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The Convergence of Thinking, Talking, and Writing: A Theory for Improving Writing

*Kellen McClendon**

INTRODUCTION

Over the several years that I have been teaching courses in both basic and advanced Legal Research and Writing, I found that I could help my students improve their writing by encouraging them to write the way they talk and to talk the way they write.¹ Often I could enable a student to improve his or her writing by simply asking the student: "What is it that you are trying to say in this sentence? Put your paper down, look me in the eye, and tell me what it is that you are trying to get across to the reader?" I would say: "Talk it out." More often than not, the student would then adequately and correctly explain to me orally what he or she was trying to convey in writing. At one point further along in my teaching of these two courses, one of my students² suggested that I include the concept of "thinking" in my theory of how to improve one's writing.

I thought about it for a few seconds and realized that my student

* The author is an Associate Professor of Law at Duquesne University School of Law. The author thanks Dean Nicholas P. Cafardi for his establishment of the summer writing program, faculty colleagues Professor Robert D. Taylor and Professor Bruce Ledewitz for their many discussions with me about this article, Professor Kenneth L. Hirsch for his valuable computer knowledge, Associate Law Librarian Dittakavi Rao, Law Library Staff Member Jean McBride and faculty secretaries June Devinney and Kathy Koehler. I thank my wife, Michele R. McClendon, for (1) the many discussions that we had about thinking, talking, and writing, and (2) her proofreading of my drafts of this article. I also thank the Editorial Board and staff of the Duquesne Law Review. This article is dedicated to the memory of my brothers Roy E. McClendon, Jesse D. McClendon, and Leroy McClendon, Jr.

1. I also teach my students that they need to know and employ the rules of grammar, punctuation, and spelling.

2. The student was Gregory S. Cooper, a 1998 graduate of the Duquesne University School of Law. After I had written this article, I had the occasion to talk with another of my students, James F. Glunt, about my thesis for the article. Mr. Glunt apprised me of Rudolf Flesch's book *How to Write, Speak and Think More Effectively*. In the Introduction to his book, Dr. Flesch states a view that is similar to mine: "Writing, after all, is nothing but speaking on paper, speaking is nothing but thinking out loud, and thinking is nothing but silent speech." RUDOLPH FLESCH, *HOW TO WRITE, SPEAK AND THINK MORE EFFECTIVELY* vii (1960). I hope that the approach that I take in this paper is sufficiently different from others who have written about the relationship among thinking, talking, and writing.

was correct. So from that point on, the theory became:

Write the way you think.

Write the way you talk.

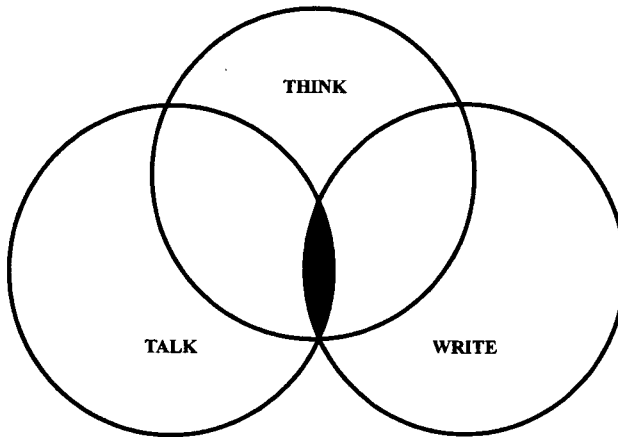
Talk the way you think.

Talk the way you write.

Think the way you write.

Think the way you talk.³

I demonstrate this theory symbolically by way of the following diagram:



The Intersection of the three circles represents effective communications.

As you can see, there are three circles; each represents one of the communications processes.⁴ The area in which the three circles overlap constitutes effective communications. As I have explained to students, if you can master these three communications processes, develop each of them to an optimum level, and allow the best of each process to improve the other two processes, you will become an effective and efficient communicator. To demonstrate this to students, I often ask them to think of one of our recent presidents delivering a speech on television and I then say to the students: "Did it not appear as though the President was

3. Without question, reading can play a part in this overall process. Reading silently what it is you have written does not serve the purpose of improving what you have written—as does talking-out what you have written.

4. Because I discuss three communication processes is not to say that there are no other communications processes or variations of the three I have selected for discussion. For example, the use of sign language could be another communications process or a variation of talking or writing.

talking to you?" Invariably, the answer is yes. I then point out that the President was actually reading the speech from the tele-prompter, which of course the audience cannot see. Whereas it appears as though the President is having a chat with us, in reality the President is reading his speech; he is reading his writing. Similarly, I often ask students to think of their favorite television news anchor. I then ask: "Is it not amazing that the news anchors can remember all that information; is it not amazing that they have such a smooth delivery?" The fact is that all those dazzling news anchors are reading the news from a tele-prompter. They are actually reading the news to us.

I can recall one student who, after listening to my theory, decided to tape record himself reading his papers aloud after he had written them. He found that listening to his spoken words enabled him to hear his syntactic and grammatical errors. There is something about the process of listening to what we have written that enables us to detect syntactic and grammatical errors more readily than when we silently read what we have written.

The purpose of this paper is to explore the relationship among thinking, talking, and writing as the basis for suggesting that by "talking-out" what we write, we can improve our writing. I attempt to make this exploration primarily by discussing what others have said about thinking, talking, and writing. These three processes are related to and intertwined with one another. As a result, understanding the nature of thinking, talking, and writing will lead to better writing. As I have stated, in my opinion, effective communication occurs when the three processes converge. Although I undertook this exploration to offer a theory by which law students can improve their writing—the theory can improve anyone's writing. The theory can also improve one's talking. The theory can also improve one's thinking; thinking being where it all begins. To improve our writing, we need to delve into the depths of the philosophical nature of thinking, talking, and writing.

In Part I of this article, I discuss thinking, a daunting subject. Part II consists of a discussion of thinking and language. I delay consideration of language until Part III because I first need to lay the foundation of the relationship between thinking and language. In Part IV, I discuss talking. In the discussion of talking, you will find, in addition to the word talking, the words speech and orality. Part V is a consideration of writing. In Part V you will find, in addition to the word writing, the word literacy. When I use the word literacy, I will be using it in regard to its writing component

and not to its reading component.

