message that announces a failure in the system: a glitch or a crash in the software, the software's inability to communicate with other software, or the software's inability to make use of the hardware. There are error messages for defunct websites, error messages for lost internet connections, and error messages portending the infamous black screen of death, for those lucky enough to receive a portent. Error messages are the groan-inducing signal that something has failed – that in the yes-or-no universe of the machine, the human has hit a no.

Some error messages provide little further information. Some give information that is incomprehensible or, when applied, useless. Some give an indication that the error is serious, or not. Many suggest a fix – a path out of the glitch and back to the planned task at hand. Some give a name, in words, or a code, in letters and numbers, to point the user towards how to find more information and a path of breadcrumbs back out of the forest (a journey now usually involving internet searching with the terms provided). Spelling out the technical label for the error increases the possibility – or the hope, at least – that the user will be able to unlock the dark spell cast over her work, to perform a counteractive incantation enabling her to move forward again. All the analogues from other computer error messages apply to this box that pops up with feedback on a writer's usage errors. And each writer with this history of experience with computer error messages is conditioned to feel frustration at an error and to do

what the computer tells us to do to fix it, layering onto a history of teacher editing marks telling us to make corrections to improve a grade, if that is part of an individual writer's experience.

Critical engagement with the checker, as encouraged by this and earlier research (Haist, Vernon, McGee and Ericsson, Major, Curzan), calls for a more considered response to the error messages, and to all the texts of the checker, rather than blind acceptance of its verdicts or prescriptions. As subsequent analysis of these texts will elucidate, reading them in light of their limitations (especially, false flags) as well as knowing plainly some hidden implications beyond the literal meanings of these texts, lends them greater practical use for the writer, in shaping her style choices. As the conclusions of this research will explicate, the binary, yes-or-no nature of the computer messages from the checker can force both writers and instructors to be clearer about the stance underlying their style choices and the arguments for making exceptions.

G. The usage panel

If "*Grammar...*" appears in the pop-up error message, one can left-click on it to open a panel with an explanation of the usage convention (in the vernacular, "grammar rule") of which the program has detected a possible transgression. I call this panel the "usage panel" (an homage to an august committee of this name, the 200 literati and scholars who evaluate acceptable word usage for the *American Heritage Dictionary*). By default, this panel of explanation appears down the right side of the program window, and the amount of information that fits in the panel depends on the size of one's screen and the size and shape one

has chosen for the Word window that holds the document. Figure 9 below shows three examples of the panel.

The checker can detect an infinite number of specific potential errors, but the number of these explanatory panels is necessarily finite, and they link to the finite number of grammar rules coded into the program. The correlation of the number of usage panels is not one-to-one with the number of items in the checker's menu of options, however, because some of the 35 items, as named in the checker and described in Chapter 6, are linked to more than one of these nearly 200 panels, triggering different explanations depending on the perceived nature of the detected error. The panel labeled "subject-verb agreement" below (on the left), for instance, is one of several that may appear under that name, each with a different explanation and set of examples.

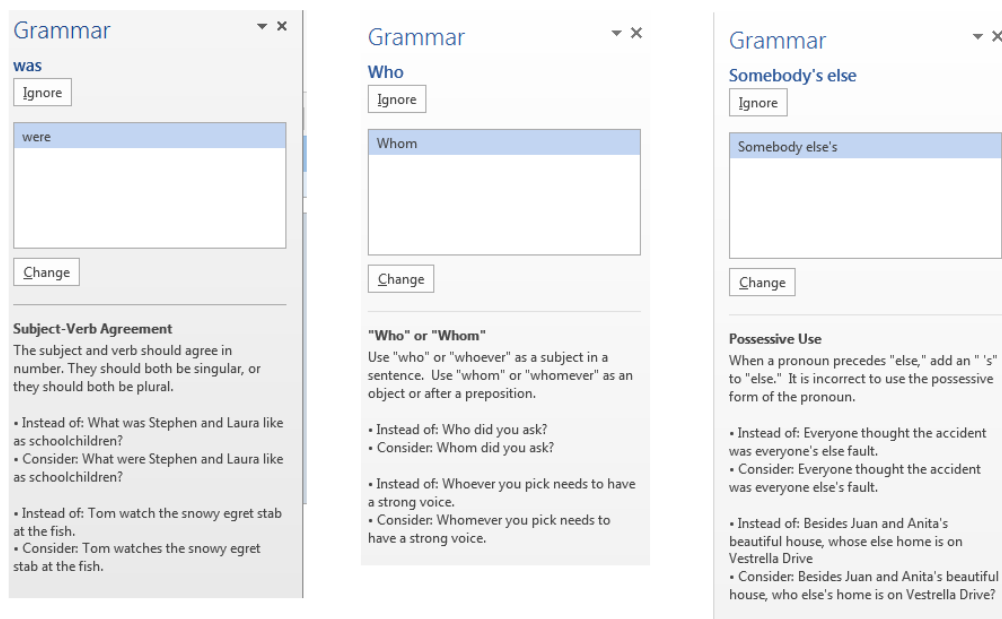


Figure 9. Three usage panels

It would not be possible to determine the exact number and content of the panels even after exhaustive research, because, absent a full set of the panels supplied by Microsoft, the researchers could never be sure they had triggered every panel. Heidorn mentions the number written into Word 97 as 125 parsing rules and “about 200 descriptor rules” (84, 92), but some rules, as we have seen, might prompt only pop-up error messages, with no option to generate this panel with further explanation. Running data for this study has triggered more than 120 unique panels from Word 2013, with new panels occasionally appearing as the research continues. A test bank of texts containing still more errors would be likely to trigger additional unique panels, some of them for highly specific usage issues. For instance, in addition to a standard panel explaining clichés and one for colloquialisms, numerous one-topic explanations appear under the heading of each of these two categories (which are grouped together in one item, along with “Jargon,” in the checker menu). Colloquial uses of “like,” “got,” and “till” (instead of “until”) each receive their own dedicated explanation panels, to give only three examples which this research happened to unearth, with no way to estimate how many more of this type of unique error explanations there are. Most colloquialisms and clichés prompt one same standard explanation but offer in the white box specific, programmed suggestions for replacement phrases, such as “nuisance” for “pain in the neck”; “useless items” for “flotsam and jetsam”; and “temporary success” for “flash in the pan.” (To quantify the number of such expressions it can detect is beyond the scope of this research, but when the checker successfully finds such phrases, its detection of them and suggestions can be of significant use to writers, whether or not they chose to use the exact phrases offered.)

While it would be useful to the composition instructor to be able to evaluate the full set of panels, for pedagogical purposes, it is fortunately not necessary to see every one in order to perform analyses of their genre and register for this research, and we have more than enough of a data sample to allow for examination of characteristic features and language, as well as some other aspects of the panels, from those we do have. In correspondence answering my research questions about the usage panels, the Microsoft team currently redeveloping the checker for Word 2016 estimates that there were approximately 180 panels in the 2013 checker, confirming that a sample of more than 120 panels represents the majority of the data.

As evident in the three panels of Figure 9 above, the layout of this utterance that I call the usage panel begins with the heading *Grammar*, which is the label of all panels generated by the checker whether for “grammar” or “style” issues. The tiny arrow in the top right corner does not lead to content information, as some tiny arrows in Word do, but simply manages the possibility of reshaping the window – the panel can be moved to the left side of the document or transformed into a floating window like the pop-up error message, but bigger, to be placed anywhere on the open document. The tiny “X” next to the arrow closes the panel, when left-clicked.

Underneath the heading *Grammar*, the usage panel presents in blue the word or phrase deemed an error, quoting the writer’s document. If the problem is with punctuation, this line includes the word preceding the punctuation mark. Clicking on the rectangle *Ignore* will turn off the squiggle in the document and close the panel. The large white box that appears below *Ignore* often presents a suggestion for how to correct the erroneous text, sometimes more than one suggestion, though usually leaving more white space than it uses for text; clicking on the

rectangle *Change*, below the white box, accepts the suggested correction and closes the panel. If the program is not capable of offering a possible correction for the word, because the syntax of the sentence makes it too difficult for the checker to parse, the white box simply offers the name of the rule (shown again below the box), as in, “Fragment (consider revising),” as in Figure 10, below, in the example on the left.

Sometimes the white box offers more than one option for a possible correction, in which case the user can click on the line with a preferred suggestion to highlight it, before clicking on

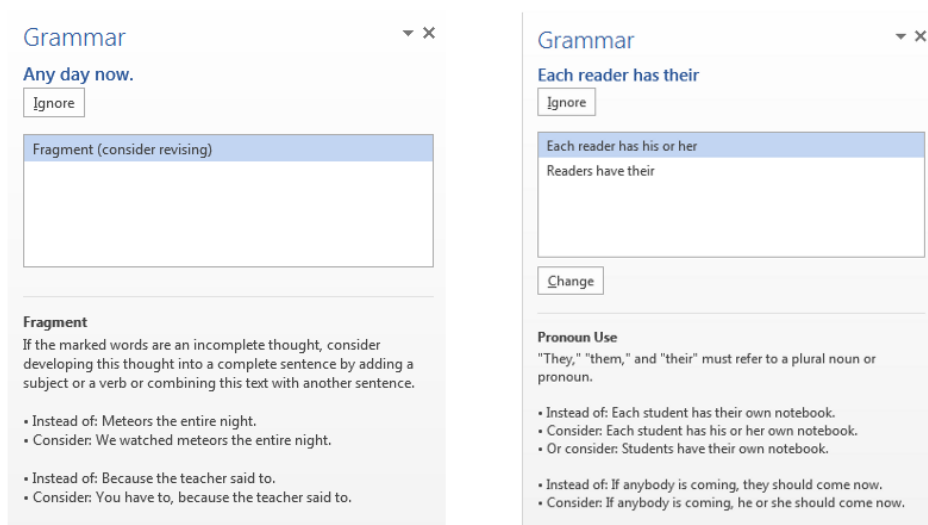


Figure 10. Two usage panels, one without and one with suggested corrections

Change to accept that correction (or, alternatively, double-clicking on the suggestion). This type of panel, in an example refusing singular “they,” is in Figure 10 above, on the right.

Below a thin grey line comes a grammar mini-lesson. It begins with the name of the convention that the ostensible error transgressed, sometimes using grammar terminology (as in *Subject-Verb Agreement* in the earlier Figure 9), sometimes naming the problem words which the rule governs (as in “‘Who’ or ‘Whom’” in that same set of three examples). Next comes a brief

explanation of the usage convention. Some are shorter or longer, but in those three examples they average 20 words and are of typical length. Some explanations rely on schoolbook grammar terms, as these do, and some avoid them – hearkening back to the divide on the question of grammar terminology as discussed in Chapter 3. (Chapter 7 will examine this issue in further detail, when analyzing the register of the checker language). Finally, the message panel then offers examples of incorrect and corrected sentence – usually two pairs, sometimes three pairs – to demonstrate to the user how the logic of the convention, as explained, applies to language in use. It introduces the rule-breaking sentences with *Instead of* and the rule-conforming sentences with *Consider*, gently suggesting to the writer that she might want to reconsider her usage.

H. The pedagogical genre of the mini-lesson

As feedback on a paper, this panel goes well beyond what a teacher or editor is likely to write in the margin of an essay or manuscript. Seeking analogues or antecedent genres in print, the best candidates are the explanations and examples one finds in a grammar handbook. Where a writing instructor might circle an apostrophe and tell her student to look up such errors and edit accordingly, Word avails itself of the technological possibility of looking up the error explanation and bringing it into the program for the writer. English teachers of a generation or more relied on the system of numbered errors in the Harbrace grammar handbook or comparable systems they devised themselves, directing students to explanations of schoolbook grammar concepts. These panels offer a short, decontextualized morsel of such explanations. Brief as they are, these mini-lessons are inadequate to imbue a novice writer with

full understanding of an otherwise unfamiliar concept, if, as Curzan notes, the Microsoft Word checker is the grammar teacher many writers never had. But the information in the panel may be enough to accomplish two purposes: to trigger the writer's memory of a convention already familiar, either through reading or through former instruction, and to explain to the user what concept it is that the program is checking against, which triggered an error message.

Inasmuch as the usage panels connect the writer to her knowledge base of how to make decisions about usage and about style, they offer an answer to the problem of "decontextualized" grammar instruction, long lamented in composition (see Hartwell; Bruton; Caouette; and, especially, Weaver's "Teaching Grammar in the Context of Writing," which promotes the mini-lesson). Rather than the Harbrace numbering system, which required that students look up an explanation at the correspondingly numbered section in their grammar textbook, or a direction to a student to go read the first half of the chapter on pronouns, or awaiting explanations in class or a conference, these usage panels can appear immediately on the screen with a writer's document, responding to a specific error, naming it, offering in most cases (albeit imperfectly) a corrected text, and attempting an explanation about the error, using a combination of grammar terminology, everyday language, and a framing of the relevant convention. (The beta version of the future checker goes further, linking some squiggled errors to further usage explanations from dictionaries and on Wikipedia and other websites, through a line in the pop-up error message labeled *Smart Lookup*.) These mini-lessons from the checker are thus highly contextualized, tailored to the specific usages in the writer's own document.

But composition has insistently taken "contextualized" to mean only the context of students' own writing while ignoring the other context which has long been missing from most

explanations of style or usage: a systematic, conscious understanding of the characteristic structures of sentences or patterns of word endings, knowledge that would frame genuine critical thinking about words in use. The insistent philosophy of not only using mini-lessons (explaining sentence structure when the writing of an individual student or of a group of students prompts an incidental need for the explanation) but restricting “grammar” instruction to such mini-lessons leaves writers without the skeleton upon which to hang the muscle of their learning from specific lessons. In the mid-2000s, *Grammar Girl* helped forge the then-new genre of the audio podcast with her explanations of style concepts and usage conventions, no doubt in large part because she named her series and site (and book based upon them) “Quick and Dirty Tips” for better writing. Notwithstanding that Mignon Fogarty’s gentle and elegant explanations are far from dirty and not desperately quick – most of her brief essays reflecting on knotty style questions reach to more than one page of her website – the utilitarian desire for “quick and dirty,” for minimum cognitive load, is deeply interwoven into public consciousness as well as composition culture around grammar, usage, style, and error. Uninterested, like Hartwell, in teaching this fundamental area of writing skill – sentence-level style – we want to dispense with it as hurriedly as possible, as if it were an embarrassment. Ironically enough, however, the only way writers become able to work more quickly through editing and usage decisions is to have some fundamental understanding of how words and sentences work, when they work well, and conscious knowledge of the quirks of usage conventions – Hartwell’s “linguistic etiquette – as well as an awareness of rhetorical context. The metalinguistic knowledge offered in a writing class, beyond what a writer can learn only from extensive reading, provides the information architecture that undergirds editing as well as composing.

Ideally, then, a writing instructor could instruct students to read and consider the mini-lessons in a grammar checking program not as a replacement for full-fledged explanations of usage and syntax conventions – the default replacement English teacher – but as a supplement and reminder of the writer’s existing knowledge and foundational instruction. Few compositionists are likely to feel comfortable directing students to rely on these usage panels with so little information about the instruction therein, however, any more than they are likely to assign a grammar book that they cannot first read and review. As a supplement and reminder, these explanations in the Word checker lie at the heart of the program’s ability to increase a writer’s understanding of syntax and usage, limited as each panel is in length and, thus, depth.

A comprehensive collecting, analysis, and categorization of these panels and a review of the quality is beyond the scope of this research, given the necessarily scattershot means of triggering their appearance, and such research is likely to be prohibitively time-intensive and still incomplete for any researcher without a guide from Microsoft as to their number and type. If the Microsoft programmers (and marketers) hope to maximize the usefulness of the checker to educators, the company would do well to publish a full list of the panel topics and explanations, as a reference for writing instructors and to facilitate further research. Such information would provide a necessary window into the black box. Without such a guide, we must rely on our own experiences with the usage panels and any illuminating research that compositionists can share with one another about the accuracy and clarity of the usage panels.

I. Notes on pedagogy

This chapter on the squiggles, error messages, and usage panels has interwoven pedagogical considerations throughout its analyses of these elements and offered topics of consideration for class discussion, especially for a compositionist interested in applying the critical tools of genre theory (asking students, for example, “what do these squiggles remind you of?”). But the starting point for engaging students with this tool, which is a pathway to a pragmatic approach to error, is basic: finding out what grammar checker they are or could be using and making sure they know the fundamentals of its interface. If an institution offers access to Word or another grammar and style checker to all students, a course that includes any attention to style or editing should ascertain that writers know that the squiggles and then error messages are both clickable, for more information about possible errors. This practical knowledge for application can be offered along with what we discovered in Chapter 2 about the areas and limits of the checker’s effectiveness.

How much curricular attention to give to the information and critical perspectives offered in this and the upcoming chapters on the interface depends on how deeply one wants students to query its rhetorical implications, question the checker’s assumed stance of authority, or make use of its features. But a practical introduction to these simplest elements of the software can be accomplished in only part of one class period – a mini-lesson, as it were. It is important at least to acknowledge the presence of this elephant in the middle of the writing room and to demystify the most basic of its functions, within the rhetorical context of the pedagogical priorities of a given course.

CHAPTER 6. The rhetoric of the interface: the grammar checker menu and its focus on the sentence

The Word user who wants some control over the functions of the grammar and style checker or information about those functions is apt to have trouble finding either. From the main interface – the screen presenting the writer’s document – there are no direct, labeled routes to the checker’s options menu nor to the Help page of explanations. And trial and error lead to numerous seeming routes that turn out to be dead ends. But for the writer who wants to make effective use of the checker – and the researcher seeking to understand its functions, implications, and applications for dealing with error – the information in these buried elements is essential.

As this chapter will explore, the functions of some of the menu items are still somewhat mysterious even after one finds the grammar checker menu and documentation. I have been using Word for decades, but, as is true for my colleagues who also teach and research writing, the checker’s functions have remained largely opaque until this research. Thus, it has literally taken someone’s writing a dissertation on the checker to tease out how it works and where its vital information lies. Some questions that should reasonably be answered – as simple as what a few items check for – remain unsolved even after the research, but we do have a great deal more information than when this research began. That opacity is itself a rhetorical move from Microsoft, to neglect making the interface easier for novices to use, thereby reducing both writers’ practical and critical engagement with the program and making it difficult for a researcher to gain access to its content – all the more reason to peer inside the black box.

A. Seeking the checker

The main screen of Microsoft Word is cluttered with a great deal of information, by default. Names stretch across the near-top of the screen when one is working on an open Word document in most “views” (each appearing under the what is known as a “tab,” this one labeled *View*, visible in Figure 11 below). Each tab opens a “ribbon” beneath it, containing clickable icons, sometimes called buttons. (This “ribbon” feature first appeared in Microsoft Word 2007.) The *Home* tab is selected by default. The tabs and the *Home* ribbon of Word 2013 are shown here.

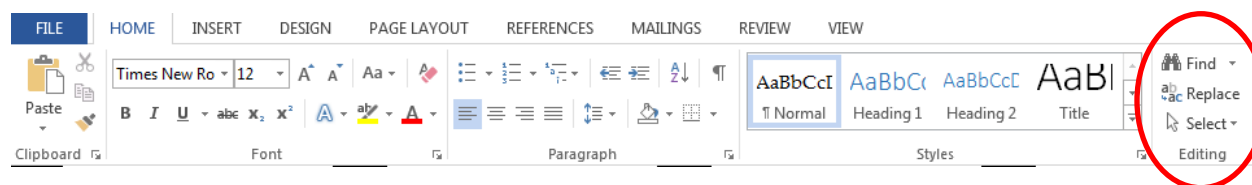


Figure 11. Word 2013 tabs, and Home ribbon

Note the section I have encircled in an oval at the right end of the ribbon, labeled (at the bottom of this small section) *Editing*. While proofreading and grammar checking such as the checker performs are all editing tasks – specifically, aspects of copyediting – this section does not include or link to the checker. The three functions available in this section, *Find*, *Replace*, and *Select*, are all search functions. And while the searchability that word processing software offers can provide an invaluable contribution to editing work, to name this section *Editing* rather than “Search” is misleading. Experienced users of software know that the *Find* function for searching within their documents often appears under an “Editing” heading in many programs (and can also be activated by keystrokes, the preference of the computer savvy). But a novice user might need to conduct an internet search or try to navigate the often-intractable “Help” menu in Word to figure out where to find *Find*.

The majority of functions under another tab, *Review*, are dedicated to the *Track Changes* and *Commenting* functions, popular with Word users during rounds of document edits and collaboration. But the term “review” might suggest to them or to new users that this tab could also lead to proofreading tools such as the grammar checker, and it does. Clicking on this tab (see Figure 12 below), one finds at the left end of the ribbon a first section with four buttons for running the text-evaluation tools: *Spelling and Grammar*, *Define*, *Thesaurus*, and *Word Count*. Spelling and grammar are thus combined, as they are not in Microsoft’s choices of squiggle colors. There is no mention here of style, the checking of which, by Microsoft’s use of this term, is combined with grammar in multiple ways in the program’s functions and in the name of the “grammar and style” checker.

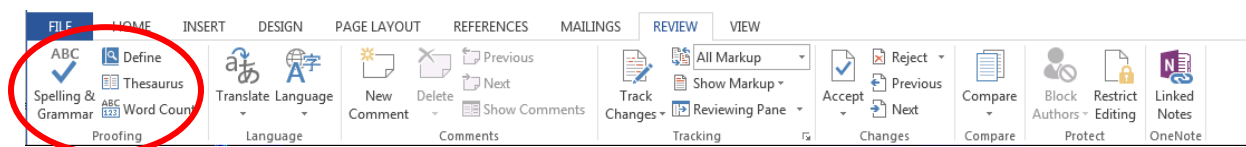


Figure 12. Word 2013 ribbon, showing Proofing tools under Review tab

This small section, holding these four buttons, is labelled at the bottom as “Proofing.” However, unlike some sections on some the “ribbons” of buttons under other tabs, this *Proofing* section offers no tiny clickable square with an arrow in the lower right (see *Font* or *Paragraph* on the *Home* ribbon in Figure 11, or *Tracking*, here, for examples). Such a button could pop up an interactive box for adjusting settings, perhaps the menu itself, if it existed. (The Conclusion and Afterword of this study will discuss why research on software should be noticing and articulating specifically how it could be improved, as an integral part of research.)

Thwarted at this ribbon, a user who knows that a menu of grammar checking options exists could conduct an internet or help-menu search in hopes of guidance on how to reach it.

Otherwise, one must scan and click through several more tabs and screens, using trial-and-error selecting, hitting dead ends and backing up to try again, in a process familiar to anyone who has become comfortable dealing with software – a group that by no means includes all the millions of users of Microsoft Word.

In the upper left-hand-corner, the first tab above the ribbon, the one labeled *File* (visible in the Figures 11 and 12 above), will open a path toward the checker options, if one clicks upon it. Because there is no intuitive or semantic association between editing and the word “file,” it will not be clear to the untutored user before nor until several steps after clicking this tab that it will lead to the grammar checker menu.

This File tab does not open a ribbon, as all the others do. Instead, a new screen appears that replaces the text of the writer’s document and offers many options and statistics about the document, with routes to still more. For this view, introduced in Office 2010, Microsoft mingles its metaphors of machines and notebooks with one of performance, calling it “backstage” in documentation, though the view is not labeled as such in the interface. Down the left side of this backstage screen runs a menu with nine document-management options, including those to *Save*, *Print*, or *Export*, followed by a pale horizontal line whose meaning is mysterious, then two more clickable category names, *Account* and *Options*. There is still no obvious or intuitive label in this list that points towards grammar, style, error, editing, or proofreading.

The vaguely named *Options* category, if tried, brings a writer one step closer to the grammar and style menu. Clicked, it opens yet another page with categories down the left side, some of the ten with names equally vague, such as *General* or *Advanced*. The third is *Proofing*,

which brings us closer to our goal. Clicking on *Proofing*, one opens the page seen below in Figure 13.

