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Does It Matter that Quantitative Analysis Cannot Deal with Theatrical Performance?

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The short answer is "Yes, it matters", but only in that any critical method distinct enough to do some things well is bound to do other things less well and still others not at all. The problem is not that quantitative analysis (QA) fails to be all things to all people, but that QA practitioners too often misinterpret what they can and cannot do. I am concerned here with a particular instance of misprision, fixed on the longstanding controversy in Shakespeare studies between literary and theatrical value. When QA practitioners claim that, though unable to deal with performance, they can nonetheless execute textual analysis, they misrecognize the really consequential distinction between what their methods can and cannot provide: the precise measurement of linguistic data, such as might identify distinct authorial signatures, on the one hand; the interpretation of

a variety of theatrical and/or textual effects, such as might produce critical understanding, on the other. And then, failing to recognize the actual strengths and limitations of their methods, or to act on the basis of the recognition where they do, QA practitioners extend their operations into areas outside their own jurisdiction. Such expansive designs are damaging in the first instance to the overreachers themselves. Unfulfillable promises only reinforce the suspicions, still legion among Shakespeareans, that sequester QA in a negligible space. The damage extends to the technoskeptics on the other side as well, who will find themselves confirmed in their prejudices and therefore even less likely to take advantage of the real benefits QA makes available to them.

Part 1. The Page versus the Stage: Once More unto the Breach

In *Style, Computers, and Early Modern Drama*, Hugh Craig and Brett Greatley-Hirsch include a chapter on "Company Style", focused on the question whether Renaissance repertory companies specialized in particular kinds of drama. Employing "the robust quantitative methods of computational stylistics" laid out at the beginning of the book, they proceed first "to generate distinct profiles for each repertory company" by "construct[ing] a corpus containing only those plays with well-attributed first companies and first performed between 1581 and 1594". They then "project the word-frequency counts for the 500 most frequent words across the corpus […] into a two-dimensional space" in order to represent the points of affinity on a scatterplot. When the scatterplot reveals that there are "no tight discrete groupings" within each company but that the "points belonging to almost every repertory company are interspersed with one another", Craig and Greatley-Hirsch conclude that "the plays belonging to different repertory companies share similar stylistic traits" (Craig and Greatley-Hirsch 2017, 167-70). When, on the other hand, the same quantitative methods allow them to discern distinct and clear authorial identities even in plays written for different companies, Craig and Greatley-Hirsch conclude that authorship provides a "stronger signal" than company profile for determining "the stylistic affinities between plays belonging to the same period of

composition" (181).

I will return to these conclusions, but I begin with the concession incorporated into the close of the chapter. While a house style is "not evident" in "the language of the plays themselves", Craig and Greatley-Hirsch acknowledge that it

> may well be found in performance – in the vocal, physical, and expressive qualities of different actors and types of acting, in the incorporation of dance, music, song, tumbling, "wit", and other feats, and so on. However, performative elements such as these are ephemeral and, as G. K. Hunter observes, "the evidence left in texts is much too sporadic for the point to be developed". (Craig and Greatley-Hirsch 2017, 200)

Hunter's claim is quoted from the Renaissance drama volume of the *Oxford History of English Literature*, but the problem he describes is not limited to the past. Even in the case of current plays, the evidence for performative effects in dramatic texts is unreliable, not because there is too little but too much. Read as theatrical scripts, dramatic texts offer an abundance of different and even contradictory cues for performative effects, but "the language of the plays themselves" (a phrase we'll meet again) cannot determine which is the right cue to follow. In citing Hunter, then, Craig and Greatley-Hirsch identify the conviction underlying the question in my title: like all text-centered approaches, QA cannot be connected decisively with theatrical performance. Moreover, they suggest an answer to the question as well. If an eminent Shakespearean writing in an authoritative work proceeds comfortably within an approach that admittedly cannot deal with theatrical performance, then the inability, however regrettable, does not matter, at least not in a way that undermines the legitimacy of Shakespearean work. But this raises a new question – what, exactly, is Shakespearean work? Craig and Greatley-Hirsch proceed from various assumptions, all bearing more or less directly on this question. I look at some of these here, with the idea that they might lead to a differently nuanced answer to the question in my title.

Craig and Greatley-Hirsch's Shakespeare is an amphibious creature, resident in textual and theatrical domains represented as

fundamentally different from one another. Just as textual details cannot provide reliable evidence to interpret performative effects, so performative effects cannot be read back reliably into textual details. Once again, the problem is too much. Reverse engineering allows us to associate the theatrical business in a particular performance with a textual detail, but since other performances will produce different kinds of business in conjunction with the same detail, the association turns out to be coincidental rather than causal – a just-so story without explanatory authority. The distinction between textual and theatrical interpretation has for so long grounded our work that we have devised a rhyming mnemonic to summon it up – the page and the stage. But if this ground is familiar, is it solid? Do we know what we mean first by "interpretation" and then, more specifically, by the sub-categories of "textual" and "theatrical interpretation" we tend unthinkingly to slot into the divided and distinguished worlds awaiting their arrival? More particularly still, what does textual interpretation mean for Craig and Greatley-Hirsch when they shelter QA under the umbrella of Hunter's "evidence left in texts"?