I. THINKING

Without question, the overall process of communicating (whether in the form of writing, talking, or sign language) begins with thinking. Thus to understand communication, and in particular writing, we must have some understanding of what thinking is. What is involved in thinking? What is involved in the thought process? Just what is thinking? What is it to think? When you think about it, thinking is a staggering, overwhelming concept. Be that as it may, we have to start with thinking. Better yet, we should start with a brief discussion of the brain.⁵ Dick Gilling and Robin Brightwell, in their book *The Human Brain*, describe the brain in the following manner:

The brain of a human being . . . looks . . . like an enormous walnut; it weighs about three or three and a half pounds [The] wrinkled outside of the [brain] . . . is the *cortex* The small, ridged projection at the back [of the brain] is the *cerebellum* The wrinkled cortex is the surface layer . . . of the two most notable parts of the human brain, the cerebral hemispheres The two cerebral hemispheres, almost but not quite mirror images of one another, together constitute the cerebrum At the front [of the brain is] the frontal lobe; at the side, the temporal lobe; on top, the parietal lobe; and at the back of the head, the occipital lobe. Each lobe is roughly associated with a different function: the parietal lobes seem to contain areas responsible for co-ordinating the input of our sense organs and the output of instructions to our muscles; and the temporal and frontal lobes seem to deal in less concrete matters, such as speech and memory.⁶

Another author, Gerald M. Edelman, has described the cerebral cortex of the brain in a rather interesting physiological manner:

[The cerebral cortex of the brain is] a structure that is central to what are loosely called the higher brain functions—speech,

5. It is beyond the purpose and scope of this paper, and it is beyond my capability, to discuss the physiology of the brain anymore than what I do.

6. DICK GILLING AND ROBIN BRIGHTWELL, *THE HUMAN BRAIN* 10-11 (1982). As we shall see later, there is, of course, a very interesting relationship between the left part of the brain and speech. See *infra* text accompanying notes 50-64.

thought, complex movement patterns, music. If one were to take this corrugated “mantle” that covers the dome and the sides of your brain and spread it out, it would be the size of a large table napkin and about as thick. Counts of the nerve cells making up this structure are not very accurate, but it appears that there are about ten billion neurons in the cortex.

. . . .

Each nerve cell receives connections from other nerve cells at sites called synapses. But here is an astonishing fact — there are about one million billion connections in the cortical sheet. If you were to count them, one connection (or synapse) per second, you would finish counting some thirty-two million years after you began. Another way of getting a feeling for the numbers of connections in this extraordinary structure is to consider that a large match head’s worth of your brain contains about a billion connections. Notice that I only mentioned counting connections. If we consider how connections might be variously combined, the number would be hyperastronomical—on the order of ten followed by millions of zeros. (There are about ten followed by eighty zeros’ worth of positively charged particles in the whole known universe!)

So here we have our first clue as to what makes the brain so special that we could reasonably expect it to give rise to mental properties. And while the sheer number and density of neuronal networks in the brain are amazing, these are not the only unique properties of brain tissue. An even more remarkable property is the way in which brain cells are arranged in functioning patterns. When this exquisite arrangement of cells . . . is taken together with the number of cells in an object the size of your brain, and when one considers the chemical reactions going on inside, one is talking about the most complicated material object in the known universe.⁷

From this very basic discussion of the brain, we need to turn to consideration of what it is to think. To “think” has been defined as the ability “to form or have in the mind.”⁸ *The New Encyclopedia*

7. GERALD M. EDELMAN, BRIGHT AIR, BRILLIANT FIRE: ON THE MATTER OF THE MIND 17 (1992).

8. WEBSTER’S NINTH COLLEGIATE DICTIONARY 1226 (1988). Professor Robert D. Taylor, a faculty colleague, has pointed out to me that to understand the meaning of words, we should

Britannica says the following:

In everyday language the word thinking covers several distinct psychological activities. It is sometimes a synonym for "tending to believe," especially with less than full confidence. . . . At other times it denotes attentiveness . . . or it denotes whatever is in consciousness. . . . In the sense on which psychologists have concentrated, thinking is intellectual exertion aimed at finding an answer to a question or a means of achieving a desirable practical goal.

. . . .

Perhaps the most satisfactory provisional conception of thinking is one that applies the term to any sequence of covert symbolic responses If such a sequence is aimed at the solution of a specific problem and fulfills the criteria for reasoning, it is called directed thinking. Reasoning . . . is a process of piecing together the results of two or more distinct previous learning experiences to produce a new pattern of behaviour. Directed thinking contrasts with other symbolic sequences that have different functions; *e.g.*, the simple recall . . . of a chain of past events.

In the past, psychologists and [lay persons] often identified thinking with conscious experiences. But as the scientific study of behaviour came to be recognized generally as the task of psychology, the limitations of introspection as a source of data have become widely apparent. It thus has become more usual to treat thought processes as intervening variables or constructs with properties that must be inferred from relations between two sets of observable events. These empirically available events are inputs (stimuli, present and past) and outputs (responses, including bodily movements and speech.)⁹

There are generally two types of thinking: expressive thinking (also known as autistic thinking) and disciplined/directed thinking (also known as realistic thinking).¹⁰ A person thinks expressively

not rely on others' definitions; rather we should rely on our experience. While acknowledging the school of thought that Professor Taylor's views represent, I do rely on others' definitions throughout this article.

9. 28 THE NEW ENCYCLOPEDIA BRITANNICA *Thought and Thought Process* 641 (15th ed. 1992).

10. See 28 *id.* at 643.

[w]hen intrinsic processes operate strongly and are relatively free of environmental constraints: [for example when a person] imagines, fantasizes, dreams, hallucinates, or has delusions. As [the person] becomes dominated by external stimuli, he tends to become more logical, directed, disciplined: [disciplined/directed thinking] . . . is identified by such terms as judging, conceptualizing, and problem solving.¹¹

In response to the question "What do we mean by '[t]hinking?'" Robert Thomson said the following: "Aristotle selected rationality, the capacity to think, as the defining attribute of Man. Descartes sought to distinguish mind from matter by characterizing [mind] as 'that which thinks.'"¹²

Martin Heidegger, the existentialist philosopher, wrote a book on thinking titled *What Is Called Thinking?*¹³ The book consists of a series of lectures that Heidegger delivered at the University of Freiburg in the early 1950s. The very first thing that Heidegger said in his first lecture was:

We come to know what it means to think when we ourselves try to think. If the attempt is to be successful, we must be ready to learn thinking. As soon as we allow ourselves to become involved in such learning, we have admitted that we are not yet capable of thinking.¹⁴

To understand what is thinking is not easy. Heidegger did not think that thinking is easy or that explaining thinking is easy. In a summary of his first lecture, Heidegger said to his students that "[t]he matter of thinking is always confounding . . ."¹⁵

Professor Richard E. Mayer, after lamenting the disagreement among psychologists about "whether thinking should be generally defined as an external, behavioral process or an internal, cognitive process"¹⁶ states that a general definition of thinking includes three basic ideas:

1. Thinking is *cognitive*, but is inferred from behavior. It occurs internally, in the mind or cognitive system, and must

11. 28 *id.*

12. ROBERT THOMSON, *THE PSYCHOLOGY OF THINKING* 11 (1959).

13. MARTIN HEIDEGGER, *WHAT IS CALLED THINKING?* (J. Glenn Gray trans., Harper & Row 1968) (1954).

14. *Id.* at 3.