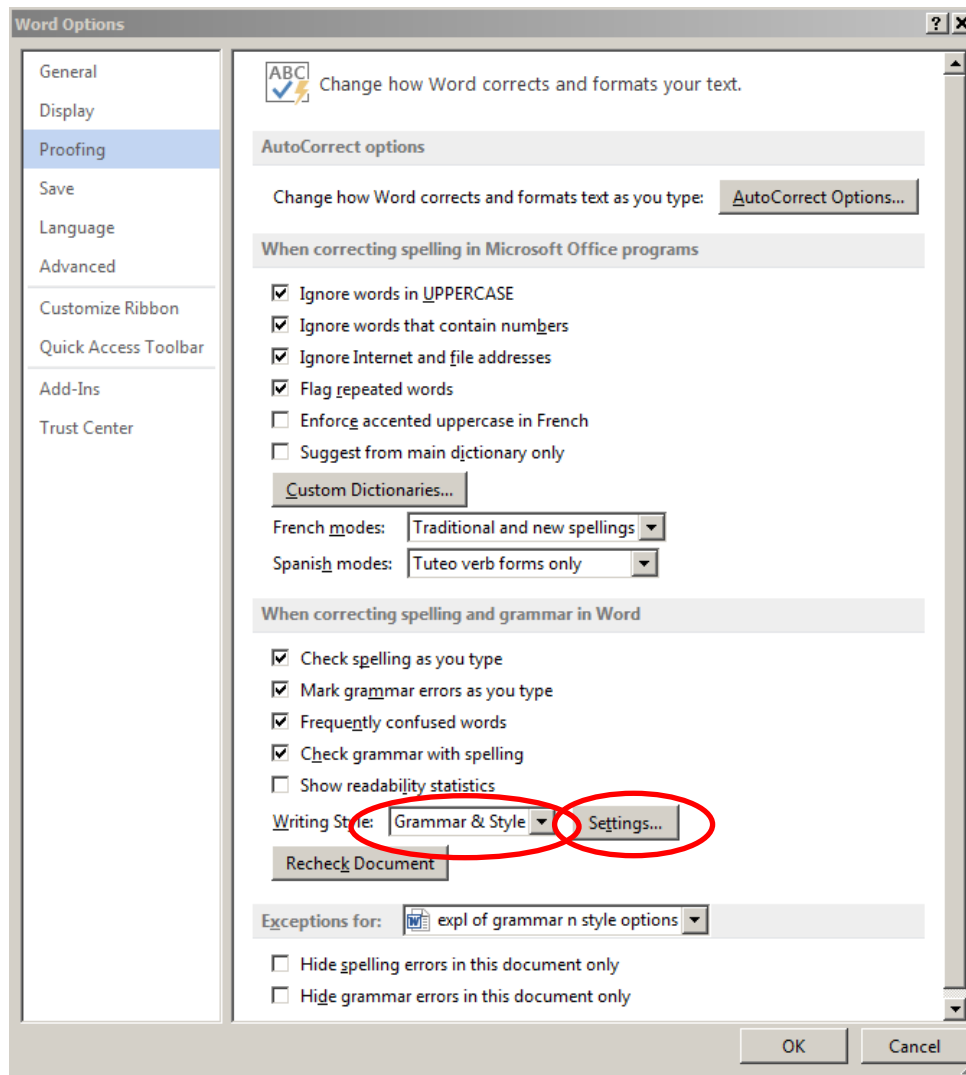


Figure 13. The Word 2013 page of Proofing options

The formatting of this page is a confusing mix of different kinds of controls. There are small clickable boxes of text (such as *AutoCorrect Options...*), which will open larger boxes offering multiple options, known as “dialog boxes” or pop-up menus. There are several series of checkboxes clickable directly on this page. There are drop-down menus for choosing between offered options (such as “Traditional and new spellings” beside “French modes”).

And there are clickable boxes of text that lead the program to perform significant functions (after a warning first, in the case of *Recheck Document*). For the user who understands that the small arrow next to the word *Grammar* indicates a drop-down menu, a click on either the word or the arrow will offer an option for *Grammar and Style*, the meaning of which option (that I selected, and which I have marked with an oval) is clear only to a user who already knows how the program applies these terms. Finally, to find the dragon's lair, one must click on the box labeled *Settings...*, again, guessing that something useful might lie on the other side. An attentive novice user may begin to discern, from the ellipsis at the end of *AutoCorrect Options...* above, or from similarly labeled text boxes elsewhere in the program, that such a grey box is a button which might pull up a dialogue box of options.

Such is the hero's journey the program requires, down blind alleys and through gates protected by riddles, simply to find the grammar checker menu. Like much of the content that we will find in the grammar checker menu itself, the path to find the checker is "COIK": "clear only if known." Like the linguistic usage conventions that the checker is ostensibly designed to illuminate, the checker itself is opaque, obfuscated, inaccessible to the uninitiated who wants to access information about and control over the Word checker's functions, with such privileges reserved for advanced or trained users, or for the tech savvy.

A common complaint about Microsoft Word, overall, is that the program is bloated with too many functions, weighted down with menus for functions that few of its many users will discover, much less apply and master – functions that obscure its more widely used capabilities and only cause technical problems. At the same time, many researchers over the years have bemoaned the under-utilization of word processors, saying that most students and others treat

them as little more than electronic typewriters, not true processors of the text. But the difficulty of reaching this particular tool, as with many others in the program, carries a strong rhetorical implication that this function, or, by extension, the program in its entirety, is only for professional text-processors, such as editors or staff at publishing houses. Even if we foolhardily presume for a moment a perfectly functioning piece of software that never freezes or malfunctions, the visual and verbal rhetoric of the checker simply at the level of its menus is of an impenetrable fortress, welcoming only to insiders. Simply reaching the checker is too likely to require a guide or mentor, whether a composition teacher, a supervisor or colleague, a friend who happens to know, or – most likely – a website found through scattershot searching, and then only by one who knows to search well. Microsoft stopped shipping a printed-book manual with the program as of Word 95, though a determined user can find books published not by Microsoft but by others who analyze the program and write guides about it, whether of the “for dummies” type for the novice or a comprehensive manual such as *Microsoft Word for Publishing Professionals* (Lyon). And these guides go out of date quickly: potentially every few years, as Microsoft releases new versions of Office.

B. The checker menu

Clicking on *Settings* on the *Proofing* page opens the menu of options for the grammar and style checker, its control center for content. The current iteration of this menu (for Word 2013) appears below, in Figure 14. To capture the full menu demanded piecing together three separate screen shots. Unlike some other windows in Word, this dialog box does not allow the user to drag a corner of the window to expand it, to view the full menu on one screen. Even if

one has a large enough monitor that one might see the full menu, one must instead scroll up and down to see the checker's items. (I have included the three buttons *Reset All*, *OK*, and *Cancel*, on only my third image here in Figure 14, though they always appear across the bottom of this window, regardless of whether the user has scrolled up or down.)

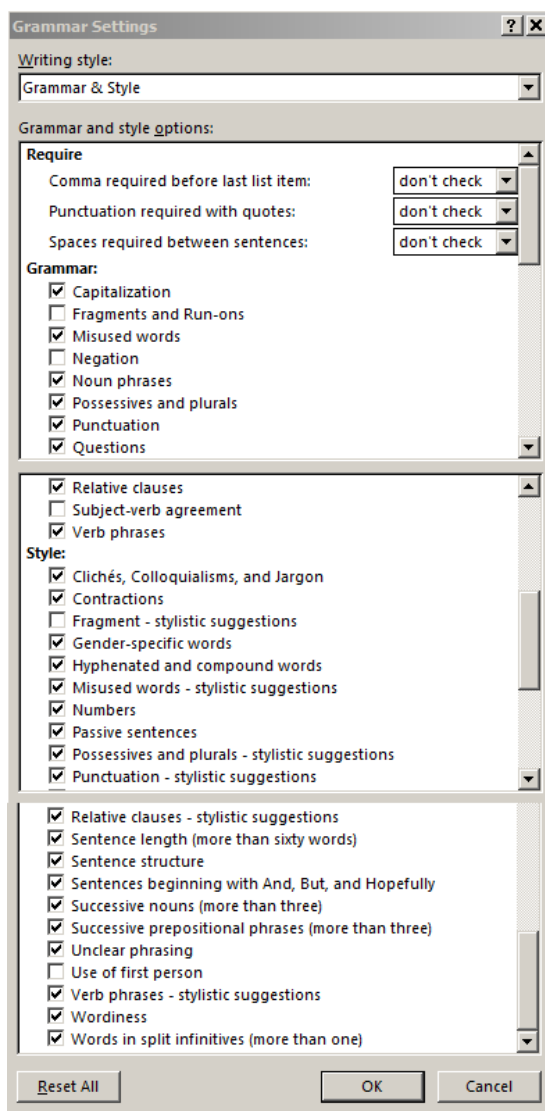


Figure 14. The grammar checker menu of item options

A close reading and discourse analysis of this menu can begin with a look at its overall structure. The architecture of meaning in this document turns out to be difficult to discern, both

from a glance at the headings and layout and, unfortunately, even more so after an in-depth analysis of the text. The title of the full dialog box, printed in its margins, is *Grammar Settings*, but the choice that can be selected on arrival at this menu or previously (on the *Proofing* page) appears two lines below it and reaches beyond “grammar settings” to “*Grammar and Style*” (as shown selected here). Still more confusing, there is a label in between the two that does not make sense: *Writing Style*, followed by a colon, indicating that the label describes what comes after it in the next line. But what appears inside the box is not a choice of “writing style” but only the user’s option to check either for *Grammar Only* or, as here, for *Grammar & Style*. These choices name sections of the checker, not styles of writing.

A user familiar with earlier versions of Word might recognize this *Writing Style* label as a likely oversight, a legacy heading left over from functions the checker once performed and does not now, in versions 2010 and later (a speculation confirmed in correspondence with Michel of the current Microsoft team). Chapter 2 discussed these *Writing Style* functions, now absent from Word, and Chapter 4 noted how they offer a direct route to using the checker to apply a register perspective during writing or editing. But here this label is only a tantalizing red herring. In Word 2013, this heading should simply have been deleted.

Experimenting with this two-item drop-down menu shown in Figure 14, I find that if one chooses *Grammar Only*, the program simply unchecks all the items in the bottom set of checkable items, under the heading *Style*.

Next comes the heading *Grammar and style options*, which might have served more relevantly as the title of the whole menu. Then, inside the focal white box that comprises the majority of the document, there are three sections grouped under headings: *Require*, *Grammar*,

and *Style*. The first, *Require*, contains three items with drop-down menus. The other two sections, *Grammar* and *Style*, together comprise the bulk of the checker options, arranged as a simple checklist with a checkbox for each list item. These two section headings attempt to group together and name the main functions of the checker, searching for errors in “grammar” and “style,” respectively. Analysis of the individual items will reveal, however, that both sections are mired in the conflation of meanings discussed earlier (in Chapter 3) that render the categorization of any one item ultimately arbitrary or, at least, a debatable judgment call.

The checkmarks shown in the checkboxes in Figure 14 are the default choices preselected when Word opens for the first time. If the user never makes personal selections or chooses *Reset All* at the lower left, these are the boxes that are checked and unchecked. All but five items are checked, pre-selected for the checker to include them in its text evaluation.

Which five boxes the program defaults to uncheck reveals assumptions about style and register – about the rhetorical situation for which the program creators assume the user is most likely to be writing. Curiously, three of the five items the program has unchecked easily count as significant errors: *Fragments and Run-ons*, *Negation* (this item, research on the Help page revealed, includes double negatives), and *Subject-verb agreement*. A fourth unchecked box, *Fragment – stylistic suggestions* on the *Style* menu, overlaps with the first, *Fragments and Run-ons*, in ways that will remain unclear even after the close reading of the explanations page conducted for Chapter 7.

The checker’s default to leave the fifth item, *Use of first person*, unchecked on the list of issues the program checks for indicates an assumption on the part of the programmers that the average user is not likely to be writing in a genre which forbids or discourages “I,” such as

scientific research or some kinds of school essays. Because many users are unaware of the existence of this menu, those who do want to eliminate or monitor their use of first person are not likely to know that they can use Word to help them.

The first section, *Require*, is set apart from the other two. Its format is short pull-down menus rather than the item lists with checkboxes that appear in *Grammar* and *Style* sections, and there are only three *Require* items. All three are preset to “don’t check.” Where they fit – whether as “grammar” or “style” or something else, in a “grammar and style” checker, is unclear. The label “Require” is an imperative verb, not parallel with the nouns *Grammar* and *Style* that label the other two sections. (The *Microsoft Manual* treats this exact issue, under “Parallelism in lists”: “if the first item in a list begins with an imperative verb, all items in a list should begin with an imperative verb,” 16). It is not clear from the headings why the three items on *Require* are set apart. All three are punctuation issues, a topic which appears in the other sections as well, simply as *Punctuation* in the *Grammar* section and as *Punctuation – stylistic suggestions* in the *Style* section. Who or what “requires” a decision about the three item categories that fall in this section? That the program defaults to “don’t check” for all three makes plain that Word itself does not require a decision on any of the three. The equivalent of leaving checkboxes unchecked in the other section, these “don’t check” presets bring to eight the total number of items that the checker can search for but defaults not to do so.

C. Checklist as genre

Visually, the grammar checker menu resembles a grocery list, divided into a few sections. The bulk of the items, those under *Grammar* and *Style*, can simply be checked off or

ignored, while the items under *Require* demand a little more decision making – a brand of milk or a number of pears. If we consider the checker menu more fully from the perspective of genre theory, we ask about its function (its social action), and the analogy remains apt: the user of the grammar checker is a Microsoft customer, shopping for functions that seem likely to fulfill needs. In the case of this menu, simply checking the item completes the purchase. As a standing menu, and a digital one, this checklist is also infinitely reusable, like the standing grocery list of the highly organized householder. The writer can re-select or un-select all the items when she returns to the menu for a new document, or she can ask the program to default to its presets (described in Chapter 5) by clicking *Reset All* at the bottom. She can also consider each item one by one, to decide whether the usage should be checked for her current, new document – a process involving more consideration (and a kind of register analysis).

Some endeavors rely on well-honed and tested checklists for complex decision-making under time pressure; perhaps the best known is aviation, in which pilots and flight crews keep multiple checklists at hand, dedicated to any number of routines and potential emergencies. Atul Gawande, a surgeon, conducted research with pilots as well as engineers building skyscrapers, factory managers, and successful big investors to understand the nature of the most effective checklists. He was leading an initiative for the World Health Organization to develop a better protocol for surgery, and he found that a checklist – asking simple questions that needed to be addressed by each member of a surgical team at different junctures in the process – was a lifesaving intervention. The checklist encapsulated a great deal of complex knowledge, presented in a simple series of questions – checks – at the times when team members needed to give attention to each issue, if the surgery was to go well.

Writing an email may not be brain surgery, but this genre model of the checklist fits with what the grammar checker menu attempts: to present a great deal of complex knowledge about the usage conventions of the language in a simple format that allows the writer to consider essential questions at the time and in the context when those decisions are needed. Following on this model, the menu needs improvement in both labeling and structure, as this analysis will explicate. But the checklist genre, considered in its most substantive potential for social action, is well-suited to the needs of a writer, not only for editing but for composing. It can serve as a well-organized series of reminders, to nudge the writer's memory and efficiently direct his attention.

We also do well to remember that, at its heart, a computer program is simply a checklist, perhaps a massive one with complex conditions on some items, and blessedly fast, but just working its way down a long list of binary options: yes, no; check, don't check; error, not an error.

D. The words that label word usage

The items on the grammar checker menu are all named with nouns or noun phrases, ranging from one to seven words long (averaging 3.2 words). Some of the items are labeled clearly and simply. *Fragments and Run-ons*, for example, *Contractions*, or *Use of first person* each state their target errors directly and succinctly, in just the item name. The underlying concepts may carry varying levels of complexity, and, lacking data such as presented in Chapter 2 of this research, the user cannot know how effectively the program may be in catching those error types, but overall these item names seem self-explanatory. Similarly, a label such as *Words in*

split infinitives (more than one) is quite specific, even if it is unclear why the program will not also check for only one – a stickler against split infinitives is likely to be bothered at any number, not just two or more.

Unfortunately, however, more than half the items on the grammar checker menu – 19, by my count – are frustratingly opaque as to what errors they target. Labels range from somewhat informative, such as *Capitalization* (with no indication of what kinds of capitalization problems can it find) to impenetrable, such as *Sentence Structure*, *Misused Words*, *Noun phrases*, or *Verb phrases*. These item names give no real sense of what functions will be activated when a user checks those boxes – no hint, for instance, of what kinds of “word misuse” it can find, among the infinite possibilities under that umbrella.

Further deepening the confusion is the redundancy between the two sections *Grammar* and *Style*. This confusion is unsurprising in light of both the debatability of what counts as an error, presented in Chapter 1 and explored throughout this dissertation, as well the conflation of terms explicated in Chapter 2. Six items (including *Misused words* and *Verb phrases*) appear on both menus, followed by the unclear descriptor “stylistic suggestions” when they reappear on the *Style* menu. The user sees, for example, *Possessives and plurals* on the *Grammar* menu, presumably to catch those apocalyptic apostrophe errors, but then *Possessives and plurals - stylistic suggestions* under *Style*, with no further indication as to what this item checks. The phrase “stylistic suggestions,” as an addendum to six items, adds no information about these items, all six of which already appear in the *Style* section of the menu.

Some of the inscrutability may result from inconsistent decisions about whether to use or avoid familiar grammar terminology, that lynchpin issue in the grammar wars. So while the

menu includes some terms familiar only to those schooled in textbook grammar, such as “Relative clauses” or “split infinitives,” the first item in the checker is named “*Comma required before last list item*” when it might be clearer to many users to see familiar terms such as, in this case, “serial comma.” (Chapter 7 will look at the question of grammar terminology in more depth.) Likely to contribute to problems of nomenclature are some items that check for a broad span of usage standards difficult to summarize in 3.2 words. But some of the vague language in this menu and in the other documentation for the checker seems to suffer from the routine challenge of technical writing: that the programmers know what the program does, and they are not concerned about communicating with especial clarity to the user exactly what it does – or they and their technical writers do not notice when they have failed to phrase the documentation clearly, a classic example of COIK. Still, it is ironic, in light of its task – assisting in clear writing – that so much of the list is unclearly written.

A usability study could offer some firm data on whether most users see this menu or the Help page that offers more information, but it seems likely that many would accept the lack of clarity in this list as the typical opaque technical documentation to which we have all become accustomed. Guessing at the meanings of the labels and perhaps trying to discern what functional results occur when any one item is checked or unchecked – whether the checker becomes especially useful or annoying after the user activates a certain item – the writer is likely to concede victory to the inadequacies of the software and submit to its limitations. All of us who depend heavily on electronic technologies work around these failures every day, and the time it takes to wrestle our way to clarity with a piece of software is often not worthwhile compared to the time to work around the limitations.

E. The architecture of meaning in the checker menu

Examining how this list of 35 items is organized, the primary question is why certain items appear in one section rather than another, the answer to which is not obvious from the section titles. Scrutiny of the first three items (grouped under *Require*) reveals that they are choices about items usually determined by a disciplinary or house style guide. While careful editing insists on consistency in mechanical choices on these three issues – serial comma use, where to place punctuation with quotation marks, and the number of spaces after a period – reasonable people can disagree on each of these three items and still not have committed an “alarm bell” error. At the same time, mistakes on these “house style” items can register high in the severity index in some registers, including academic writing, if a writer fails to maintain consistency after deciding on a preference.

These *Require* items are “style” choices only in the “style manual” sense of the word described in Chapter 3 – of house style usage conventions – not in the sense of individual expressiveness. Whether or not to use the serial comma is determined simply by which style manual, if any, a writer chooses or is required to follow; most American scholarly and publishing standards, such as MLA, APA, Chicago, or the AMA dictate using the serial comma, while journalists’ guides such as the AP insist on its omission. Similarly, where to place neutral punctuation marks (periods and commas) next to a quotation mark is determined primarily (with some exceptions) by the location of a writer’s audience: in America, inside; in England, as well as several other English-speaking countries, outside. Whether a writer prefers one space or two is sometimes guided by age: many major style guides now prescribe that writers use only one space and let the word processor manage proportional spacing, but many writers (or their

known readers, such as a boss or client) who learned to type at typewriters were taught two spaces and like their look, even in proportionally spaced fonts, and still prefer to use them when the rhetorical situation allows, notwithstanding contemporary opinions against them. Some style guides, such as the APA, still recommend two spaces for certain contexts (88). This item on the *Require* menu allows checking for either the one- or the two-space option.

The items under *Require* are not the only usages in the checker that are governed by style guides, but the others appear elsewhere in the menu, such as *Numbers* (regarding when to write as numerals and when in words), which appears under *Style*.

Eleven items appear under the *Grammar* heading, an additional 21 under *Style*. How the programmers decided which items to place under each heading is not entirely clear. After my analysis of the items and their explanations, as this chapter and the next will present in more detail, it seems that the programmers placed items in the *Grammar* section if they considered them to be widely accepted as “alarm bell” errors, to use Peter Elbow’s term (216), or high on the severity index, to use Anson’s (8). Other usage and syntax issues, which might be problematic in some contexts but not in others, or which some writers consider errors but not others, they have grouped under *Style*. Therefore we see, for example, *Fragments and Run-Ons*, *Negation*, and *Subject-verb agreement* under *Grammar* but *Contractions*, *Passive sentences*, and *Use of first person* under *Style*. Viewed from this perspective, the programmers have made the judgment call that certain usages are most likely to be considered severe – or, put more simply, actual errors – across the majority of contexts in which Word users will be writing. To convey the programmers’ apparent intentions, the *Grammar* section might more aptly have been

named, just as simply, “Errors.” Still more accurate would have been the less familiar term “Usage.”

It is easy to contest their choices of placement. As explored in the Chapter 3 discussion on the meanings of “style” and “grammar,” what counts as an “error” shifts markedly from context to context, to the point that linguistic choices considered as simply “ungrammatical” by many are intentional style moves by some writers.

At their most fundamental, grammar choices (decisions about word order and punctuation) are by definition style choices: personal decisions about what linguistic moves will accomplish the writer’s intended ends. As Bakhtin has it, “the speaker’s very selection of a particular grammatical form is a stylistic act” (“Speech Genres” 66). (The single richest dive into the power of sentence construction to shape beautiful writing is Virginia’s Tufte’s classic *Grammar as Style*, more recently revised and republished as *Artful Sentences: Syntax as Style*; she fills the book with illustrative quotes from a wide of genres.) A writer may consciously ignore a traditional convention, transgressing it intentionally, or choose to follow a usage that has become widespread in casual use even when writing in a less-casual context, precisely because the phrasing captures a vernacular or colloquial flavor the writer seeks. And even unconscious grammar choices create the earmarks of a writer’s personal style.

Most likely to insist that many of the items on the *Style* menu qualify as outright mistakes and belong under *Grammar*, as true “errors,” are the sticklers: the self-appointed arbiters of usage conventions who nurse a long list of “grammar” pet peeves and are aggrieved when others transgress their rules. To their minds, a sentence begun with a conjunction may be a cause for apoplexy and a misplaced apostrophe the sign of the apocalypse. (Unnecessary

apostrophes are the error which sparked the book-length stickler rant *Eats, Shoots, and Leaves*.) But both these errors appear on the *Style* menu in the checker.

