

Temple Grandin, with Betsy Lerner, Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns, and Abstraction

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Volume 3, Number 1, Spring 2023

URI: <https://id.erudit.org/iderudit/1097600ar>
DOI: <https://doi.org/10.7202/1097600ar>

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Publisher(s)

New Explorations Association

ISSN

2563-3198 (digital)

[Explore this journal](#)

Cite this review

Farrell, T. (2023). Review of [Temple Grandin, with Betsy Lerner, Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns, and Abstraction]. *New Explorations*, 3(1). <https://doi.org/10.7202/1097600ar>

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Review: Temple Grandin, with Betsy Lerner, *Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns, and Abstractions* (New York: Riverhead Books, 2022).

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On January 10, 2023, I read Temple Grandin's op-ed piece in the *New York Times* titled "Temple Grandin: Society Is Failing Visual Thinkers, and That Hurts Us All" (dated January 9, 2023). In the present review essay, I now turn to Temple Grandin's new 2022 autobiographical book, with Betsy Lerner, *Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns and Abstractions*. (Despite the explicit credit on the title page "with Betsy Lerner," the text of this book is peppered with the word "I"; therefore, I will consistently refer to Temple Grandin as the author of the book.) In places, this book contains a certain amount of Temple Grandin's personal life-story and her experience of autism. Temple Grandin (born in 1947; Ph.D. in animal science, University of Illinois Urbana-Champaign, 1989), who is famous for writing about autism, teaches animal science at Colorado State University.

What Temple Grandin refers to in her title as "Patterns" will be the central concern in the present review essay: patterns that she refers to, on the one hand, and, on the other, patterns that the American Jesuit Renaissance specialist and pioneering media ecology theorist Walter J. Ong (1912-2003; Ph.D. in English, Harvard University, 1955) refers to in his mature work from the early 1950s onward.

It would be fair to say that Ong himself devoted much of his scholarly life from the early 1950s

onward to describing certain patterns – some of which now strike me as related to certain patterns that she describes in her own terminology in his new 2022 book. No, as far as I know, Ong did not write a word about autism (or about certain other learning disabilities that she discusses) – which makes it exciting for me to relate certain terminology that he uses to certain terminology that she uses. In the present review essay, I use association to relate topics I discuss. So, my writing is deliberately associationist and relationist in spirit.

The associations that I make in the present review essay give rise to two questions: (1) Would it perhaps help Temple Grandin to further develop her own thinking by studying Ong's mature work and related work? Or, apart from the specific contours of Ong's work, would it perhaps work in Temple Grandin's favor in the future to explicitly embrace a media ecology framework for presenting her cascading associations? (2) Would it perhaps help media ecology scholars to further develop their thinking about media ecology to study Temple Grandin's new 2022 book? Lance Strate in communication and media studies at Fordham University in New York City, arguably the world's greatest promoter of media ecology studies, has a chapter on "Autism and the Struggle for the Self" in his book *Echoes and Reflections: On Media Ecology as a Field of Study* (2006, pp. 111-118), in which he mentions two of Temple Grandin's earlier books (pp. 117 and 143). Even so, Temple Grandin's cascading associations in her new 2022 book are so sweeping that I have to wonder how many media ecology scholars would want to discuss all or even most of her many associations in it. (For Strate's references to Ong, see the "Index" in his book [p. 176].)

Now, over the years, I took five English courses from Ong at Saint Louis University, the Jesuit university in St. Louis, Missouri. In addition, I wrote an introductory-level book about Ong's life

and eleven of his books and selected essays titled *Walter Ong's Contributions to Cultural Studies: The Phenomenology of the Word and I-Thou Communication*, 2nd ed. (2015; 1st ed., 2000).

With the American Jesuit Paul A. Soukup in communications studies at Santa Clara University in northern California, I have co-edited seven Ong-related books (1991, 1992a, 1992b, 1995, 1999, 2002, and 2012).