15. *Id.* at 13.

16. RICHARD E. MAYER, *THINKING, PROBLEM SOLVING, COGNITION* 6 (1983).

be inferred indirectly.

2. Thinking is a *process* that involves some manipulation of or set of operations on knowledge in the cognitive system.

3. Thinking is *directed* and results in behavior that "solves" a problem or is directed toward solution.¹⁷

As do others who have written on the subject of thinking, Mayer points out (1) that "[s]ome types of thinking may not be directed, such as autistic thinking, daydreaming, or the fragmented thinking of schizophrenics,"¹⁸ and (2) that "thinking is what happens when a person solves a problem."¹⁹

Psychology professor W. Edgar Vinacke begins the introduction to his book *The Psychology of Thinking* with the question "What is thinking?" and goes on to answer the question with these remarks:

[I]t is necessary to clarify what the psychologist means by the term "thinking." As in many other connections, the psychologist encounters here the psychology of everyday life, from which he has inherited many terms lacking precise and objective meaning.

This common-sense view of thinking refers to reflection or meditation; to belief, opinion, or judgment; or to fancy. In general, it seems to signify "something that goes on in the mind." Thus the term has no definite meaning, in large part, perhaps, because the processes involved in it are so elusive and, apparently, incapable of direct observation. Furthermore, although thinking activity occurs in everyone, relatively few persons think about thinking, and, of course, still fewer actually conduct objective experiments.²⁰

Despite his view that there is no definite meaning to the word thinking, Professor Vinacke attempts to give thinking some characteristics. He points out that thinking has the following three characteristics:

1. *Nonperceptual*. Thinking involves at least some processes and components which are not derived from, or do not deal with, objects present in the immediate environment

17. *Id.* at 7 (footnote omitted).

18. *Id.* at 7 n.*.

19. *Id.* at 7.

20. W. EDGAR VINACKE, *THE PSYCHOLOGY OF THINKING* 2 (1952).

2. *Relation to Other Aspects of Behavior.* Thinking is not *predominantly* perceptual. In other words, thinking is not separate and independent of other behavioral processes. When an individual deals with the external world, or perceives, he is also thinking; and when he is thinking, he is also perceiving [P]erceiving and thinking are interrelated processes, [and] emotion, motivation, learning, and other aspects of behavior enter into thinking

3. *Role of Past Experience.* Thinking involves the apprehension and manipulation of objects, the application of properties of objects and situations, but not solely in terms of perceptions at the present moment. The previous experience of the individual has a more or less permanent effect It is the reappearance or effect in some way of this prior learning which is the central concern of the psychology of thinking.²¹

In addition, Vinacke notes that some psychologists have subdivided thinking into two artificial categories: reasoning and imagination.²² According to Vinacke,

[B]oth reasoning and imagination involve problems, symbolic functions, and the combining and recombining of past experience; in all probability they are, indeed, activities of the same tissues. The important differences are in the situations in which they occur and in the degree and kind of control over them. Thus reasoning more than imagination has, usually, a distinct and identifiable beginning and end, is more closely related to the external world of reality, and is more subject to those selective and regulative systems Imagination, by contrast, is relatively less subject to the demands of immediate reality and to the controls which link the individual adequately to it. It is more a response to internal-need states. In moment-to-moment behavior, however, mental processes vary between the external (reality) and internal (need) poles, rather than being sharply one or the other. Creative thinking . . . can be described as an especially striking instance of this relationship.²³

John Dewey in his book *How We Think* considered the question

21. *Id.* at 2-3.

22. *Id.* at 3.

23. *Id.*

"What is thought?" and responded with three answers to his question.²⁴ First, "[e]verything that comes to mind, that 'goes through our heads,' is called a thought."²⁵ Second, "the term is restricted by excluding whatever is directly presented; we think (or think of) only such things as we do not directly see, hear, smell, or taste."²⁶ Third, "the meaning [of thought] is further limited to beliefs that rest upon some kind of evidence or testimony."²⁷ Dewey divided the third meaning into two areas: one in which "a belief is accepted with slight or almost no attempt to state the grounds that support it;" in the other, the belief is accepted only after "the ground or basis for [the] belief is deliberately sought and its adequacy to support the belief examined."²⁸ It is the latter of these two that Dewey concluded was the most important.²⁹ He called this type of thought reflective and educative.³⁰ Regarding reflective/educative thought, Dewey stated, "[t]hinking in its best sense is that which considers the basis and consequences of beliefs."³¹

In his book *The Psychology of Thinking*, Neil Bolton associated thinking with reasoned problem-solving.³² In arriving at this conclusion, Bolton stated that "thinking" is often used loosely to refer to almost anything that goes on in our heads, whether this be day-dreaming, imagination, guessing, remembering or understanding.³³ In psychological theory and research, however, the term has acquired a more restricted meaning and has become identified with problem-solving.³⁴

Bolton was not satisfied to associate thinking only with problem-solving; as he pointed out, the toss of a coin could solve a problem.³⁵ Reason had to accompany problem-solving for there to be thinking— "Thinking is therefore essentially a matter of judging and evaluating objects and events"³⁶

24. JOHN DEWEY, *HOW WE THINK* 1 (1910). Dewey was a Professor of Philosophy at Columbia University. *Id.* at i.

25. *Id.* at 1.

26. *Id.*

27. *Id.*

28. *Id.* at 1-2.

29. DEWEY, *supra* note 24, at 1-6.

30. *Id.* at 2.

31. *Id.* at 5.

32. NEIL BOLTON, *THE PSYCHOLOGY OF THINKING* 5 (1972).

33. *Id.*

34. *See id.*

35. *Id.* at 8.

36. *Id.* at 9.

