Seven Ways of Looking at a Data Set

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Abstract

A literary theorist, a biologist, an historian, a writing studies scholar, and a poet walk into a wine bar. The poet says, "I've got a stack of 1,223 handwritten questionnaire responses here in my bag; would you like to have a look?" The others reply, "Sure. Let's see what we can learn here." Descending from their respective disciplinary perches, they all gather around a table and start sifting through the questionnaires, which chronicle the writing background, habits, and emotions of PhD students and faculty in 15 countries. In this single corpus of data, each researcher sees something different, and from the other researchers' responses, each learns new ways of seeing. What counts as an appropriate data analysis? What, for that matter, counts as data? We invite you to grab a drink and join our conversation.

It's tempting to say that this article will illustrate the adage "There are many different ways to skin a cat"—but what an unappealing metaphor! Instead, we have been guided by the structure and ethos of Wallace Stevens' poem "Thirteen Ways of Looking at a Blackbird" (Stevens, 1954, pp. 92-94), which employs a range of perspectives to shift readers toward a deeper, more complex understanding of what they are "really" seeing. Our aim is neither to present a single, definitive set of research findings nor to argue for the primacy of any one methodology. In the spirit of Stevens and his poetic precursor Emily Dickinson ("Tell all the truth but tell it slant—/Success in Circuit lies"; Dickinson, 1961, p. 506), we have experimented with a multiplicity of approaches to find out what they might teach us—not only about the data itself but also about our own positionality as researchers and writers.

We began with a foot-high stack of anonymous questionnaires that had been collected by Helen, the first author, over a 5-year period spanning 2011 through 2015. The questionnaires had been coded for keywords and themes by Louisa, her longtime research assistant, and subjected to some very basic qualitative and quantitative analysis. However, the findings of that analysis are mentioned only briefly in the book that Helen published as a result of the study, which focuses mainly on her interviews with one hundred "successful academic writers" (Sword, 2017). Sensing a missed opportunity, Helen invited her colleagues Marion, Alistair, and Evija to examine the questionnaires, each from a different scholarly perspective; she also asked Louisa to write a personal reflection on her experience of coding the data, and she revisited the questionnaires herself, focusing on the respondents' use of metaphor.

Whereas Louisa and Helen were already deeply familiar with the questionnaires and the information they contained, Marion, Alistair, and Evija came to the project with very little previous knowledge of Helen's research and thus no particular preconceptions about what they might discover there. Each coauthor chose a particular critical lens through which to view the questionnaires: Louisa, a literary scholar and technical writer with a master's degree in English, brought a postmodern perspective to her discussion of the methodologically rigorous yet ontologically slippery task of coding; Marion, a trained biologist skilled in quantitative data analysis, brought a scientist's love of numbers; Alistair, an empiricist historian of science, brought his background as an archival scholar who treats textual sources as material culture; Evija, a former journalist with a PhD in writing studies, brought her interest in the hidden dynamics and emotional nuances of the writing process; and Helen, a literary scholar and expert on academic writing and research productivity, adopted a poet's gaze.

In choosing to analyze a single data set from multiple perspectives, we join a long line of scholars who have contributed to the theory and practice of nontraditional or disruptive research methodologies: for example, Feyerabend (1993) on method, Law (2004) on mess, Knowles and Cole

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(2008) on arts-based approaches to qualitative research, Irwin and deCosson (2004) on "a/r/tography", Richardson (1994) on research poetry, and the contributors to the 2014 special issue of *Qualitative Inquiry* on qualitative data analysis after coding, especially Augustine (2014), Brinkman (2014), Mazzei (2014), Rosiek and Heffernan (2014), and St. Pierre and Jackson (2014). Unfettered by the burden of "methodolatry"—strict methodological adherence to a particular disciplinary ideology or convention (Janesick, 1994)—each of us felt free to range widely over the data set, flushing out unspoken assumptions about the very nature of questionnaire data and in several cases voicing our own anxieties about our chosen interpretive stance.

The project felt liberating and playful even while nudging each of us outside of our methodological comfort zone (indeed, for several of the coauthors, collaborative authorship was itself a novel enterprise). The humanities-trained scholars felt somewhat outside their depth and responded by seeking handholds in familiar disciplinary models: close reading, textual analysis, poststructuralist critique. Marion, meanwhile, as the scientist in our midst, reminded us of the usefulness and value of a reductionist, numbers-based approach. As we read each other's draft contributions and attended to their nuances—tussling, for example, over the precise meaning of familiar phrases such as "data analysis" and "social science"—we became increasingly aware how the same information can offer many different objects of inquiry; data are never merely "given" but always actively "taken" through the perceptions and methods that guide various branches of scholarship.

