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# INTRODUCTION

“If you didn’t document it, you didn’t do it.” Competent professional writing is a necessity, not a luxury. Third-party payers, such as insurance companies, may deny payment if the documentation for professional services is incorrect or incomplete. Medical chart notes, diagnostic evaluations, progress reports, and discharge summaries are all legal documents that may be used in court. The Code of Ethics of the American Speech-Language-Hearing Association (ASHA, 2003) states that individuals shall provide all services competently, which includes documentation of services rendered.

The authors were motivated to write the present book to address writing problems exhibited by undergraduate and graduate students in communication sciences and disorders (CSD), lax documentation by clinicians, and general slovenliness in professional discourse. In the past year, we have had our issues about professional writing shared by site visitors from the National Council for Accreditation of Teacher Education programs (NCATE), the Council of Academic Accreditation (CAA) evaluators of our graduate program in speech-language pathology, and the CAA site visitors of our consortial doctor of audiology program. In all cases, we were assured that the decline in professional writing was a national concern.

At a recent meeting of the Council of Academic Programs in Communication Sciences and Disorders, we were eager to learn how professional writing was improved in other programs. We learned that while some programs denied admission to students applying for matriculation in graduate degree programs based on poor professional writing, other programs ignored professional writing, and one was honest enough to admit, unofficially, that writing requirements were “dumbed down” to give the program a perceived competitive advantage in recruitment. All programs lamented the lack of a resource for professional writing that was comprehensive and scholarly.

In our research for the present book, we have discovered some fine style manuals for research reports and professional writing, as well as workbooks focusing on drillwork. In this volume, we hope

to provide reasons and explanations for the suggestions we make, and to support our claims with relevant professional citations. We do not think our students need to attend “remedial graduate school,” nor do we doubt that every CSD student and professional practitioner can learn to write competently. We also think that learning to be a better professional writer does not have to be drudgery and have attempted to leaven our instruction with humor and stories.

In Chapter 1, we describe language as our favorite toy, where even punctuation can be funny. Other topics include the alphabet soup of abbreviations that we use professionally; the mutability of language, especially among young adult users; and such thorny issues as gender neutrality and cultural differences. There are examples of correct and incorrect forms of usage throughout the first chapter, as well as exercises at the end that review some of the themes.

The focus of Chapter 2, evidence-based writing, is to provide the reader with strategies to answer the “why” questions about professional writing. While most student clinicians and professional practitioners do a fine job of explaining what they are doing and how they are doing it, there are persistent problems in differentiating science from pseudoscience and the scientific method from “common sense.” We include an annotated sample of students’ evidence-based writing.

As noted above, the ASHA Code of Ethics requires that we discharge our duties honorably and document our services appropriately. In Chapter 3, we review the Principles of Ethics that relate to professional writing, the constraints imposed by the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and the guidelines for writing a successful research proposal to an Institutional Review Board.

As we say in Chapter 4, on using Internet resources, welcome to the new way of doing business, meeting your life partner, succeeding in academia, and conducting your clinical practice. The syntax, semantics, and jargon associated with the Internet today may appear out of date and even quaint by the time this chapter gets to the reader, but the section on uses and abuses of the Internet should remain relevant.

Using library resources, discussed in Chapter 5, begins with a history of the library, followed by a discussion of collections and services. Those of us who enjoy the musty smell of the stacks can still indulge this activity, but we also need to know how to conduct

electronic searches. As the *course pack* is often used to supplement or substitute for a traditional textbook, we considered it worth noting, as well as serving as a transition to sections on copyright and plagiarism.

We have not seen a section on writing for oral presentation, which is covered in Chapter 6 in the current volume, in other professional writing books. Preparing an oral presentation is a topic of importance in basic books on rhetoric and public address, and is included here to show how to develop a speech and to outline the presentation. In delivering the oral presentation, particularly one that includes computer-generated visual aids, we differentiate what should appear on the slides compared to what should be included in effective speech delivery.

The diagnostic report, Chapter 7, is one of the lengthier sections of the book, divided into two parts. The first part specifies and describes five rules for diagnosis. For example, the second rule, *Be an Educated Consumer of Tests and Measures*, is addressed to all audiologists and speech-language pathologists, who must understand research methodology even if they do not actively produce research. The guidelines for writing diagnostic reports in speech-language pathology and audiology, in the second part of the chapter, include specific instructions and examples for diagnostic protocols and report formats.