Stage/page discussions in current practice typically take the form of a confrontation between mighty opposites, stage-*versus*-page, where expressions of interest in one are understood to question the legitimacy of the other. The reception accorded Lukas Erne's *Shakespeare as Literary Dramatist*, as Erne himself describes it in the preface to his second edition, is a striking example. Although Erne's claims for Shakespeare's literary ambitions were never meant to deny that he was "simultaneously a man of the theater", readers took the book as requiring them to choose: is Shakespeare "of the stage or of the page, should we watch him or read him?"; and advocates of theatrical Shakespeare vehemently opposed Erne's supposed antitheatricality. According to one reviewer, "all those who agree with" Erne "suffer from a post-9/11 trauma", and in another instance, the book was displayed at a performance-centered Shakespeare conference by someone "pantomiming machine-gunning it". These are "false dichotomies", Erne insists, but "the realization that they are false", he concedes, "does not mean we can easily escape them" (Erne 2013, 1-4).

Stage/page discussions had already taken the form of a fiercely

contested zero sum game as early as 1811, when Charles Lamb argued that performance impoverished the experience available to readers of Shakespeare's tragedies (Lamb 1903), and the disputatious tone extends back to Shakespeare's own day, where Jonson is only the most prominent example. While there have been periods when one side or the other effectively controlled the discussion, consensus was never universal and eventually displaced by a new consensus, itself temporary, based on the values of the other side. Given the sturdy durability of this controversy, Erne's "cannot 'easily escape' its 'false dichotomies'" sounds like understatement. If the "debate" between "text or performance" is "the only glue" that is "holding the diverse field of Shakespeare studies together" (Lee 1991, 410-12), escaping its dichotomies would be impossible.

In contrast to this overheated rhetoric, Craig and Greatley-Hirsch come across as benevolent pluralists – *we're doing text over here, you're doing performance over there, it's all good*; but the pervasive longevity of the stage/page controversy raises the question how they have managed to ascend from the bellicose conditions on the ground. Maybe they haven't. Maybe partisan commitments are percolating under the insouciant tone of their concession. To begin with a small point, what are we to make of "and other feats, and so on", the phrase with which their catalog of theatrical effects trails off? It's an oddly redundant locution, like "etcetera, etcetera, and so forth" in *The King and I*; and although semantically inert (that's what redundancies are), it is rhetorically expressive in a way that invites some scrutiny. It suggests indifference (*you can accumulate examples of this stuff endlessly*), and in conjunction with the relegation of performative elements to 'ephemera', indifference verges on the dismissive (*why bother?*). This suggestion is substantially reinforced by "the language of the plays themselves", the phrase with which Craig and Greatley-Hirsch introduce their concession. Anyone summoning up "plays themselves" has ventured, intentionally or not, into critically fraught territory. Where advocates of theatrical Shakespeare affirm the priority of performance ("the history of the text", as Stephen Orgel puts it, is the "history of realizations of the text" [Orgel 2002, 246]), Craig and Greatley-Hirsch identify "the plays themselves" with their

language, thereby replacing the (indubitably unstable) performance with the (presumably stable) text as the ontologically appropriate object of critical attention. What begins as concession – text-centered approaches are legitimate even though they ignore performance – has morphed into assertion – text-centered approaches are legitimate *because* they ignore performance.

Craig and Greatley-Hirsch are not confrontational critics, and the table-thumping pronouncements I just teased out of their words do not correspond to the intentions they put into them. But intentions are not the sole determining factor, because intentions are themselves determined. As Gerald Graff argues, anything we "are able to say about a text" depends on a "relation to a critical community of readers, a 'discourse community' which over time has developed an agenda of problems, issues, and questions with respect both to specific authors and texts and to culture generally" (Graff 1992, 75). This dependency makes it impossible to examine the differences between text- and performance-centered approaches to Shakespeare (or any other topic) as an innocent bystander. The stage/page debate is not the "only glue" holding us together, but it's all around us, and no matter how diligently we endeavor to observe the matter at a remove, we are bound to be swept up into its controversial vortex.

If Craig and Greatley-Hirsch have no choice but to reflect on this topic from within the situation inherited from previous reflection, this does not mean that they – or we – are totally trapped by the mutually exclusive antitheses on which the controversy has been based. Consider the possibility that literary and theatrical Shakespeare share vital interests under their differences. If so, as I argue immediately below, while it may well be that performance effects are not determined by textual details, the situation is not necessarily different for literary effects. And if it isn't, if "the language of the plays themselves" does not determine the interpretation of literary effects any more than it does the interpretation of theatrical effects, then (looking ahead to Part 3) how should we define – at once identify and limit – the benefits we can expect from QA's distinct and very specific kind of textual approach?

Part 2. The Stage and the Page: Interpretation Over All

It is a truth nearly universally acknowledged that while connections exist between text and performance, they remain suggestive rather than decisive. Even vocalization, the aspect of performance closest to "the language of the plays themselves", remains too far removed to claim a determining authority. To illustrate the point, consider the skit based on "To be, or not to be, that is the question" (*Hamlet*, III.i.57)[1], performed as part of the RSC's commemoration of the four-hundredth anniversary of Shakespeare's death (https://www.tobysimkin.com/hamlet-skit). It begins with Paapa Essiedu, alone on the Royal Shakespeare Theatre stage, speaking the line as "To *be*, or not to *be*, that is the question"; but before he can continue, Tim Minchin bursts in from the wings ("Sorry, sorry") and changes the emphasis: "To be, *or* not to be" ("It's a choice, you see"). The rest of the skit repeats the process – a series of interruptions and revisions: Benedict Cumberbatch emphasizes "not", Harriet Walter the second "be", David Tennant "that", Rory Kinnear "is", Ian McKellen "the", and Judi Dench the second "to", until Prince Charles, coming up from the audience, delivers the line as "To be, or not to be, that is the *question*", upon which *exeunt omnes*, still arguing.