Our "Method" section provides the first view of our blackbird: a data set described and analyzed more or less according to the conventions of higher education research. Next, we offer five additional views, each of which enriches and extends what has come before. Finally, rather than ending our article with a neat conclusion that sums up our various approaches, we have opted to end with a poem and then walk away. We leave it to you, our reader, to add your own perspective to our project, another way of looking at the blackbird:

> I do not know which to prefer,
>
> The beauty of inflections
>
> Or the beauty of innuendoes,
>
> The blackbird whistling
>
> Or just after.
>
> (Stevens, 1954, p. 92)

One Way of Looking at a Data Set

(aka the Method Section)

All statistics, graphs, and nonattributed quotations in this article are based on ethics-approved research undertaken by the lead author in 15 countries (Australia, Canada, Denmark, England, Finland, Germany, Hong Kong, Ireland, the Netherlands, New Zealand, Scotland, Sweden, Switzerland, Thailand, and the United States) between 2011 and 2015. During that period, Helen conducted in-depth interviews with one hundred academic writers and editors and gathered anonymous questionnaire data from 1,223 more: a mix of academic faculty (53%), research fellows (15%), PhD students (25%), and other writers employed in an academic context (7%). Most of the questionnaires were completed by volunteers taking part in writing development workshops run by Helen at their home universities or at discipline-based conferences. Participants were given about 10 minutes to respond to three intentionally open-ended prompts, which were printed on the recto side of a standard-sized (8½ by 11 inch or A4) sheet of paper:

1. Background: Briefly describe your professional formation as a writer. How and from whom did you learn to write in your discipline? Have you undertaken any formal learning (e.g., books, workshops, courses on academic writing), either pre- or post-PhD?
2. Work habits: Briefly describe your academic writing habits. Where, when, and how often do you write?
3. Emotions: Briefly describe the main emotions that you associate with your academic writing.

On the verso side, participants supplied demographic information about their age, gender, country of residence, first language, highest degree completed, research discipline, and academic identity (e.g., "PhD student in history" or "assistant professor of biology").

Responses to the first three questions were coded by Louisa using a grounded theory approach and cross-checked for accuracy by a second research assistant, Sophie Van Waardenberg; further data analysis and coding were later undertaken by Sophie and another research assistant, Madeleine Ballard, who also helped with the literature review and final manuscript preparation for this article. Helen used qualitative and quantitative data gleaned from the questionnaires to generate three figures for her book, which otherwise focuses mainly on the interview data. The first provided an overview of how academics learnt to write, while the second showed percentages of respondents who reported having positive-only or negative-only emotions about their academic writing. The third figure, reproduced here, was a word cloud showing the 40 emotions most frequently listed in response to that same prompt (see Figure 1).

Frustration turned out to be the most commonly expressed emotion by a wide margin (332 responses), followed by *anxiety* (196) and *satisfaction* (183). Overall, more than two thirds of the respondents in both cohorts

Figure 1. Top 40 emotion words identified in questionnaire responses (*N* = 1,223).
Note. Word size is proportional to frequency.

(72% interviews, 69% questionnaires) reported experiencing a mix of positive and negative emotions, an indication that emotional ambivalence about writing is a common state among academics. (For a more detailed account of the data collection process, participant demographics, coding methodology, and research findings, see Sword, 2017).

Five More Ways of Looking

The Anxiety of Accuracy

Louisa Shen

Humanities scholars tend to regard social science as an empirical enterprise predicated on accuracy and precision. As a newcomer to social sciences methodologies, I tried to cleave as closely to these ideals as possible: coding and recoding the data, checking and rechecking my spreadsheets. To my relief, Sophie's cross-checking corroborated my work, giving credence to the results. Yet in these repeated efforts to assuage my own nervousness about achieving accuracy, I discovered that qualitative method, in seeking to adhere to the same standards of objectivity and quantifiability as the natural sciences, is subject to what literary scholars term "slippages": instances where its explanatory power breaks down and cannot encompass the phenomena that it seeks to study.

Hoyninge-Huene (2013) describes science as a quest for systematicity. Creating any coherent system requires that the mess of observable events be ordered: Elements that are irrelevant or inconsequential to the classification or measurement at hand must be pared back and lost if they are to fit into the system at large. But my humanist love of anomaly would not let me settle into producing an unproblematic and quantifiable catalog of emotions, compiling messy feeling into neat categories. Often, for example, an idea expressed in the questionnaire responses could not be reduced to a single definable emotion:

> Struggle; sometimes a lack of creativity ("again I have to write about the same or related topic"). Aha-experience sometimes.

While *struggle* could be coded, the requirements of positivism (code only what has been specified by the respondent or the closest approximation possible) meant that I could not on principle include the suggestive subtext of the response. The senses of *tedium*, *resignation*, *dryness*, *revelation*, and *realization* that the respondent evokes could not be recorded, for fear of accusations that I was "reading too much" into the answer.

Sometimes, a clearly expressed emotion defied the binary "positive/negative" schema that we had established for ordering the data:

> It's easiest to write when I am excited by an idea or angry about something. I am addicted to writing and find myself having withdrawal symptoms if I can't.