II. THINKING AND LANGUAGE

I would like now to turn to the matter of thinking and language. At this point, we go beyond the question of what is thinking to the question of what is the relationship between thinking and language. In his book *Philosophy of Mind: An Overview for Cognitive Science*, William Bechtel states that “[m]ind and language are obviously closely related phenomena and the perspectives developed in analyses of language have influenced philosophical accounts of mind.”³⁷ Professors Lloyd M. Hult and Merle R. Howard are of the view that “[l]anguage exists in the mind . . . whether it is expressed or not.”³⁸ J.C. Bishop, a professor of philosophy at the University of Auckland in New Zealand, has stated that “genuine thinking can occur without the thinker’s using any language at all.”³⁹ According to Bishop:

We typically represent our own or somebody else’s thoughts as a sequence of linguistic expressions. This tempts us to suppose that all thinking is linguistic. Yet it is fallacious to infer that [because] we must employ linguistic expressions to describe what a person is thinking, he must also use the same expressions in his thinking. For one thing, he may not share our language. But it does not even follow that he should use *any* language in his thinking. Human beings often behave intentionally without conscious, [or] verbal deliberation.⁴⁰

Paul Chauchard has stated that language “must not be separated from thought.”⁴¹ In Chauchard’s opinion, “language has . . . an *external* form that enables us to communicate with each other, and an *internal* form that affirms our thought, that is, our reflective consciousness.”⁴² According to Chauchard,

language has its origins in that biological peculiarity constituted by man’s “larger brain,” whose functional potentialities are not realizable by animals It is when the [human] brain is sufficiently mature to encompass

37. WILLIAM BECHTEL, *PHILOSOPHY OF MIND: AN OVERVIEW FOR COGNITIVE SCIENCE* xii (1988).

38. LLOYD M. HULT & MERLE R. HOWARD, *BORN TO TALK: AN INTRODUCTION TO SPEECH AND LANGUAGE DEVELOPMENT* 3 (2d ed., Allyn & Bacon 1997).

39. John C. Bishop, *Can There Be Thought Without Language?*, in *THINKING: THE EXPANDING FRONTIER* 13, 15 (William Maxwell ed., 1983).

40. *Id.* at 14.

41. PAUL CHAUCHARD, *LANGUAGE AND THOUGHT* 4 (Noel Kenton trans., Walker & Co. 1964) (1956).

42. *Id.* at 5.

language—that is to say, when the child learns to speak—that the quality of being human really asserts itself⁴³

Along the same line, Diane E. Papalia and Sally Wendkos Olds point out the difference in the views of Jean Piaget and L. S. Vygotsky on the controversy: “To Piaget thought comes first, and then linguistic expression of it. Language does not structure thought, but is the vehicle for communicating it to another. To Vygotsky . . . speech regulates cognitive behavior and guides one’s actions.”⁴⁴

For Neil Bolton, “[t]he problem of the relationship between language and thought is an ancient one and it is still contested.”⁴⁵ As support for this conclusion, Bolton discussed some of the competing views on this relationship:

At one extreme some authors . . . have maintained that language and thought are identical and that thinking cannot occur without language. At the other extreme, [the view is that] the two are . . . entirely independent [or that] . . . words are an impediment to thinking. [According to a] third view a reciprocal relationship [exists] between the two [A proponent of this third view has] argued that thinking and speech cannot be identical because their ontogenesis is different and because words are often inadequate expressions of thoughts and emotions . . . nor can they be distinct and independent processes because there are many congruities between them and because disturbances of speech and thought often go together. [In other words, thinking and language] must be two distinct processes which are dependent upon one another.⁴⁶

Although I favor the opinion that one cannot think without language, for our purposes it probably does not matter. For our purposes it is more important to realize that there is a relationship between thought and language.

According to Dick Gilling and Robin Brightwell, neurologists Paul Broca and Carl Wernicke have contributed much to the topic of the relationship between thinking and language.⁴⁷ Broca was a

43. *Id.* at 5-6.

44. DIANE E. PAPALIA & SALLY WENDKOS OLDS, *A CHILD'S WORLD* 300 (1975).

45. BOLTON, *supra* note 32, at 206.

46. *Id.*

47. DICK GILLING & ROBIN BRIGHTWELL, *THE HUMAN BRAIN* 44-69 (1982).

nineteenth-century French neurologist who conducted pioneering work in the study of neurology and language.⁴⁸ Broca was a surgeon and anthropologist whose

most famous contribution to medical history was the localization of brain function. Earlier in the century, the so-called science of phrenology had suggested that different areas, or bumps, on the head could be associated with various human capabilities, including imagination, love, hate and criminality. This theory was not well received in conventional medical circles, and it must therefore have been with some courage that Broca put forward the theory that language was associated with a particular region of the brain.⁴⁹

Spurred on by a lecturer's theory that "the frontal part of the brain was involved in language," Broca performed an autopsy on the brain of a former patient who, while alive, had a "very severe language disturbance as a result of brain damage."⁵⁰ Upon examining the brain, Broca "discover[ed] that . . . there was damage in its frontal region."⁵¹ By way of the autopsy, "Broca showed . . . that damage only to certain regions [of the brain] leads to disturbances of language."⁵² Persons who have damage to the area of the brain that is known as Broca's area "have a very limited vocabulary and lose much of their grammar."⁵³ The person with damage to Broca's area "speaks slowly with enormous effort, and sounds are poorly produced. The patient also talks very ungrammatically, leaving out the small words, such as 'if', 'and' or 'but', so that his speech sounds like a telegram."⁵⁴ A patient with damage to Broca's area "usually has the same gaps in his

48. *Id.* at 48.

49. *Id.* at 49.

50. *Id.*

51. *Id.*

52. GILLING & BRIGHTWELL, *supra* note 47, at 49.

53. *Id.* at 50. On the subject of grammar, Colin Blakemore has stated that [e]ven ten words could make a language, but without grammar they would be nothing but an impoverished dictionary. . . . [T]he structure of grammar reveals the machinery of the human mind. . . . [O]ne of the major tenets of modern linguistics is that most of the rules of grammar operate independently of meaning. In his revolutionary theory of syntax, Noam Chomsky claimed that people have within them an innate, universal system of syntax which makes them competent to learn to understand and to generate speech. This knowledge is the prerequisite for any human language.

COLIN BLAKEMORE, *MECHANICS OF THE MIND* 132-34 (1977).

54. GILLING & BRIGHTWELL, *supra* note 47, at 50.

comprehension of language that he hears spoken."⁵⁵ Broca's area is located in the frontal lobe of the brain's left cerebral hemisphere.⁵⁶

A second area of the brain that is associated with language is in the left cerebral hemisphere, to the rear of Broca's area.⁵⁷ This area, known as Wernicke's area, is named for Carl Wernicke.⁵⁸ Gilling and Brightwell state that

[a] patient with damage in Wernicke's area is almost the exact opposite of a [patient with damage to Broca's area.] His speech will, in extreme cases, be faster than normal. He will talk a great deal, with a normal melody of speech, the sounds will be perfectly all right, and the grammar will be normal. The abnormality is that the patient has enormous difficulty in finding the right word. So he tends to produce a lot of roundabout descriptions. When trying to say "flower" he may say, "Well, you know, the thing that grows out there," pointing to the garden. He may try to say, "aeroplane" and say, "the thing, you know, that goes up in the air," and he may replace perfectly good . . . words with other words, such as "knife" for "fork". Sometimes he puts in words which seem to be totally unrelated.⁵⁹

According to Gilling and Brightwell, "[Broca's area and Wernicke's area] are reasonably close together, and their proximity is no accident. *Until a hundred years ago, the vast majority of people were illiterate, and for them language was something which came in through their ears and out through their mouths.*"⁶⁰

Gilling and Brightwell then discuss the theory of Norman

55. *Id.*

56. *See id.* at 49-51.