For a bibliography of Ong's 400 or so distinct publications (not counting translations and reprintings as distinct publications), see Thomas M. Walsh's "Walter J. Ong, S.J.: A Bibliography 1929-2006" in the anthology *Language, Culture, and Identity: The Legacy of Walter J. Ong, S.J.*, edited by Sara van den Berg and Thomas M. Walsh (2011, pp. 185-245). But also see my 2017 resource document "A Concise Guide to Five Themes in Walter J. Ong's Thought and to Selected Related Works" that is available online through the University of Minnesota's digital conservancy. In general, I admire Ong's scholarly work because he almost invariably operationally defines and explains the terms he uses.

Now, according to the Wikipedia entry on Temple Grandin, there was an HBO movie about her early life in 2010 – starring the talented Claire Danes as young Temple Grandin (for which she received Emmy, Golden Globe, and Screen Actor Guild Awards). Apart from the HBO movie about Temple Grandin, according to the Wikipedia entry, she has also received certain other forms of popular attention.

Now, as much as I am impressed with Father Ong's scholarly life and especially with his breakthrough insight in the early 1950s (which I discuss below), I admit that an HBO movie

about his ambitious research and his breakthrough insight in the early 1950s would probably not be an award-winning hit for the star, to say the least. The various forms of scholarly recognition that Ong received, which I detail in my book about his life and work, while impressive, strike me as earning him far less attention in popular culture in his day, or today, than Temple Grandin has received in her day. Put differently, Ong is a superstar in the scholarly realm, and Temple Grandin is a superstar not only in Colorado, where she teaches, but also in the realm of American popular culture today.

In any event, Temple Grandin's new 2022 autobiographical book, with Betsy Lerner, includes the following parts:

“Introduction” (pp. 1-7);
Chapter One: “What Is Visual Thinking?” (pp. 9-47);
Chapter Two: “Screened Out” (pp. 49-83);
Chapter Three: “Where Are All the Clever Engineers?” (pp. 85-119);
Chapter Four: “Complementary Minds” (pp. 121-153);
Chapter Five: “Genius and Neurodiversity” (pp. 155-191);
Chapter Six: “Visualizing Risk to Prevent Disasters” (pp. 193-235);
Chapter Seven: “Animal Consciousness and Visual Thinking” (pp. 237-274);
“Afterword” (pp. 275-277);
“Acknowledgments” (pp. 279);
 “[Categorized] References” (pp. 281-324);
“Index” (pp. 325-340).

The “References” are categorized according to the major parts of the text.

Because Temple Grandin received her Ph.D. in animal science from the University of Illinois Champaign-Urbana, and because she has taught animal science at Colorado State University for many years, we should not be surprised to see that Chapter Seven is about “Animal Consciousness and Visual Thinking” (as she operationally defines and explains visual thinking in Chapter One: “What Is Visual Thinking?”). To my way of thinking “Animal Consciousness and Visual Thinking” would have made more sense as Chapter One, in which case the present Chapter One would make more sense re-titled as Chapter Two: “What Is Visual Thinking in Human Consciousness?” But this is a quibble.

In Temple Grandin’s “Introduction,” she says, “This book also grows out of two major revelations – true eureka moments – I had over the past few years” (p. 3; she recounts the “second eureka moment” on p. 4).

In Temple Grandin’s Chapter One: “What Is Visual Thinking?” she discusses “the eureka moment that defined my approach to working with animals and launched my career” (p. 11).

No doubt Ong’s breakthrough insight in the early 1950s was a true eureka moment for him and it defined his approach in his mature work from the early 1950s onward.