Ultimately, then, what we can deduce from these arguable placement choices is a confirmation about the malleability of correctness and its variable association with these terms *Grammar* and *Style*, as established in Chapters 1 and 3, on error and on grammar and style respectively. And what most reveals the porousness of the category boundaries between *Grammar* and *Style* is a contradictory choice of the programmers themselves: the default checked boxes. A look back at the checker menu (in Figure 14, earlier in this chapter), shows that the boxes for *Fragments and Run-Ons*, *Negation*, and *Subject-verb agreement* – the very three items that I cited in Chapter 3 as among alarm-bell errors – are unchecked by default. When a user opens the program, the checker is not checking for these fundamental concerns. The many users who do not know that they have customization options in the checker and never make the hero's journey to find this menu cannot avail themselves of whatever success the program may have in scanning for these mistakes. The programmers' reasons for unchecking these boxes are unclear. Perhaps these rules yield too many false positives, or are too difficult to offer suggested reasons for (users like clickable corrections, according to Michel at Microsoft). As described by Heidorn (192), grammar handbooks, dictionaries, and usage guides are the source and model of much of the checker's content, then evaluated by what we might call an internal usage panel at Microsoft, assessing what to include in the program. And from Noah Webster to Bryan Garner and beyond, such reference guides have always included judgment calls by those who write them, some of which rules go on to live infamy, such as the unnecessary proscription against split infinitives or "that" with a nonessential clause. So it is more than possible that the

decision about which items to uncheck by default reflects usage preferences of individuals on the Microsoft programming team rather than well-researched reasons for this or other decisions, including which sections of the checker should hold which items. (See Chapter 7 of this dissertation, in the section examining the checker's credibility, and Curzan, 75-83, for a discussion of some of the more inexplicable quirks of the program.)

In light of the market reach of Microsoft Word and Curzan's description of the program as "a new nameless, faceless 'they' behind the authoritative statements that begin with 'they say you can't...,'" (69), the programmers' choices have a vast reach, whether well- or ill-considered. The rhetoric of the category names can be powerful to the novice writer who is prone to error and eager to make use of the resource to improve. The vernacular understanding of the word grammar as "error" and of style as superficial and dispensable makes it likely that the unskilled writer would be more likely to check the boxes under *Grammar* and uncheck the boxes under *Style* (as Major chose to do in his research), not realizing that many of the "errors" that a usage stickler reading her document might consider significant are listed under *Style*.

F. The checker's priorities

To make more sense of the items included in the checker menu required close study of the limited documentation on the checker, as discussed further in Chapter 7. Concentrating for now on the items as they appear on the menu, this chapter analyzes their focus and looks for patterns and continuities between the items, as well as giving more attention to the meaning of the groupings of the items. The chart below, in Figure 15, presents findings from my analysis. Item names are included as they appear in the grammar checker menu, and where those names

are ambiguous, an explanatory phrase based on my study of the documentation also appears, in brackets.

The chart groups the grammar checker menu items into a few main categories – not in accordance with the sections in the checker, but according to the types of errors each item seeks. The top section deals with “Groups of Words”: items that check for problems with word order, sentence structure, and (in the indented portion) their related punctuation issues. The second section consists of checker items that look for items within “Individual words”: the forms, endings and (again, indented) mechanics and punctuation within words.

The items in the third section deal with issues of “Meaning.” Almost all the items in the checker involve questions of meaning at some level; the computer’s inability to know a writer’s intended meaning, among multiple possibilities, is the reason computational linguistics is challenging and why the computer will never entirely be able to simply edit and punctuate our documents for us. But this third section is distinct from the other two in that it does not look for problem endings or word order but rather looks at words that the writer may want to replace or to remove completely, without replacement, for various reasons involving their explicit or implicit meaning. (There is no punctuation subgroup in this bottom section, because these “Meaning” items all focus on words, not punctuation.)

These three section categories – word order, word forms, and meaning – correspond roughly to the linguistic ideas of syntax, morphology, and semantics. A glance at Figure 14 above reveals that the greatest number of checker items (18) is dedicated to the first group, syntax. Within that section, the largest number of items (12) appears in the subgroup of “Punctuation depending on an understanding of syntax.” And with only one exception (the

The Checker's Priorities

Type of error sought by checker item	Register determines correctness	Checker menu section
GROUPS OF WORDS		
<u>Word order (syntax)</u>		
<i>Passive sentences *</i>	yes	Style
<i>Successive nouns (more than three)</i>	yes	Style
<i>Successive prepositional phrases (more than three)</i>	yes	Style
<i>Verb phrases – stylistic suggestions [?] [split verb phrases, subjunctive]</i>	yes	Style
<i>Words in split infinitives (more than one)</i>	yes	Style
<i>Unclear phrasing [?] [ambiguous modifiers and antecedents]</i>	no	Style
<u>Punctuation depending on an understanding of syntax</u>		
<i>Comma required before last list item</i>	yes	Require
<i>Fragment - stylistic suggestions [?] [diff. from Fragments is unclear]</i>	yes	Style
<i>Fragments and Run-ons</i>	no	Grammar
<i>Punctuation [?] [primarily at clause boundaries]</i>	no	Grammar
<i>Punctuation required with quotes [placement of periods & commas]</i>	yes	Require
<i>Punctuation - stylistic suggestions [specific issues incl. quotes]</i>	yes	Style
<i>Questions [unnecessary question marks]</i>	no	Grammar
<i>Relative clauses * [pronoun and punctuation]</i>	no	Grammar
<i>Sentence structure [multiple issues, incl. fragments and run-ons]</i>	yes	Style
<i>Sentences beginning with And, But, and Hopefully</i>	yes	Style
<i>Sentence length (more than sixty words)</i>	yes	Style
<i>Spaces required between sentences</i>	yes	Require
INDIVIDUAL WORDS		
<u>Word forms (morphology)</u>		
<i>Noun phrases [?] [article and agreement issues]</i>	no	Grammar
<i>Passive sentences *</i>	yes	Style
<i>Possessives and plurals</i>	no	Grammar
<i>Possessives and plurals – stylistic suggestions [?] [idiosyncratic rules regarding prepositional phrases]</i>	yes	Style
<i>Subject-verb agreement</i>	no	Grammar
<i>Verb phrases [?] [tenses and endings]</i>	no	Grammar
<u>Mechanics within words (includes spelling, punctuation)</u>		
<i>Capitalization</i>	no	Grammar
<i>Contractions</i>	yes	Style
<i>Hyphenated and compound words</i>	yes	Style
<i>Numbers [whether to write as numeral or word]</i>	yes	Style
MEANING		
<u>Words' or phrases' meaning (semantics)</u>		
<i>Clichés, Colloquialisms, and Jargon</i>	yes	Style
<i>Gender-specific words</i>	no	Style
<i>Misused Words [?] [modifier use, several other issues]</i>	no	Grammar
<i>Misused Words - stylistic suggestions [?] [idiosyncratic usage rules]</i>	yes	Style
<i>Negation</i>	no	Grammar
<i>Relative clauses *</i>	no	Grammar
<i>Relative clauses - stylistic suggestions [that vs which]</i>	yes	Style
<i>Use of first person</i>	yes	Style
<i>Wordiness [?] [idiosyncratic rules regarding redundant words]</i>	yes	Style

Figure 15. The Checker's priorities (* items appears in two sections)

first item, serial commas), every item in this subgroup relates to the question of clause boundaries. That is, a writer must understand what is commonly understood to constitute a sentence in order to make appropriate editing choices to correct fragments, run-ons, spacing, quotation punctuation, and each of the other issues treated with these items.

G. The centrality of the sentence

The computer, like a human reader, understands the set of words that appears between the first capitalized letter and final punctuation mark, usually a period, to be a sentence. In fact, the grammar checker cannot detect a missing period (as established in my research on the effectiveness of the checker, as presented in Chapter 2), and it needs an end-punctuation mark to cue its sentence-based checking abilities to begin their work. For human readers, these mechanical end-marks on groups of words create the status of “sentence,” which in turn creates expectations that the writer will meet certain conventions within that word group – expectations shared across most written registers. Well beyond a general idea of the sentence as a “complete thought,” there are specific technical expectations as to which syntactic constructions and accompanying punctuation constitute a complete thought in writing, including a verb and its subject, standing in what we call an independent clause.

This focus of the grammar checker on the sentence is important information, revealing not only what Microsoft perceives that its customers may want help with or what the program can do. It also confirms what compositionists already know: that writing demands skill sets that speaking does not, and mispunctuation which might cause a reader to stumble can nevertheless be difficult for a writer to avoid until after reaching fluency as a writer. Linguists

tell us that fluent speakers produce grammatical sentences effortlessly. But, Peter Elbow's hopes or Hartwell's insistence notwithstanding, not all fluent speakers are yet fluent writers. Even proficient writers can struggle to remember the arguably arcane, sometimes counterintuitive details of conventional punctuation. When talking, any fluent speaker of English produces word sequences that include subjects and their predicates, however roughly. Otherwise, the speaker would be incomprehensible to English-speaking listeners, a situation so close to nonexistent that structural linguistics was able to popularize an entire school of theory on the principle that our grammatical sense is innate and even preverbal. However, as discussed in Chapter 2, we need not punctuate or spell when we talk, and these orthographic skill sets are acquired distinctly, separately from the ability to speak.

As Geoffrey Huck explains in *What Is Good Writing*, written English – including, perhaps especially, standard published English – is a language that must be acquired through use, if one is to generate it effectively. That is, writing is learned by reading. A writer who reads regularly in a given register thus acquires a familiarity with its conventions seemingly by osmosis, without, necessarily, a conscious attention to form. This capacity includes an ability to recognize transgressions of convention – errors – in one's own and others' writing, to varying levels of proficiency. A nonstandard word usage or punctuation simply looks or sounds wrong to one accustomed to seeing it otherwise, again and again. Even when the writer is unsure how then to edit the usage to conform with applicable conventions, the necessary first step has occurred, of the eye seeing or the inner voice hearing the read text and sensing a problem. According to Huck as well as Hartwell and many others, research in composition to date tells us that this awareness cannot adequately be taught, that there is no way to learn this skill except to

acquire it through extensive exposure, reading others' writing. As we are not able to magically gift our students with a lifetime of reading in the space of one semester, the question arises of what use then is a writing class, in the meantime, even if a student has not or, indeed, if they have already experienced two decades of excellent reading. And one of the revelations in this chart of the checker items is just how many punctuation problems depend on an understanding of the linguistic and grammatical construction of a written sentence, from one period to the next. The checker attempts to help writers notice and adjust their punctuation to conform to the necessary conventions at the actual and seeming boundaries of sentences, and it thus indicates a complex concept in need of pedagogical attention.

Another finding from this chart analyzing the checker is how widely different are the types of error sought. Some are straightforward: words or groups of words that are, essentially, impossibilities in conventional usage, analogous to misspelled words that are simply not words in any dialect: words in an incomprehensibly jumbled order, or sentences with no punctuation, thus nonsensical unless one is Molly Bloom. My research results on the effectiveness of the checker reveal that an error which simply involves scanning for certain words ("dranked") or mispunctuation within words (this last is essentially spelling, such as "themselve's") is easier for the checker to catch than constructions requiring the program to parse the sentence in order to guess at the user's likely intended meaning. (Unusual combinations can now depend more heavily than formerly on corpus analysis.) But even across the wide range of item types, the centrality of the sentence remains. The plethora of rules offered in the checker involving clause boundaries suggests that there are many factors which

determine what constitutes a sentence and whether it is punctuated appropriately, such that the programmers have devised multiple algorithms to read those factors.

H. Suitedness: error as decided by register

Cutting across all three categories of individual words, groups of words, and meaning is the question of suitedness to the conventions of a writer's rhetorical situation. Such situational concerns – rhetorical choices driven by the exigencies of context – are related to the field of linguistics known as pragmatics. And in a conversation about error, the central pragmatic question is the one of what counts as an error. The columns on the right of the same chart, "The Checker's Priorities" (Figure 15), assess these pragmatic and rhetorical questions of suitedness.

A desire to distinguish between "real error" and "just style" is almost irresistible, even for those who understand the haziness of the boundaries between those terms. More importantly, in a practical register, a refusal to draw such lines proves impractical. The best use of a checking program focused on error seems obviously to be defining the errors that the greatest number of readers will find egregious and, thus, that the greatest number of writers would want to avoid. Such errors would be the logical priority of a grammar checker to catch. And, as the Afterword will discuss, the current Microsoft programmers working on the next version of the Word checker are indeed focused on catching errors rather than style concerns. (This focus unfortunately creates a loss of valuable functions, however, because some of the issues that the computer is more effective than humans at detecting with minimal human supervision are non-alarm-bell, purely mechanical issues such as spacing or relatively

straightforward usages such as clichés, easily detectable for the computer with string matching but hard to notice in one's own writing.) Several other problems also emerge from the attempt to focus the computer's capabilities – attention – disproportionately on high-severity-index errors.

One problem is the inherent, persistent difficulty of defining what counts as an alarm bell error. As discussed in Chapter 1 (and mentioned earlier in this chapter, looking at which items were placed in which section of the checker menu), rhetorical context shifts the line between “error” and “not error,” and between major and minor error. Factors such as not only a disciplinary style guide or the formality of the situation but also the known pet peeves of a particular reader or the personal preferences of the writer (his writing style) can all shift decisions about what counts as problematic, sometimes in competing directions. The line is dotted, irregularly shaped, or, more accurately, not a line but a zone of liminal space between correct and incorrect, appropriate or indecorous.

Still, even if there will never be general agreement on where to place the line, or the zone, even if compositionists were to agree that all usage choices are ultimately style choices, and even if we allowed that the zone moves according to both situation and personal preference, it is evident that some types of missteps are more jarring than others, to more people, across more rhetorical situations. A broad multi-genre, multi-register corpus analysis that might establish what those mistakes are – what usages count as the most egregious errors, in the greatest number of contexts, for the greatest number of readers – is well beyond the scope of this study. In the twenty-first century, such research is part of the work of dictionary makers and of some linguists, so we are already seeing the fruits of that research included in the

grammar checker. And if we are looking, or better yet conducting such research ourselves, we should see more such evidence – more transparent and documented analyses of situated usage conventions – in the coming years.

In the meantime, and even after rhetoric and composition has gained readier access to such knowledge, each writer, editor, and composition teacher will still be left to her own decisions about which errors are worthy of attention. We each acquire this sense of relative egregiousness as part of our overall acquisition of language and of fluency in written English. Any explicit instruction we have each received in editing for error – usually through schoolbook grammar instruction, sometimes through teacher margin comments – supplements that knowledge acquired through our reading that develops our preferences defining which errors we find intolerable and which insignificant.

Ultimately, whether any usage is considered correct or appropriate always depends on its context – one of the fundamental arguments of this research. But the suitedness of some specific words, constructions, or punctuation is particularly dependent on register. The columns down the right side of the previous chart (in Figure 15) analyze this factor. Items that are considered acceptable in some registers but not in others – so, which depend heavily on suitedness to decide whether or not they count as errors – are tagged “yes” in the “Register determines correctness” column. These usages are defined either by style-guide conventions (such as whether or not to use a serial comma), by level of formality (such as whether contractions are allowable) or by other considerations that cut across multiple utterances, genres, and audiences (such as whether the insider language of experts, “jargon,” is permissible or perhaps preferable). So, for example, the abbreviation “DNA” has entered the everyday

lexicon from its scientific context and thus does not befuddle the reader or tax his cognitive load and is thus not an error to use in most contexts, but “IRB” is likely to be familiar only to professional-level researchers and a mistake to use unexplained to any other audience. Serial commas are not standard in a news article nor, therefore, a press release, but they do belong in academic writing that follows MLA or Chicago style. (In a personal email, one must decide for oneself.) Context-dependent usages also include items that are not technically incorrect in most written English, by the traditions of schoolbook grammar (for example, a sequence of multiple, consecutive prepositional phrases) and even occasionally may be preferable to other alternatives, but which can obscure readability, causing a reader to stumble and need to reread. These words or constructions are considered “style” in the sense of being ill-advised, for clarity’s sake, such that the writer might want to consider rephrasing.

A “no” in the “Register” column of the chart “The Checker’s Priorities” indicates that the named item checks for a usage which is rarely considered acceptable in published written English – a pointer towards likely alarm bell errors. Again, any lines and zone to denote “error” as opposed to “not error” are necessarily porous, but the errors in this column fall more firmly at the “error” end of the continuum.

The coding was based on my own acquired knowledge and interpretation of handbook grammar, my research on usage and prescriptivism, and my experience as a composition instructor and a reader, but it is ultimately and inevitably subjective, and no doubt any reader of this research may categorize any one of these items differently. As compositionists eventually become more familiar with emerging research from corpus linguistics on usage in various registers, perhaps our categorizations can become more grounded in corpus data.

Meanwhile, we may be able to agree that, on a sliding scale from “error” at one end to “personal preference” at the other, the subject-verb combination in “The host want a live band” falls firmly towards the error end of the continuum, as a subject-verb combination likely to be jarring to most readers of non-colloquial written English. Thus, the item *Subject-verb agreement* earns a “no” in the column “Register determines correctness.”

The final column on the right, “Checker menu section,” runs beside “Register determines correctness” to allow comparison between the two columns items by item. This juxtaposition confirms that the programmers’ intention, in creating separate sections for *Grammar* and *Style*, was to draw the line between error and mere preference: to attempt to demarcate alarm-bell errors as distinct from simple ill-advisability. With few exceptions, a “yes” in my “Register” column corresponds to the items appearing in Microsoft’s *Style* section of the checker menu (or *Require*, the top section regarding the three style-guide questions of serial comma, quotes, and spaces after periods). The items from the *Grammar* section each earned a “no,” as they described usage standards such as subject-verb agreement that tended to apply across most written registers – which is to say, would be considered errors by most readers in most situations.

Viewing these right-hand columns, which establish whether or not the correctness of a checked-for usage depends on register, against the three horizontal sections of the chart, which group the items by error type, we see that types of errors fall evenly between “grammar” (alarm bell) errors and “style” concerns. All three categories of error appear in both the “yes” and “no” columns corresponding mostly the *Grammar* and *Style* sections of the checker. In *Require*, all three items are register-dependent – and, thus, are “style” issues.

The only notable exception to this even spread of register-dependent item types across the *Grammar* and *Style* sections is the top section of the chart, the syntax issues in “Groups of Words.” These items are not punctuation questions but solely involve word use, such as passive voice or split infinitives. Five of these six of items are register-dependent and appear, correspondingly, in the *Style* section of the Microsoft menu. In other words, these issues are for the slightly more advanced wordsmith, who may have mastered complete sentences and how to punctuate them and can turn his attention to noticing more nuanced style problems such as a pile-up of nouns used as adjectives or too many prepositional phrases strung together – problems that are easy to overlook because they are not inherently ungrammatical, in the vernacular sense of that term. The word patterns targeted in this section are usages that would be acceptable and unremarkable in the spoken language of a fluent, literate speaker but which do not read well in writing.

I. Implications for research and pedagogy

Until we have more data from corpus studies, which will tell us what words and punctuation actually appear in the writing of a target register, we cannot statistically confirm what usages are considered errors by a wide number of writers and their readers and what moves, on the other hand, are widely accepted. In the meantime, the grammar checker menu offers a range of reminders, from the standard to the idiosyncratic, of a full array of possible linguistic moves that might be problematic in one register or another. Depending on its success in checking any one of those categories, it may also give a writer a number of more specific reminders of register-divergence during the editing process.

Analysis of the checker menu has yielded knowledge useful on several fronts for application and pedagogy. The checker's architecture and the function of many of its items turn out to be somewhat difficult to discern, presented in weak technical writing, and it is important for students to know that their confusion on these items is not a failure of their knowledge of usage or of grammar terminology but of the labels in the menu.

The most important discovery here that can affect pedagogy is that the checker prioritizes checking for elements that relate to sentence and clause boundaries and their punctuation. If a writer does not fully grasp the grammatical concept of the sentence, writing will be difficult on many fronts, including style choices and error management (and error management as a style choice). Much depends on an understanding of the idea of a sentence, as one or more independent clauses with one or more dependent clauses, all demanding certain punctuation conventions. And the divisions into *Require*, *Grammar*, and *Style* sections are based on implicit notions of register.

After the presentation of the idea of register, Chapter 4 discussed in its conclusions the direct applicability of register in the use of the checker menu, by considering and selecting which items the checker should check for. This chapter has presented the menu of those items, further clarifying the selection process by showing all the actual choices on the list and how to reach it. Decisions about contractions, first person, fragments, double negatives, or colloquialisms are all style choices – decisions about usage made within a context of prescribed or speculated register expectations – and seeing the checker options makes those choices explicit. Instructors' and students' discovery of this straightforward information about how to use the menu is at the heart of any pedagogical application of the research in this dissertation.

CHAPTER 7. The rhetoric of the interface: The Help page, grammar terms, and stance in the checker

The labels in the grammar and style checker menu, as described in the previous chapter, offer limited and sometimes confusing information about the checker's functions. A user who wants to understand more about the nature of this technological instrument – about items that are vaguely named or about what usage conventions any of the items scan for – will be hard pressed to find information. But the checker has limited usefulness without this knowledge, especially for a professional whose work includes writing and editing or the writing instructor who wants to make a well-informed decision about whether and how to include the checker in her pedagogy.

For the determined user who wants to know more, there is one text that offers a little more detail. Like the grammar checker menu, it is difficult to find. It cannot be accessed through any button or option in the user interface that is labeled for or dedicated to the grammar checker.

A. Finding the Help page of usage explanations

This further documentation about the grammar checker items lives on a web-based “Help” page. A writer who knows that these explanations exist can seek the site through trial and error, either by using the program's search function or by conducting an internet search with a web browser. Until recently, clicking on a tiny question mark in a little box in the upper right-hand corner of the checker menu would lead to the Help page, but now it leads only to the main, online table of contents for Word Help. (In any case, despite many years of using the

grammar checker menu and several studying it, this researcher had never discovered that this unobtrusive icon might lead to a page of substantive information.) Removing a path that formerly led to the already limited and buried documentation makes finding it even more difficult.

With no labeled button, link, or right-click option on the grammar checker settings menu (studied in the previous chapter), there is also none on the page that leads to the menu (*Proofing*). On the ribbon at the *Review* tab there is no button in the *Proofing* section (where the *Spelling & Grammar* button is) that leads to further information about the checker. In the row of icons in the upper-right-hand corner of the main program window, above one's document, there is a tiny question mark (I have circled it, here in Figure 16).

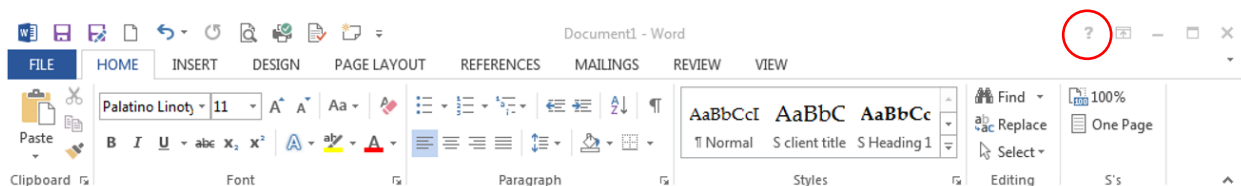


Figure 16. Tiny question mark leading to Help

Clicking on this question mark opens Word 2013's online Help (not accessible without an internet connection). Its first window is entitled "Top Categories" and presents a brief table of contents of major Help topics. One heading is *Review a document*, clicking upon which reveals a list of subheadings, one of which is *Check spelling and grammar*, but the information in this section has only to do with the logistics of turning the checkers' functions on and off altogether. It provides no content about what the program checks for.

Using the search box at the top of the Help window, a search for "style" yields 70,700 results, ten per page. The majority of these results relate to document formatting, especially to

the many *Styles* functions in Word, accessible from the *Home* and *Design* tabs. This vast search result is a reminder that one of Word's main offerings, though unused by many writers, is extensive capabilities to control the visual rhetoric of a document through manipulation of fonts, color, layout, and blank space on the page. Among these thousands of Microsoft Help search results are many online explanation pages, step-by-step instructions for tasks, training videos, and troubleshooting guidance. In addition to the pages about formatting in *Styles*, some of the "style" search results present program information about "style" in the style-manual sense of required documentation for citations: since Word 2007, the program has offered tools for creating footnotes and bibliographies, with 11 formats specific to a variety of disciplines, including, for the humanities, APA, MLA, Chicago, and the Chicago variant known as Turabian. A few results relate to style in our sense of style, in writing – words and punctuation choices – including one on the first page of results.