In representing an anxious struggle to find the right delivery, the skit dramatizes the extraordinary challenges that familiarity thrusts upon actors. Shakespeareans come to the soliloquy overloaded with expectations based on remembered experience, and even first-time audiences with no professional investment in the play register "To be, or not to be" as a cliché. As Douglas Bruster says, "[f]our hundred years of performance history […] weigh on the most recent actors" (Bruster 2007, 101), driving them to sometimes desperate inventions as a way to focus spectators' attention on what's happening in front of them, undistracted by memories.

In the video, however, the impression that emerges is not desperation but light-hearted levity. In even the most aggressively contentious expressions generated by this putatively fraught

[1] All Shakespeare quotations are taken from Taylor et al. 2016.

competition (Kinnear's "No, no, no, no, no. Idiots!", say), the actors take obvious delight in playing off each other's performances. Minchin only pretends to be affronted by Essiedu's supposed suggestion that "there's some reason, some intrinsic reason, why audiences wouldn't accept me" as Hamlet. And the reverse color-blind casting with which he continues ("Say it, I'll never play Hamlet at Stratford upon bloody Avon because… I'm ginger") makes a mockery of the emphatically reiterated "reason, some intrinsic reason" behind his *faux*-pain. Intrinsic reasons don't carry much weight in the theater. Of course blacks can play Hamlet. If you're okay with a twenty-first-century English-speaking Hamlet, you've swallowed a camel, and when Paapa Essiedu plays the part, as he does in the RSC production current at the time of the skit, you won't strain at a gnat.

As with race, so with gender. Minchin mistakes Cumberbatch for Eddie Redmayne ("I loved you as the Danish girl"), and when he asks Judi Dench who she is, her response, "It is I, Hamlet the dame", claims a histrionic privilege beyond her real-life entitlement. Minchin pretends to deny this privilege to Harriet Walter, "You can't play Hamlet because you don't have…", but she puts him in a hammer lock and he revises through clenched teeth: "… a pianist!" Gender presents no more of an intrinsic obstacle than does race (female Hamlets go back to Sarah Siddons), and age doesn't matter either. The graveyard scene makes much of Hamlet's age, but whatever Hamlet's being thirty years old might have to do with the character's age elsewhere in the action, it has nothing to do with the year of the performer's birth. Sarah Bernhardt was fifty-five when she first took on the role, at a time when fifty-five was older than it is now. Betterton first played Hamlet in his mid-twenties and carried on in the role through to his seventies. Jonathan Croall catalogs similar examples (Garrick at sixty-nine, Alan Rickman at forty-six, Mark Rylance at twenty-eight and again at forty, etc.), concluding that the part "is open to all ages of actors, which is partly why so many people are able to play it" (Croall 2018)[2].

[2] With boys for female characters and blackface for Moors, Shakespeare's theater was notably indifferent to mimetic accuracy of this kind. Someone, conceivably Shakespeare himself, may have revised the text to make Hamlet older and more

Intrinsic reasons, or their absence, are crucial to the central business of the skit – getting the emphasis right in the first line of the soliloquy. The divergences matter: "*that* is the question" means something different from "that *is* the question", and both differ from "that is the *question*". But the words of the line cannot determine their own delivery, and any attempt to find an inflection that can secure a consensus more stable than whatever exists at the moment of its own performance is bound to issue in the anxiety described earlier. That the actors transform anxious disagreement into festive comedy is made possible by their shared indifference to getting it right. What matters, rather, to the spectators as well as to the actors, is the production of interpretive interest – "the first purpose of a writer", according to Dr Johnson, "exciting" a "restless and unquenchable curiosity" in anyone who "reads his work to read it through" (1986, 30). Shakespeare's past mastery in the realization of this purpose has frequently been appreciated, and so here: although the language of the line itself cannot tell us which of its words should be emphasized, each of the differently nuanced vocalizations has the capacity to generate interpretive desire – they all work[3].

Johnson is thinking of a reader's engagement with a writer's text, not a spectator's with the performance of a play; but Johnson saw a similarity between these different situations ("A play read, affects the mind like a play acted" [1986, 26]), and the effortlessness with which his comment about interpretive interest can be transferred from textual to theatrical experience provides another occasion for skepticism about the stark contrast with which the stage/page controversy has come down to us. If Craig and Greatley-Hirsch's impartial separate-but-equal turns out to be separate-but-unequal, perhaps the categories are not truly separate either. However different, textual and theatrical interpretation are both modes of interpretation, and their shared interpretive interest is, I

corpulent (Bourus 2014); but if so, I doubt that it was to assuage anxieties about Burbage's performative plausibility.