But in Temple Grandin’s Chapter Six: “Visualizing Risk to Prevent Disasters,” she discusses what she refers to as aha moments. She says the following:

“Have you ever had the experience of struggling to solve a problem, and then having the solution come to you all at once? Researchers at the University of London wanted to study such aha moments. As reported in an article in *Scientific American*, hoping to uncover which brain signals are responsible for

problem solving, they gave EEGs to twenty-one volunteers to study how the brain processes verbal problems. They found that many of their subjects hit a wall or a “mental impasse.” One explanation, writes Nikhil Swaminathan, is that the participants got “locked into an inflexible way of thinking and [were] less able to free their minds, and thereby unable to restructure the problem before them.” I speculate that the aha moment comes to a verbal thinker when the brain is distracted, as we’ll see in the next chapter. Typically, though, when it comes to solving mechanical problems, I’ve observed that verbal thinkers often get lost in the weeds as they try to construct a word-based explanation to arrive at a solution. For me, the aha moment often comes quickly, because I am already thinking in images, and my brain can quickly reshuffle the pictures, almost like a deck of cards, to let me see the solution. The visual thinker has a more direct path to seeing certain kinds of solutions” (p. 207; bracketed material here added by Temple Grandin; incidentally, in the next chapter, she does not mention aha moments – nor does she mention them anywhere else).

Perhaps we should also consider Ong’s breakthrough insight in the early 1950s as involving such an aha moment.¹

Now, Temple Grandin’s descriptions of what she refers to as visual thinking involve images and what the classicist Eric A. Havelock describes as imagistic thinking in his landmark 1963 book in media ecology *Preface to Plato* – a book that Ong never tired of referring to.

But also see Havelock's 1978 book *The Greek Concept of Justice: From Its Shadow in Homer to Its Substance in Plato* and Havelock's 1982 book *The Literate Revolution in Greece and Its Cultural Consequences*.

Ong's review of Havelock's 1963 book *Preface to Plato* is reprinted in *An Ong Reader: Challenges for Further Inquiry*, edited by Thomas J. Farrell and Paul A. Soukup (2002, pp. 309-312).

Now, judging from what the American Indian Medicine Doctor Paul Peter Buffalo (c.1900-1977) says about his childhood experiences of listening to old Indians tell stories in the residual form of what Ong refers to as a primary oral culture in northern Minnesota, it appears that he vividly imagined the stories that he listened to. In other words, at least when he was listening to stories, Paul Buffalo engaged in what Temple Grandin refers to as visual thinking. For his specific statements about his experiences, see my online article "The American Indian Paul Buffalo on Oral Storytelling" (dated January 9, 2023).

Now, in Temple Grandin's new 2022 book, she sets up and works with a sharp contrast between what she refers to as people who think in images (i.e., visual thinking in her terminology), on the one hand, and, on the other, what she refers to as people who think in words (i.e., not images) – verbal thinking in her terminology.

However, it appears from Havelock's work in imagistic thinking that it was typical of all our pre-historic and pre-literate human ancestors. What Temple Grandin refers to as thinking in words emerged in the philosophical thought of Plato and Aristotle in ancient Greece. Subsequently in ancient and medieval Western culture, what she refers to as thinking in words co-existed alongside what she refers to as image thinking. But Ong sees the French Renaissance logician

and educational reformer and Protestant martyr Peter Ramus (1515-1572) and his followers as tipping the balance, figuratively speaking, decisively toward the cultural predominance of word thinking in the prestige culture in the Age of Reason in Western culture – as I will explain momentarily.²

Now, Temple Grandin also sets up and works with a sharp contrast between what she refers to as neurotypical people, on the one hand, and, on the other, neurodivergent people. She says that the term neurodivergent encompasses not only autism but also dyslexia, A.D.H.D., and other learning problems. Like most writers today who write about autism, Temple Grandin refers to a spectrum of autism. (For specific pages references to any of the terms she uses, see the relevant entry in the “Index.”)

Perhaps I should say explicitly here that I am not challenging the category known neurodivergent. I understand that people today who are referred to as neurodivergent have learning problems of one kind or another. I am not questioning that. However, I am calling attention here to how Temple Grandin’s account of visual thinking (i.e., involving images, not words) resembles what Havelock refers to as imagistic thinking – which he himself does not see as a problem as such. Put differently, I am not here trying to account for the etiology of what Temple Grandin and others today refer to as neurodivergent tendencies in certain people. (I return to this issue at the end of this essay.)