A search for "grammar" yields a much more manageable ten results, most of which are dead ends for the seeker of what the checker checks for. One holds explanations of each item on the grammar and style menu and provides one of the main texts for the discourse analysis of this research. This page was entitled "*Select grammar and writing style options*" when I began this research but inexplicably changed to "*Customize grammar and writing style options*" just before I finished. Its content and format remained otherwise identical.

This Help page of explanations is all the documentation available on the content of the grammar checker, and it functions like a four-page summary of an entire usage handbook. If, as Curzan posits, "the Microsoft grammar checker is now the English teacher that some writers never had" (65), both users and human writing instructors would be judicious to ask what full-

length grammar handbook or usage guide this technological teacher is using – what approach to error and style lies behind the checker. Unfortunately, while Heidorn’s 1999 article was “transparent about the dictionaries that serve as the source for spelling corrections and part-of-speech information; the same cannot be said for the sources of grammar and style corrections” (Curzan 67). This Help page gives us some tea leaves to read.

B. The content of the explanations

The Help site holds content equivalent to approximately four letter-sized pages of text, the first page dealing with technical and logistical questions, such as how to reach the grammar checker menu, and the remaining three pages presenting explanations of the issues that the grammar checker checks for, itemized in the same order and groupings as the grammar checker menu. Curiously, while the section of explanations corresponding to the *Grammar* section of the checker menu is headed *Choose which grammar errors should be detected* and the section corresponding to the *Style* section is headed *Choose which style errors should be detected*, the first section, corresponding to the *Require* group of items, is misleadingly titled *Choose how punctuation errors should be detected*. Its correspondence to the *Require* section is thus unclear, as this title erroneously indicates that there is a setting in the checker that manages punctuation, generally, when in fact there are punctuation items in every section of the checker menu (*Require*, *Grammar*, and *Style*).

A few aspects of the layout and format of this page are somewhat confusing as well. A close evaluation of this page serves several purposes: to make sense of what it tells us, for ourselves and for our pedagogy; to see what it fails to tell us, especially about its more opaque

error rules; and to discern what not only its content but its form and its own errors of form and content imply about register. Noticing, explicitly, how the page could be clearer, not only can we can not write a better guide for our students or have them write their own cheat sheet, of sorts: we can tell Microsoft how to improve this page, as they draft new documentation for new versions, actively soliciting user feedback, which is a sea change from past practice (more on this issue in the Afterword).

This Word 2013 grammar checker Help page contains some obvious proofreading oversights, such as failures to ensure that headings and the bulleted items beneath them align same-level list items with parallel formatting. In the glass house with the hall of mirrors that is writing about writing about writing, it behooves us not to be petty sticklers, policing one another's utterances for minor errors. Despite my own best efforts at error management, syntactical or typographical missteps may linger in this dissertation -- to taunt me after its publication, as they do all writers who later see printing errors in their books. But the smattering of writing errors in the Microsoft grammar checker Help page are of types that obscure meaning (a criterion often cited among writing teachers attempting to evaluate the severity of errors). An error such as including the heading of the next bullet list as the last item on the previous list causes a reader to stumble. As I argue throughout this research, rhetorical context is the foundation for evaluating error. This dissertation is not an anonymous commenter on a politics blog, resorting to ad hominem snark over a misspelled "there" when unable to make a relevant argument, and the grammar checker Help page is a document crafted to explain an instrument to assist writers with their proofreading. The document has existed in the same or similar form for more than a decade, is offered as a resource to, literally, billions of

readers, and is attempting to help readers overcome errors in, among other issues, punctuation. It exists in a digital form that is thus easy to revise and republish. A failure to proofread such a document is a more serious fumble of credibility than a similar typographical error in an everyday email. (I explore these errors' impact on the checker's ethos in the register analysis later in this chapter.)

After the somewhat confusing layout of the first section, which explains the items in the *Require* portion of the grammar checker menu (but is not labeled with that heading), the format of the *Grammar* and *Style* sections is straightforward, presenting in bold the item names identical to the labels in the menu described Chapter 6, each followed by a plain-text description of what that item checks. In *Require*, explanations are offered as complete sentences, each an imperative beginning with "Select this option if you want..."

In the remainder and majority of the Help page, the explanations are presented in the *Grammar* and *Style* sections as grammatically parallel noun phrases that rename the error – essentially, appositives of the item label – punctuated with initial capital letters and final periods as if they were sentences. A few are followed by a verb phrase that begins "Also detects," each punctuated as a sentence. The explanations sometimes include considerable elaboration or examples and sometimes not; in the *Grammar* and *Style* sections, the explanations (including each item's name) range in length from five words (for *Negation*) to 63 words (for *Clichés, Colloquialisms, and Jargon*), at an average of 24 words. On the *Require* list of style-guide issues, the average length of an item is 115 words, because these items (serial commas, punctuation placement with quotation marks, and one or two spaces after periods) each offer three options, all with illustrative sentence examples.

Figure 17 below provides a screenshot of the first items in the *Grammar* section.

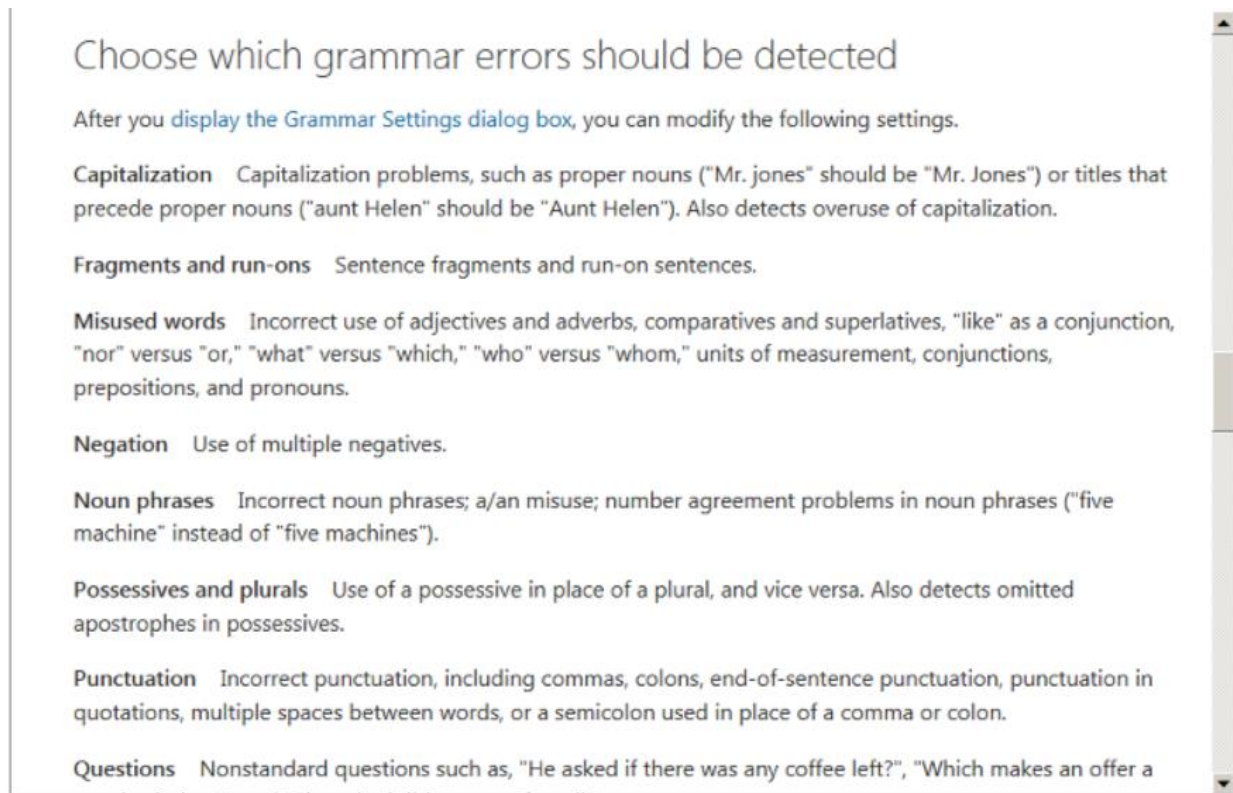


Figure 17. Screenshot of the beginning of the Grammar section on the Help page

The Help page genre presents errors' greatest hits

Help pages are a well-established genre in their own right, a digital version of a section or page from the user manuals that once accompanied new software – now rare to find in print on paper. Its metagenre is thus technical writing – more specifically the subgenre of technical documentation with an audience of non-expert end users who are also customers. The technical content of a Help page is usually operating instructions for using the computer – about how the user should interact with machine interface to perform their desired tasks with the software. And Microsoft does offer thousands of pages of such explanation and step-by-step direction for Word, as evidenced by the more than 70,000 results from the search for the word "style" alone.

For the grammar and style checker as well, there are a few help pages directing the user on how to find and use its controls. But this Help page for the checker is different in that it reaches over into another area of technical expertise: that of grammarians, stylists, copyeditors, and compositionists – or, we could simply say, of writers themselves. This page is therefore trying to perform the dual task of explaining what the machine does and, necessarily to be able to do that task, also explaining usage rules, since the application’s task is the checking against those usage conventions.

The antecedent genre to Help pages for all types of software and web-based applications is how-to instructions for anything that is put to use. From business writing, another corollary is the executive summary with bullet points. A well-written Help page is the model enactment of practical style: the writing assumes that the reader has little time and wants direct, minimal communication that protects her time and spares her from unnecessary cognitive load. On a page such as this one, which leads the user through topics rather than steps, another model is the glossary, with a list of alphabetized terms, defined or explained.

Because this unique Help page must also present linguistic content, another antecedent genre for this page is the “Top 20” list of errors commonly found near the front of a grammar textbook or in an article in the popular press on “grammar errors to avoid.” The decision to include these 35 items and not others indicates that these are the “Top 35” categories of error that a writer will want to avoid, or may want to avoid – at least among those a computer can check for. While that may not be literally true – the choices may depend on what the checker can check, as much as on what are the most important errors to avoid – but the strong rhetorical implication, in this context, is that these are the important errors.

It turns out to be largely true that these 35 items correlate with problems of error widely considered to be concerning, if we check it against other lists. It includes at least three-fourths of the items on the “Top 20” list in Lunsford’s handbook *The Everyday Writer* (4), a list predicated on the research she and others have conducted on error in student compositions, discussed in Chapter 1. The checker also provides feedback on some aspects of the remaining one-fourth (5 items), (to know how much would require some further effectiveness testing targeted specifically at the error types which were not part of the quantitative testing for this research). For “missing word,” for example, the checker is apt to use *Sentence structure* or a message that mislabels the error type, due to the syntactical confusion caused by the missing word, but does note that there is an error. The other few errors are questions of meaning, such as the “wrong word” problem sometimes caused by the checker itself, and even on this error, the checker is of some assistance, for instance on contextual spelling and what it calls “hard words.” A look at a similar list from my own university (WAC) shows that the Word grammar checker detects – or tries to detect, as we recall from the effectiveness data in Chapter 2 – almost all the items on that list. It also checks most of the items (more than two-thirds) listed in Bryan Garner’s appendices on “grammar,” “punctuation,” and “usage” errors in his guide to “better business writing” that he wrote for Harvard Business Review Press, as well as all the particular errors mentioned in Kyle Wiens’s stickler rant discussed in Chapter 1.

Whether the checker successfully checks for all these items is a separate question from the power of their presence on this list. It appears, accurately or no, as an executive summary of all the important word- and sentence-level errors in the English world, a tiny summary of an entire grammar book – of all grammar books – the definitive “quick and dirty” guide to

correctness. As such, this list and the menu it explains shape the conversation about what counts as an error in powerful and fundamental ways, with our students and for writers all over the globe.

In search of clarification

Given the wide scope of checking for usage errors and the necessary limitations of a Help page, the document attempts to include a great deal of information in a relatively small number of words. A language teacher perusing the checker for its potential pedagogical integration or any other user needing a highly specific explanation cannot find much detail about the Microsoft checker here (or anywhere). Most of the explanations are necessarily general, and few include reference to particular targets of detection. Of the 35 explanations, eight include mention of specific words that the checker is looking for, such as “fairly” or “that” and “which,” though without placing the words in a sentence that illustrates their use or misuse in context. An additional 17 explanations give examples of words being used or punctuated incorrectly, sometimes then also including a corrected example of the problem usage, such as “‘aunt Helen’ should be ‘Aunt Helen.’” The remaining ten explanations only state the rule, without examples.

As discussed in Chapter 5, the grammar checker menu failed to make clear on that checklist what many of its items (19 of the 35) check for. Those items with unclear names on the menu, one would most hope to find clarified well, on the Help page. Unfortunately, only one of these items becomes more clearly defined after a reading of Help page: *Questions*, whose explanation establishes that this item checks for groups of words that are punctuated as if they

were a question but constructed not as a question but as a fragment or a statement such as “I asked if you wanted sweet tea?” (After reading its explanation, I had initially planned to include *Negation* as one other item whose purpose became clear after a reading of its Help page explanation, “Use of multiple negatives,” only wondering why it did not use the more familiar term “double negatives.” But research since then has revealed that some grammar checkers flag combinations such as “not unlike,” as in “He was not unlike a sleepy walrus,” as a style error, and there is no way to know, from the Word documentation, whether its grammar checker also flags such usage as an error, so this item’s function remains muddy.)

The purpose of some of these 19 items does come more into focus with the Help page explanations, but inadequately. For example, “Incorrect verb phrases” is part of the explanation of *Verb phrases*, simply redundant of the item’s name, and it is unclear whether this “Incorrect” refers to other usages in addition to the two it mentions specifically – “verb tense” (not defined further) and confusion between transitive and intransitive verbs – or whether these two problems are the usages to which “incorrect” refers. For most of the other unclear items, such as *Misused Words*, *Unclear Phrasing*, or *Wordiness*, the Help page explanation adds some general sense of what the item might be checking for or a smattering of specific examples of what it checks, but the user is ultimately left without a real understanding of what she can depend upon the checker to check, nor even, in some cases, what is the main focus of the item.

The remaining 16 items seemed clear from their names on the grammar checker menu, and some remain so after a reading of their explanations. Some are extremely specific and unambiguous: *Successive prepositional phrases (more than three)*; *Contractions*; *Sentence length (more than 60 words)*. If the grammar checker succeeds in detecting these described errors, it can be

genuinely useful to a writer wanting a technological eye to help her notice these issues, relieving some cognitive load.

On the other hand, some of the items that seemed well-defined from their names on the grammar checker present explanations that now muddy understanding of what they check. *Sentences beginning with "And," "But," or "Hopefully"* is refreshingly exact, and a useful rule. Even a writer who, like me, allows his sentences to begin with conjunctions can make use of this checker item, for help noticing if he has done so too often. But the explanation on the Help page broadens the rule vaguely, to "Use of conjunctions and adverbs at the beginning of a sentence, or use of 'plus' as a conjunction between two independent clauses." With this one mention of "plus" and the general category of "adverbs," what the rule checks for is now unclear. For a seasoned writer, this undefined breadth is not concerning, as one can simply ignore any misguided flags while keeping the rule active to catch overuse of "And." But for a writing instructor, it is unclear whether it is advisable to direct students to turn on this item, as it may also give other, perplexing information to novice writers, suggestions that they do not yet have the knowledge to evaluate effectively. Similarly, *Use of first person* seemed straightforward enough, but from the explanation "Pronouns I and me, which shouldn't be used in scientific or technical writing," it is now unclear whether the item checks only for the subject and object pronouns or also for possessive and plural first person pronoun, such as "my," "ours," "mine," "we," or "us." (A test of the checker on a few sample sentences shows it detecting only "my" and "mine" from this list, so the rule might better be labeled "Use of first person singular.") It is also notable that "scientific and technical writing" is the one rhetorical situation mentioned relevant to this rule, when there are many contexts in which a writer might want to avoid,

minimize, or monitor use of the first person, including much academic writing. The comment reveals the origins and, arguably, the target audience of the checker: writers of technical documentation.

Some of the explanations on the Help page indicate that their categories are as impossibly broad as they seemed from their item names. The 63-word description of *Clichés, Colloquialisms, and Jargon* includes mention of ten specific examples of problem colloquialisms such as “awfully” or “how come,” among the unknown if presumably large number it checks for, but sweeps past the broad and context-specific problem of jargon with the uninformative explanation “Use of technical, business, or industry jargon.” The explanation gives no indication of how the program determines what might constitute jargon. (What counts as jargon to a given audience necessarily depends on context, so a writer would do best to have a function within the program to allow her to flag jargon words she defines herself.) A moment’s reflection on this item also prompts the realization that its purposes would be better served by separate rules: a document such as a highly technical paper written by experts for experts would not only allow but require discipline-specific jargon that this rule may flag, but it is likely to be the selfsame utterance to which clichés and colloquialisms would be stylistically ill-suited.

A truly attentive reading of the Help page explanations reveals the perennial difficulty of experts writing for non-experts, as in any technical documentation. Many of the rules seem to explain this full grammar handbook’s worth of usage conventions in simple and straightforward terms but turn out, on reflection, to be COIK. For the writer who is relying on the grammar checker to be his first or only grammar and usage teacher, as Curzan describes, even simple items such as “*Comma required before last list item*” are likely to be confusing (and the

term “serial comma” is equally unlikely to have helped, in this scenario). The brief explanation on the Help page is not likely to magically deliver the notion of the serial comma into the untutored mind, especially when the understanding of a grammatically parallel series is needed for more complex structures such as a list of modifiers, phrases, or clauses, rather than a simple list of one-word nouns as presented in the explanation. For the skilled or professional writer switching between documents in contexts that alternatively require the serial comma and then banish it, any help the checker can provide in flagging this convention will be a boon, and the discovery that the grammar checker offers this function is likely to be welcome. But the novice encountering this item may be only befuddled as to what this convention is or why it would matter.

C. Grammar terminology in the checker explanations: range of difficulty

The challenge of insiders writing for outsiders brings us to the battle over terminology that lies at the heart of the grammar wars, as discussed in Chapter 3. In keeping with the prescriptivist grammar-handbook tradition of which it is a part, the Microsoft grammar checker avails itself of grammar terms to name and describe some of its functions, but it does so within certain patterns.

The chart below, in Figure 18, “Grammar Terms on the Help Page,” lists all the grammar words used on the Help page to name and explain the grammar checker items. Before each word is the number of times it appears in the Help page explanations, and in my parentheses after each word is the number of those instances that occur within the names of the items, as they appear on the main grammar checker menu (the screenshot in Chapter 6, Figure 14). The

three columns of the Grammar Terms chart here divide all these words into three groups according to their difficulty: “1. Familiar Words,” “2. Somewhat Technical” words, and “3. More Advanced” technical terms, with the total number of words from each group noted in the headings at the top of the columns. As the chart reveals, the grammar checker leans most

Grammar Terms on the Help Page (frequency of appearance, if any, on main checker menu follows each term in parentheses)		
1. FAMILIAR WORDS: 146	2. SOMEWHAT TECHNICAL: 58	3. MORE ADVANCED: 18
A. Words naming punctuation marks or mechanics, used 43 times (8 on main menu)		
9 <i>comma</i> (1) 1A 8 <i>punctuation</i> (3) 7 <i>space</i> (1) 7 <i>quotes, quotation mark</i> (1) ¹ 3 <i>hyphen</i> (1) 3 <i>capitalization</i> (1) 2 <i>period</i> 1 <i>apostrophe</i>	2 <i>colon</i> 2A 1 <i>semicolon</i>	3A
40	3	
B. Terms naming groups of words, used 71 times (20 on main menu)		
26 <i>sentence</i> (5) ² 1A 18 <i>phrase, phrasing</i> (5) 5 <i>question</i> (1) 2 <i>strings</i> 1 <i>title</i>	5 <i>fragment</i> (2) 2B 5 <i>passive</i> (1) 4 <i>relative (clause or pronoun)</i> (2) 4 <i>clause</i> (2) 3 <i>run-on</i> (1) 3 <i>voice (active or passive)</i> 2 <i>active</i> 1 <i>infinitive</i> (1) ³	1 <i>independent (describing clause)</i> 2C 1 <i>nonparallel</i>
52	27	2
C. Terms naming forms or types of words, used 30 times (8 on main menu)		
6 <i>possessive</i> (2) 1C 4 <i>plural</i> (2) 2 <i>proper (labeling a noun)</i> 2 <i>contraction</i> (1)	2 <i>negation, negative</i> (1) 2C 2 <i>compound</i> (1)	4 <i>agreement, disagreement</i> (1) 3C 4 <i>closed, open (describing compound words)</i> 1 <i>indicative</i> 1 <i>mass (as type of noun)</i> 1 <i>number (regarding agreement)</i> 1 <i>quantifier</i> 1 <i>referent (of a pronoun)</i> ⁴ 1 <i>subjunctive</i> 1 <i>superlative</i> 1 <i>comparative</i>
14	4	16
D. Terms discussing appropriateness or formality: 17 (9 on main menu) (“grammatically” correct but “stylistically” problematic)		
6 <i>stylistic</i> (6) 1D 2 <i>cliché</i> (1) 2 <i>jargon</i> (1) 3 <i>formal, informal</i>	2 <i>usage</i> 2D 2 <i>colloquial(ism)</i> (1)	3D
13	4	
E. Terms naming parts of speech or of sentences: 47 (7 on main menu)		
14 <i>verb</i> (3) 1E 13 <i>noun</i> (2)	5 <i>pronoun</i> 2E 5 <i>conjunction</i> 4 <i>adverb</i> 3 <i>subject</i> (1) 3 <i>preposition</i> (1) 2 <i>adjective</i>	3E
27	20	

Figure 18. Grammar terms on the Help page

heavily on the simplest terminology, with 146 terms in the “Familiar” column. It also includes some words of medium difficulty, 58, while minimizing use of more difficult grammar words, including only 18 words.

In the same way that relative severity of error is a somewhat subjective determination, the difficulty of any one grammar term – its status as jargon, or obscure jargon – is up for debate. A corpus study of natural language use may eventually establish more objective criteria for the egregiousness of a given error, but the difficulty of a grammar term is likely to remain contestable, dependent on a number of factors, perhaps most significantly including what happened to be the priorities of a person’s fourth grade teacher.

As with the severity of usage missteps, assessed in Chapter 6 on a continuum from alarm-bell errors to register-dependent style choices, the ranking of the relative difficulty of terms in this chart in Figure 18 therefore depended upon my impressions and experience as a teacher, student, and researcher of grammar and awaits further testing. Amidst myriad factors, other teachers’ students may show more masterful familiarity with the phrase “independent clauses” than mine have, so one can quibble with my placement of any one word. But we should still be able to agree that some grammar terms are indeed more familiar to more speakers of English than others. For example, “question,” while in fact a grammar term that seeks to capture a concept that names a group of words, is also a common word in everyday vernacular speech. It carries essentially the same meaning in ordinary conversation as in technical applications for linguistics, editing, or the grammar classroom, albeit perhaps less carefully and specifically defined in casual use. The word “question” therefore does not qualify as a technical term, much less as highly technical jargon. On the other hand, “future perfect

progressive tense” or “nonparallel clausal construction” (neither of which phrases appears in the grammar checker) are likely to drive all but the advanced student of grammar and linguistics to glaze over and run away. The contemporary college composition classroom seeks eagerly to avoid the latter scene. Similarly, the checker includes grammar terms in most of the item names and the explanations, where the documentation writers considered them warranted. It tends towards simple terminology to explain its concepts, as demonstrated in the chart.