Our explanatory system had no means of capturing *anger* as an enabling force. To do so would require the development of a whole new dimension of measurement, a scale for defining the degree to which an emotion was capacitating or incapacitating. Here was a proverbial Hobson's choice; recording *anger* felt as inaccurate to me as not recording it.

At other times, the very concept of what we were measuring—emotion—started to break down:

> Sometimes excitement, inspiration, sense that things are coming together.

Was this last "sense" an emotion or merely a sensation? The concept of cohesion that it describes is bound up in abstract, higher order cognition, rather than a more limbic-based system of perception (Flaherty, 2003). While *excitement* and *inspiration* fit neatly into our coding scheme, this optimistic "sense that things are coming together" could not be accounted for and had to be ignored.

For me, these acts of coding were no less than acts of impoverishment. I did not feel that I was getting closer to the observed phenomena recorded in the responses, but rather further away. Doing "data capture" displaced me out of my own normative attachment to the literary methodology of close reading and open-ended, deconstructed interpretation. It made me uncomfortable—and the disquiet I felt was not much relieved when I examined existing attempts to corral emotions into systematic categories. Many of the psychological models of emotion proposed since the 1980s are predicated on parsing common nouns and collective nouns for emotions (Shaver, Schwartz, Kirson, & O'Connor, 2001). For example, Robert Plutchik (2001) in his famous palette wheel classes *trust* as a tint of *admiration*, and *admiration* as a complement of *terror*—but sensation-wise *admiration* could be regarded as closer to *amazement* (another core emotion), while it is possible to *trust* someone without feeling any sense of awe or hero-worship at all. The problem lies in the subjectivity of

experience, and in the inexhaustible capacity of language to describe affect, whether in a single word (with all its baggage of connotations) or through metaphor or metonymy.

More recent meta-studies of these psychological models (known as circumplex models) illuminate the divergence and diversification of feeling. From the 16 "anchor" emotional states proposed in R. J. Larson and F. Diener's classic diagram, researchers have plotted the coordinates of 71 emotions, a number they acknowledge as constrained by the limitations in vocabulary of their self-reporting subjects (Remington, Fabrigar, & Visser, 2000). It is easy to imagine that this number could grow exponentially; indeed, as a student of literature, I would suggest that the whole enterprise of narrative itself is devoted to exploring emotive states. What happens, for example, when no emotion words are used at all but a wealth of emotional information is conveyed?

> I want to write to change the world, but who cares? At the end of the day, it's for the CV and university management.

> It's as bad as going into labor.

In the writing trade, we call this "show, don't tell." *Show* profound disillusionment, cynicism, idealism, and the crushing of a dream. Don't just *tell* of the all-engulfing pain and exertion of new creation. The quandary for me was whether to include these responses at all. If we were strict about coding exclusively for word frequencies rather than semantic frequencies, not only would a significant chunk of the responses be "disqualified" from the count, but we would be subjecting language to a strict division between the *signifier* (the word itself) and the *signified* (the meaning that the word points to), giving absolute primacy to the former (Barthes, 1972). In the case of emotion, this move would seem both artificial and counter-productive, for the objective of our analysis was to uncover the referent—the feelings engendered by writing—as much as the precise words used to express them. Linguistic evidence continues to show that emotions are felt physiologically *and* constructed in their enunciation as words, with culturally specific emotional "concepts" or "sensations" existing in some languages and absent from others (Russell, 1991). Given such an entanglement, an approach hinging on strict, denotative counting did not seem viable, yet emotion coding is an appropriate method used in virtually all qualitative studies (Saldaña, 2009, p. 86).

Emotions, I realized, occupied fraught disciplinary ground. Many of our respondents' single-word or word-list answers simplified our task by permitting only a straightforward, denotative interpretation. Cataloging these was easy. The worry I felt while trying to wrangle the rich, expressive sentences that came from open-ended questioning became more acute. I questioned the insensitivity of statistical method, but I realized I also needed to question

something else: literary method. If emotions inhere in language, we must be reminded that language itself is conventional—There must be common, shared semantics for human (mis)communication to take place. Shared words give life to the larger patterns of feeling that humanists often overlook as plain and staid. It remains hard to find a single method that can account for the vagaries of human experience and expression. Studying emotion calls for multiple methodologies, each papering over the cracks in the other's disciplinary walls.

The Pleasures of Reductionism

Marion Blumenstein

As a trained biologist, I am not accustomed to considering words and texts as "data." Most scientists work with experimental data that have well-defined units and numbers. Numbers are precise. They have their exact place on a scale of things. There is no arguing about whether *three* precedes or follows *five*. The opposite can be said for words. A word can mean different things and, conversely, different words can mean the same thing. It is therefore unsurprising that emotions expressed in natural language typically use a range of pertinent words to convey the same affect, state, or feeling (Plutchik, 2001). For example, *anger* can be described in many ways; our survey respondents used words like *volatile*, *bewildered*, and *resentful* to express angry feelings. Data analysis becomes complicated when precise and factual numbers are replaced with words that are open to interpretation. However, if samples are large enough, there is almost always a discernible pattern even in the most individualistic responses. To more clearly see what was going on with the emotions in the questionnaires, I needed to reduce the large number of words into more meaningful units.