[3] Or almost all; Dench's second "to" is a stretch. "Perhaps Hamlet uses the 'to' form" because "'to' renders that action impersonal", thereby adding to the effect that makes the soliloquy "float above the rest of the play" (Bruster 2007, 51, 46), but "To be, or not *to* be" is a line few actors will want to deliver.

suggest, produced in both cases by the effects of an embodied vocality.

That the "felt experience of the voice" is of paramount importance to understanding the speech of dramatic characters is now regularly acknowledged. The "performative turn" in recent work has "shifted critical interest from the semantic to the vocalic qualities of speech" – those "material attributes of the voice", including "intonation, pitch, rhythm and accent", which are crucial in determining how intention is "decoded". Sonia Massai, whom I quote here, synthesizes and adds to the rich body of research currently focused on "the impact of marked voices on the production and reception of Shakespeare in performance" (Massai 2020, 3). What I want to argue now is that a similar impact is equally (if not identically) decisive for the readers of Shakespeare's texts.

Textual interpretation begins with the understanding that we have a text to interpret. According to Steven Knapp and Walter Benn Michaels in "Against Theory", when we take the marks on a page as not just blotches produced by mechanical processes but signs or symbols, we are "ascribing these marks to some agent capable of intentions" (Knapp and Michaels 1982, 728). I am interested here in the specific terms with which this originating agent is described:

> For a sentence […] even to be recognizable as a sentence, we must already have posited a speaker and hence an intention. […] [A]s soon as we attempt to interpret at all we are already committed to a characterization of the speaker as a speaker of language. We know, in other words, that the speaker intends to speak; otherwise we wouldn't be interpreting. (Knapp and Michaels 1982, 726)

Since "Against Theory" has from its first words been focused on the "interpretations of particular texts" (723), the "sentence" at the beginning of this passage must be taken to refer to a unit of inscription as originated by a writer. Almost immediately, however, we hear about "a speaker" and find ourselves interpreting not a writer's text but a speaker's utterance. What has happened to account for this change?

Nothing has happened, because no change is registered. We understand, without conscious reflection, that the speakers we hear

about in Knapp and Michaels are really writers, just as, without conscious reflection, readers of this sentence understand that they do not actually 'hear of' anything in the Knapp and Michaels passage, despite what I just said – or rather wrote – about it. These slippages, between the writing and reading of texts on the one hand and the utterance and hearing of speech on the other, occur with such unconscious and inconspicuous frequency that we might dismiss them as dead metaphors. According to Walter J. Ong's *Orality and Literacy*, this would not be a good idea.

> [I]n all the wonderful worlds that writing opens, the spoken word still resides and lives. Written texts all have to be related somehow, directly or indirectly, to the world of sound, the natural habitat of language, to yield their meanings. "Reading" a text means converting it to sound, aloud or in the imagination, syllable-by-syllable in slow reading or sketchily in the rapid reading common to high technology cultures. Writing can never dispense with orality. […] Oral expression can exist and mostly has existed without any writing at all, writing never without orality. (Ong 2012, 8)

From Ong's perspective, the fact that we normally pay no attention to these ubiquitous locutions indicates not that they are inconsequential but that they are fundamental – always already there.

In claiming that "'Reading' a text means converting it to sound", Ong represents interpretation as an active vocalization, as though we willingly give voice to the text, if only in the mind's ear; but according to Angela Leighton in *Hearing Things*, although "we certainly hear something" in "silent reading", it "remains fluid, alterable, uncertain" (Leighton 2018, 5). Leighton is following a path marked out by Garrett Stewart, whose *Reading Voices* locates textual interpretation in a "zone of evocalization" – the "place, always, of a displacement, a disenfranchisement of voice, a silencing", where "what is called up is voice, but only under suspension" (Stewart 1990, 2). A similar fine tuning might be considered for Ong's claim that "the natural habitat of language" is "sound". This was evidently the case for Saint Augustine, to judge from his perplexed response to the silent reading he observes in Saint Ambrose (*Confessions*, Book 6, Chapter 3), and maybe even the

case as late as Shakespeare's time, when "listening" was the way "children and adults learn[ed] to read" (Richards 2019, 44). We have, though, become increasingly used to silent reading over the centuries, and if "use almost can change the stamp of nature" (*Hamlet*, III.iv.165), the "natural habitat of language" might be relocated from sound to text. But even today, the hearing and utterance of speech persists as the indispensable foundation on which we all acquire reading and writing skills; and if it remains true (however adjusted in the details) that writing is "dependent on a prior primary system, spoken language" (Ong 2012, 8), then readers depend no less than audiences on the suggestions if not the sounds of voice.

To be sure, it is one thing to hear the voices of actors in a crowded room, quite another to summon up evocalizations from our engagements with a text in a solitary space; and in conjunction with the kinesthetic effects unique to performance and the differences with which readers and audiences control the flow of the process, it makes sense to distinguish between literary and theatrical experience. But not, I have been arguing, to the exclusion of their shared interest in interpretation. Whether reading texts or attending performances, we are interested not so much in the words, as we see them on the page or hear them on the stage, as in the "intonation, pitch, rhythm and accent" which underlie their "evocalization" or delivery, as well as in any and all of the relevant circumstances from which we might infer the intentions behind the words ("I understand a fury in your words", as Desdemona says to the crazed Othello, "But not the words" [*Othello*, IV.ii.29-30]). Starting with the premise of "language as gesture" or "as symbolic action", readers and audiences alike work at identifying whatever the expressive energies of words and actions seem to gesture toward or to symbolize beyond "the language", or, for that matter, the performance features, "of the plays themselves"[4].