Now, the American psychiatrist and psychoanalyst Justin A. Frank, M.D. (born in 1943) claims that former President Donald J. Trump may suffer from dyslexia in his 2018 book *Trump on the Couch: Inside the Mind of the President* (pp. 213-215, 218, and 226). In Temple Grandin’s terminology, Trump may be one widely known example of the neurodivergent population who

engage in what she refers to as visual thinking (i.e., image thinking -- in contradistinction to what she refers to as word thinking).

Now, Ong's massively researched Harvard doctoral dissertation was a study of the French Renaissance logician and educational reformer and Protestant martyr Peter Ramus (1515-1572), mentioned above. Ong's dissertation, slightly revised, was published in two volumes by Harvard University Press in 1958: (1) *Ramus, Method, and the Decay of Dialogue: From the Art of Discourse to the Art of Reason [in the Age of Reason]*; and (2) *Ramus and Talon Inventory*, a bibliographic listing of more than 750 volumes (most in Latin) by Ramus and his supporters and his critics that Ong tracked down in more than 100 libraries in the British Isles and Continental Europe.

After Ong had gathered an immense amount of material on the history of the verbal arts of logic and rhetoric from the time of Aristotle down to the time of Peter Ramus and beyond, he had a breakthrough insight that enabled him to organize his account of the history of logic and rhetoric in Western culture. As he himself modestly acknowledges, he had his breakthrough insight after reading a perceptive book by the French Christian philosopher Louis Lavelle (Ong, p. 338n.54). Ong's mature work from the early 1950s onward involves one iteration after another of his breakthrough insight. However, behind his breakthrough insight is the centuries-old philosophical maxim that whatever is in the intellect was first in the senses.

In addition, we should consider what all he may have been studying as part of his graduate studies in English. For his Master's degree in English at Saint Louis University in 1941, he wrote his thesis, under the direction of the young Canadian Catholic convert Marshall McLuhan (1911-1980; Ph.D. in English, Cambridge University, 1943), fresh from his own graduate

studies in English at Cambridge University, on the sprung rhythm in the poetry of the Victorian Jesuit poet and classicist Gerard Manley Hopkins (1844-1889). Ong's 1941 thesis was published, slightly revised, in 1949. It is reprinted in *An Ong Reader: Challenges for Further Inquiry*, edited by Thomas J. Farrell and Paul A. Soukup (2002, pp. 111-174). For a cogent critique of Ong's 1941 Master's thesis, see James I. Wimsatt's book *Hopkins's Poetics of Speech Sound: Sprung Rhythm, Lettering, Inscape* (2006).

We should also consider the influence of the American-born Nobel-Prize winning poet and influential literary critic Thomas Stearns Eliot (1888-1965) on the field of English literary studies when Ong was pursuing his graduate studies in English literary studies. In Matthew Hollis' new 2023 book "*The Waste Land*": *A Biography of a Poem*, he says the following: "When Eliot said of Dante in 1929 that 'genuine poetry can communicate before it is understood,' he would describe something close to a central nervous system for poetry: that a poem has a pre- or para-linguistic pulse – a pattern of emotive sound that suggests a tonal meaning before the words arrive. He went on to call this the *auditory imagination*, a 'feeling for syllable and rhythm, penetrating far below the conscious levels of thought and feeling. . . . If you experience the cadence, then you animate the image, and if you can do that, you have communed through your senses with the poem before it has been decoded by the brain phenomenologically. . . . The meaning of a poem is its sensory event: imagined pictures cast on received sounds'" (pp. 24 and 26; Hollis' italics). But the expression "imagined pictures" calls to mind Temple Grandin's terminology about visual thinking (i.e., images), not what she refers to as word thinking. I know, I know, sounds are not usually thought of as images or as visual. Please bear with me here. I am trying to understand what Temple Grandin means as visual thinking – which she claims infrahuman animals have, but infrahuman animals do not have words.