The word “sentence” is not arcane grammar terminology reserved for schoolbooks, so one needs no particular interest or instruction in grammar to feel unintimidated by the term – it thus ranks in the “Familiar Words” column. Therefore it is easy to forget that, when applied to writing, the familiar word “sentence” is a technical term, representing a complex, multi-faceted grammatical concept, foundational to good writing. Any compositionist has faced the challenge of explaining the conventions around this concept of the “sentence” to a student who is struggling to produce the expected “complete sentences” with their accompanying punctuation conventions. The concept depends, in turn, on other concepts that seem simple to fluent writers, after years of familiarity with phrases and clauses, but which are in fact COIK, complex to the uninitiated. Whether one uses the technical terms or repeats simple-word definitions like euphemisms, constructing and punctuating complete sentences as required by most conventional writing relies on at least implicit understanding of the clause, which in turn relies on some basic understanding of a subject and predicate, which then relies on some ability to recognize a noun and a verb. Avoiding fragments, run-ons, and comma splices – most of which are punctuation problems, demands some understanding of the difference between dependent

and independent clauses, verbals, and other phrases -- whether or not we use the technical terms to name those constructions.

D. The topics of grammar words on the Help page

The five rows of the chart categorize the grammar words by topic: A. punctuation and mechanics; B. groups of words (primarily naming syntactic structures); C. forms or types of words (“forms” involving word types, usually with certain mechanical or morphological requirements, such as “possessives” or “contractions,” while “types” relate to word functions within sentences, such as “negation” or “subjunctive”); D. appropriateness (dealing directly with questions of register and formality); and E. parts of speech.

Within each box on the chart, the words are in descending order of their frequency on the Help page, so the first word in each box is the one which appears most often, in that category. Thus “fragment” is the most-used somewhat-technical term that names a group of words, and “verb” is the part-of-speech term that recurs most often. The number in the small square at the lower-right of each box tallies the total number of instances of the terms in that box. The squares highlighted in grey note the several sections whose grammar terms appear most often on the Help page.

Clear patterns emerge when the grammar terms are laid out on such a chart. The most obvious reinforces a finding from the analysis of the more limited information of only the menu labels, in Chapter 6 (charted in Figure 15, “The Checker’s Priorities,”) which established that a disproportionate number of the grammar checker items deal with sentence boundary issues. On this new chart quantifying grammar terms, we see that the second row, “B. Terms naming

groups of words," holds significantly more occurrences than any other row of term types: 71 overall, including 52 easy grammar terms and 27 of medium difficulty. And the single most-used term in the checker documentation, by far, is "sentence," at 26 instances, establishing the concept of the sentence as the foundational idea upon which the grammar and style checker depends and for which it checks. Three of the 26 uses of "sentence" are part of the phrase "sentence structure," and most mentions of sentences regard structural issues such as boundary punctuation or appropriate conjunctions between clauses. (Though the program checks for some issues regarding dependent clauses, such as "that"/"which" or a comma after an introductory element, it does not use the phrase in the documentation.)

Placing the rows in this order also allows a correlation to emerge between the difficulty of the grammar vocabulary and the topics it describes, if we move from the upper-left corner, through the middle-middle, to the lower-right corner of the first three rows. As a group, these rows show first eight easy words in the upper right (1A), eight words of medium difficulty in the middle section of the second row (2B), and ten more challenging terms in the right-hand box of the third column (3C). Thus, the weight of the chart shifts from left to right as one moves down these three rows. Looking at their topics, we see that punctuation words are easy ("comma," "space," "quotation mark"); even if the user is unsure of where to put a comma, she is highly likely to know what a comma is. Words that name sentence structure and word groups are likely to be more challenging ("passive voice," "relative clause"). And words related to forms and endings are most likely to require some firm knowledge of grammar vocabulary ("mass noun," "agreement in number," "subjunctive").

Consideration of this shape, across these three rows, prompts us to consider how writers at varying levels of skill and knowledge understand and apply these terms and concepts. The words for mechanics in the first box (1A) name familiar punctuation marks. Even if the user is unsure of where to put an apostrophe, according to sometimes common and sometimes obscure conventions, she is quite likely to know what an apostrophe is. The words in row B for sentence structures include the familiar (such as “sentence” and “phrase” in the first column, in 1B) but in the second column (in 2B) quickly reach into terms that are somewhat less familiar to one without grammar training.

The number of unique words naming forms or types of words comprise the largest number of any section on the chart (3C), 10, even as they are likely to appear less frequently in the checker documentation overall (only 16 times). A careful look at this row (C) reveals that it moves from issues that are primarily mechanical in 1C (for example, possessives and plurals, the recognition of which is syntactical, but the correction of which involves punctuation), in the left column, to two main categories involving word endings, on the right (3C). One type of issue within 3C involves usages that only meticulous and well-trained writers are likely to understand how to correct, such as the rare English sentence containing a subjunctive that differs in form from the indicative or the conventions for dealing with open and closed compound words. The other type of grammar word in 3C involves word endings that are likely to be easy for a native speaker of English who is familiar with the conventions of published English, even if he does not know the grammar terms for these concepts. These morphological issues can be challenging for learners whose first language is not English: questions of mass versus count nouns, or of agreement in number between subject and verbs or between nouns

and their articles. (Not coincidentally, non-native speakers are also most likely to have learned these terms in English class. Lacking the extensive exposure through which native speakers acquire familiarity with appropriate morphological forms by seeming osmosis, and having acquired different habits of endings and word order from their first languages, non-native learners must incorporate more rote learning and conscious attention to these forms.)

Further comparison between this chart and the one on “The Checker’s Priorities” in Chapter 6 yield additional insights, beyond the noted correlation regarding sentence-related words. Row C of this chart, dealing with “forms or types of words,” similarly corresponds to the “Individual Words” section of that chart in Chapter 6 and likewise reinforces the place of morphology in the pecking order of the checker’s priorities, as a significant category for the checker but one to which fewer terms are dedicated, as well as fewer rules, as revealed in that chart (Figure 15).

Because a writer’s meaning cuts across all sections of this chart (Figure 18) and drives choices about punctuation, sentence structure, and individual word choice, there is no single row that corresponds exactly to the previous chart’s section focused on “Meaning.” The closest corollary is row D, holding terminology related to style, formality, and appropriateness as well as choices that can obscure or flatten meaning in some situations, such as jargon or clichés. These words appear less often than others on the Help page because these style issues are not focal to the checker.

In this chart, the top row (A), which collects the terminology of punctuation and mechanics, correlates with the Chapter 6 chart’s subsections in both “Groups of Words” and “Individual Words” that highlighted punctuation and mechanics for special focus within those

sections. A function of fully eight of ten punctuation marks, as listed on the Help page and named here, is marking at clause boundaries. (The only errors the checker detects related to quotations are punctuation issues, not phrasing; hence their inclusion here.)

E. Grammar words as our shop talk

Finally, the bottom row gives the parts of speech their own fiefdom in the chart, because these words and concepts cut across and undergird discussion on each of the other topics. It is difficult to discuss agreement between a noun and its modifiers without first establishing the foundational concept of “noun,” or to grapple with the problem of passive voice unless one has a notion of a verb. These part-of-speech terms that name the functions of words according to their category of use, allowing for one of several functions in a sentence, are traceable to the ancients and have reappeared in some form in most attempts to discuss language. A look at the parsing trees and computer programs of the computational linguists reveals that the ideas of the parts of speech remain fundamental to shared understandings of language.

It is worth noting that the checker, like most grammar checkers and other types of feedback that attempt to explain the reason why a certain usage is an error, employs these part-of-speech terms 47 times in its documentation. For a compositionist making decisions about how to allot instructional time and whether to include and define the parts of speech when explaining sentences, style, or error, it is a data point worth noting that a writer without this vocabulary will have a difficult time making sense of the explanations in the checker. They also land towards the left, the easier side of the chart, and are few. For all the resistance to teaching the parts of speech, they are one of the simpler aspects of grammar to communicate and are

useful across multiple contexts for talking about language, error, style, sentences, and conventions. While the concept signified by the word “noun” is more layered than we sometimes assume, once acquired, the ability to understand this idea and to apply it to natural language – as used, in sentences – proves transferable to still richer concepts, such as actions (verbals) or abstract events (in clauses) functioning as nouns.

The pedagogy of shop talk

Chapter 3 discussed the battle over terminology that lies at the heart of the grammar wars. Discussion of effective sentences may be more acceptable to some instructors if limited to non-technical words, familiar in everyday speech. If a student is unfamiliar with the terms “agreement in number” between a “pronoun” and its “antecedent,” a writing teacher who wants to discuss this concept but avoid using those terms might point out the non-agreeing words in the student’s paper and help the student see how the two words “don’t match” because the “second word” is for “more than one thing” and the “first word” names only one thing. Such may be the nature of a grammar “mini-lesson” for a student (or teacher) with little terminology for labeling words.

Grammar terms are the “jargon” of style and sentence-level writing instruction, and as such they carry the damning assumptions that this negatively connoted word implies. But it bears remembering that, with the appropriate audience, jargon exists for good reason: it is the field-specific, clearly defined terminology that captures concepts referred to frequently, in the work at hand. Technical terms are the shorthand between two people knowledgeable in a certain area, who each know that the other shares that knowledge and the same vocabulary for

discussing it in further depth. Like a literary allusion (a scarlet letter), or a historical reference (Watergate), or a nod to pop culture (“voted off the island”), each word in a specialist vocabulary invokes a module of meaning that spares the parties to the exchange from starting at zero with every new conceptual conversation on a given topic. In writing instruction, grammar terminology that is somewhat standardized and transfers from one situation to another, across instructional contexts and into personal, technical, and professional writing and editing situations, allows the participants to discuss questions of substance – both the content and the form of a piece of writing – without then always needing to take the time to build “grammar mini-lessons” into every exchange. Terms such as the parts of speech or parts of a sentence are the equivalent in language classes of simple arithmetic terms in a math class. They are our vocabulary for talking shop, alongside the vocabulary for other rhetorical topics such as ethos, pathos, and logos; topic, thesis, and argument; or invention and arrangement.

This question of grammar and usage terminology presses on the problem of COIK, or the “curse of knowledge.” So, for example, Nora Bacon faults Steven Pinker for an explanation of subject-verb agreement that she considers too arcane for the everyday student of style and better suited only for linguists. (It might indeed have been ill-suited for a grammar textbook, but Pinker’s description of the concept is reasonably well-suited to his book that she is reviewing, whose intended audience is the general reader with a substantive interest in language and style). She offers as a contrast and improvement Lunsford’s explanation on the same topic, for a textbook, as “simple” and “likely to be helpful to writers”:

Make sure the verb agrees with its subject and not with another noun that falls in between.

A vase of flowers makes a room attractive.

Many books on the best-seller list ~~has~~ have little literary value.

(quoted in Bacon 301, formatting in original)

But to understand this “simple” explanation, students need to have a working knowledge of four grammar terms, all which may be familiar but for which students may still lack basic understanding of the concepts they represent: “noun,” “verb,” “subject,” “agree.” These same terms appear on the grammar checker Help page, and the same necessary conditions therefore apply. Because the explanations are necessarily short, they are helpful only to those who know the jargon – which may or may not include our students, without some introduction to or review of these terms.

Fortunately, the grammar checker is not only a test of writer’s familiarity with these terms but a practical opportunity to introduce them – a highly contextualized lesson in our shop talk. The response of composition has been, largely, to minimize use of grammar terminology as off-putting “insider” language, and to rephrase grammar concepts (if they are mentioned even rarely, briefly, or indirectly) into everyday, non-technical language. But I and others (e.g., Kolln, Micchiche) argue that one task of English teachers and writing instructors, across disciplines, is to initiate novices into the language of the discipline by introducing them to it, clearly and carefully. “Noun” and “clause” are to writing what “equation” is to math or “molecule” is to science, and we do our students a disservice not to offer them these basic conceptual frames and terms. Teaching grammar terminology is not an all-or-nothing endeavor: as the checker explanations demonstrate, to communicate about the majority of structures, style, and usage we rely primarily on a handful of heavily used terms such as those

that name parts of speech and parts of sentences. At the level of words and sentences, giving students the vocabulary to name the word uses and structures they see in their own and others' writing is to invite them into this Burkean parlor of increasing, conscious language mastery, to welcome them into Bartholamae's conversation and share the language of participating in one aspect of metadiscourse about and analysis of writing.

F. The stance of the checker

To give the Microsoft grammar and style checker a full critical evaluation entails turning the tools of this study onto the language of the checker itself. We can discern the stance of an utterance by analyzing its style, knowing that the style is mediated by register expectations – in this case, the explicit standards articulated by Microsoft, which created the checker.

After considering the antecedent genres of each of its texts, this research has also begun analyses of its registers already, by looking at the content and context of each text of the checker, in turn. This chapter will extend that linguistic examination and see what the language styles in the program reveal about its stance towards language (the checker's own subject), as well as towards the writer using the program. The examination will look for evidence of the programmers' stance on this and the other elements defined by Thomas and Turner, as described in Chapter 4.

The two checker texts that offer substantive opportunities for linguistic analysis are the explanations on the Help page and the mini-lessons on the usage panels – which are the two elements that use full sentences. The Help page explanations also include the item names from the checker menu, and the usage panels include the corrections offered on the pop-up error

messages, so, between them, these two text types offer all the linguistic substance of the application. In the case of the Help page, we have access to its full text and have already quantified some aspects of its usage in this Chapter 7. For the usage panel, presented in Chapter 5, I have a majority of its unique instances available, as triggered by errors when testing the checker's effectiveness. While a full-scale quantitative corpus analysis of the usage panels is beyond the scope of this research, the data offer a large enough sample to provide insight into the register and to allow comparison with the language on the Help page.

G. Microsoft style when the checker was created: prescriptions on its stance

In addition to the data samples of the texts from the program, the *Microsoft Manual of Style* also offers insight into the stance of the checker, through Microsoft's explicit statements of stance against which we can compare any findings about the checker's texts. The fourth edition of the *Manual* (analyzed as a register in Chapter 4) was published in 2012, and would therefore have dictated official Microsoft style at the time that Word 2013 was released. But, as evidenced by a comparison of my data and Haist's, presented in Chapter 4, the texts of the checker have changed only minimally since its creation for Word 97, which appeared in fall of 1996. It is thus fortunate that copies of the *Manual's* predecessor editions were also available for this research. The editions closest chronologically to the release of Word 97 (in autumn of 1996) were the first and second editions of the *Microsoft Manual of Style for Technical Publications*, published in 1995 and 1998, respectively. Because the prescriptions in the guide are based on internal Microsoft style sheets, one can reasonably deduce that the standards outlined in these two editions were the ones in place when the grammar checker was developed and its documentation written.

The underlying stance of the register prescribed in the *Microsoft Manual of Style* has not changed significantly over its four editions, though the first edition is the most direct in defining its intended readership. Briefly describing the book's genesis as Microsoft's in-house style guide "to provide writers and editors answers to commonly asked questions about usage, punctuation, grammar, and company preferences," the authors "think this guide also may help writers outside Microsoft by providing commonsense style standards for any technical documentation" (v). In bullet points delineating the manual's uses, they mention "writers, editors, and educators working in the computer industry," "independent software vendors that create products compatible with Microsoft software," documentation for end users, and even "product and interface design" (v), on which they hope the guide will also have a salutary secondary effect.

The texts of the grammar checker function as a sub-register of the general Microsoft style described in Chapter 4. This variety would be specific to writers interested in finding and correcting errors in their writing, so the language would tend to borrow – in a Bakhtinian hybrid of genre and, thus, register – from the style of grammar textbooks and style guides, as we saw in earlier in this chapter, comparing the Help page to a grammar book's Top 20 List. Drawing from each of the earlier chapters, we can use what we know about error, about the Microsoft register, and about the language of the checker, all in combination with information to be presented here from earlier versions of the *Microsoft Manual of Style*, for a fuller register analysis here.

After considering the stance of the Word 2013 checker through the Thomas and Turner framework on stance, this chapter will look closely at the language of the checker along a few

continua, to see how the Help page and the usage panels fulfill or diverge from that overall stance, as expressed in their style choices.

H. Stance as prescribed by the Microsoft style guide

Viewed through the Thomas and Turner frame, the documentation of the checker shows the programmers' stances on key issues:

Purpose or motive. The overall purpose of the grammar and style checker stated on the Help page is to help users produce error-free documents. The purpose of the Help page itself is to describe what each item in the checker checks for, presumably so that the user can decide whether to activate that item in the checker menu. The purposes of the several pieces of content in the usage panels are to point out a specific error, to suggest a correction if possible, and to explain the convention that has been broken, also using examples to demonstrate. All these task-oriented goals are in keeping with the usual purposes of practical and corporate styles, as well as, more specifically, the usual goals of technical documentation for end users. The ultimate purposes, also as usual in such documentation, are to increase user satisfaction with the end product, thereby increasing sales for the company.

Truth. Corporate style generally has no concern with the eternal truths that are the foundations of classic style, only with adequate accuracy in communicating the task at hand, and the language in the checker falls largely within that purview. But there is a tension here that leads to the larger issues about prescriptivism such as Anne Curzan explores in *Fixing English*: between the pragmatic desire to offer technical information to a writer wishing to squash the bugs in his writing and the appeals to broad usage standards not defined within the

program itself. As the chart in Chapter 1 revealed, the checker often uses the language of “correct” and “incorrect” and, especially, “should,” without defining the “if what?” – or perhaps more aptly, in the context of register, “should when?” Rigid prescriptivists appeal to an unclear but passionate notion of eternal truth about language and “good grammar” in formulating or enforcing their prescriptions, and the positivist, unconditional language in the checker seems to confirm that notion without explaining the basis of that idea of truth, in this context that is ostensibly pragmatic, not ideological.

Writer. The technical writers of the grammar checker documentation are presumed to know both how the program works and how to edit and discuss errors in written English. They hold expertise that the reader does not, about the interface of the program. The creators of the program are computational linguists and thus have expertise in both technology and language, but the explanations on the Help page are likely to result from the input of both programmers and technical writers, plus perhaps other editors or proofreaders. Whoever is on that team, interpreting the functions of the program, the user is asked to trust that they have understood and correctly interpreted the functions driven by the program’s algorithms, an expertise upon which the user depends. Whether the writer is also an expert on issues of grammar and usage is another question, about which more below in “Scene.”

Reader. The reader of the Help page and usage panels is presumed to be a writer who wants an error-free document and does not want to waste any time on the subtleties of linguistics while attempting to apply the appropriate conventions. And the liberal use of grammar terminology on the Help page assumes that the reader is already familiar with these terms and concepts and needs only to be reminded of them. The Help page would not make a

good substitute for the grammar teacher a writer never had. The usage panels, on the other hand – even if inadequate to replace a decade or two of schooling in usage and grammar – use more words, more space, more attention on each error type, as it arises, and they also mix simpler, everyday vocabulary into their brief explanations, along with some grammar terms as well, in an effort either to jog the writer's memory of the convention more effectively or perhaps to explain an unfamiliar concept. The stances of these two types of utterance – the Help page and the usage panels – differ in this regard, as the next section will explore.

Scene. True to the practical and corporate registers, the interchange between writer and reader – Microsoft technical writer and Microsoft Word end user – is a pragmatic, highly utilitarian exchange of information, from the writer to the reader (whose need for information is as a writer). For information about the program (in the top, purely software-technical sections of the Help page, which this research does not analyze), the relationship is presumed to be asymmetrical, with the technical writer as expert and the Word user, our everyday writer, as a supplicant for that information. At the same time, for information about usage conventions, the relationship is more symmetrical and balanced, with a reader presumed to know as much or almost as much about correctness and error as the writers of the documentation. The usage standards and grammar knowledge are mostly treated as so generally unquestioned that not only can anyone know them: everyone is presumed to agree with them, especially the items in the *Grammar* section, of high severity-index errors.

Language & thought. Most of the language in both the Help page explanations and the usage panel mini-lessons is easy to parse and permits skimming, both stated virtues of practical writing, according to Thomas and Turner. The language certainly operates from a posture of

assuming that these stripped down descriptions of various usage conventions will place the “smallest possible burden” – of cognitive load – on the reader in search of quick and clean explanations. But whether the language accomplishes its task is a separate question from its stance on whether it can, and the tone of the explanations indicates that it can – that usage is reducible to a few dozen simple principles. As discussed earlier in this chapter, whether the language is clearly matched to the thoughts it represents, in the exchange between writer and reader, depends on whether the symmetry presumed between the two does exist, regarding knowledge of usage conventions. If not, clarity fails, because the knowledge is COIK.

Successful presentation. For a writer using the checker, success presumably consists of a document in which all errors that the user may want to correct have been detected. In the documentation, then, success is answering questions about the checker clearly, accurately, and efficiently, so that the writer can move along with the task of producing her document, after minimal interruption. Even in the section of the Help page devoted entirely to the grammar and style items (not to finding and using the controls of the checker), the language must present both the grammar concepts and the software categories clearly: the user should be able to understand or recognize the usage convention in play and also which of many such rules a given item on the grammar menu treats. Successful presentation, then, is clear and accurate language on both counts.

This element-by-element analysis of the checker’s stance has used Thomas and Turner’s frame to consider the assumptions and motive force underlying this register – including its purpose, which is a genre consideration (of its social action). The specific linguistic style choices

made by the writers of the program's texts then enact that substance, or fail to do so, the assessment of which is therefore our next analytic task.

I. Stylistic evidence of stance in the checker

As readers, we can analyze the stylistic choices of the language in the grammar and style checker to discern its stance on those same issues. And since those issues are themselves questions of language use, in this hall of mirrors that is writing about writing, prescribing about language, the checker's style is inextricably linked to its substance. Like genre analyses and register analyses – which writers and readers necessarily perform, unconsciously or by other names – readers also regularly perform stylistic analyses of whatever they read, to help them understand not only the facts therein but the writer's attitude towards the facts and, more essentially, towards the situation and the reader himself. Readers constantly, implicitly seek to discern a writer's stance on the Thomas and Turner issues. And we can compare the performance of style in the grammar checker texts to the prescriptions for Microsoft style in the contemporaneous editions of its *Manual*.

Among the many stylistic criteria of potential relevance and interest in evaluating a register, I have chosen several that are most pertinent to this research: formality; the topics in example sentences; jargon and strictness; the various types of error itself, within the checker texts; and the structure and tone of the sentences in the checker.

Formality

Level of formality is perhaps the most commonly mentioned criterion for describing a writing style, especially mentioned by instructors to students. Indeed, while this research

considers other factors in evaluating the language of the checker, register itself is sometimes understood as a measurement of this one factor, formality. In a well-known framework for understanding register as level of formality, Martin Joos in *The Five Clocks* described and labeled five such levels as “frozen,” “formal,” “consultative,” “casual,” and “intimate.” In a similar architecture of understanding, Bryan Garner, in *Garner’s Modern American Usage*, links levels of formality to the historical development of linguistic forms and expressions, so his levels are labeled as “stages” one through five (xxxv). (I have found such a framework of “levels” quite useful in my own composition pedagogy.) What Joos named the “consultative” register is a rough analogue of the “practical” style and its sub-register “corporate” style.

Formal writing follows reified, traditional usage standards of the dominant culture’s print artifacts and is defined in large part by what the register does not allow, such as contractions, dangling prepositions, or colloquialisms – considered errors in highly formal writing and listed in the *Style* section of the grammar checker, but allowable to some degree as writing moves along a continuum towards the more casual. The consultative, middle register is one level more casual than formal style. It is the linguistic equivalent of clothing that is called “business casual.” In my composition classroom, I often use the term “polite conversational” to describe this register. Taking their turn at attempting to name a standard English in this “consultative” register, Microsoft’s 1998 *Manual* insists that there is kind of writing “often called ‘general English,’” which “falls in the middle of the spectrum ranging from informal to formal written English” (275):

General English follows standard grammatical conventions. Sentence length varies, but seldom are sentences longer than 25 words. Most sentences are simple or compound.