Most academics must write to sustain and further an academic career, and the complexity of the writing process is therefore commonly associated with feelings that have profound effects on academic achievements and personal fulfillment (Pekrun & Stephens, 2012, p. 3). The concept of analyzing emotions in academic settings is not a new one (Cameron, Nairn, & Higgins, 2009; Hartley & Branthwaite, 1989; McLeod, 1991), and research has shown that academic emotions should not be viewed as merely incidental, lacking function and purpose (Lee & Boud, 2003; Pekrun & Stephens). It is the variety and richness of our respondents' language that is so fascinating. Words such as *gung-ho*, *yucky*, *heavy*, or *braindead* came up, but often only once. To me, it was quite revealing that academic writing bears such an emotional load!

However, the richness of language was a hindrance to data analysis aimed at revealing underlying patterns or characteristic traits related to work habits and previous writing training. For a larger picture to emerge, these outliers required further categorization into more widely understood primary emotional dimensions. Consequently, I reduced the
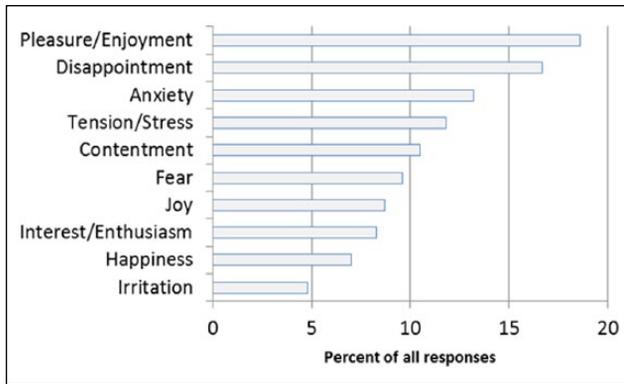
Figure 2. Academic writing emotions.
Note. Questionnaire responses (*N* = 1,223) were coded into 36 emotion categories according to the Geneva Affect Label Coder (GALC; Scherer, 2005). Only the top five positive and negative emotions are shown.

hundreds of emotions recorded in Louisa's spreadsheet to 36 broad categories using the Geneva Affect Label Coder (GALC), an instrument used in a wide range of emotional contexts (Scherer, 2005). This data reduction step enabled me to explore relationships between emotions and, for example, gender, language background, academic role, attainment of writing know-how, and work habits.

Most emotions cluster into positive or negative dimensions (valence) and can be distinguished according to their degree of activation (Pekrun & Stephens, 2012, p. 4). Unsurprisingly, the majority of questionnaire respondents (69%) reported mixed emotions toward academic writing, with 13% reporting purely positive and 17% purely negative emotions. Their responses show that academic writing emotions are virtually ubiquitous, regardless of role, discipline, gender, and language background. A few reported that they strive to keep emotions out of their writing; but even then, their responses were tainted with emotion:

> Sometimes when I feel writers block I feel negative emotions! I try to keep emotions out of my articles and papers, except maybe in conclusions.

Our findings confirm previous research (McLeod, 1991; Pekrun & Stephens, 2012, p. 10) that anxiety and fear are commonly found in academic settings, particularly among students and novices (Figure 2).

However, when I compared the most prominent emotions represented in the word cloud produced from Louisa's coding (Figure 1) with those after GALC recoding (Figure 2), I became quite alarmed. In Figure 1, *frustration* and *satisfaction* emerge as two of the dominant academic emotions; in Figure 2, they are nowhere to be found. How could this happen using the same data set? Did I have a large misclassification error to end up with such a discrepancy? On closer inspection, the disparity disappeared. According to the GALC coding scheme, *frustration* is subsumed into a

new category called *disappointment*, which also includes words such as *unsupported*, *futile*, *delusions*, and *up-hill*, while *satisfaction* becomes a dimension of *pleasure/enjoyment*, which embraces emotions such as *delight*, *excitement*, and *love* (as in "I love to write").

By reducing the responses to just 36 categories, I could observe patterns that had not been evident before; for example, whereas the word "cloud" showed *frustration* and *anxiety* as the respondents' top two emotions, the GALC recoding brought *pleasure/enjoyment* to the fore. After days of arduous data checking and rechecking, I was able to conduct some statistical tests to unravel more complex relationships beyond the initial qualitative "look at your data" approach. For example, by applying logistic regression analysis, I found that female doctoral students are 3 times more likely than male students to have purely negative feelings about their writing. However, this seems to level out once the students are in an academic role and gender differences become less apparent. I also noted statistically significant differences in emotions according to discipline. For example, academics in the humanities showed the lowest proportion of purely positive emotions (9.6 %), as compared with the social sciences (16.5%). Intriguingly, the social scientists also displayed the highest proportion of purely negative emotions (20%).