57. *See id.* at 51.

58. *See id.*

59. GILLING & BRIGHTWELL, *supra* note 47, at 51-52.

60. *Id.* at 55 (emphasis added). Colin Blakemore, in his book *Mechanics of the Mind*, confirms this by stating the following: "Wernicke's area] lies close to the auditory cortex, which analyses sound." BLAKEMORE, *supra* note 53, at 144. Gilling and Brightwell also point out that

Wernicke's area is located very near the area where sounds are deciphered by the brain. Broca's area, on the other hand, is just in front of the part which controls movements of the face, lips, tongue and other speech organs. It was therefore reasonable for Wernicke to assume that sounds pass through the ear into the brain, then to Wernicke's area, then . . . to Broca's area, which further processes the information and passes it back to the region concerned with the muscular control of the speech organs, enabling words and sentences to be formed by the mouth and tongue.

GILLING & BRIGHTWELL, *supra* note 47, at 55.

Geschwind, explaining that Geschwind's theory has not been universally accepted by neurologists,⁶¹ and describing Geschwind's theory in the following manner:

When a word is read, the visual stimulus is transmitted from other brain areas to Wernicke's area, where its heard form is produced. Then it goes through the same pathways as a heard word. Writing a word to dictation, on the other hand, requires the information to be passed from Wernicke's area, where sounds are processed, to a visual area, where the sounds are translated into visual form preparatory to writing.⁶²

Gilling and Brightwell provide further insight into how information is processed in the brain by way of a discussion of what they termed "routes for reading aloud," and "routes for repetition."⁶³ With regard to the "routes for reading aloud," the authors stated that

[w]ords . . . are detected by the eyes which send appropriate signals along the optic nerves, eventually reaching the visual cortex at the back of the brain, to be analyzed as visual patterns. Then onto Wernicke's area for linguistic analysis, forward to Broca's area and then to the motor cortex for articulation.⁶⁴

III. LANGUAGE

We now need to consider what language is. In an article entitled *The Origin of Language*, Professor N. H. Tur-Sinai asked the

61. GILLING & BRIGHTWELL, *supra* note 47, at 55. The authors contrasted Geschwind's theory by discussing the work of a psychologist whose experiments "showed that wide areas of the brain, certainly not limited to the left-hand side, were involved in the processing of language" and stated themselves that "[t]he brain is so complex in its internal connections that it would be presumptuous, in our present state of knowledge, to suggest that we can limit the astonishing faculty of language to only a few areas of tissue." *Id.* at 61-62. Geschwind was the Putnam Professor of Neurology at Harvard University. *See id.* at 47.

62. *Id.* at 55.

63. *Id.* at 56. The authors also discuss what they call "routes for repetition" and state the following:

Carl Wernicke proposed that a word heard in either ear travelled, as nerve impulses, to the auditory cortex for initial deciphering of the sounds. The signals then travelled to Wernicke's area, in the left hemisphere, for more analysis, then back to Broca's area for conversion back into a form suitable for speech, and then on to that part of the motor cortex which controls movements of the mouth and tongue for speech.

Id.

64. *Id.*

question "How did language come into being?"⁶⁵ In Tur-Sinai's opinion, "[t]his question did not exist for ancient man. [For ancient man], language . . . was a 'gift of God,' and each people thought that its language was the correct one and the mother of all other languages" ⁶⁶ Tur-Sinai went on to state the following:

[S]cience has established—at least in principle—that language is not a fixed thing, determined by unchanging laws and logical judgments. It was not given or created, but has developed by a long, complicated process, and even today it constantly changes in the mouth of the persons using it. Nor was its genesis governed by preexistent laws; rather, both the words and the structural rules of a language are the outcome of a long evolution. Within it, language arose not by dint of a supreme logic controlling it but in slow progression from 'zero' to the most highly developed idiom, capable of rendering the minutest shades of thought.⁶⁷

It is an understatement to say that language has played a significant role for humankind. Colin Blakemore, in his book *Mechanics of the Mind*, quoted the following statement of biologist Edward Wilson: "All of man's unique social behaviour pivots on his use of language, which is itself unique."⁶⁸ Blakemore is also of the opinion that "the use of language was just as important in human evolution as the discovery of flame itself."⁶⁹

Language has been defined as "a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures, or marks [that have] understood meanings."⁷⁰ Professors Lloyd M. Hulit and Merle R. Howard define language as "a system of abstract symbols and rule-governed structures, the specific conventions of which are learned."⁷¹ Hulit and Howard go on to explain that "[t]he symbols of language may be sounds that are combined into spoken words, or letters that are

65. N.H. Tur-Sinai, *The Origin of Language*, in LANGUAGE: AN ENQUIRY INTO ITS MEANING AND FUNCTION 41, 41-79 (Ruth Nanda Anshen ed., 1957). Professor Tur-Sinai was the former Bialik Professor of Hebrew Philology at Hebrew University in Jerusalem. *Id.* at 356.

66. *Id.* at 41. See also UMBERTO ECO, SERENDIPITIES: LANGUAGE AND LUNACY 23-51 (William Weaver, trans., Harcourt Brace 1999) (1998) (expressing the thesis that "Creation itself rose through an act of speech").

67. *Id.*

68. BLAKEMORE, *supra* note 53, at 125.

69. *Id.*

70. WEBSTER'S NINTH COLLEGIATE DICTIONARY 672-73 (1988).

71. HULIT & HOWARD, *supra* note 38, at 3.

combined into written words, or even the elements of sign language that are combined into larger units."⁷² Words are derived from sounds. Colin Blakemore notes that "[e]ach spoken language consists of a relatively small number of distinguishable sounds called *phonemes*—usually about 40 or 50 of them The first thing that a legitimate language must do is to use units like phonemes in combination to generate a potentially infinite variety of words"⁷³

In his book *General Principles of Language*, Wilton Blancke defined language as "the instrument for the expression and communication of human thought."⁷⁴ Calling language "man's most precious possession,"⁷⁵ Blancke opined that the development of language was what facilitated primitive mankind's ability to think.⁷⁶ Blancke was of the view that it is impossible to think without language: "Now that we have language, it seems impossible to *think* without it. How much real thinking can you do without words? Try it and see."⁷⁷ Blancke's view obviously is at odds with those who are of the opinion that thought can occur independent of language.