Complex and compound-complex sentences appear infrequently. The vocabulary favors common straightforward words rather than more obscure words or nominalizations. (276)

This style definition accurately describes most of the language in the grammar checker's own documentation.

The sample sentences

One revealing aspect of the checker documentation is its example sentences, used to demonstrate usage conventions. The language in these sentences generally follows the prescriptions for Microsoft's "general" English, with simple words and simple sentences, but on the more casual end of that spectrum: among the corrected sentences in example pairs are "The dog ate my homework again" and "We watched meteors the entire night." Occasionally sentences will include dependent clauses, such as "If it's all right with your father, you may go out tonight."

The lack of interesting syntactical constructions in most of these examples, like their predecessors in grammar handbooks, demonstrates the potential monotony of plain corporate style. Such sentences will be easy for a broad audience to parse, one that includes machines as well as unskilled and non-native readers, and the overall lack of interesting content or form in the constructions includes little to distract the reader from concentrating on the usage being illustrated in the example. But another element of the example sentences gives some indications about the intended or imagined reader: their semantic content.

In classroom grammar instruction, example sentences are the grand but overlooked opportunity for entertainment value – for demonstrating how style interacts with meaning and substance. This opening is the one that texts such as *The Deluxe Transitive Vampire* hope to seize, and *Eats, Shoots, and Leaves* is primarily a humor book, whose punch lines happen to be usage errors and the author’s angst over them – another way to try overcoming the blandness of grammar examples. But, despite lamenting grammar’s ostensible boringness to students, few textbooks or English teachers avail themselves of this opportunity, and grammar example sentences tend to be some of the most boring possible writing, rather than examples of compelling prose. (Virginia Tufte’s classic *Grammar as Style* is a shining exception, filled with hundreds of samples from compelling writers, in many genres.) The grammar checker example sentences fall firmly within the tradition of boring example sentences, and in fact they may have been borrowed from or modeled directly on such sentences from grammar textbooks. It is as if the writers fear that an interesting sentence would distract from the grammar lesson, overburdening the writer’s cognitive load. Still, we can deduce some factors of stance – some of the documentation writers’ assumptions about the readers who are the program’s users – by the topics chosen, apparently at random, for the sentences. Ideally, a researcher would have access to a complete set of the usage panels, to allow quantification of the topics, but with a majority of the panels, a few themes emerge.

In its topic choices, the examples range across a variety of everyday topics, including eating (“Stephen cooks a vegetarian meal and happily eats it”), recreation (“We campers went home when it snowed”), and politics (“The candidate tried to comply with the election regulations”). Some are set in the workplace, such as “They wanted to hire me,” and many deal

with school-related topics, as in “He did not get a good grade on his (somewhat plagiarized) paper.” But there is no particular emphasis, in this Office program, on office writing.

Researchers in composition have noted their concern with the gap between the program’s intended use for corporate office workers and their consideration of it for college composition students (see Vernon; McGee and Ericsson), aptly warning against unconscious appropriation of corporate goals in an educational setting. And while that warning still stands, it is worth noting that one could not discern that this program is targeted towards that audience from reading its example sentences on the usage panels. Similarly, of 21 contextualizing examples in the Help page explanations, the topic content is broadly generic. There, however, a slightly larger proportion do have corporate-office topics (“Not all of the departments filed a report”) – with three such examples – and only one is school themed: “All of the students have left.”

Access to a more complete set of the usage panels would allow quantification of the topics, but the choice of subjects does seem to be random. As with many register choices, there may have been no conscious or shared decision among members of a writing team creating the examples. The sentences are likely to have been drafted by the linguists who wrote the code for each rule, many of whom are academics from university settings. (Heidorn came from MIT to lead the team that created the checker.) Reliance on grammar books may have driven the inclusion of the school-themed sentences. Or simply the fact of drafting usage rules, largely considered to be a topic for grammar school and middle school, may have put the drafters of these sentences in a school-oriented state of mind. In any case, the most notable dimension of these text samples is not simply the lack of corporate ethos but their informality. The majority of the examples describe personal, informal situations such as camping, running errands, or

eating – situations in which one is unlikely to use formal or even semi-formal language, creating a contrast with the register of relative formality in the rest of the language in the checker itself; with the presumed register of its target audience (office workers and students); and with the likely target register of its typical user – someone who is writing in a rhetorical situation formal enough for correctness to be a concern.

Jargon and strictness

In analyzing the language of the checker, this chapter discussed the status of grammar terminology as jargon -- the technical language in a discussion of style and error. The table analyzing grammar terms here in Chapter 7 (see Figure 18) illustrated the frequency and varying levels of difficulty in the terminology used on the Help page and in the menu of options, demonstrating a heavier use of the word “sentence,” punctuation terms, and, in general, easier terminology. Those explanations did sometimes avoid technical terms where they might have been easier to use, and they avoided some altogether: there is no mention of antecedents, gerunds, or participles, to choose a few.

On the other hand, the language of most of the usage panels, responding to specific perceived errors in a document, dives readily into technical language. While it does avoid some terms that the writers might have chosen such as those three just mentioned, in my sample that comprises a majority of the panels, many grammar words more technical than those on the Help page are part of these explanations. Most of them rely on a reader’s understanding of the technical definitions of grammar terms to be able to comprehend the panels. Even a short and simple explanation, such as “The subject and verb should agree in number. They should both be

singular, or they should both be plural,” employs six technical terms to explain its concept. Fewer explanations choose everyday language over grammar terms, as when a panel corrects hyphenation by explaining that, “For standard spelling, some pairs of words work sensibly together simply by being next to each other,” but these explanations tend to be the less clear of the two types; the unneeded hyphen being corrected, in that instance, was due to a preceding adverb ending in *-ly*, a convention that would have been easier to explain accurately by citing that usage convention in those grammar terms.

Related to the question of grammar terminology is the issue of strictness in tone: do the texts of the checker apply the tenets of traditional usage conventions rigidly, inflexibly—as grammar sticklers? Or does the checker acknowledge and respect the realities of context and situation, in its explanations of the menu items and in its usage explanations in the panels? As illustrated in the table in Chapter 1, the language on the Help page is dogmatic, with 55 uses of unexplained value judgments regarding correctness, such as “incorrect,” “questionable,” and “should.” A further look at the Help page confirms that, even beyond those particular words, the usage conventions described there are presented as rules, without hedges, as “Hyphenated words that should not be hyphenated, and vice versa,” as if the hyphenation were settled for each and all words (as we know it is not: skilled writers regularly make different style choices about many hyphenations). Considerations of formality or informality as a rhetorical concern function similarly to hedges: they soften a rule, rendering its error status arguable and leaving the convention as style choice – but mentions of formality appear only three times in 35 items on the Help page.

In the usage panels, however, there is a wider range of tone regarding correctness. In dealing with specific error types, some panels include comments on formality or informality, as in this explanation (one of many unique variations under “Colloquialisms”): “Although ‘a lot of’ or ‘lots of’ may be used informally, substitute ‘many’ or ‘much’ for a more formal or traditional tone.” Some panels also use gentle, tentative, or hedged language to suggest options, such as the explanation on “Gender-Specific Language”: “Although the marked word or phrase may be acceptable in some situations, consider the suggestion [offered by the checker in the white box] that includes both men and women.” Extending beyond the limited information on the Help page – adding some cognitive load – the usage panel explanations sometimes provide the missing “if” condition to the “should,” such as “If you want to give certain parts of your sentence equal emphasis, construct these parts in a similar fashion. Repetition of word patterns or key words will make your sentence more balanced and easier to read.” (Also note that this panel avoids the grammar term “parallelism” and opts instead for everyday words and the less-specific label *Sentence Structure*.)

Plenty of panels still include unequivocal language, with no hedges, with an unexplained “should,” “correct,” “incorrect,” “must,” or an unqualified direction about how language must be used, even on debatable items such as use of “that” and “which” with dependent clauses. But the overall tone of the panels is softer, allowing for and pointing towards more agency and individual decision-making for the writer. The most significant signifier of this move towards less rigidity is the standardized headers for the example sentences on all usage panels. In each pair, the first, which transgresses usage or style conventions, is labeled “Instead of,” and the second, corrected sentence is introduced with

“Consider.” These labels are standardized across the reiterations of the utterance, in the same way that such pairs of examples are often presented in grammar handbooks. Comparable pairs of sentences in the *Microsoft Manual of Style*, in the 1995, 1998, and 2003 editions, are all labeled with the stricter “Incorrect” and “Correct.” (The 2012 edition of the *Manual*, published sixteen years after these panels were written, finally chooses the similar and more rhetorically situated “Not Microsoft style” and “Microsoft style.”) Even where the rest of a panel uses all-or-nothing language – even on debatable questions such as singular “they” (“*Pronoun Use*: ‘They,’ ‘them,’ and ‘their’ must refer to a plural noun or pronoun”), simply the direction to “consider” rather than summarily labeling a usage “incorrect” is not only a hedge but a soft nudge towards critical evaluation of context and choices.

Seen clearly, the continuum between rigidity and rhetoricity as a scale for evaluating the language of the checker is the spectrum from prescriptivism to descriptivism. Traditional prescriptivist dogmatism insists that there is one right way to write, ignoring context, while descriptivism contends that there is no rightness, only descriptions of what has been done. As described in Chapter 1, real-life usage choices are made in a space between these two poles. A writer seeks an understanding (a description) of what has been done in a similar genre, while looking for cues as to the appropriate register for a given document. And then he takes that usage as a model (a prescription) for his new document, and accepts or challenges it as he sees fit, bringing his style to the register.

It is worth noting that an embrace of prescriptivism, often depicted as mindless adherence to received conventions, is itself an effort to reduce cognitive load for writers and – to be clear – for teachers. The comparison between the Help page and the usage panels illustrates

this reality. On the Help page, the explanations must necessarily be short; each one summarizes whole chapters of a grammar textbook, and it already runs four pages long. Space is a realistic proxy for attention, or cognitive load, given the greater amount of time and attention required to read and process a longer text. With more space, the 180 usage panels can not only give fuller explanations, suggestions, and examples, suited to unique error types: they can spend more words on the task of acknowledging situatedness, intended meanings, and formality concerns. True to the corporate register of getting the job done, the checker overall – but the Help page even more so – is trying to get a job done as efficiently as possible. Critical thinking takes time, and – as we all implicitly know – not every document is worth a deep, conscious, critical analysis of its register. Sometimes a writer simply wants to know what is usually done, in that “general” English, however fuzzy its boundaries – to accept that prescription and move on. Not only do few everyday writers have the interest of some English teachers and linguists in these questions: most do not want to spend the time, amidst competing concerns, to consider them – all the more reason to want to reduce their cognitive load when faced with errors while composing. Their ability to process both convention and rhetoricity efficiently while drafting or editing comes not only through educating their metalinguistic awareness of usage conventions and effective style choices but, ideally, through reading, the true educator for efficient evaluation of these issues. And even English teachers, when faced with a mountain of papers to grade and trying to find something about which they can give feedback efficiently, are known to lapse into marking transgressions of traditional usage prescriptions, instead of, if not in addition to, the “rhetorical comments” that appeared later in the twentieth century (Connors and Lunsford, “Frequency” and “Teachers”). Critical thinking is justifiably the holy grail of

much contemporary pedagogy, but critical thinking is also the ultimate cognitive load – it requires time and attention.

Also notably, the question of strict prescriptivism holds implications for a dimension of stance that is ostensibly irrelevant to the corporate register: a stance on eternal truth. The spirit of prescriptivism is to claim that there is a right and a wrong way to write, correct and incorrect usages. Extreme prescriptivism makes claims for supposedly unquestionable correct usage, equating it with cleanliness, morality, and decency. One of the more popular claims for stickler standards, as mentioned in Chapter 1, is that the traditional usages are “logical,” and transgressions are illogical (thus implying that the transgressor thinks illogically (which is to say, is stupid). Williams samples the moralizing rhetoric around correct usage at the beginning of his “Phenomenology” essay, and it would be familiar to anyone even outside composition. This is language staking a claim to eternal truth.

Juxtaposing claims about eternal truth to the mundanities of utilitarian corporate task fulfillment, we can see how in the checker’s Help page it is easy to mistake one for the other. Both are efforts to reduce cognitive load for the reader and, in some cases, for the writer. Maintaining this perspective – that the corporate register is, like many others, “Sometimes wrong, but never in doubt” – can help writers, writing teachers, and students keep its prescriptions, and language prescription more generally, in their place, as reductionist tools for applying complex concepts efficiently but imperfectly. (This same stance is characteristic of classic style, and worth teaching students how to perform, as itself an enabling convention.)

Errors of content, usage, style, and register

Given the grammar and style checker's topic – error – it behooves any researcher to give some attention to errors in the checker itself. Chapter 2 has touched on this topic in the context of considering the software's accuracy at its stated task and this chapter has looked at proofreading lapses on the Help page. Here I look at a few representative errors within the usage panels, apart from the question of whether they are triggered at appropriate times (that is, accurately detecting errors). To be gleaned from this data are the type and frequency of apparent errors in the checker texts and what they imply about the programmers' and technical writers' level of attention to the writing of the program. I thus consider errors for what they can tell us about the register of the checker and what that register tells us about Microsoft's stance on some of the fundamental elements that Thomas and Turner posited.

The most concerning errors in the checker are those of content, when it is simply wrong in its prescriptions. Fortunately these mistakes are rare, but, given the context, significant errors should be nonexistent. The most egregious in my data are two panels with wrong explanations. One, a panel named "Pronoun Use" (see Figure 19, below) describes an already difficult rule with perfect inaccuracy: how to determine the case of a pronoun that is modified by a relative clause. The checker instructs the writer to be guided by the word's function in the clause, when it is not, in fact, in the clause. Complicating still further the Microsoft writer's erroneous explanations is the choice of example sentences, which have "to be" verbs in the main predicate, a construction that already challenges most writers trying to select the correct pronoun for a complement – a choice that varies across registers, with a nominative case expected in formal writing ("It is she") but an object pronoun acceptable in casual speech ("It's her.")



Figure 19. A wrong rule, on pronoun case before a relative clause

Haist noted this problem explanation in Word 97, and she sent a copy of her report to Microsoft, but this panel has remained in the program for the nearly twenty intervening years, through Word 2013. (Unfortunately, the program also checks, with surprising effectiveness, for its wrong rule, so this problem not only exists in the documentation but is in the algorithm of the program.)

While on the one hand it is fair to say that if professional linguists and writers cannot get this usage rule right, everyday writers need not worry if they transgress it. Such thinking is usually a reliable way to assess many usage standards: the harder a rule is to remember and understand for the larger number of people, the less likely are most readers to notice when any one writer breaks the rule, so it is a convention least worthy of investing attention to master. At the same time, the context of this mistake is a grammar checker, prescribing wrong usage. If ever there were a context in which the position of “grammar mistakes damage the writer’s ethos,” this is finally that situation.

The other significantly erroneous usage panel explanation, shown below in Figure 20, labels an error in verb tense as a problem of subject-verb agreement. (Here I used the same



Figure 20. A wrong rule, calling a tense problem a subject-verb agreement problem

error as illustrated on the panel, “Joe drunk,” to trigger the error message.) This rule accurately detects an error and offers correct replacement suggestions, but it misnames the error and misrepresents what the problem is, in the example sentences, such that this panel would do more to confuse than to assist a writer or student looking for transferrable knowledge about verb use. (The checker also labels “I going” as a problem of subject-verb agreement rather than verb form.)

Other errors in the checker’s explanations involve usages that the program itself checks for, thus revealing the limitations of the software and damaging its credibility. One panel capitalizes “Senator” when the word is not being used as a proper noun nor as a title. An explanation sentence on one panel leaves out a pronoun necessary to its construction: “These pairs do not need a hyphen to emphasize their relationship nor should [they] be combined into one word.” Another category of error involves the apparent idiosyncrasies of its creators, as noted earlier here and by other researchers. Curzan, for instance, comments on the preference expressed on the Help page for “angry with” instead of “angry at,” a style rule I had never encountered previously. In itself, that one example using “angry” is insignificant, but it is offered as an only one example to demonstrate a vaguely defined rule, *Misused words - stylistic suggestions*, indicating that it is only one of many such items, and the user has no way of knowing what other idiosyncrasies lurk in the code. Such feedback on “angry at” and other non-errors could be quite confusing to a novice writer and qualifies to this researcher as a content mistake. (The use of a hyphen in the rule names where an em dash belongs, as

illustrated in *Misused words words - stylistic suggestions*, is also an odd choice: nonstandard punctuation, in this instrument that corrects punctuation.)

Sentence structures and tone

More subtle as a question of ethos but directly relevant to the topic of this research (the topic in which the checker offers guidance) are errors in style, in the sense of awkward or unclear sentence constructions. When the writers have free rein to write any imaginable sentence to demonstrate the usage standard for correcting sentence fragments, it is disappointing when they write, “You have to, because the teacher said to,” as a corrected sentence to “Consider” as a model for one’s writing – not so much because of any rule against a dangling “to” but because the overall construction is so gratuitously graceless.

Furthermore, composing in a register as casual and colloquial as this sentence (second-person, elliptical construction truncating unexplained infinitives) is least likely to prompt a writer to seek help from the grammar checker. The choice of register for this sentence (or of sentence to fit the register of the checker) is already a misstep – a style error – on the part of the Microsoft writers.

The most memorable such mismatch between a grammar-checking user base and an inappropriately colloquial example appears on a usage panel also involving colloquial sentence structure, explaining “Fragments.” The panel chooses one example from a casual register, the word “Why?” written as a complete sentence, as ostensibly inappropriate. And for the other example, it offers as an incorrect (“Instead of”) sentence, “Righteous dude!” and corrects it to (“Consider”) “He is a righteous dude!” complete with exclamation mark. A [reference](#) to a 1980s

movie (*Ferris Bueller's Day Off*) certainly lands like the proverbial technological Easter egg amidst one's dissertation research, and it seems likely to be intended as such by technical writers bored with their own sentences – a literary allusion, of sorts. But both examples are selected from registers out of keeping with the “polite business conversational” tone of the checker. A user writing “Righteous dude!” is not likely to want or need correction to “He is a righteous dude!”

Selective transgressions of several kinds – of usage conventions and of register and genre expectations – are often the most effective moments in writing, but, or because, they are a risk. On the specific question of humor, as would apply to the choice of “Righteous dude!” as a grammar checker example, the *Microsoft Manual* is explicit: in the first three editions, it directed writers to “Avoid humor,” because, as the manual accurately explains, efforts at humor often backfire, as they “confuse or even offend,” failing to transfer across contexts and especially across cultures. The most recent edition of the manual, the one which shifted its labels from “Correct” and “Incorrect” to “Microsoft style” and “Not Microsoft style,” also articulates a broader shift, in keeping with the shifting cultural milieu towards more casual writing, to a “lighter, friendlier” tone than formerly (xx). And certainly humor is an effort at “lighter.” But on the question of humor, even this manual remains staunch and direct: “Don't try to be funny” (5). Since humor is the staple of “lightening” a tone, how one should approach that endeavor is unclear. It will thus be curious to see whether the “Righteous dude” abides, as a sample sentence fragment in the upcoming re-release of the checker in Word 2016.

This question of humor and friendliness brings us back to the first stylistic quality analyzed here, formality, because the tension between formality and friendliness tends to create

many challenges of register. Indeed, learning to write for formal rhetorical situations but without the writing's becoming prim or stern is one of the fundamental challenges for writers seeking to master academic and business genres. Gestures of formality show goodwill by performing respect, giving space to the reader, while gestures of friendliness show goodwill by performing ease, casualness, and closeness or an openness to more closeness. The two readily collide, and if a writer knows little about her intended reader and speculates amiss about the expectations in the rhetorical situation, too much formality reads as coldness or priggishness, while too much friendliness reads as presumption or disrespect. Gestures in either direction are especially likely to be misread across cultures with different unspoken expectations, and the increasingly casual language of public discourse, oral and written, shapes the trajectory of all writing (see McWhorter). Thus it will be curious to see whether the Microsoft writers attempt to make a shift to meet the prescription to be "lighter and friendlier" in future iterations of the grammar checker documentation, while maintaining its practical, plain-style stance.

J. Conclusions and pedagogical possibilities

On balance, it is fair to say that the style moves in the grammar checker texts perform its stance on purpose, truth, writer, reader, scene, language, and presentation with reasonable success. The Help page and usage panels stay close to their purpose of transmitting information about the usage rules coded into the program, albeit with varying levels of clarity. On the Help page, the authority of the text implies a claim to eternal truths of prescriptive grammar rules that seems more in keeping with classic style than practical or corporate style, but the slight hedges on the usage panels take some of the edge off the dogma. The writers of

the documentation disappear into invisibility, but the content does seem to assume a near-equality in the knowledge of the text-writers and the writer-users, that they both know usage rules and need only be reminded of them to be able to apply them. True to practical style, language itself is indeed presumed adequate to the task of communicating these rules; there is no indication of postmodern querying, queasiness, or rebellion about the pronouncements set forth: a job description is indeed writing to a job description.

Notably, however, the most significant blight on the checker's success at presentation results from its besmirchings of its own ethos with the occasional failures to apply its own functions, of error correction – the worse missteps involving its directly incorrect presentation or misnaming of a few rules. For a compositionist who wants his students to explore the checker with critical rigor in the spirit of McGee and Ericsson, these mistakes provide a starting point for a potentially compelling discussion about power, authority, and hegemony.

For my purposes in this dissertation, the errors in the checker go to the heart of the question of error, including those about allowable error, defined by rhetorical context. In a recent contribution to the public conversation, Slate writer L.V. Anderson speaks to the relationship between power and allowable error in an article entitled "It Gets Messier," with the tag line, "You won't always have to care about typos in your emails." The author tells the "young, uptight grammar fanatic" that "the further you go in your career, the sloppier your emails get" – and that the lack of required attention to error correction is a "huge relief." According to Anderson, this relaxing of the need to attend to error is a reward for earned success: one need not proofread emails when presumed to have more important tasks to accomplish, making better use of the company's dollar. In reality, anyone with power, earned

or unearned, can afford to be less concerned with error when writing to the less powerful, so the choices of both the presumably more powerful and the presumably less powerful, not only around style more generally but specifically around how much error they allow to remain in their writing, are significant communicators of stance and substance.

The relationship between power and error is layered and complex – a dance. While elegant prose may be read as a marker of education and thus of power, proofreading is the posture of the supplicant, according to Anderson’s argument – hence the rebellion against it when one is chafing against the exercise of that power over oneself. Leaving errors in an email can be a refusal to supplicate, or it can at least be read as such a refusal. But the powerful can still choose to attend to error, whether from a sense of respect to those above, across from, and below them in the chain of power; from a belief that unproofread emails are likely to waste more of the writer’s time than the proofreading of them; or from a compulsive inability not to correct errors, once seen (a common affliction among people I know). Writing that is not only well-styled but free of obvious usage errors may read as an act of unnecessary noblesse oblige to one reader, instead of as a kindness. Error, on the other hand, whether up or down the chain of power, can read as passive-aggression and inconsideration. Or it may be seen as a gesture of intimacy, in the vein of friendliness, that the writer feels safe letting down her guard to send a hurried and imperfect missive that accomplishes the task without worrying about presentation, as if she were (or if she is in fact) communicating to a friend. This question of how much error the rhetorical situation allows thus partakes of that same tension between formality and friendliness just discussed, as allowable error then becomes another parameter in defining

appropriate style for a register along a continuum between formal and informal, distant and friendly.

The upcoming Conclusion will consider the question of allowable error as part of its theory of error based on register. Here it is enough to note that while many people notice misfires in the checker's effectiveness, in the form of inaccurate error messages, this research has produced little evidence that people have noticed the errors in the texts of the checker – only two researchers – and millions still rely on it to direct their own error avoidance, some failures of its own credibility on proofreading notwithstanding.