Moreover, written words and, later, printed words are visually apprehended, as, of course, are images. In short, there is a problem with Temple Grandin's visual/verbal terminology. See Temple Grandin's Chapter Seven: "Animal consciousness and Visual Thinking" in her new 2022 book.

In any event, I have discussed Ong's philosophical thought in his 1958 book *RMDD* in my somewhat lengthy online article "Walter J. Ong's Philosophical Thought" (dated September 20, 2020). But also see my more recent somewhat lengthy online article "Paul A. Soukup, S.J., on a Media Ecology of Christian Theology" (dated December 24, 2022).

In Ong's 1958 book *RMDD*, he works with what he refers to as the aural-to-visual shift in cognitive processing in Western culture (for specific page references to the aural-to-visual shift, see the "Index" [p. 396]). In addition, Ong refers to what he variously styles as the corpuscular view of reality, the corpuscular epistemology, and the corpuscular psychology in Peter Ramus' thought (pp. 65-66, 72, 146, 171, 196, 203, 210, and 286).

In Ong's 1958 book *RMDD*, he formulates his pioneering media ecology account of the print culture that emerged in Western culture after the Gutenberg printing press emerged in Europe in the mid-1450s. Not surprisingly, Temple Grandin explicitly refers to the Gutenberg printing press (p. 90). Ong attributes the widespread influence of Peter Ramus and his followers to the growing influence of printed books. However, Ong also sees the influence of Peter Ramus and his followers as advancing the somewhat earlier medieval development of what Ong refers to as the quantification of thought in late medieval logic. Let me explain.

Ong explains the quantification of thought in medieval logic in his massively researched 1958 book *Ramus, Method, and the Decay of Dialogue: From the Art of Discourse to the Art of*

Reason (pp. 53-91), mentioned above.

About the same time that his Ong's 1958 book was published, he reflected further on his own work in a separate 1956 article that he then subsequently reprinted in his 1962 book *The Barbarian Within: And Other Fugitive Essays and Studies* (pp. 68-87). In it, he wrote the following statement regarding the quantification of thought in medieval logic:

"In this historical perspective, medieval scholastic logic appears as a kind of pre-mathematics, a subtle and unwitting preparation for the large-scale operations in quantitative modes of thinking which will characterize the modern world. In assessing the meaning of [medieval] scholasticism, one must keep in mind an important and astounding fact: in the whole history of the human mind, mathematics and mathematical physics come into their own, in a way which has changed the face of the earth and promises or threatens to change it even more, at only one place and time, that is, in Western Europe immediately after the [medieval] scholastic experience [in short, in print culture]. Elsewhere, no matter how advanced the culture on other scores, and even along mathematical lines, as in the case of the Babylonian, nothing like a real mathematical transformation of thinking takes place – not among the ancient Egyptians or Assyrians or Greeks or Romans, not among the peoples of India nor the Chinese nor the Japanese, not among the Aztecs or Mayas, not in Islam despite the promising beginnings there, any more than among the Tartars or the Avars or the Turks. These people can all now share the common scientific knowledge, but the scientific tradition itself which they share is not a merging of various parallel discoveries made by their various civilizations. **It represents a new state of mind.** However great contributions other civilizations may hereafter make to the tradition, our scientific world traces its origins back always to seventeenth and sixteenth century Europe [in short, to Copernicus and Galileo], to the place where for some three

centuries and more the [medieval] arts course taught in universities and para-university schools had pounded into the heads of youth a study program consisting almost exclusively of a highly quantified logic and a companion physics, both taught on a scale and with an enthusiasm never approximated or even dreamt of in ancient academies" (p. 72; boldface emphasis here added by me).

No doubt the most famous Ramist in the English-speaking world is the English Renaissance poet John Milton (1608-1674). He studied Ramist logic in Latin at Cambridge University. Later in his life, he composed a textbook in Ramist logic in Latin. After he had become famous, he published it in 1672. Ong and Charles J. Ermatinger published a translation of Milton's textbook in logic in volume eight of Yale's *Complete Prose Works of John Milton: 1666-1682*, edited by Maurice Kelley (Yale University Press, 1982, pp. 139-407). Ong supplied the "Introduction" (pp. 144-207). Ong's "Introduction," slightly shortened, is reprinted as "Introduction to Milton's *Logic*" in volume four of Ong's *Faith and Contexts*, edited by Thomas J. Farrell and Paul A. Soukup (Scholars Press, 1999, pp. 111-142).