In addition to being the facilitation of thought, language is the bridge between thought and speech. Witness the respective opinions of Professor John B. Carroll and Professor Leo Spitzer. Professor Carroll has said that "a language can be a system underlying any set of responses of which human beings are capable."⁷⁸ Professor Carroll expanded upon this definition of language with the following discussion of the term speech behavior:

Speech behavior is that overt activity in which the muscles controlling the diaphragm, the larynx, and the various parts of the mouth are used to produce *utterances* exhibiting regularities that depend on a system of vocal communications we call *language*. [F]or a language to exist, there must be a *speech community*, that is a group of individuals who are able to communicate with one another because they have learned

72. *Id.* at 3.

73. BLAKEMORE, *supra* note 53, at 126-27. (emphasis in original deleted).

74. WILTON W. BLANCKE, *GENERAL PRINCIPLES OF LANGUAGE AND EXPERIENCES IN LANGUAGE* 3 (Richard D. Abraham ed., rev. ed. 1953).

75. *Id.* at 1.

76. *Id.* at 3.

77. *Id.* at 3.

78. JOHN B. CARROLL, *LANGUAGE AND THOUGHT* 3 (1964).

to respond to one another's utterances in consistent ways.⁷⁹

Professor Spitzer has defined language "as a system of sounds and sound groups, produced by the delicate minimum movements of our articulatory apparatus, which are made to symbolize thoughts."⁸⁰

Language is, among other things, composed of words. In an article entitled *Language of Jurisprudence*, Huntington Cairns made the observation that "[l]anguages, in addition to the defect of vagueness, suffer from the unavoidable circumstance that there are more things in the world than there are words to describe them."⁸¹ In the book *Language: An Enquiry Into Its Meaning and Function*, Ruth Nanda Anshen discussed the relevance of words to language and the significance of words to life. Anshen stated that words are the "ultimate symbols of ideas"⁸² and the "incarnation of ideas, the mysterious and magic nexus between the ideal and the real."⁸³ For Anshen, words have a philosophical and religious significance:

[Words] translate images and desires which when thus articulated acquire consciousness and are rendered operative, enabling man to escape from the loneliness of a closed consciousness, to emerge from the isolation in which he is enveloped and to experience a relationship with one other single being, with many others, with himself, or with God.⁸⁴

Continuing with her theme of the deep significance of words for humankind, Anshen went on to state that

[w]ords are the instruments by means of which ideas become acts. Thus it is evident that the responsibility of men in the use they make of words is a heavy one. By means of words man inserts himself in the cosmic order, either as friend or as foe. He may continue the divine creation. He may interpret it

79. *Id.*

80. Leo Spitzer, *Language of Poetry*, in LANGUAGE: AN ENQUIRY INTO ITS MEANING AND FUNCTION 201 (Ruth Nanda Anshen ed., 1957). Professor Spitzer was a Professor of Linguistics at Johns Hopkins University. *Id.* at 356.

81. Huntington Cairns, *The Language of Jurisprudence*, in LANGUAGE: AN ENQUIRY INTO ITS MEANING AND FUNCTION 201 (Ruth Nanda Anshen ed., 1957). Mr. Cairns was the Secretary and General Counsel of the National Gallery of Art. *Id.* at 356.

82. Ruth Nanda Anshen, *Language as Idea*, in LANGUAGE: AN ENQUIRY INTO ITS MEANING AND FUNCTION 3 (Ruth Nanda Anshen ed., 1957).

83. *Id.* at 6.

84. *Id.* at 4.

and assist it. He is either the executor of the eternal idea or a demiurge who offends and disturbs the natural order of things. The word is power; “the power of life or death lies in the tongue.” And it is power precisely because it awakens to life secret and latent forces.⁸⁵

At this point, in our quest to understand the meaning of language—and while keeping in mind the goal of trying to understand the relationship between thinking and language—it is appropriate that we consider metaphors. Notwithstanding that words may be as Anshen has described them, it has been said that “words are often inadequate expressions of thoughts and emotions.”⁸⁶ Does the word death accurately and precisely convey what happens when a person ceases to exist? For that matter what does it mean to cease to exist? Up to a certain point in my life, I thought that I understood the nature of words. Professor Robert D. Taylor⁸⁷ disabused me of that view when he pointed out to me that all words are metaphors. Professor Taylor’s comment set me on a journey that may never end: if I am to understand words, I must first understand metaphors. The dictionary defines metaphor as “a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them.”⁸⁸ Professors Michael Polanyi and Harry Prosch point out that “Aristotle long ago noted that ‘It is a great thing, indeed, [for the poet to be able] to make a proper use of these poetical forms But the greatest thing by far is to be a master of metaphor.’”⁸⁹

As part of a discussion on the development of language, L. S. Amery, in an address entitled *Thought and Language*,⁹⁰ said the following about metaphors:

Yet another thought tool, in the use of which the Greek mind was peculiarly inventive, was the metaphor; in other words, the use of some object, quality, or action to illustrate and bring out some particular aspect of [another object, quality, or action]. Here again the use of analogy has been immensely

85. *Id.* at 15.

86. BOLTON, *supra* note 32, at 206.

87. Professor Taylor is a faculty colleague of mine at Duquesne University School of Law.

88. WEBSTER’S NINTH COLLEGIATE DICTIONARY 746 (1988).

89. MICHAEL POLANYI & HARRY PROSCH, *MEANING* 75 (1975) (alteration in original).

90. L. S. AMERY, *THE ENGLISH ASSOCIATION, THOUGHT AND LANGUAGE* (1949).

helpful, not only in enriching language, but in widening and deepening the understanding of nature. Here also, not only philosophy and science, but all current thinking, have suffered from the tendency to treat metaphors as concrete realities and to draw deductions in one field which are only valid in another. Modern language inevitably contains many metaphors originating in the conceptions of earlier ages as to the nature of man and the universe which to-day [sic] only tend to confuse thought. All language embodies a mass of dead metaphors, words in which the original analogy has long since faded out, words still useful but colourless. In all language, too, there is a constant tendency to destroy the beauty or felicity of a metaphor by its misuse. On the other hand, new metaphors are born every day as new experiences or new knowledge suggest their appropriate use. It is for the serious thinker continually to purge his language of misleading metaphors⁹¹

In 1980, George Lakoff, a linguistics professor, and Mark Johnson, a philosophy professor, wrote what has become a major work on the subject of metaphors.⁹² In the Preface to their book, Lakoff and Johnson stated that they wrote the book because of “a concern, on both [their] parts, with how people understand their language and their experience.”⁹³ Lakoff and Johnson define metaphor by explaining what a metaphor facilitates: “*The essence of metaphor is understanding and experiencing one kind of thing in terms of another.*”⁹⁴ The first paragraph of the book establishes Lakoff’s and Johnson’s thesis:

Metaphor is for most people a device of the poetic imagination and the rhetorical flourish—a matter of extraordinary rather than ordinary language. Moreover, metaphor is typically viewed as characteristic of language alone, a matter of words rather than thought or action. For this reason, most people think they can get along perfectly well without metaphor. We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.⁹⁵

91. *Id.* at 10.