[4] For "gesture", I rely on R. P. Blackmur, who takes the line from *Othello* as his defining example of a "situation in which language gains the force of gesture" (Blackmur 1952, 4); for "symbolic action", I rely on Kenneth Burke (1966). More generally, my approach to text and performance is fundamentally indebted to W. B. Worthen's work in the item listed among the references and in many subsequent studies.

Part 3. Beyond Authorship?

If “performative elements” float “ephemerally” above texts, the stage/page logic structuring Craig and Greatley-Hirsch’s argument represents literary effects as tethered to and stabilized by the “evidence left in texts”. I have been arguing, rather, that literary effects are not governed by textual details and are in their own ways as ephemeral as theatrical effects. This should not come as a boldly transgressive claim. It’s a familiar experience – rereading a text (in the same edition) and finding that it resonates on such an unexpected register that it seems misleading to refer to it as the same text we read a year (or a week) earlier. It is not just common sense that leads to this conclusion. Critics have for some time been highlighting such experiences in a way that makes them the subject of a theoretical understanding. The “beholder’s share”, “literature in the reader”, “how to do things with words” – such formulas suggest that meaning is better described as constructed by interpreting subjects than as determined by textual objects. From this position, it makes little sense to distinguish between the interpretation of texts and the interpretation of performances, at least not in a way that describes one as a process stabilized by “the language of the plays themselves” while the other is not.

Instead of this untenable distinction between kinds of interpretation, suppose we put interpretation itself on one side of a line, the process I described earlier by which we make sense of both literary texts and theatrical performances, and on the other side the digital processing of textual data in QA practice. It is just this distinction that initiates the argument in *Style, Computers, and Early Modern Drama*. On the one hand, the “computer possesses some attributes” unavailable to readers. It can “retain in memory” and “retrieve at will” all “the information provided by the text” (or by multiple-text data sets – the entire corpus of 1581-94 “plays with well-attributed first companies”, for example), and it can analyze this vastly expanded body of material with quantifiable precision. In both these attributes, the computer far exceeds the capacities of “actual readers”, who have limited memories and “vary considerably” in “their engagement” over “the course of reading a text”. But although the computer can “read more, and more evenly,

than any human reader", it is "completely lacking" in a singularly important attribute that "actual readers" possess – "the competence required to properly understand and interpret a literary work". From this situation, a clear distinction emerges: "perfect evenness, unlimited memory, entire lack of comprehension" on the QA side, imperfect memories, uneven attention, interpretive understanding on the side of human readers (Craig and Greatley-Hirsch 2017, 2-3).

This looks more plausible than the text/performance distinction from which we started, but it has its own problems. Where text/performance exaggerated differences to fabricate a pseudo-distinction, interpretation/quantification tilts in the opposite direction, underestimating the magnitude of the gap between its contrasting categories as a way to envisage mediating possibilities that may not exist. Consider "information", the term with which Craig and Greatley-Hirsch refer to the matter "provided by the text". In data processing, which "depends by definition on defining a language feature" and "then counting instances of that feature as if they were all the same" (21), it is clearly appropriate to characterize statistical findings as "information". But on the other side of the distinction, where words are treated not as data but as symbolic actions to be interpreted, "information" does not seem to fit. When Hamlet points to "this distracted globe" (I.v.96), he perhaps "cudgels his brains by putting his hands to his head" (Levin 1959, 18), or gestures to the space he shares with the Globe spectators or, more expansively, toward the terrestrial habitat he shares with all creatures; and although different readers in different circumstances and different audiences at different performances will register these suggestions more or less strongly and in some cases not at all, the availability of all of them produces a semantically overdetermined situation for which "information" is a misleading description.

My point is not that "information" has a lopsided applicability to the distinction at hand; this might represent nothing more than a one-off unfortunate choice of words. The question is whether any fortunate choice exists – whether there is or ever might be any term to refer symmetrically to the categories on both sides of the QA-interpretation divide. When Craig and Greatley-Hirsch tell us that

the "computer can read more, and more evenly, than any human reader", they position cognates of "reading" on either side of the distinction, suggesting that the action designated by this word can identify the common purpose linking two different processes. The suggestion, though, is hard to flesh out in detail. There is no problem in the latter part of the sentence, where "reading" is evidently used to signify interpretation (Ong's inverted commas in "'Reading' a text means converting it to sound" signal the same metaphorical usage). But how then does "reading more" in the earlier part of the sentence produce knowledge comparable to or even compatible with an enriched interpretive understanding? No doubt short term memory helps, as when Polonius's "Take this from this" might be accompanied by a gesture toward his own distracted globe (*Hamlet*, II.ii.155). But expand "reading more" to the point where digital assistance is required, and we quickly reach a point of diminishing and even negative returns. In *Distant Horizons*, Ted Underwood writes enthusiastically about the "models of century-spanning change" available only now that we have digitized immense bodies of text (Underwood 2019, 153), but Katherine Bode, while acknowledging that this *longue-durée* perspective is a new thing ("no reader can remember all the novels published in a single year, let alone a longer time frame" [Bode 2020, 117]), remains uncertain how it contributes to an understanding of the text at hand. According to Andrew Piper, the tallying up of function words in thousands of German novels published over more than a century helps to make sense of Kafka's *The Castle* (Piper 2018, 16-18), but the information (and "information" is the right word here) amassed in this mountain of data might well work the other way around, distracting human readers from registering those immediately relevant contextual details on which interpretive impact depends[5]. (Determining the incidence "for the 500 most frequent words" in Craig and Greatley-Hirsch's repertory-company corpus might lead to the same result.)