In any event, Peter Ramus and his followers carried forward this new state of mind in their printed books. Moreover, Peter Ramus, as a result of his printed books, was one of the big-time pioneers of what Temple Grandin refers to as people who think in words (in contradistinction from what she refers to as people who think in images).

Ong himself acknowledges as much about Ramus in his essay "Memory as Art" in his 1971 book *Rhetoric, Romance, and Technology: Studies in the Interaction of Expression and Culture* (pp. 104-112). In it, Ong commends Frances A. Yates for coining the apt expression inner iconoclasm to describe Peter Ramus' distinctive contribution to our Western cultural

history. As a result of that inner iconoclasm, what Temple Grandin refers to as people who think in words, as distinct from people who think in images, decisively emerged and subsequently gained the ascendancy in our Western cultural history. That inner iconoclasm dealt a fatal death blow to what Havelock refers to as imagistic thinking, at least in terms of cultural ascendancy – and, in effect, to what Temple Grandin refers to as people who think in images.

See Frances A. Yates' landmark book *The Art of Memory* (1966, pp. 234-235).

Ah, but thinking in images is institutionalized, so to speak, in the *Spiritual Exercises* of the Spanish Renaissance mystic St. Ignatius Loyola (1491-1556 – partly overlapping Peter Ramus, 1515-1572), the founder of the Jesuit order (known formally as the Society of Jesus). Ong, like all Jesuit priests, made two 30-day retreats in silence (except for the daily conferences with the retreat director) following the instructions for guided meditation in the *Spiritual Exercises* of St. Ignatius Loyola. Those instructions regularly call for the application of the senses to the biblical passage selected for meditation that day. Your guess is as good as mine as to just how well Ong carried out the regular instruction for the application of the senses to each biblical passage selected for meditation. However, if we assume that Ong was basically what Temple Grandin refers to as a verbal thinker, not a visual thinker, then we would have to see the guided meditations that he engaged in in two 30-day retreats and in many shorter retreats represent at least a counter-measure of visual thinking over his adult life.

See *The “Spiritual Exercises” of St. Ignatius: A New Translation, Based on Studies in the Language of the Autograph*, translated and annotated by Louis J. Puhl, S.J. (1951).

Now, Ong set up and worked with a sharp contrast between what he refers to as the world as

view sense of life manifested in Peter Ramus and other in the print culture that emerged in Western culture after the Gutenberg printing press emerged in Europe in the mid-1450s, on the one hand, and on the other, the earlier world-as-event sense of life that he says characterizes primary oral cultures, and residual forms of primary oral cultures such as Paul Buffalo's Ojibwe culture in northern Minnesota – and ancient and medieval cultures in Western culture after the introduction of phonetic alphabetic literacy in ancient Hebrew culture and in ancient Greek culture.

See Ong's seminal essay "World as View and World as Event" in the journal *American Anthropologist* (August 1969). It is reprinted in volume three of Ong's *Faith and Contexts*, edited by Thomas J. Farrell and Paul A. Soukup (1995, pp. 69-90).

I have discussed Ong's 1969 essay "World as View and World as Event" at length in my article "Walter Ong and Harold Bloom Can Help Us Understand the Hebrew Bible" in the journal *Explorations in Media Ecology* (2012).