CONCLUSIONS. A theory, its application, and a pedagogy of error

This research offers a theory of error as determined by register, understanding register as typified style. From the perspective presented here, choices about whether and how to attend to error are style decisions, grounded in the writer's stance within a given rhetorical situation. The theory lends itself to practical application for writers and to pedagogy for writing instructors, as it articulates moves already practiced by both, if heretofore not always systematically or consciously. Text-critiquing software is interwoven with each of these dimensions – theory, application, and pedagogy – as well as into implications for further research, as the use of grammar checking technology affects and is affected by each aspect of these findings. The central element of this theory of error is attention.

A. Error as defined by register

Throughout this research, findings have indicated that what counts as an error depends on context, on rhetorical situation, and that the container which can guide a writer through the infinitude of choices in a given situation is register. The answer to the question posed early in this research, “How does one decide what counts as an error?” is therefore register — typified style — as mediated by genre. Having an idea of the genre in which he is writing, a writer can then define for himself what register is appropriate to that genre and to other known aspects of his rhetorical situation. Acknowledging the contingent and malleable nature of a register definition, the writer can nevertheless tap into his knowledge of similar rhetorical situations and the registers they have demanded, as he shapes his understanding of what style choices would best suit the writing at hand and fills in his best guesses at aspects of the rhetorical situation that are unknown, responding to characteristics of his audience that are unknowable. A decision about register thus defines expectations about verbal choices including levels of formality, of friendliness, or of technical specificity and expert vocabulary. This sense of register also defines what counts as an error.

Amount of allowable error also defined by register

The perhaps more radical proposal for a reconception of error extends the idea of attention, to posit that register defines not only what counts as an error but how much attention to error the rhetorical situation demands in the first place. That is, even after accounting for more relaxed standards of usage expectations in some contexts, some mistakes still count as mistakes. But in certain registers, occasional actual errors are not particularly problematic and

may even be seen as evidence that the writer is tending to issues more important, in that rhetorical context, than proofreading her writing. If both writer and intended readers agree on this acceptability of some errors, typified across some situations, the level of accepted error then becomes part of the register definition. In such a context, a few errors may even function as an effective rhetorical style move.

And because the elimination of error is one of many elements to which a writer can give attention during the composition process, the level of error that a register does or does not allow is ultimately a function of the level of attention the writer is expected to give to this aspect of the writing. Just as intention is unknowable, attention is unmeasurable. Just as it takes some writers more or less time to generate ideas, to decide on a structure, or to phrase their arguments in a writing style that suits themselves and their occasions, so it will take one writer more time and attention than another to achieve the same level of error elimination. The processing time required will depend on how fluent a writer she is, among many other potential factors such as the level and type of content, interruptions or inner distractions, her familiarity with the genre and register, or any number of other advantages or challenges, such as learning differences. The question of attention is therefore unquantifiable in terms of time. And, however frustrating to someone wanting a quantifiable rule, the margin of allowable error is also unlikely to be reducible to a specific number of errors either (though an appropriate corpus study may define a countable range per number of words). Still, even the most casual document or error-friendly register cannot sustain an infinite number of misspellings, usage missteps, or typographical errors, as it would become unreadable and unable to fulfill its communicative function. But the crucial metric in this dimension of attention to error is finally

in the document and on the reader's end: certain registers can tolerate having some small part of the cognitive load transferred to the reader, even in the unmeaningful experience of errors, and this fluid allowance or safety zone is part of the register definition.

We know this to be true from daily writing habits, that error is inconsequential in some contexts. A grocery list, even shared with a housemate, can tolerate errors (unless the housemate is an impossible stickler – then the consequences may not be worth risking). The register of resume writing tends to demand careful proofreading, so an error there carries a different implication from an error in a text message to one's best friend. In a personal journal for whom the intended reader is only oneself, a writer may care nothing for usage standards. Error might limit one's love life however: a recent Wall Street Journal article, "What's Really Hot on Dating Sites? Proper Grammar," reveals that according to research conducted by one major site, absence of usage errors ranks so high in the factors most valued in a prospective date that it almost trumps the winner, personal hygiene.

Often, the acceptability of error will relate directly to power and to the reader's and writer's interpretation of the implications of that power for writing between them. An error in an email from a student to a professor carries a different implication from an error in an email from a professor to a student, due to the power imbalance. And even within that dyad, a lack of error may imply something different to one student or one professor from what it implies to another. An email full of nearly incoherent misspelled words from a boss to his assistant may be an expression of power, that the boss's time is more valuable to the company than the assistant's (as measured by the difference in their salaries), such that it makes sense to transfer the cognitive load from the boss's desk to the assistant's. But a boss's habit of writing error-

ridden messages might, on the other hand, land as insulting – the linguistic equivalent of rudeness – depending on a number of factors, including the usual standards for correctness in their company or industry and the known sensitivities, capabilities, and personalities of both parties to the correspondence. Thus register – the typified style that either party understands to be appropriate to the generic situation – sets a standard within which the writer makes choices about error management, across all these circumstances.

Error as strategic

Another dimension to this theory of error based on register has to do with style, specifically, error as style: those writing choices that intentionally transgress the dominant register of a text to make a point, enact a flourish, and reward readers with meaning. These breaks with the overall expectations of the register are strategic, not in the sense of errors in strategy, but rather of errors *as* strategy.

A writer composing a document primarily in a formal register who then breaks with that tone to throw in a colloquialism often does so at the moment of bringing home the main point in a document. The President of the United States, in a recent address about legislative initiatives, used predominantly semi-formal language for the speech but mixed in phrases such as “My bracket is so busted,” “Right? I mean...” to begin a sentence, and “that ain’t right,” (Obama). These colloquial moves, typical of contemporary public figures, appear at strategic moments to transgress the register and make persuasive points. In the same way, a writer who has chosen an overall ultra-casual, conversational register for a piece of writing but drops in a carefully crafted sentence full of elevated vocabulary, worthy of a speechmaker from yesteryear,

draws attention to that sentence. A client who usually writes emails in a friendly, chatty register may suddenly fall back on ritualized, formal greetings more usual with a stranger, indicating a chill in the work relationship. And a colleague who has characteristically been careful and formal may end a message that delivers meeting notes by appending a sentence of humorous slang with an emoticon, or a reference to something personal – transgressing the usual register – to signal a desire towards a closer friendship. The stickler only concerned with policing might see some of these breaks with convention as simply errors in need of correction. But to the reader seeking to discern meaning – and considering the range of possibilities for breaks with convention, both intentional and unintentional – these transgressions of register signal crucial communicative moments.

Mismarked “errors” as style moves

Finally, there is a dimension of error as style – more accurately, “error” as style – which is of particular relevance to research on technological tools such as grammar checkers. As demonstrated in Chapter 2, there are patterns to a grammar and style checker’s inaccurate feedback. In many cases, the checker labels sentences as having a certain category of error when they do not, but many of those mislabeled sentences do have a different error type, and it was the existing error that made it difficult for the machine to parse the sentence well enough to determine the correct error type. And in other cases, the grammar checker gives an error message that is unfounded, but, even though the sentence turns out to be technically correct, it is hard to follow. So the same problem that made the sentence hard for the machine to parse and triggered a false positive will also make the sentence hard for a human to follow – will

require an added investment of attention. For a writer who had not noticed the tortured syntax before the checker marked the sentence, the error message is a useful opportunity to invest some additional writerly attention into revising the sentence, simply not in the same way the checker advises.

Some of these constructions marked as errors, however, go beyond being not errors or not the error marked: they are the very places in the composition where the writer has made an unusual choice, taken a risk on a less-ordinary construction. The checker is most likely to detect a mistake erroneously when writing does not conform to the register of plain, practical style: a sentence is longer than usual, has unexpected syntax such as inverted subject and predicate, or, for example, includes clauses and modifiers that separate a subject from its verb – usually considered weak style. The grammar checker is likely to have more trouble than usual parsing such sentences and to mark them as errors, in the same way that a human is likely to struggle more with these sentences and need to work harder to hold the pieces in mind, to make sense of it. Such passages increase the writer's, the machine's, and the reader's cognitive load. But in these cases, the writer has made an exception that reads like a possible error precisely to break the usual rhythm and call attention to this sentence, because it deserves more attention and because the writer believes that the sentence will reward the reader with greater meaning. Such moves are the opposite of error; they are craftsmanship. They are style moves. They are the reason that the machine will never be able to edit our writing for us entirely – that a style checker called "Hemingway" (see Crouch) will never be editor enough when faced with Hemingway (Ernest). Style moves are the reason that the best writers will tend to provoke error messages regularly from a grammar checker and that the suggested corrections for those

“errors” will not be improvements. These non-errors that seem like errors to the machine are the demands on our attention that depart from the ordinary but reward us with meaning.

The theory

To summarize, then, error is a transfer of cognitive load from the writer to the reader. A grammar checker can carry some of the load, at the writer’s behest, thereby relieving some of the unrewarding demands on a reader’s attention. Register defines not only what counts as an error but also how much error a document can bear. The choice to allow some errors in a piece of writing is itself a style move. The choice to transgress a register with hybridizing borrowings from other styles is also a style move, and whether a transgression turns out to be an error depends on the reader’s response. Ultimately, the best style moves are often close cousins of error, and sentences that make effective use of unusual syntax are likely to be marked as errors by a grammar checker even when they are the most effective and memorable passages in an utterance, by design.

B. Applying the theory

To make this conception of error useful to everyday writers is to use the theoretical construct offered here to help us (and them) put words on the process that most effective writers already perform, when faced with something to write – to make that process conscious, thereby highlighting the possible junctures for increasing their skill. First they try to understand what kind of document they are writing (conduct a genre analysis). They assess what kind of language is appropriate and whether they need to conform to a prescribed style (conduct a register analysis, including possible house styles). If they use a grammar checker,

then the process of checking and unchecking boxes on its menu is a process of acknowledging (or deciding) what usages are appropriate. They write, evaluating their language during or after composing (often, both), according to those conscious or unconscious decisions about what is appropriate and about how much attention they need bother giving to monitoring possible usage mistakes. They may use the grammar checker to help them copyedit, while or after they compose, and they may accept or ignore its suggestions. If they notice that they have written a passage which they consider effective but somewhat transgressive, they weigh their concern for appropriateness against their sense of its effectiveness and decide whether the passage should be edited out or remain, perhaps not in spite of its transgressive quality but because it.

The next section, on pedagogy, parses in more detail this process of applying the theory, of making conscious and explicit for students this practice of assessing the register of a writing situation, which everyday writers conduct unconsciously and implicitly. Tuiting the intuitive allows writers to make clearer choices, by providing a process model that they can adapt to their own needs.

C. A pedagogy grounded in register

The first step in an effective pedagogy for dealing with error, as well as with a range of fundamental questions of writing, is to extend the general idea that appropriateness depends on situation specifically into notions of correctness. This reality is not news to students – they know that they do not care if their texts to certain friends have typos but that there are situations where errors matter, such as in essays for certain teachers. The stickler (teacher or otherwise) who insists that every morsel of verbal communication should follow the same set of

formal usage standards only damages his own credibility. But to know intuitively that standards of error, along with multiple other implicit expectations, shift from one situation to another is not to know it explicitly and clearly, to understand consciously when one makes such shifts and how to apply this understanding. A pedagogy grounded in register gives shape and application to this understanding.

Many writing instructors acknowledge the importance of rhetorical situation but then offer only broad or vague guidance about what to do with that information. Among the infinite word-by-word choices students must make in their papers, everything depends on everything, but nothing is clear or categorized. The notion of register creates an opportunity for individual teachers – or, indeed, composition as a field – to define our values and expectations more clearly to our students and eventually to one another. When we say that we want a paper to be formal, what do we mean, exactly? Are we, in a swirl of wishful thinking, simply trusting students to know what that means, based on their past experiences of reading and writing? And what level of effective, transgressive style moves do we think we can tolerate in a piece of student writing, after we have defined error for that assignment? And then how do we react to transgressions when we grade? And how do we grade them?

Define more than one register

The best and most direct way to define a register as a register and to help students internalize the idea of different typified styles' being appropriate to different writing situations is to define, explicitly, at least two distinct registers for the class. Some elements will be the same, some different, and the comparison acknowledges both. Students can then be directed to

use one register repeatedly on multiple assignments in one or more genres and the other (or others) on different assignments, in different genres.

Most writing teachers already ask for some writing in alternate registers, such as in correspondence or when they ask for certain information from students – perhaps an informal pre-proposal email about a paper topic, or a metacognitive summary of their writing process on an essay. For some process-oriented assignments the teacher may say, “And don’t worry about grammar for this.” Students know that there is a level of incomprehensibility below which they cannot drop and still fulfill the assignment, but permission not to spend much time on correctness relieves some cognitive load (the pedagogical purpose of that direction), attention which they can then put towards other tasks in the assignment.

To define at least two registers for a class is to acknowledge that not all writing carries the same expectations. Defining registers that explicitly shift the standards for what counts as an error and how much error is allowable inherently depathologizes error from the all-or-nothing, authoritarian, and unrealistic thinking that insists on zero tolerance for supposed mistakes. Such a simplistic position is not substantiated by anyone’s experience of the real world – and I include experiences in school as part of the real world. In the flurry of text-saturated digital communication that most students and everyday writers experience, it is obvious that there are many different standards of expectation which do not compete with one another but live in happy coexistence, in different genres. Teaching at least two registers in a class confirms this reality.

Naming the registers helps: “formal academic writing,” “casual public writing” (perhaps for a class blog), “brainstorm and draft writing.” Distinguishing between writing

composed to be delivered orally and that to be presented in print offers the opportunity to talk about what is similar and different about these registers. (Among non-written, spontaneous oral registers, “classroom discussion” itself can be defined as a register with a stance and appropriateness expectations.) Talking about the usual content and format of certain genres and their registers, the interrelationship between the elements, becomes an opportunity to delve still more substantively into the core issues of writing that are transferable to other contexts and other writing situations in their future. A place to start, when considering how to name registers for a class – either when preparing to teach or in class discussion, working together with students to arrive at descriptive names appropriate for the registers needed – is the baseline of formality levels, as defined by Joos in *The Five Clocks*: frozen, formal, consultative, casual, and intimate.

The challenge to the teacher who wants to use register effectively as a tool for instruction and for developing students’ metalinguistic awareness is to be clearer than “don’t worry about grammar” when defining a register that allows a wide berth on usage issues. What does that instruction mean? The question of register presses the compositionist to become clearer and more honest about expectations. An instructor might direct students to read over an email at least once for comprehensibility, noticing and accepting as many apt spellcheck and grammar checker suggestions as they have time for, but not to bother looking up usage issues in outside resources if they do not understand one of the suggestions.

For formal essays that give students practice and evaluation in academic writing, the challenge is the same. Beyond “MLA format,” what are the teacher’s expectations? Students meet an enormous variety of contradictory expectations about their writing from one teacher to

the next, so it behooves a writing instructor to be at least one teacher who defines clearer expectations – which a student can then port, as needed, to situations where there are no clear expectations.

Start with stance

It may be tempting to focus only on sharply defined questions of usage and mechanics in defining registers for classroom use, but for register to shape a truly useful pedagogy and become a transferable tool for students, the important questions are those posed by Thomas and Turner on stance. Before one can answer any questions about specifics meaningfully, it is important to understand the fundamental whys underpinning the linguistic choices. What is the purpose of a given assignment type (genre) and how does a certain set of typified style choices (a register) follow and fulfill that function? Who do they understand themselves to be, in this performance of writer, and who is their reader, or their group of readers? What facilitating assumptions can they make about those readers, and what is the model of the interaction? What is their stance on truth and the writing's relationship to truth? Answers to these questions, explored with students, then help them to make additional choices about language, beyond those an instructor may have mentioned specifically. Writers can ask the Thomas and Turner questions about the rhetorical situation for their own writing as well as about any models they use to guide them – whether a sample business letter or a love poem.

Guidelines, including a note about stance, can be offered in the spirit (and the format) of a style sheet, such as an organization would use. This sheet can define “house style” for a given

class or instructor. (If shared by multiple instructors, a register could become house style across more than one class, with each teacher perhaps making his own exceptions.)

The style sheet for each register, in combination with named resources such as a published style guide and a dictionary, defines what counts as an error in that register. Like a house style guide, that style sheet cannot cover every possibility, so it is important to focus on those elements most important to the instructor, for whatever reason. The sheet might include the usages and potential errors that the instructor notices most while grading, and which she is willing and able to teach, in class or in paper conferences or both.

It is up to the instructor's conscience whether or not to mention or highlight his own pet peeves to his students. If he knows that his preferences are arcane and fussy, perhaps they are best left to be ignored during his late-night grading sessions. But students will continue to face known and unknown pet peeves among their regular readers in the future – other instructors, or colleagues, bosses, and clients – so it is arguably useful practice for them to have the opportunity to avoid triggering the annoyances of one reader, this instructor, who is willing to admit being especially bothered by certain errors. What is essential is to frame a pet peeve as a pet peeve, not a proclamation of eternal truth, and to cull the herd of peeves if necessary. Dozens of peeves are not pets but a menagerie, too multifarious for student writers to tend. Rather than modeling or inflicting sticklerism, a compositionist can look for ways to inspire curiosity about the rhetorical impacts of errors and other style moves.

Best practices with the grammar and style checker

There are several ways to incorporate text-critiquing software into a pedagogy of a register. One is to make use of the grammar checker menu in defining the register. The Microsoft Word checker is a blunt instrument, to be sure, with its categories that range from the hyper-specific to the vaguely general, but the descriptions in this dissertation offer some clarity on their purposes. For another grammar checker or another version of the Word checker, even a very little time spent with its menu should provide an instructor some sense of what errors it is trying to detect. (When choosing whether to include mention of a grammar checker in one's teaching, it would be useful to find out whether most students are already using a checker and which one, to decide whether to spend time on that instrument or assign the use of another.)

Having established at least two registers for the class and discussed their stances, the instructor can then demonstrate the process of selecting which items it should check for, in a given register, inviting students to think critically and encouraging debate over which items to check and uncheck in the program. Certain registers can include only the most severe alarm-bell errors, while others may include most of the items on the list, including contractions and first person. The process of considering some or all of the items, one by one, also serves several other purposes. The instructor may be able discover which terminology is unfamiliar to most students and needs further explanation, not only for them to make best use of the checker, but to have functional vocabulary to talk about style and error in class. A walk through the menu also presents an opportunity to talk about the limited effectiveness of the checker, how it can therefore function only as one proofreading tool among others – a tool with strengths and weaknesses different from most human proofreaders. Discussion of the likelihood of inaccurate

error messages also highlights the necessity of the writer's being able to evaluate the accuracy of a marking themselves. As Vernon describes, discussion of the checker's fallibility may also further depathologize the very notion of error, removing the sense of shame often associated with usage mistakes and transforming the effort at error management into something more like a mental game, if with a clumsy tool.

Engaging actively with the checker in pedagogy can also open the added layer of critical thinking described by McGee and Ericsson, of querying the assumptions built into the checker, questioning the authority of the program, and challenging the implicit power of the program. Using what we know about plain and practical style alongside this research about Microsoft style, a compositionist can demonstrate to students how a writer can use the checker in ways it is not primarily intended to be used, to write in widely varying registers, managing error differently in each, to shape their own personal styles.

For the instructor not interested in actively incorporating software into instruction (or who does not have the technological resources to do so), the principle of using a checklist of items to check for still holds. Drawing from one source or many, including the checker menu, Top 20 lists, style and usage guides, her students' own past papers, or other teachers' lists, a compositionist can develop her own checklist of item categories to consider when defining a register, and can thus name and define them more clearly than the program. For those who do incorporate the grammar and style checker into the curriculum, his list can form the basis not only of a style sheet but also of guidance to students using the program, to customize its abilities to their style needs. With a list of categories in hand, a student can better discern which

items to check and uncheck in an electronic checker, for a given register – and can be encouraged to do so.

Zones rather than lines, arguments rather than tallies

Given the history of prescriptivism and sticklerism, the lurking temptation in naming registers and defining errors and error-tolerance for those registers is a lapse into bean-counting quantification. The model for a less rule-obsessed and more critically engaged pedagogy, in both register and error, is contemporary genre theory and pedagogy. Recovering from a long history of formulaic treatment of the idea of genre as a box to judge a text by and to force students to fit into, today's understanding of genres uses definitions fruitfully but more fluidly, less interested in taxonomy and more curious about adaptations, about hybridity, about querying and challenging those definitions. Similarly, recent scholarship and pedagogy of style – even more closely intertwined with questions of error and register – propagates the model set by genre studies of the past few decades. Compositionists such as Brian Ray, Jimmie Killingsworth, and Chris Holcomb offer approaches to style as performance, as pleasure, and as play, revealing the prescriptions of “style” guides to be the impoverished and under-theorized lists they are. Such new attitudes extend and transfer to error and register, giving writing instructors tools for resisting the temptations of a rigidity antithetical to effective praxis in composition. For both compositionists and their students, the answer to misguided bean-counting is reasoned argument. In describing writing, numbers offer valuable information, evident as in the quantitative aspects of this research, but they are not adequate to capture the full complexity of meaning in language. Curzan comments that the grammar checker “can strip

[usage] rules of much if any flexibility of nuance they may once have had" (75), which of course is true, but we need not look to the computer for levels of nuance that it lacks: it is our human job to maintain or reintroduce the zone of nuance to an understanding about error, even when using the blunt instrument of the software as a tool. Like the grammar checker as only one, albeit helpful, proofreader for a document, the quantification of error in a document is only one category, albeit useful, of information about a paper – even before considering the arguable status of most individual errors. When using the tools of register to examine error, it remains important that we not let the tools become bullies.

Certainly there is an enormous amount of pressure upon educators at present to produce statistics regarding any imaginable metric, even meaningless statistics, if they can pretend to be meaningful. And there is the ever-present and often-fraught necessity of assigning grades, quantification which has been part of education since long before the current political obsession with statistics and big data. The challenge and responsibility of composition is to use quantification and technology in the service of rich language and critical thought – our own and our students' – rather than, as is the bean-counting danger, to give in to meaningless or near-meaningless quantification. In language, the richest human meaning-making resists reductionism.

Rhetoric offers a compelling answer to reductionist quantification, which emerges directly from the theory of error outlined in this research: argument. When a writer wants to make his best point in a piece of writing, he may choose language that could qualify as incorrect; whether the label of "error" fits depends on the strength of the argument, on whether the risk, the bold style move, pays off. If a student wants to argue that a given register used in

class should allow a wider zone for tolerable error, then she can make her case built on the stance of the register.

There are uses of quantification that can not only assist writers in making more effective style moves but also assist instructors in teaching more clearly. The grammar checker is one such tool. Even with its limited accuracy, it presses a writing teacher to define which “rules” matter in his class and to notice when students are unable to interpret its feedback because they lack the basic grammar vocabulary to understand the explanations.

The checker as checklist

Curzan reminds us that as the grammar and style checker “streamlines the rules to fit the program,” it is likely to “strip rules of much if any flexibility or nuance they may once have had” (75). There is much in writing – of meaning, of music, of implication, of paradox – that the computer cannot help us with and, fortunately or unfortunately (depending on one’s fear or hope of cyborgs), likely will never, despite the best efforts of artificial intelligence research. But composition had thrown out the baby of style instruction with the bathwater of inflexibility about usage rules some decades ago. Faulting the machine for its failures of nuance in error management would be like celebrating the machine for its success at assessing student writing: the reason it is easy enough for the computer to match human graders on standardized essay tests (which sounds to my ear like an oxymoron) is that we have so reduced how the human graders of the essays must assess the writing that even a machine can match them. “New technologies ... are for the most part being used to reinforce old practices” (Vojak, et al 97). But nuance is not the machine’s job: it is our job, the work of us humans – teachers, students, and

writers. And the machine is, indeed – as this research shows – an increasingly effective tool for presenting us with information that helps us do our job.