Chapter 8, clinical reports and referrals, includes templates and samples of a treatment plan, progress report, and chart note, as well as forms of professional correspondence. We review issues in clinical writing related to terminology, ethics, and software.

We end the book with Chapter 9 on professional writing. The graduating student seeking a clinical fellowship, and the seasoned professional moving forward in a rewarding career, need strategies for developing a professional portfolio, preparing a resume, and writing a cover letter. The chapter concludes with an analysis of multiple-choice tests, those used in the Praxis II exam as well as those prepared by course instructors.

We are grateful for the assistance of Professor Suzy Lederer and Dr. Bonnie Soman in providing some of the clinic forms used in this book. Our editor at Plural Publishing, Inc., Stephanie Meissner, has provided encouragement, cheerleading, and welcome deadlines throughout the project. Our students' excellent work has inspired us, and their not-quite-so-excellent writing has motivated

us, in preparing composite examples of diagnostic and treatment reports.

Neither written nor spoken words are adequate to acknowledge the support of our families. However, Shelley and Elizabeth Goldfarb deserve to know how much a sometimes preoccupied husband and father loves and appreciates them. Thanks to Andreas, Marie, and Ariana Serpanos for their unconditional love and understanding.

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RG and YCS  
September 25, 2009

### ***Reference***

American Speech-Language-Hearing Association (2003). *Code of ethics*. Available from <http://www.asha.org/policy>

# CHAPTER 1

## Getting Started

Language is our favorite toy. We encourage you to play with it, develop your own skill set, and have fun inventing and reinventing your unique use of it. At the same time, we want you to develop a consistently excellent professional writing (and speaking) style, using conventions universally understood by speech-language pathologists and audiologists. The professional and personal language you use will be quite different from what the authors wrote and said as undergraduate and graduate students. Emerging technology, especially in audiology, but also in such areas of speech-language pathology as alternative and augmentative communication, has resulted in a new and richer vocabulary, with terms borrowed from computer science, engineering, and medicine.

Nowhere is the flux of language more evident than in the words used by young adults to represent something or someone in exceedingly positive terms. These have evolved from “the cat’s pajamas” to “groovy,” “far out,” and “def.” The last term gives us an opportunity to examine what is claimed here to be a misunderstanding based on vernacular English. The term *def* does not refer to hearing loss; rather, as it originated in inner cities, it refers to *death* in an ironic way. There is a phonological rule in African American Vernacular English (AAVE) where the sound made by the voiceless *th* (theta), when appearing after a vowel, is pronounced as the sound made by the letter *f*. We write the rule as follows: post-vocalic /θ/ → /f/. This rule, as legitimate as any other in phonology, represents the accepted practice of a large linguistic community. It is important to note the difference between vernacular English and language disorder, as Jones, Obler, Gitterman, and Goldfarb (2002) indicate in a comparison of AAVE to agrammatism in aphasia. We can see now that the use of *def* actually corresponds to a phrase—*the*

*livin' end*—used as a superlative several generations ago, for what is the end of life (*the livin' end*), but *def*?

Finally, as you play with your new language toy, resist the urge to turn nouns into verbs or verbs into nouns. Former President George W. Bush recently caused himself political harm by creating a noun from the verb *to decide*. Calling himself “the decider” resulted in a cascade of political cartoons, usually with a superhero in cape and tights (and the President’s face) and a capital *D* emblazoned on his chest. The President would have been much better served by using the term *commander in chief* or even *the boss*. Similarly, creating a verb form of *clinician* is not the most apt way of expressing the notion that a speech-language pathologist or audiologist should be well rounded, as in, “To be a good clinician, you should *cliniche* with all types of cases.”

## BEGINNINGS OF SPEECH-LANGUAGE PATHOLOGY

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This section is devoted to what we call the people we work with, and what we call ourselves. Origins of speech-language pathology are usually traced to physicians in German-speaking Europe and shortly thereafter to the University of Iowa in the United States (Goldfarb, 1985). In 1918 the University of Vienna appointed Emil Froeschels to serve as chief physician and *speech pathologist* (emphasis added) in the department of speech and voice disorders at the Central Hospital in Vienna. Together with Hugo Stern, his counterpart in the phoniatics department, Froeschels convoked a meeting of what he dubbed the First International Congress of Logopedics and Phoniatics. That meeting, held on July 3 to 5, 1924, at the Vienna Institute of Physiology, attracted some 65 specialists from the fields of laryngology, psychology, and pedagogical subjects. All but two of the participants were German-speaking Central Europeans.