Another approach, a cluster analysis using the Weka toolkit (Witten, Frank, & Hall, 2011), allowed me to identify writing personae characterized by commonalities in work habits, previous training, academic rank, and disciplinary context. I found six main personae. One was a male scientist in a senior academic role, with English as his first language, who has not undergone any formal training in writing (was influenced mainly by his supervisor's feedback) and writes mostly in bursts (when something is due or during semester break). His main emotions associated with writing are a mixture of *pleasure/enjoyment*, *disappointment*, and *tension/stress*. Another persona, a female doctoral student in the humanities, presented with similar writing habits and feedback experiences as our male senior scientist; however, her topmost positive emotion was *pride*, contrasted with negative feelings of *anxiety*. Personae such as these can help us see commonalities and differences in a large data set (e.g., Brooks & Greer, 2014) and may offer strategic launching points for academic writing development.

Reading Questionnaires as Manuscripts

Alistair Kwan

I approach texts as I would any other manufactured object: One of my first questions is, "How was this produced?" I transcribe them to get close to the detail. Looking at the questionnaires, I encounter paper, writing instrument, letter forms, hand pressure, ductus. I form impressions about where writers went to school because childhood script transfers, often with traces of mother tongue, to their
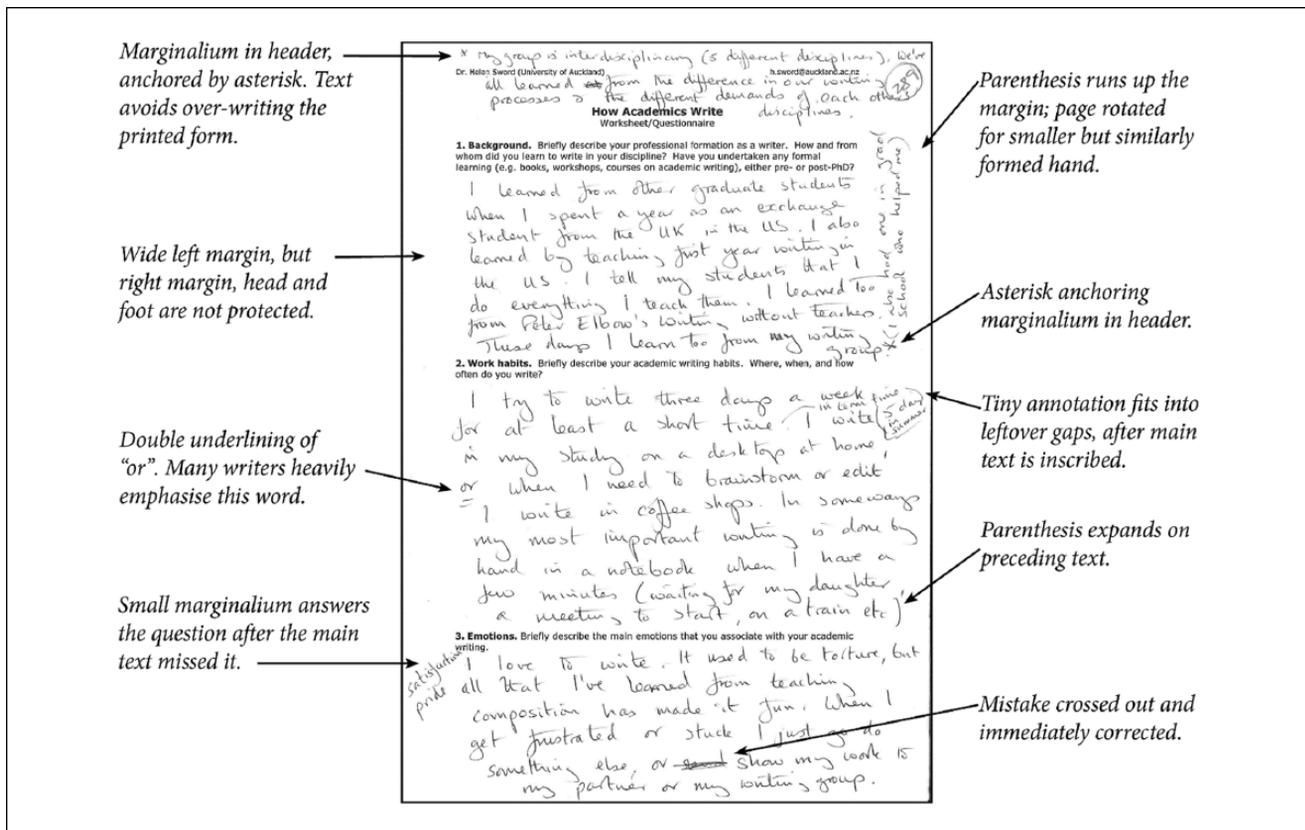
Figure 3. Inscription features of Survey 289.
Note. Though the marginalia are spatially scattered, most are readily transcribed in brackets without much loss of meaning.

writing here and now. Disciplines are usually invisible to me, but I spot the brisk, disciplined majuscules characteristic of an architect, the stroke weights fluttering as his pen flicks rapidly across the page. "His" pen? My gender guesses are about 70% correct. Such impressions, right or wrong, help when exploring archives. But I find no need for them here: I want merely to read these responses as historical data in their own right, rather than wringing out the data that questionnaires are usually meant to solicit (see, for example, Prown, 1982; Tanselle, 1994).