With or without a computer, a writing teacher deciding where to place curricular attention can choose to treat usage conventions as inflexible rules rather than delve into the range of their subtleties and possibilities. This would be traditional “grammar” instruction – perhaps what the researchers who fail to define “formal grammar instruction” mean when they use that term. Such a teacher might like the clinical function of the grammar checker, but more likely he will be frustrated with its limitations, its failures of enforcement. An instructor more interested in the fluidity and rhetoricity of language or the hegemonic sources of the usage conventions has been likely, for the past fifty years, to simply ignore usage as much as possible and would be frustrated with the machine both for its successes, as tone-deaf enforcement, as well as its failures.

The computer’s difficulty performing functions that require discernment of meaning is one of the perennial knotty problems that fascinate researchers in natural language processing, as Heidorn’s descriptions demonstrate. But for our purposes in composition and for individual writers, the computer’s lack of ability to engage with meaning is precisely what makes the machine a better proofreader, in the areas where it excels, than a human. The grammar checker cares nothing for the insult or insight in a phrase that distracts a human from noticing a missing comma. The computer expends no processing speed on the meaning-rich aspects of cognition that draw human attention away from attending to usage conventions. Training for human proofreaders involves any number of tricks for directing the mind to ignore meaning so that it can focus on the error hunt, such as reading line by line backwards up the page or changing the

font to something large and unfamiliar, physically requiring a new quality of attention. A computer does not need such tricks.

A computer program – lines of code – is still just a checklist. It compares item after item to the condition offered in the code: if this, then that. If not that, then move on to another line of the checklist. It is a shopping list. And just as it is easy to forget the milk amidst the cognitive load of searching for the right kind of bread – making us glad we put the milk on our shopping list – it is easy to miss the cliché in the introduction after grappling with the argument in the eighth paragraph, so we can be glad the program catches many clichés. Whether the cliché is just what the introduction needs, to be rhetorically effective, the writer decides. And a look at the items on the grammar checker menu reminds us to consider some we may have forgotten: “Should this report use the first person?” and then, “why, or why not?” – and we are now already in the discussion of register, because of the need to decide what counts as an error. Holding this perspective ourselves and offering it to our students is essential to integrating checking technology effectively into a pedagogy of error that is both reflective and practical.

D. Further research

Among the many possibilities for further research on error, register, and text-critiquing software, a few emerge most vitally. Several involve establishing a knowledge base within composition for evaluating and teaching with grammar and style checking technologies. Others regard critical engagement with the developing technologies of text assessment on a larger scale. Finally, any scholarship that follows most fruitfully on the research of this dissertation, with or without a close integration of digital technologies, will examine and challenge the

theory and pedagogy I have put forth regarding the relationships between error, attention, and meaning and regarding a register-based pedagogy.

Finding out how writers use the grammar checker

As quickly became apparent during this research, composition as a field knows little about the grammar checkers and other text-critiquing technologies that are already active in our students' lives and, if less visibly, in our own. A fuller understanding of the critiquing tools available and a regular updating of that research, as new tools become available, would allow writing instructors and students to benefit from their strengths and manage their weaknesses. An essential aspect of understanding these technologies will involve research on who uses these programs and how: among students, business and professional writers, and academics, which applications are most used in a given population, do writers make full use of their functions, and do the programs tend to improve or degrade the quality of writing – including successful error management according to the stance and conventions of a register. Ethnographic research, usability studies, surveys, focus groups, and interviews would all be apt tools for collecting such data. Broad-based research would be useful, but smaller studies of limited populations would also provide valuable context-specific data on, for instance, the student population of English majors in a given school, or workers in a given organization. Without such data, discussion of how grammar and style checkers are being used will remain speculative, limiting our ability to establish best praxis in how they might be put to better use.

Building a transferable data bank for testing the checkers

In addition to bibliographies of research critically evaluating existing software, we need readily available instruments for testing the function of grammar checkers. Teachers deciding whether or not to recommend the checker in Microsoft Word or any of the free checkers available online need a sturdy, reusable, customizable data set that they can run through the checker to see how well it responds – a test bank of sentences, at least, as well as perhaps a small bank of student essays. Such a test bank would include writing that contains typical types of student errors and would be assessed and marked already for those errors. An instructor or administrator would then have a familiar instrument for evaluating how a checker responds, and how accurately – whether because he knows students to be using the checker already, because he is considering whether to recommend a program to his students, or he is considering purchasing the program for a writing center, a department, or a school. The two banks of sentences provided by Haist and Major provide not only such raw data that can be retested but also models to be replicated and revised in future testing. We need not start from nothing in developing a test instrument for compositionists to use and customize to their own needs.

Using corpus tools

Some of the most exciting possibilities for extending the scholarship offered here on register involve the ground, barely tilled in composition, of corpus linguistics. Linguists interested in questions of register (e.g., Biber) put corpora to use answering questions relevant to this research on error. Compositionists such as Laura Aull, Zac Lancaster, and Brian Ray are

adventuring into new territory for analyzing style, tone, and stance using corpus tools. Their work provides models for how we can use the tools of big data and natural language processing to understand the language in our students' papers, as well as the language in effective writing (and ineffective writing) in other contexts. Once a writer, student, or teacher is familiar with a few publicly available corpora, such as the Corpus of Contemporary American English (COCA), a simple search can sometimes reveal information about current usage standards quickly and easily.

Aull models corpus-based research to study first-year composition with her use of the Michigan Corpus of Upper-Level Student Papers (MICUSP) in combination with student writing collected at her own university. And our colleagues from applied linguistics who teach English to non-native speakers have forged tools that transfer to composition for native speakers as well, not only for research but directly into pedagogy: Gena Bennett's *Using Corpora in the Language Learning Classroom: Corpus Linguistics for Teachers* offers simple approaches to using or creating corpora. Much composition research already involves collecting student writing into what are effectively small corpora, so the methodologies of corpus linguistics might guide those processes of both collection and use and will ideally become one of the standard research methods introduced to composition graduate students.

As research in deep machine learning continues to create new technologies for analysis, we can also expect to be able to extract increasingly meaningful data from increasingly smaller corpora. Such tools should make it steadily easier to target our collections – and therefore our register definitions – to more specific, situated populations and situations, defined by any

number of factors such as genre, location, presumed skill level, or the age of the writers, including the student population of a given university or those writing in a specific department.

Systematically customizing grammar checkers for pedagogy

Most grammar checkers have some level of customizability built into the program, through menus that allow users to choose what errors the checker will try to detect. I join the long chorus of researchers who note that writing instructors will make better use of these technologies if we learn how to help students customize the program settings to their learning needs. The Word grammar checker can be set to look for only one type of error on a given assignment at a time, for example, or we can teach students how to check and uncheck functions according to the demands of a register, as described above. Our failure to standardize this simple practice after all these years with the technology is increasingly hard to justify.

The cognitive load of using electronic technology

Research involving cognitive load, technology, and pedagogy deserves comment on the broader implications at the intersection of all three, based on my experience during this research. Software developers who deal with human-machine interaction are keenly aware of the potential problems, for the user, when a technology demands too much attention to make it useful, on balance, for its intended purpose. Thus developers of the computerized technology in cars, for instance, seek to minimize distractions to a driver who is already busy with the task of safely driving the car, thus limiting the amount of attention she can give to interacting with a computer helping her to operate the car or give her directions.

In composition, those who embrace digital technology – whether enthusiastically or with grim reluctance, facing the inevitable – often see those who resist such computerization as simply luddites, refusing to face the reality of contemporary life. But I can speak as a humanities scholar who has embraced technology – who finds the term “digital humanities” somewhat silly and redundant – but who nevertheless holds a different view of the necessity of engagement with digital tools. The resisters have a point.

Having learned long ago that my machine would not blow up if I pressed the wrong key, I later crossed that invisible line over into comfort and ease with my technological tools – into the zone of play and experimentation, of web searches for fixes and add-ons, of the ability to figure out how to solve my own software problems that the professional help desk could not – of thinking more like a programmer and beginning to eye macros and coding and developing. My fellows among the digitally comfortable often tell us that we must all enter this zone, but I am here to attest that the cognitive load is very heavy, and it does indeed compete for time spent on other forms of attention to language, theory, and composition pedagogy. The hours I have spent grappling with crashing software, hardware problems that demanded replacements, failures of programs to fulfill their featured functions, searching the internet and finding or failing to find fixes, navigating frustration, expense, and distraction while at the mercy of the technology – they are too many to count. So while I heartily encourage my fellow enthusiasts for digital tools to continue develop our expertise in their use for composition, I suggest that we do so in the spirit of relieving some cognitive load for those who prefer to spend their research energies elsewhere, in a spirit of broad collaboration, creating tools that do not demand that every mind think like a programmer.

Engaging with those who create software for writers, in the spirit of Weiss's call for us all to participate in the development of style checking programs, is an opportunity for composition to participate not only in the public conversation about writing but the public tools which shape and support that writing. I explore one avenue for such engagement in the Afterword, which details the ongoing re-development of the Word grammar checker.

Testing and developing the theory of error and the pedagogy of register

It is my hope that my fellow composition instructors have found here pedagogies of register and related strategies for dealing with error that they can implement and adapt to their own purposes. While some of the teaching strategies described here are based on my own experiments in the classroom, others have emerged during the re-theorizing of error sparked by this research on error and the checker, and they await further research and implementation. Most essential to a pedagogy of register is the foundation of stance, implemented in style. Defining registers that best suit the nurturing of a students' creativity or a preparation for their future is a task in which some teachers and departments engage already, if by other names. The lens of register – of defining typified but contingent descriptors of styles, linked to stances – offers a vocabulary for making this discussion clearer, across the field.

AFTERWORD. Word 2016, and engaging with emerging technology

During the research for this dissertation, Microsoft announced that the next version of Word would be released in late 2015, not long after the summer release of their new operating

system, Windows 10. It was to be the first new iteration of the program to appear since Word 2013 for Windows, which holds the grammar checker that is the topic of this research, and the first redevelopment of the grammar and style checker since 1996.

A. A gutted checker

In mid-2015, the new grammar checker appeared in an unfinished “beta” form, in the beta for the new version of Word, for brave or curious users to try before it was promised to be fully stable. The beta was a rudimentary, stripped-down checker, with many fewer functions than the current one in Word 2013 – more like a placeholder for slotting in a new checker later. Nevertheless, it was reasonable to assume that the new application would be an upgrade.

But when the new word processor was officially released, as “Word 2016,” the grammar and style checker was still the stub. It held only a *Grammar* section, no *Style* or *Require*, and only 9 items, rather than the former 35. A screenshot of the menu appears here in Figure 21.

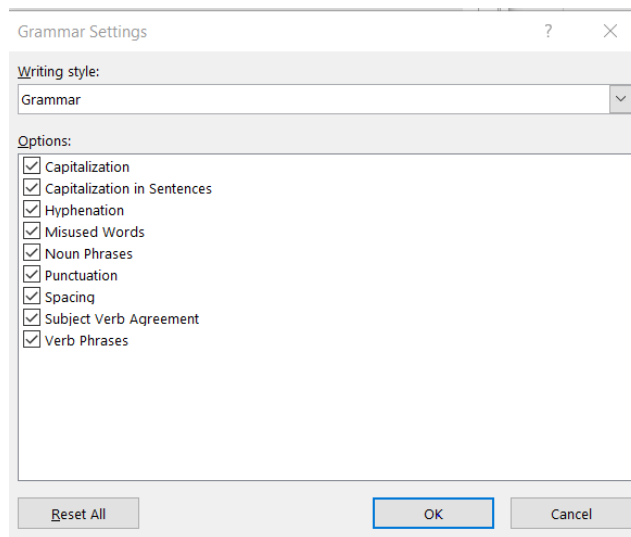


Figure 21. The temporary, grammar-only checker in Word 2016

Most of the former functions of the grammar and style checker were gone. There was no way to check for most of the items formerly offered in the checker: hard-to-proofread style-guide concerns such as placement of commas or periods at the end of quotations; serial commas; or one or two spaces after a period. It had stopped checking for passive voice, for colloquialisms, for contractions.

B. Public frustration over the missing checker

Millions of users opened the newly minted Word 2016 one morning expecting to find the same functions they have relied on in Word 2013 or better ones, only to discover that those capabilities had disappeared. Microsoft had given no warning, as would have allowed users to make an informed decision about whether they wanted the upgrade (those who had a choice about upgrading, as some employees and students do not). Many scrambled to uninstall Word 2016 and return to Word 2013, so that they could have their grammar and style checking functions restored, but, depending on how they acquired the new program and whether they still had Word 2013 on a disk, the change back was impossible for many users.

A visit to the Microsoft message boards where users ask for help solving technical problems shows threads lighting up with frustration and confusion about the missing grammar checker in Word 2016 for both Mac and Windows. (For highly informative samplings of the ways users depend on Word 2013's checking functions, see the threads at [Jones](#) or [Metalious](#) expressing their frustration at its disappearance). Office workers who depended heavily on the checker were at a loss for how to adapt – the missing capabilities added time and a changed workflow for handling document editing in their companies. Some of them were irate.

Of especial note to this dissertation, messages appear in these threads from teachers and students, particularly graduate students, describing how they rely upon the checker to help them proofread their papers and to know when their usage is incorrect. Teachers, including writing instructors, have posted complaints and questions, wanting to know if the checker would be restored to its former or better functions, and if so, when. Here is one example:

So here's what I'm doing over the summer.

I've been teaching my community college students to exploit the grammar and style features in Word for several years. I have about 60 students every semester. They have gained solid skills and have found these features useful.

Because I can't depend on these features returning for the fall semester, I am putting together a replacement capability based on Google Docs and several free services. (["Planning for my fall 2016 semester."](#))

A representative of Microsoft, Nicole Michel, responded on the user message board in September 2015, and a few times afterward, that the company was working on a completely redeveloped grammar checker for Word 2016 and that it would be released "soon."

C. Waiting

Nine months later, the new checker has not been released. Users continue to post comments, complaints, and rants to the Microsoft websites, trying to find out when and if a fully functioning checker will be returned to Word 2016, presumably in a downloadable update. No date nor even a goal date for the release of a new checker has been announced. On 30 May

2016, Michel posted to one thread – now 23 pages long, filled with frustration from Word 2016 users – apologizing again for the delay but still giving no release date.

Customers' technical support at Microsoft has not been notified of the loss, so new users of Word 2016 describe on the message boards calling tech support and spending hours on the phone, uninstalling and reinstalling the program in an effort to access a fully functioning checker. When I visited the Microsoft store in October 2015 and saw the stripped-down grammar checker on a demo laptop, I was told by a salesperson at the store that it was just demo software and that a fully functioning grammar and style checker would download with the purchase of Office and Word 2016. It did not.

From the Microsoft message board that was formerly the official home for tech support requests and discussion, users are now directed to a new site, where they are airing the same complaints. Threads begun in fall 2015 were first posted in the "Forums" of the Microsoft "Community," which are geared towards technical support, and there is a link on those pages to "Search Microsoft Support for more help." Microsoft employees have sometimes weighed in with an official answer to a technical question (as in Michel's official but non-answering answer to the requests to know when the style checker will return), but more often customers exchange information in attempts to answer one another's questions. As of 14 March 2016, however, Michel posted to the Forum that the discussion had moved to the "UserVoice" site, now "considered the official channel for keeping up to date with the latest product development and discussion in Office."

D. Behind the scenes at Microsoft

My research on Word 2013 had begun before the current Word 2016 grammar checker debacle became public, and I had contacted Microsoft to learn more about the current grammar checker. My questions concerned how the programmers decided what counts as an error.

Historically, the development team of the grammar checker at Microsoft has not been responsive to input or requests for information from researchers in composition. Caroline Haist sent Microsoft a copy of her extensive study of the program, conducted not long after Word 97 was released. Not only did they not respond (see Jane Elizabeth's interview with Haist), but for the subsequent twenty years they also ignored the findings of Haist's published research that pointed out glaring errors in the program, such as the entirely wrongheaded explanation and algorithm for the case of a pronoun before a relative clause. Similarly, Anne Curzan had hit a wall with the grammar checker team. Having responded to some questions from her assistant during earlier research, Microsoft then did not reply to her attempts to contact them requesting further information in 2012 (76, note).

During this research, I was able successfully to make contact with computational linguists at Microsoft headquarters in Seattle who have worked on the grammar checker. Some publish regularly in academic journals on computational linguistics and a few on machine grading, and they were extremely helpful in pointing me towards sources for my research. But those who had last worked actively on developing the grammar checker and who would have been able to explain how Word 2013 decides what counts as an error had moved on to other projects and did not reply.

Noting that Nicole Michel was apparently in charge of communicating with the public regarding the checker, at least regarding the ongoing mess with the upcoming checker, I sought to contact her directly and eventually succeeded in reaching her. She responded and has been quite helpful, in a series of emails, answering questions about the new checker in development, but she has also provided a little knowledge about the current grammar checker, as cited elsewhere in this dissertation.

As noted in this research, the decision to jettison the current checker to build a new one is not driven primarily by a desire to improve grammar and style checking in English. Rather, Microsoft needs to integrate modular technology for checking grammar in 22 different languages; they have been depending on third-party suppliers to provide some of those modules, and they are in the process of reducing their dependence on those outside sources, bringing the programming in-house. So, though they seem to be working towards improvements in its error detection in English as well, the grammar and style checker is, once again, essentially a by-product of other corporate priorities. (Its low priority status was certainly confirmed by Word's recent release without a fully functioning checker, without comment).

E. How the future checker decides what counts as an error

Michel's information concerning Word 2016 provides insights we can use in applying the findings of this research going forward, to grammar and style checkers generally and to upcoming versions of the Microsoft checker specifically.

To my question of how the programmers decide what counts as an error, Michel reports that Microsoft has collected a "huge" data set, "annotated for grammar errors," based on "lots

of ["anonymized"] sentences we collected over the years from Word users who opted in to help us improve our Proofing tools in Word." While they also use "web crawl data (e.g. websites, online forums, blog posts), email data (emails donated to us through several different email donation programs), online newspapers," as well as a variety of corpora (on which, she demurred), this data set from Word users is the central guide to decisions about what to include in the checker.

She confirms that, to guide their usage decisions, "the linguists refer to reputable grammar reference books," and she names one of them: Huddleston and Pullum's *Cambridge Grammar of the English Language*. She also confirms that Microsoft's linguists serve as a de facto, in-house "usage panel" (as the creators of dictionaries and language references have done for some centuries). But she insists that they "aim to make the grammar checker as generic as possible" to "implement rules that all (or at least most of) our users would find helpful." Curzan may call the Word grammar checker "the most powerful prescriptivist language force in the world," but Michel insists that the programmers are not deciding what usage rules should be the standard, as they program the checker, but are simply following commonly accepted practices. Among centuries of language texts, this position of descriptivism is also common, though not uniform. (Some, such as Noah Webster's dictionary, have been explicitly reformist and prescriptivist.)

Michel confirms the presumed distinction between "grammar" and "style," while acknowledging some fluidity between the two categories: that "grammar errors" are "always errors and corrections are compulsory," while "style errors" are "only sometimes errors." She defines grammar errors as incorrect "independent of context" and style errors as "depending on

context” and on style guide requirements (hence, presumably, the decision to prioritize “grammar” errors when preparing for the beta release of Word 2016, which remained when the full checker was not completed in time to be included with the program’s overall release). These distinctions are especially noteworthy in light of the broader conclusions of this research – that corrections are never entirely compulsory, given that some registers can tolerate even “grammar” errors, such that all error management ultimately depends on context.

Also influencing what items the new checker will include is accuracy: the developers seek to offer only the rules that detect errors with at least 70% accuracy, across both grammar and style items. Unless the new programming takes an enormous leap forward in its success rates from Word 2013, as established by the quantitative research in this dissertation, a 70% cut-off could limit the checker’s offerings considerably.

An internal document apparently leaked from Microsoft, “Grammar Checking in Office Tech Preview,” confirms and supplements the content of Michel’s correspondence with me. It also indicates that the new checker will concentrate on error types for which accurate correction suggestions can be offered; this objective might eliminate some significant error types such as sentence fragments.

For now, we do not know what the future checker will include, with finishing touches added to the *Grammar* section and the *Style* section returned but completely revamped. The fate of the oddly named *Require* section (which held three punctuation items that vary by style guide) remains uncertain. From postings on the boards, it seems clear that Microsoft has underestimated users’ reliance on the application for pointing out usages that are not inherent grammar errors but purely style issues, such as passive voice or spacing questions, and we can

hope that those functions will return and even improve over time. Ideally, this dissertation and other composition research on grammar and style checking tools will give compositionists enough perspective on how the software works to enable both teachers and students to make better use of the technology as new iterations appear.

F. Compositionists' engagement

Because Microsoft has not finished building the new grammar checker, they are still soliciting customer feedback about what users would like to see in the checker. Following the model (and the visual style template) that they and other companies use for the many new mobile applications they have debuted over the past two years, Microsoft now asks users at the "UserVoice" site "what features they would like to see" in future upgrades to Word, rather than what technical problems they are having. For users transferring from Word 2013 to the incomplete Word 2016 grammar checker, their experience of its many missing features is more a technical problem than a hope for fun new features, but the shift between message board types is important: it signals that not only could Word be released without a completed grammar checker, with the team simply planning to add it later, but that even after the software is officially released, it can be upgraded, if the company chooses to invest further attention in the application.

This model of more interaction with customers but more upgrades after release has several consequences for users. One is that it may increase the bad habit of companies' releasing buggy software that was not truly ready for use, increasing users cognitive load, with the excuse that it can be fixed later. Another is that, buggy or not, there is a real possibility that

software already released will receive not just patches but significant new features, if the company believes the addition will increase sales and customer loyalty to the company's programs, integrated "suites" of programs, and accompanying hardware.

Of most relevance to this research is that this new rhythm in software development from even the largest companies, such as Microsoft, opens the possibility of more input from users – including compositionists who integrate or at least acknowledge software such as the Word grammar checker in their pedagogy. Collecting suggestions from the forum and the suggestion board, Michel has promised users there the return of a variety of requested features to the grammar and style checker when it is finished, and in our correspondence she welcomed and solicited my suggestions about how to improve the interface buttons, menu, and the Help page of explanations. (To what avail, we will not know until we see the next checker, completed.) The programmers and technical writers forgot to include one item entirely, which she said was an oversight that could easily be repaired in the next release.

With the ongoing calls for academics to contribute as intellectuals in public conversations, beyond academia, composition has an obvious opportunity and, arguably, a responsibility to engage with shaping a tool as ubiquitous in writing as the most widely used grammar and style checker in the world. With his "Style Checker Manifesto," Weiss called on composition to engage with the development of style checking software, to save the world from bad writing; we can hope that experienced compositionists, well-versed in best pedagogical practices, will indeed work with programmers, innovators, and linguists in the creation of new technological tools for writers, not only for managing error but for the many uses against which

programmers – mostly computational linguists – are testing and stretching the limits of the machine.

But we can also have an impact on the effectiveness and accessibility of the existing tools if we make our voices heard. Even if composition as a field takes years (or fails entirely) to reach any level of professional consensus on what we would like to see in the most widely used software tools for writers, individual compositionists can request needed functions and fixes simply by sending feedback to the companies who build the software. Such engagement does not require technological expertise nor a deep commitment of partnering with developers but, rather, only a few minutes to post a request.

In a change from the era in which McGee and Ericsson protested amidst the near-complete monopoly of Word over the word processing market, today Microsoft faces significant inroads against its dominance from free and online applications, so they may be more attentive to user concerns. And like most software companies in this decade, Microsoft now makes it easier than formerly to send them requests and complaints. A page in the “backstage” view of Word 2016 is named “Feedback” and links to an online comment form. And one can post directly to user boards discussing Word at UserVoice.com or whatever forum is offered in the future.

The education market is sizable. If individual compositionists flooded such comment boards with requests that showed what writing instructors and writing students need in our software, we might move the needle towards technologies that better suit our needs and fit with best practices in composition.

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