92. See GEORGE LAKOFF & MARK JOHNSON, METAPHORS WE LIVE BY (1980).

93. *Id.* at ix.

94. *Id.* at 5.

Further on in their book, Lakoff and Johnson reinforced this thesis when they stated:

Because so many of the concepts that are important to us are either abstract or not clearly delineated in our experience . . . we need to get a grasp on them by means of other concepts that we understand in clearer terms This need leads to metaphorical definition in our conceptual system.⁹⁶

There are four things about metaphors in general, and about Lakoff's and Johnson's thesis in particular, that are important. One is that metaphors are substitutes for something else. A second is that metaphors are pervasive in thinking. A third is that metaphors are necessary (if not good), but are indicative of a deficiency in our language — which results in a deficiency in our ability to think. A fourth is that because metaphors are pervasive in our thinking, they are also pervasive in our talking and writing — which means that our talking and writing are deficient.

IV. TALKING

We now need to consider talking. What is talking? Among other things, the dictionary defines talk as “speech.”⁹⁷ Professors Hulit and Howard define speech as “the oral expression of language.”⁹⁸ Leslie A. Hart, writing in *How the Brain Works*, stated that “man does not merely learn to use speech; it is . . . built-in”⁹⁹ For Hart, as for others, the left side of the brain is the speech side of the brain:

We are equipped with a speech-producing brain Considerable evidence suggests that the left temporal lobe and adjacent areas so important to adult speech are at birth ordinarily ‘reserved’ for this purpose—much as certain tables in a restaurant are held empty for guests expected to arrive later. The priority given speech functions appears to be exceedingly high [I]t is natural for this organizing area of cortex to think in words.¹⁰⁰

Why do we talk? Why do we need speech? We talk and we need

95. *Id.* at 3.

96. *Id.* at 115.

97. WEBSTER'S NINTH COLLEGIATE DICTIONARY 1204 (1988).

98. HULIT & HOWARD, *supra* note 38, at 4.

99. LESLIE A. HART, *HOW THE BRAIN WORKS* 140 (1975).

100. *Id.* at 141.

speech to communicate. Professors Hult and Howard define communication as "the sending and receiving of information, ideas, feelings, or messages."¹⁰¹ The transmitter in the instance of talking is the human vocal system.¹⁰² "Human beings communicate by forcing air through the vocal folds of the larynx and breaking the vibrating air stream into sounds of speech, which are organized into words and sentences."¹⁰³ The receiver is the human auditory system.¹⁰⁴ It has been said that "[l]anguage is expression of thought by means of speech-sounds."¹⁰⁵ Talking is therefore one way to fulfill one of the purposes of thinking. Assuming that what one says to another is a truthful manifestation of what one is thinking, talking "allows one human brain to communicate with another human brain."¹⁰⁶ Assuming that we are being truthful when we talk, another interesting aspect of talking is that what we hear is what we are thinking. With regard to improving our writing, "talking-out" what we have written is more helpful in correcting writing errors than is silently reading what we have written. I do not know why that is other than that our ears act as a filter as the words we read enter back into our thoughts. The eyes are not as effective in this filtering process. It may be because "man learned to talk before he learned to write,"¹⁰⁷ and as a result there is a closer bond between the ears and the mind than there is between the eyes and the mind. Or, it may be because of the effect of sound on the thought process.

University Professor Emeritus of Humanities, Walter J. Ong, S.J., has written a marvelous book entitled *Orality and Literacy*.¹⁰⁸ In the Introduction to his book, Ong stated that

[t]he subject of this book is the differences between orality and literacy. Or, rather, since readers of this or any book by definition are acquainted with literate culture from the inside, the subject is, first, thought and its verbal expression in oral culture, which is strange and at times bizarre to us, and, second, literate thought and expression in terms of their

101. HULT & HOWARD, *supra* note 38, at 2.

102. *See id.* at 6.

103. *Id.*

104. *See id.*

105. BALNCKE, *supra* note 74, at 3 n.1.

106. HULT & HOWARD, *supra* note 38, at 2.

107. CARROLL, *supra* note 78, at 3.

108. WALTER J. ONG, *ORALITY AND LITERACY: THE TECHNOLOGIZING OF THE WORD* (Terence Hawkes ed., Routledge 1988) (1982).

emergence from and relation to orality.¹⁰⁹

Further into the Introduction, Ong adds to the explanation of the purpose of his book:

Understanding the relations of orality and literacy and the implications of the relations is not a matter of instant psychohistory or instant phenomenology. It calls for wide, even vast, learning, painstaking thought and careful statement. Not only are the issues deep and complex, but they also engage our own biases, We . . . are so literate that it is very difficult for us to conceive of an oral universe of communications or thought except as a variant of a literate universe. This book will attempt to overcome our biases¹¹⁰

Ong's thesis is that orality is paramount to literacy.¹¹¹ According to Ong, "[h]uman society first formed itself with the aid of oral speech, becoming literate very late in its history."¹¹² Ong goes beyond the relation of the spoken word and the written word to the relation between sound and thought. Ong declared that "[n]ot only communication, but thought itself relates in an altogether special way to sound."¹¹³ The significance of sound, of speech, of talking is seen in Ong's observation that

[w]herever human beings exist they have a language, and in every instance a language that exists basically as spoken and heard Despite the richness of gesture, elaborated sign languages are substitutes for speech and dependent on oral speech systems Indeed, language is so overwhelmingly oral that of all the many thousands of languages . . . spoken in the course of human history only around 106 have ever been committed to writing to a degree sufficient to have produced literature, and most have never been written at all. Of the some 3000 languages spoken that exist today only some 78 have a literature. There is as yet no way to calculate how many languages have disappeared or been transmuted into other languages before writing came along. Even now hundreds of languages in active use are never written at all:

109. *Id.* at 1.

110. *Id.* at 2.

111. *Id.* at 1-15.

112. *Id.* at 2.