The late anthropologist David M. Smith (1940-2022; Ph.D. in anthropology, University of Minnesota, 1975) of the University of Minnesota Duluth) also discusses Ong's 1969 essay in his 1997 essay "World as Event: Aspects of Chipewyan Ontology" that is reprinted in the 2012 anthology *Of Ong and Media Ecology* (pp. 117-141).³

Finally, a word is in order about the limits of the present review essay. I posit what C. G. Jung and his followers refer to as the collective unconscious in the human psyche of all persons. I further posit that the collective unconscious in all persons contains the deep memory of what Ong refers to as the world-as-event sense of life, and what Havelock refers to as imagistic thinking, and what Temple Grandin refers to as thinking in images (as distinct from what she

refers to as thinking in words). In addition, I posit that what Ong refers to as the world-as-view sense of life, and what Temple Grandin refers to as thinking in words (not images) is associated with what Jung and his followers refer to as personalized ego-consciousness.

However, I hasten to add that I have no theory to offer in this essay as to why certain people in contemporary Western culture today emerge as people who think in images (in Temple Grandin's terminology), not as people who think in words. However, even though Ong famously differentiates our contemporary secondary oral culture from primary oral cultures in the past (and therefore also from residual forms of primary oral cultures), the communication media that accentuate sound in our contemporary secondary oral culture undoubtedly resonate with the deep memories of primary oral cultures in our collective unconscious (in Jung's terminology).

For all practical purposes, I confronted something like this quandary about what determines what Temple Grandin refers to as image thinking today and word thinking today in the ten years in which I worked on my controversial article "IQ and Standard English" in the journal *College Composition and Communication* (1983). In the multiple contexts of that debate about biology versus culture in determining IQ scores on standardized tests of IQ, what is referred to as Standard English struck me as an important factor that should not just be brushed aside. Also see my subsequent article "A Defense for Requiring Standard English" in *Pre/Text: A Journal of Rhetorical Theory* (1986); it is reprinted in the anthology *Rhetoric: Concepts, Definitions, and Boundaries*, edited by William A. Covino and David Jolliffe (1995, pp. 667-678).

Incidentally, in formulating my controversial 1983 IQ article, I was deeply influenced by Havelock's Chapter 13: "The Early History of the Verb 'to Be'" in his 1978 book *The Greek Concept of Justice: From Its Shadow in Homer to Its Substance in Plato* (pp. 233-248), mentioned above. But also see Charles H. Kahn's classic study *The Verb "Be" in Ancient Greek: With a New Introductory Essay* (2003; orig. ed., 1973).

In my book about Ong's life and work, mentioned above, I discuss the verb "to be" and its various forms, and I also briefly discuss the movement not to use forms of the verb "to be" -- known as E-Prime (pp. 14 and 15).

However, in the context of the contrast that Temple Grandin sets up and works with between people who think in words and people who think in images, the role of Standard English may not be an important variable.

So, what are the important variables in determining what Temple Grandin refers to image thinking today and word thinking today? Your guess is as good as mine – and I have no guess that I want to offer here.

Notes

¹ For related discussions of aha moments, see Arthur Koestler's book *The Act of Creation* (1964); and Bernard Lonergan's book *Insight: A Study of Human Understanding*, 5th ed., edited by Frederick E. Crowe and Robert M. Doran as volume three of the *Collected Works of Bernard Lonergan* (1992).

² However, apart from the practices of what Ong refers to as the art of reason of the leading philosophers of the Age of Reason, remnants of the earlier practices of what Ong refers to as the art of discourse lingered on in certain circles, as Thomas O. Sloane of Berkeley shows in his book *On the Contrary: The Protocol of Traditional Rhetoric* (1997).

³ But also see the American Indian scholar Donald L. Fixico's book *The American Indian Mind in a Linear World: American Indian Studies and Traditional Knowledge* (2003). The American anthropologist Dorothy Lee (1905-1975) published the article "Lineal and Nonlineal Codifications of Reality" in the journal *Psychosomatic Medicine* (1950). It is reprinted as "Codifications of Reality: Lineal and Nonlineal" in her essay collection *Freedom and Culture* (1959, pp. 105-120). In Temple Grandin's Chapter One: "What Is Visual Thinking?" in her new 2022 book, she discusses linear thinking and linear thinkers in connection with what she refers to as "Word-based thinking" – as distinct from image-based thinking (p. 10).

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