That the computer can "read evenly" is even more problematic.

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[5] For more fully developed discussions of Piper, see Weatherby 2020, 896-97, and of both Underwood and Piper, see Pechter 2021. The treatment of function words below relies on Pechter 2018.

Taking every instance of a word as identical to every other secures the countability necessary for QA to proceed, but at an incalculable cost to the actions performed by the "actual readers". Eliminating modulation guarantees uniformity, but the QA agenda aspires, beyond uniformity, to avocality – the total elimination of voice. Uniformity is itself a kind of voice, its very affectlessness producing effects of one kind or another: malice (HAL in *2001: A Space Odyssey*); dispassionate omniscience (God in Book 3 of *Paradise Lost* – some readers hear malice there as well); confident professionalism (the laconic nonchalance of Airline Captain Speech, presumably learned in Pilot School along with non-verbal skills, like counteracting wind shear). Silence, too, is a kind of voice, not to be confused with avocality. (Isabella at the end of *Measure for Measure* is a noteworthy example of expressive Shakespearean silence.) It is impossible to read a text – a Hopkins sonnet, a software user manual, any text – with absolute avocality. If we could, interpretive action – reading – would be aborted before it could begin.

To refer to data processing as "reading" is misleading in the same way as referring to the polyvalences of gestural language as "information", and this is not just a verbal problem. We cannot find the right words to identify the purposes shared between data processing and textual interpretation because these categories are not just different from but antithetical to one another, and significant purposes in common do not exist. As Johanna Drucker puts it, discussing Franco Moretti's "distant reading" in a piece whose title, "Why Distant Reading Isn't", encapsulates the argument I have been developing here:

> The distinction between mechanical and hermeneutic reading, between machine processing and cognitive engagement, between the automatic and the interpretive, between unmotivated and motivated encounters with texts, is essential. Processing is not reading. It is literal, automatic, and repetitive. Reading is ideational, hermeneutic, generative, and productive. Processing strives for accuracy, reading for leniency or transformation. (Drucker 2017, 630)

Given this 'essential difference', the "metaproblem for the digital humanities", as Alan Liu has called it – "how to analyze […] data

in *meaningfully* interpretable ways", how to "get from numbers to *meaning*" (Liu 2013, 411) – would appear beyond resolution.

Craig and Greatley-Hirsch's repertory-company chapter, though nowhere mentioning Drucker or Liu, reads like a response precisely to the objections they raise. Instead of essential difference, Craig and Greatley-Hirsch see fundamental similarity: "Just as plays of uncertain authorship can be attributed to playwrights on the basis of their stylistic affinity, plays of uncertain auspices may then be compared with the stylistic profiles generated for each repertory to determine whether it is attributable to that playing company" (167). On the basis of this analogy, they proceed to deploy the same rigorously data-based methodology that detected authors as a way to identify the stylistic profiles of company repertories and other multifarious phenomena: "our aim is to build on the striking advances [...] in authorship attribution and apply similar methods to other aspects of literary history" (6) – to go, that is, *Beyond Authorship*.

"Style" is the key word here, representing the cognitive target on both sides of the analogy, but used to very different effects. For attribution scholars, endeavoring to identify authorial style, the "heart of computational stylistics remains frequencies of common words" (Craig and Kinney 2009, 12), sometimes called "stop words" or "function words": auxiliaries ("has"/"hath"), relative pronouns ("who"/"which"), interjections ("tush"/"push"), prepositions ("betwixt"/"between"), and the like. Where lexical words generate interest in "contingencies like topic and setting" (Craig and Greatley-Hirsch 2017, 17), function words are decontextualized markers serving structural purposes. They "evade the normal reading experience" (Vickers 2002, 90) and "slip under the radar" of theatrical audiences (Sharpe 2013, 644), escaping productive consciousness as well; the preferences of authors for "betwixt" to "between" have more to do with their involuntary nervous system than with any intention: "One's style is one's inability to do otherwise" (Craig and Kinney 2009, 10), "something we really would know how to alter" (Petersen 2010, 148).