The messiest responses intrigue me the most. Through transcription, I come to understand that correction and annotation represent duration. Ideas arrived in layers, and I can often surmise when: Some corrections took place straight away, in-line; others squeezed into small gaps, violated boundaries, writhed into a ragged right margin. Could that spatiality offer a richer reading? Perhaps I could work toward a machine-revealed insight by classifying annotations by position and orientation and size, properties that transcriptions normally exclude.* The idea seemed promising at first; implementation, less so.

*We may instead opt for something like duotone facsimile.

As I continued to transcribe, the annotations reminded me of the responses that Jackson (2001) saw from reader back to absent writer, and of the footnotes that Grafton (1997) saw writers crafting as a literary aside—but our respondents were surely not writing in either of those ways. Like the squeezing of last-minute platters onto a smörgåsbord already arranged, respondents' corrections and annotations are acts of composition. Together, they constitute chronotopic laminations (Prior & Shipka, 2003; cf. Werner, 1995).

Respondent 289, for instance, started with paragraphs that are really just lists. She came back to gloss them later. "My writing group" in the main text gets an asterisk, linking it to a *distinctio* in the top margin: "My group is interdisciplinary (five different disciplines)." Another annotation to the same spot recalls, parenthetically, "(I also had one in grad school who helped me)." She elsewhere tells that she writes "three days a week for at least a short time" and returns to specify, at the end of a curve leading us into the margin, "in term time (five days in summer)." There are two phases to this writing: brain-dump, then annotated refinement. Answering the third question is a meditation that begins, "I love to write." Then, having filled the space, our respondent realizes that she did not answer the question and adds, in the margin, a couple of one-word answers that do.
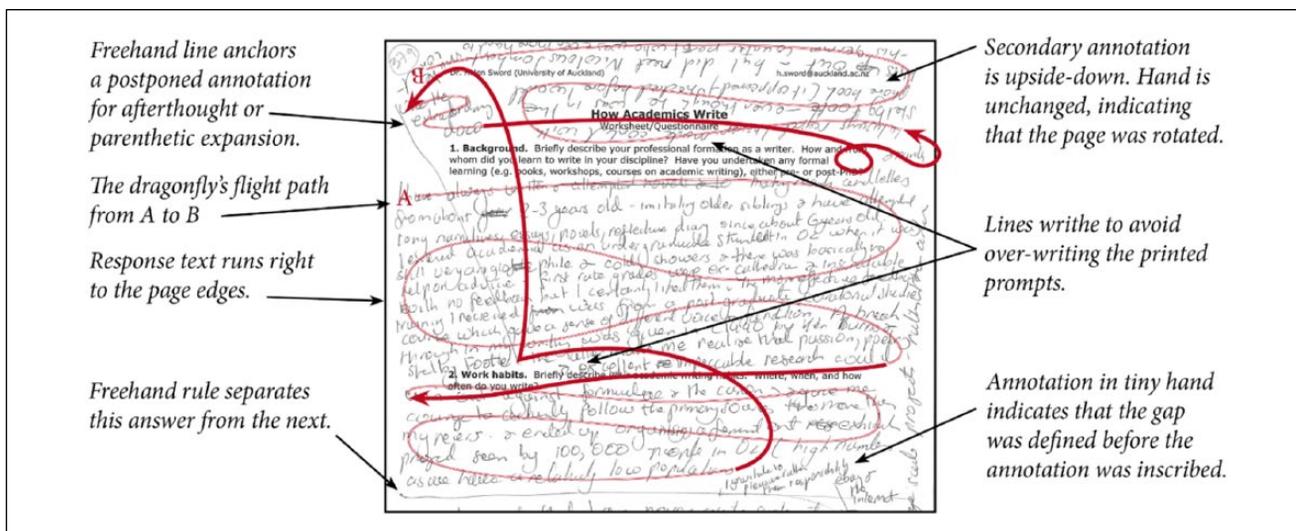
Figure 4. Interpreting the positional, directional, and dimensional features of a handwritten questionnaire response (Survey 379).
Note. The arrows depict the flight path embodying what the respondent calls her "dragonfly-like" writing.

Again, we see a two-phase process: She writes her thoughts, then her answer. The mess is not too bad; I can transcribe this (see Figure 3).