113. ONG, *supra* note 108, at 7.

no one has worked out an effective way to write them. The basic orality of language is permanent.¹¹⁴

Writing in 1982, Ong stated that “[i]n the past few decades the scholarly world has newly awakened to the oral character of language and to some of the deeper implications of the contrasts between orality and writing.”¹¹⁵ Ong further stated that “Ferdinand de Saussure, [whom he described as] the father of modern linguistics . . . called attention to the primacy of oral speech, which underpins all verbal communication, as well as to the persistent tendency, even among scholars, to think of writing as the basic form of language.”¹¹⁶

As a further demonstration of his view that orality is paramount to literacy, Ong discussed the relationship between the reading and sound: “‘Reading’ a text means converting it to sound, aloud or in the imagination Writing can never dispense with orality. . . . Oral expression can exist and mostly has existed without any writing at all, writing never without orality.”¹¹⁷ Ong goes on to declare that:

Once reduced to space, words are frozen and in a sense dead. Yet there is a paradox in the fact that the deadness of the written or printed text . . . assures its endurance and its potential for being resurrected into limitless living contexts by a limitless number of living readers. The dead, thing-like text has potentials far outdistancing those of the simply spoken word. The complementary paradox, however, is that the written text, for all its permanence, means nothing, is not even a text, except in relationship to the spoken word. For a text to be intelligible, to deliver its message, it must be reconverted into sound, directly or indirectly, either really in the external world or in the auditory imagination. All verbal expression, whether put into writing, print, or the computer, is ineluctably bound to sound forever.¹¹⁸

114. *Id.*

115. *Id.* at 5.

116. *Id.* (citation omitted).

117. *Id.* at 8.

118. Walter J. Ong, *Writing is a Technology that Restructures Thought*, in *THE WRITTEN WORD* 23, 31 (Gerd Bauman ed. 1986).

V. WRITING

We next need to consider writing. One definition of writing is that writing is "letters or characters that serve as visible signs of ideas, words, or symbols."¹¹⁹ Although Anna Morpurgo Davies, in her article *Forms of Writing in the Ancient Mediterranean World*, expresses the opinion that "we do not know how to define writing,"¹²⁰ others are of the view that writing can be defined or described. For example, the *Encyclopedia Britannica* defines writing as "a system of human intercommunication by means of visible conventional markings."¹²¹ Professor John Carroll points out that "[w]riting . . . is a system of communication that has a special relationship to spoken language in that it depends largely on the prior existence of spoken language."¹²² For Professor Carroll, "written language must always be regarded as spoken language 'written down' in a particular conventionalized writing system"¹²³ "Writing began when man learned how to communicate his thoughts and feelings by means of visible signs"¹²⁴ The "earliest . . . means of communication available to human beings [was] speech and gesture."¹²⁵ Because these two forms of communication were limited by time and space, "[t]he need for finding a way to convey thoughts and feelings in a form not limited by time and space led to the development of methods of communication by means of . . . objects and . . . markings on objects."¹²⁶

In his study of orality and literacy, Professor Ong has much to say about the nature and importance of writing.¹²⁷ Some of what he has to say about writing is negative, some is positive. On the negative side, Ong states that writing is artificial relative to speech.¹²⁸ Literacy, according to Ong "is imperious. It tends to arrogate to itself supreme power by taking itself as normative for human expression and thought."¹²⁹ Along the same line of criticism,

119. WEBSTER'S NINTH COLLEGIATE DICTIONARY 1581 (1988).

120. Anna Morpurgo Davies, *Forms of Writing in the Ancient Mediterranean World*, in *THE WRITTEN WORD* 51 (Gerd Bauman ed. 1986).

121. 29 *THE NEW ENCYCLOPEDIA BRITANNICA Writing* 1033 (15th ed. 1969).

122. CARROLL, *supra* note 78, at 3.

123. *Id.*

124. 29 *THE NEW ENCYCLOPEDIA BRITANNICA Writing* 1033 (15th ed. 1969).

125. 29 *id.*

126. 29 *id.*

127. See ONG, *supra* note 108; ONG, *supra* note 118.

128. ONG, *supra* note 118, at 32.

129. *Id.* at 23.

Ong suggests that we are biased or perhaps limited by our allegiance to writing: "[T]o say that language *is* writing is, at best, uninformed. It provides egregious evidence of the unreflective chirographic and/or typographic squint that haunts us all."¹³⁰ One other interesting criticism that Ong has of writing is that it "distances the source of the communication (the writer) from the recipient (the reader), both in time and space."¹³¹

On the positive side, Ong points out that "[t]hought requires some sort of continuity [that] [w]riting establishes . . . outside the mind."¹³² Ong is of the opinion that "[w]ithout writing, the literate mind would not and could not think as it does, not only when engaged in writing but normally even when it is composing its thoughts in oral form."¹³³ Ong credits writing for what he terms "[t]he critical and unique breakthrough into new worlds of knowledge."¹³⁴ According to Ong, this breakthrough "was achieved within human consciousness not when simple semiotic marking was devised but when a coded system of visible marks was invented whereby a writer could determine the exact words that the reader would generate from the text."¹³⁵ Notwithstanding his view that orality is paramount to writing, Ong acknowledges that "[w]riting . . . was and is the most momentous of all human technological inventions."¹³⁶ In Ong's words, "[writing] is not a mere appendage of speech. Because it moves speech from the oral-aural to a new sensory world, that of vision, it transforms speech and thought as well."¹³⁷ In a similar vein, Ong points out that [w]riting . . . enlarges the potentiality of language almost beyond measure [and] restructures thought.¹³⁸

CONCLUSION

As you will recall, the purpose of this paper is to explore the relationship among thinking, talking, and writing as the basis for suggesting that by talking-out what we write we can improve our writing. The relationship among thinking, talking, and writing is so

130. *Id.* at 27 (emphasis in original deleted).

131. *Id.* at 39.

132. ONG, *supra* note 108, at 39.

133. *Id.* at 78.

134. *Id.* at 84.

135. *Id.*

136. *Id.* at 85; ONG, *supra* note 118, at 35.

137. ONG, *supra* note 108, at 85.

138. *Id.* at 8 (citations omitted).

complex that to discuss them separately may be to do them all an injustice. It is confounding that we cannot consider these topics without using the verbs think, talk, and write, or a synonym thereof. At a minimum, to understand thinking we have to think about it. We can also understand thinking by talking and writing about it. To understand the relationship among thinking, talking, and writing, we have to think about thinking, think about talking, and think about writing; we have to talk about thinking, talk about talking, and talk about writing; and we have to write about thinking, write about talking, and write about writing.

It is no easy task to try to understand each of these three processes separately; it is even more difficult to understand them collectively. Be that as it may, from the perspective of effective communications, the more we understand thinking, talking, and writing — the better we will be able to communicate. And, of course, the more we understand thinking, talking, and writing — the better we will be able to write. If we could not think, I do not know that we could voluntarily talk or write. Thinking absent the ability to talk or write would not allow for communication with others. There is a special relationship between sound and the brain that may not exist between sight and the brain. Talking is a catalyst of writing. Talking is a bridge between thinking and writing. The physiology of the brain and the oral nature of humankind support my thesis that “talking-out” what we have written or what we want to write will improve what we end up writing. This theory for improving our writing is a corollary of the relationship among thinking, talking, and writing. The very nature of that relationship is itself a validation of the theory.