Style remains central even as Craig and Greatley-Hirsch move beyond authorship – it's the first word in the title of their book and

their "key enabling concept" (Craig and Greatley-Hirsch 2017, 4); but where style in attribution scholarship is defined fundamentally by the incidence of function words generated subconsciously in a biologically determined process, style is elaborated now as "always a matter of relativities":

> Style is concerned with frequencies of linguistic items in a given context, and thus with *contextual* probabilities. To measure the style of a passage, the frequencies of its linguistic items of different levels must be compared with the corresponding features in another text or corpus which is regarded as a norm and which has a more or less definite relationship with this passage. (Enkvist 1964, as cited in Craig and Greatley-Hirsch 2017, 4)

In this situation, we cannot start counting linguistic features until we know which features to count, and the "norm" required to make this determination is not located in the features of the text but in the relation of that text to "another text or corpus" – in the context. (Where style in attribution scholarship decontextualizes symbolic gestures to turn them into data, for style to go beyond authorship now requires the recontextualization of data into symbolic gestures.) But even as contextualization answers one question, telling us which features to count, it raises another, which context to choose, and neither the text nor its relation to other texts can provide the answer to that. Craig and Greatley-Hirsch hint at the problem, remarking that QA's deployment beyond authorship is designed to "reveal" the "latent aspects of texts" resonating in "an unexpected contrast between the speaking styles of protagonists and antagonists" (6). But where exactly in the data can "an unexpected contrast" be identified? Unexpected contrasts are based on prior expectations, but expectations won't be found in the words "of the plays themselves" or in the performative effects of any theatrical production, but in the readers and spectators who engage them. As Craig and Greatley-Hirsch come to acknowledge, "it is up to the literary critic to 'know when to compare and when to analyze'" from "among the plethora of possibilities" that might be "worthy of attention" (21-22, quoting T. S. Eliot). (This knowledge, they quickly add, is not determined by an unconstrained personal preference, but rather "guided by the accumulated understanding

of the discipline" [22] – presumably the various "discourse communities" which, according to Graff, at once constitute and fragment the disciplinary space.)

Two fundamentally different meanings for *style* compete in these examples. In attribution, "style" stands for *what the quantitative processing of textually embedded data allows us to determine*. Beyond authorship, however, "style" stands for *what an interpretive engagement with symbolic gestures allows us to understand*. With its ambivalent reference, "style" works, like "reading", to suggest that two different enterprises have enough in common to allow for a meaningful interchange between them. But even as the nominal connection between "authorial style" and the "distinctive style" of "repertory companies" (28) encourages Craig and Greatley-Hirsch to slip between the two, the fundamental difference makes any real connection implausible. The slippage allows them to claim that there is better evidence for authorial than for company style while ignoring the fact that this evidence is derived from methods designed precisely to identify authors, but only marginally relevant to the determination of company style. That QA fails to detect enough word-frequency evidence to show that company style exists does not mean that company style does not exist; if QA had succeeded, this would not mean that it does. Word frequency, along with other quantifiable features in "the language of the plays themselves", must be factors in determining company style, as must performative features – "acting", "dance", and "other feats, and so on"; but it's the activity of readers and audiences in shaping this agglomeration of features into meaning that determines company style. Company style is an interpretive construct.

A little beyond the passage quoted earlier, Johanna Drucker asks whether QA will ever "relieve us of the task of reading". She has argued that it won't but has a different point here: "Rather than answer yes or no, we should ask, Why would we want it to?" (Drucker 2017, 33). For our purposes: why push QA beyond the quantitatively defined category of authorship into areas of interpretive understanding where it is not designed to go? This over-ambitious enterprise is especially perplexing in the case of Craig and Greatley-Hirsch, who go out of their way to acknowledge the limitations of their method. It's not just that QA

exhibits a "wilful blindness to all but a fraction of the signals to which readers and spectators respond" (Craig and Greatley-Hirsch 2017, 8). If the problem were simply quantity, we could simply amass a bigger data base and develop more sophisticated algorithms to increase the number of "signals" they register and count. But when Craig and Greatley-Hirsch tell us that "literary style in the general sense" extends to effects "not susceptible to counting" (24), they have gone beyond the problem of inadequate numbers to confront the unbridgeable gap between numbers and meaning. And then, having in effect acknowledged the intransigence of "the metaproblem for the digital humanities", their beyond-authorship agenda attempts to resolve it nonetheless.

I am not arguing that QA should limit itself strictly to authorship. Attribution functions here as a kind of synecdoche for a variety of projects which similarly resist the temptation to take evidence outside their own quantitative domain. The resistance has itself been resisted, with complaints that attribution scholars "rarely seem to ask" questions such as "Why and how does it matter who wrote a play, or a group of plays?" (Kesson 2017), or make "little attempt" to "integrate" their work "with literary criticism" (Kirwan 2015, 11). But the "striking advances" attribution scholars have made – untangling numerous webs of collaborative authorship and assigning a proliferation of Renaissance playtexts, orphaned at birth, to authorial homes – depend precisely on the austerity with which such larger questions are avoided.

Here are four non-attribution QA projects that exhibit a similarly productive austerity:

1) **Rare words:** Certain words appear in Shakespeare but then disappear. That these words appear to a statistically significant degree in a work of uncertain date and a work whose date has been established suggests that the undated work was written around the same time. QA's ability to identify and count these rare words now furnishes a reliable basis to fine-tune the chronology of the canon (Jackson 2015).