Respondent 379 is another matter entirely. Her large hand runs almost to the page's edge, leaving only a slim and jagged margin that an overflowing line spilled up to fill. Where she mentions two filmmakers, a thin line leads up to an annotation citing the film. She turns the page upside-down to gloss that gloss, expressing regret for not having taken the opportunity to meet one of those filmmakers, but later meeting with another. She takes whatever space her words need, then sections the page with freehand rules. I feel caught in a zooming, spinning Prezi. Is she writing to us, or inscribing the pirouettes of her mind, writing, in fact, to her past self? When she compares herself to "a fiery butterfly or dragonfly," I am puzzled. What do those insects have in common? The answer is not in the words, but in their transcription-defying layout (see Figure 4).

Social scientists and textual scholars both clean their data. Layout vanishes, as does any meaning that layout expresses. My discursus into layout revealed compositional process and semantics that the words themselves did not capture. When we look for emotions about writing, layout may offer hints of the *writing*—versus *what's writ*—that those emotions are about.

Hunting the Bogeyman Behind the Lines

Evija Trofimova

The seemingly casual remarks made by many respondents reveal to me assumptions about what it means to be a "good" academic writer. As a scholar with an interest in social histories of ideas, I start by uncovering implicit beliefs about writing. Too often I notice signs of guilt and shame (along the lines of "Unfortunately . . ." and "I must confess . . ."). Those suggest

a discrepancy between the participant's self-perception and their Platonic ideal of an academic scribe.

To explore this relationship, I choose around 400 samples in which the gap between the writer's reality and ideal seems particularly big (or the latter itself appears enormous). Measuring themselves against an absolute, our writers unavoidably find themselves "lacking," as epitomized by a favorite phrase "not [regularly, well, intelligent, etc.] enough." The image of the impeccable writer is also reflected in their aspirations: "I want to write more [. . .]". No one talks about it directly, but, reading in between, and behind, the lines, I find traces of a beast *vulgaris* of the academic habitat. The "good writer" bogeyman has been here.

I easily recognize a personally familiar species. Incapacitated by a sense of perfectionism and my own inadequacy, I feel my joy in writing waning. I procrastinate. A sense of guilt billows inside of me, heavy resignation weighs me down. I cannot get rid of *it* easily, but acknowledging its presence somehow diminishes its effect.

Perfect writers, I discover, are indeed fearsome beasts. They "get things written more quickly," write "faster, more efficient[ly]." These super-writers keep going, despite other commitments, "even if busy/distracted." Tough self-discipline enables writing "every day" (the most popular goal), even without external motivators, such as looming deadlines (academics recurrently apologize for being deadline-oriented). Quite a few respondents admit that, "sadly," they write "quite irregular[ly]" and/or "not enough" (even when writing 2 to 3 times a week). While some confessions may be made with a careless shrug, often they emit a sense of self-judgment, which may lead to further creative paralysis. Remarkably, even under this discipline (and punish) regime lies a desire to write "with 'passion,'" creativity, and joy.

We know that writing plays an important part in cognitive processes, for writing is also a performative process, a way of thinking (see, for example, Badley, 2011, 2015; Coles, 1988; Colyar, 2009; Elbow, 1998; Flower & Hayes, 1981, and Dewsbury, 2014; for a more technological take, see also work by Chandler, 1993, 1995; and Haas, 1990, 1996). As a tactile mode of thought discovery, writing often involves the production of multiple versions of text, including complete rewrites. The process can be messy and time-consuming. To a writer unaware of its values, it can appear as "wasteful" (of thought, effort, and, especially time), as also suggested by the respondent remarks (they worry about "wasting time" while planning to write, while revising writing, and while reflecting on writing).

The survey's earlier version (nearly a half of all exemplars) contains an extra question, asking participants to list aspects of their writing they would like to change. This section reveals more fantasies about the act of writing. On occasion, it is filled with wishes not only to "reduce redundancy in the first draft" but to "get it right first time" and "just writ[e] without editing." Drafting, this natural, crucial part of writing, is viewed as an embarrassing activity that needs to be covered up (Trofimova, 2017). Further revisions are seen as undesirable, each additional draft implying failure.

Hunting the bogeyman can show to what extent, both at individual and societal levels, academic writing is mythicized (Cameron et al., 2009; Graff, 2000). While aspirational models are necessary (and, when nurtured unconsciously, unavoidable), they can become damaging if not acknowledged and questioned (Trofimova, 2017). Extravagant expectations, combined with external pressures, can only produce in academics more anxiety and dread.

An ideal writer is unattainable perfection. It is a phantom, an abstract entity, whose traces are also largely invisible. I could, of course (and I did), make a computer count how often our respondents admit feeling they are "not [good, fast, productive, clever . . .] enough." (I got an unreliable number of "43.") Yet searching for this ideal defies traditional research methods; its impact or appearances cannot be easily measured or quantified. The best we can do is to sketch out the bogeyman's features, gaining insight as we do so into some frightening academic mythologies.