2) **Hard words**: Shakespeare's works include words whose meanings, as we know from Renaissance dictionaries, were obscure

at the time. Since these words have in many cases been clarified over the centuries, they do not have the same impact on us as on the early audiences. The *Hard Word Annotator* in the open-access *Lexicons of Early Modern English* site hosted at the University of Toronto, "identifies hard words present in a selection of plain text input by the user" (Lancashire and Tersigni 2018, 31), providing a basis from which to speculate about original theatrical experience.
3) **Collaboration**: In estimating that "as many as half" of Renaissance plays were collaborative ventures, G. E. Bentley acknowledged how much we didn't know (Bentley 1971, 199). Digital technology has vastly increased the evidence available to Bentley. With the *Database of Early English Playbooks*, the *Lost Plays Database*, and the *Non-Shakespearean Drama Database*, supplemented by the Wiggins/Richardson catalogue of early English drama, a print resource but dependent on digital technology for its achievement (Wiggins and Richardson 2011-18), we are in a position to revise Bentley's estimate and look in more detail about the kinds of collaboration involved.
4) **Money:** The material in Henslowe, available since Malone's day as a source of information about Renaissance plays and theatrical production, can now be digitized into mining-ready data, from which we might expect more reliable answers to questions such as: Did professional playing become an increasingly lucrative business during the time span covered by the *Diary*? Which kinds of plays produced the best returns, and for which companies? Did playgoing become regularized as an everyday option rather than a special occasion for a critical mass of spectators?
In all these cases, quantitative questions are given quantitative answers. The answers can serve as the basis for interpretive activity but are not in themselves taken to identify interpretive conclusions. It is when numbers are mistaken for meaning that problems arise. This is the gist of my argument earlier: since the data-based claims attributing authorship inhabit a cognitive domain separate from the interpretation-based claims identifying company style, any attempt to transfer conclusions from one to another – to suggest, for example, that authorship is a stronger presence than company style – is difficult to justify.

It may be an overstatement to claim that "[n]o issue in

Shakespeare studies is more important than determining what he wrote" (Vickers 2002, 3), but the importance of authorship to Shakespeareans is beyond dispute. There is no consensus about what we do with authorship once determined, or whether we should be doing anything with it at all; but much (probably most) Shakespearean commentary continues to be based on assumptions of authorship, and the indebtedness of this commentary to attribution scholarship is self-evident. The situation is similar for the examples of non-attribution QA scholarship sketched out above. Although "Context Stinks!" describes a respectable (even cutting-edge) position on the current scene (Felski 2015, 151-85), much (probably most) Shakespearean commentary still seeks to locate its subject in historical context; and while the conclusions reached through rare words etc. cannot tell us how to contextualize any Renaissance play, still less why we have to, they provide a rich body of information to nourish the work.

All this only adds to the perplexity in Drucker's question: given the extraordinary benefits QA practitioners can claim to bring to Shakespeare studies, why extend their claims into territory they cannot – and in some cases explicitly acknowledge that they cannot – legitimately occupy? Two remarks by Franco Moretti suggest an answer. In the first, dating from 2013, Moretti tells us that although "the rise of quantitative evidence" during "the last few years" has "happened before of course, without producing lasting effects, […] this time it is probably going to be different, because this time we have digital databases and automated data retrieval"; and since "the width of the corpus and the speed of the search have increased beyond all expectations", we "can do things that previous generations could only dream of" (Moretti 2013, 212). Six years later, writing with Oleg Sobchuk, Moretti has to admit that his hopes for QA have been disappointed: "We turned to quantification because we wanted to see all those documents that the predominance of the canon had made invisible – and now that they are in front of our eyes, we have found a way not to see them!" (Moretti and Sobchuk 2019, 95).

What went wrong? The advances Moretti anticipated have all materialized – faster chips, bigger data bases, more bandwidth, and the rest. The fault is not in the technology, but in ourselves.

Technology is just a tool, to use productively – or not. Through the exercise of critical judgment, we can interpret data into meaningful conclusions, but data by themselves do not constitute meaningful conclusions. Computers can't interpret, computers can't think. Drucker's point was made decisively a half-century earlier, in Hubert Dreyfus's *What Computers Can't Do*. In attempting to substitute mechanical processing for a bodily situated ("motivated") critical interpretation, the quest for Artificial Intelligence (AI) is incoherent and bound to fail. If no one has refuted Dreyfus's argument, this has not put an end to the quest. AI projectors pick themselves up from one after another of the disappointments Dreyfus had predicted, dust themselves off, and start all over again. For reasons that Dreyfus patiently reiterates, reviewing more recent AI projects in subsequent editions of his book, it is not going to be different this time, or any other (Dreyfus 1972, 1979, 1992). (*What Computers Still Can't Do*: the resigned shrug suggested by the title of Dreyfus's final version acknowledges that his efforts to curtail a futile enterprise are themselves probably futile [Dreyfus 1992]. Try again. Fail again. Fail better.)

Craig and Greatley-Hirsch avoid banner-waving gestures, but in trying to take QA beyond authorship they are, willy-nilly, working to realize the AI dream. My darker purpose in arguing that QA cannot be taken beyond authorship is to suggest that AI is past the size of dreaming, but where smarter and more knowledgeable people have failed, I am not about to succeed. That's maybe as it should be. I suggested at the beginning that the over-ambitious pursuit of unrealistic goals is strategically unwise, but long-term strategic advantage is not the be-all and end-all of critical work. There is also hope. Faced with a choice between the constraints imposed by theoretical coherence and historical precedent on the one hand and the hopes for a boundlessly enhanced future on the other, some of us will opt for the latter. If so, we can return to the question in my title, duly modified by the meandering discussion that has brought us to this place, to find a different answer: Does it matter that QA cannot deal with interpretation? No, it doesn't, it doesn't matter at all.

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