Mining the Language of Metaphor

Helen Sword

For poets, metaphor is the currency of emotion, the gold coin in which we trade. Combing through the data questionnaires, I found metaphorical language everywhere. How do academics learn to write? "By the seat of my pants." "Sink or swim." How do they write? "Fifteen minute jam sessions." "My writing comes in waves." How do they feel about their writing? "Writing is like going to bed as a child—I resist it constantly." "The road to satisfaction is paved with less enjoyable emotions." Each of these phrases contains

shadings and highlights that get flattened out in the conceptual glare of abstractions such as *anxiety* or *pleasure*.

When we pay close attention to the metaphors in the questionnaires, we dig down to the core of their authors' lived experience. Abstract language appeals mainly to the intellect; we can talk about emotions such as *anger* and *satisfaction*, but we cannot see or touch them. The language of metaphor, by contrast, is grounded in the material world. In an inversion of the classic Cartesian mind-over-body hierarchy ("I think, therefore I am"), George Lakoff (1987) argues that corporeal processes precede cognitive processing: "Thought is embodied, that is, the structures used to put together our conceptual systems grow out of bodily experience and make sense in terms of it" (p. xiv). In Lakoff's body-centered schema, metaphors grounded in human experience do much more than merely convey abstract emotions; they *shape* our emotions and influence the language that we use to describe and categorize them.

More than half of the 303 metaphors identified in the questionnaires were associated in some way with the natural world: for example, water ("my habits ebb and flow"), fire ("content that really sparks me"), biological processes ("emotions mutate"), gardening ("let the idea sit in my mind to compost"), animals ("I needed to tame my emotional language"), landscape features ("getting over the hill between starting and editing"). Most of the others referenced some aspect of human culture: sports ("marathon sessions"), games ("like rearranging a jigsaw"), travel ("the mind simply roams"), music ("I like to get into a rhythm"), arts and crafts ("I feel like a sculptor chiseling out my manuscript"), food consumption ("feast or famine"), schooling ("trial and error were my main tutors"), shipping ("clear the decks"), construction ("I work on different projects in blocks"), machines ("I am aware of getting rusty when I don't write"). Notably missing were the images of military discipline ("boot camps") and religious devotion ("cloisters," "congregations") that dominate much of the productivity literature (see, for example, Foran-Tuller et al., 2012, and Staller, 2013, on boot camps; Rogers, 2005, on cloisters; Boice, 1990, p. 124, on congregations). The academics we surveyed picture themselves sparking, flowing, traveling, building—not storming sandbags with a bayonet or rising at dawn to kneel on a cold floor.

Just as *frustration* was the most frequently expressed abstract emotion in the questionnaires, images of physical frustration dominated the metaphors. In contemporary usage, *frustration* often denotes an emotion akin to anger. Its etymological roots, however—from the Latin *frustrationem*, distantly related to *fraud*—point to *disappointment* and *deception* instead. The questionnaire respondents typically represented frustration as a physical or visual obstruction of some kind: an intestinal blockage ("constipation"), a plumbing blockage ("a feeling of being clogged"), a nutritional blockage ("feast or famine"), a navigational blockage ("roadblocks and barriers"), a perceptual blockage ("a struggle to

see the trees through the forest"), a visual blockage ("like a big empty hole of gloom that you enter and have to find your way, lighting candles to guide you to the end"). A waterway that cannot find its way to the sea is called a "frustrated river" by geologists; conversely, frustrated academics who cannot find their way in or out of their writing invoke blocked waterways ("frustration when the sentences don't flow") and swampy terrain ("stuck in the quagmire of detail"). Freedom from blockage leads to the state of heightened productivity that psychologist Mihayli Csikszentmihalyi (2013) characterizes as "flow": "When I achieve the flow experience it is exhilarating." Uncontrolled discharges, however, may be disconcerting and even frightening: "I work in terrified spurts"; "brief bursts of panicked production."

Even metaphors that we coded as positive nearly always reveal a negative face, a "shadow side" that lends them dimension and meaning (Palmer, 2007). "I love to immerse myself." (But immersion can lead to drowning). "I always know I'll get to lift off." (But until you do, you're stuck on the ground). The most complex and productive metaphors chart an author's progress from blockage to breakthrough in ways that acknowledge both the challenges and the pleasures of the process: "I enjoy being lost and hacking away the bush and branches to reach the clearing"; "[It's] akin to a really good cardio workout." Some respondents convey the intricacies of their ambivalence in phrases that have the sonorous ring of poetry: "I walk my thoughts together in the forest"; "It feels like jumping into a river"; "Words are like gold." Poetic metaphors create new knowledge by appealing to our sensory experience while leaving us to fill in the conceptual blanks: Is that forest tranquil or sinister? Is the river icy or refreshing? Is gold an infinite element or a diminishing resource? They may even inspire us to respond with poetic language of our own:

> Words are like gold:
>
> filling mouths
>
> running through fingers
>
> anchoring rainbows
>
> I light the alchemical fire
>
> and stir the stubborn crucible.
>
> Something glints outside my study window:
>
> an amber leaf, a sudden slant of light

Declaration of Conflicting Interests

Funding

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