During the 1920s the first efforts were begun in the United States to develop the study and treatment of speech and hearing problems as a nonmedical field of professional specialization. Carl Emil Seashore, a psychologist and Dean of the Graduate College at the University of Iowa, selected a promising graduate student to develop a new program. This student, Lee Edward Travis, was prob-

ably the first individual in the world to be trained at the PhD level to work experimentally and clinically with speech and hearing disorders. His preparation involved study in the departments of psychology, speech, physics, psychiatry, neurology, and otolaryngology. In 1927, Travis became the first director of the University of Iowa Speech Clinic.

At the present time the International Association of Logopedics and Phoniatrics (IALP) convenes a congress every 3 years. The American Speech-Language-Hearing Association (ASHA), which is affiliated with IALP, presently lists more than 130,000 members. The professional titles of *logopedist* and *phoniatrist* have not been adopted in the United States. (If they were, the first author of this book would have to be called a *logogerist*, because he works with the elderly.) The shift from identifying our practice as *speech correctionists* to *speech-language pathologists* is traceable to the end of World War II. When injured fighters of this war returned to Veterans Administration Hospitals (now *VA Medical Centers*) with speech and language disorders secondary to head trauma, the attending psychiatrists and psychologists found they were not equipped to deal with these communication impairments. Some psychologists, notably Jon Eisenson, acquired expertise in both psychology and speech-language pathology, but the American Speech and Hearing Association (as it was called then) began emphasizing language in the scope of practice of its members. The addition of *Language* to the title came in the 1970s, when Norma Rees was president of ASHA (which preferred to keep its acronym rather than changing it to the unwieldy ASLHA).

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## BEGINNINGS OF AUDIOLOGY

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Audiology emerged as a distinct profession in the United States during World War II, where noise exposure to the modern weapons of the times created the necessity of diagnostic and rehabilitative services for many returning military personnel. At the time, audiologic services were administered by professionals in related areas, mostly otologists and speech-language pathologists, and included psychologists and teachers of the deaf, who ultimately became the first audiologists. The term *audiology* given to the new profession meaning “the study of (*logos*: Gr.; *audire*: L.) hearing” (Martin & Clark,

2006, p. 4) is attributed to two individuals, the otolaryngologist Norton Canfield and speech-language pathologist Raymond Carhart.

Robert West, a speech-language pathologist, is credited with expanding the discipline of speech correction to include hearing services (Bess & Humes, 2003). Audiologic services were officially recognized to be within the profession's purview by ASHA (then known as the American Academy of Speech Correction) in 1947, where the organization voted to include the term *hearing* in the association's title (Paden, 1975). At present, ASHA is the largest organization representing audiologists with over 13,000 certified members, a number that is substantially lower than the membership of over 120,000 certified speech-language pathologists also represented by ASHA (ASHA, 2008). A movement to create an independent organization for audiologists resulted in the formation of the American Academy of Audiology (AAA) in 1988 with a mission to "promote quality hearing and balance care by advancing the profession of audiology through leadership, advocacy, education, public awareness and support of research" (AAA, 2008). With over 10,000 members, the AAA is currently the largest independent professional organization operated by and for audiologists. Similar to ASHA, the AAA offers clinical certification to its qualified members, publishes a scientific journal, professional position statements, and practice guidelines in addition to consumer information, and conducts an annual national conference. There are numerous other organizations for the varying areas of audiology specializations, including hearing aid dispensing and pediatric and rehabilitative audiology.

There are physical, occupational, and respiratory therapists; why are we not speech or hearing therapists? Currently the master's degree is the minimum level of education for best practice in speech-language pathology, whereas the doctoral degree or master's level equivalent (leading to 75 credits post-baccalaureate study) is required for practice in audiology. Accordingly, speech-language pathologists and audiologists do their own diagnosis, treatment, and discharge planning. There is no medical specialty with greater expertise in communication sciences and disorders than that of ASHA-certified practitioners. Although we may provide speech, language, and aural rehabilitation, we are not therapists. A therapist's professional duties are prescribed by a physician, say, activities of daily living skills for the occupational therapist (OT) and range of motion exercises for the physical therapist (PT). Referral from

a physician to a speech-language pathologist, required for some insurance reimbursement, should properly indicate no more than “evaluate and treat.”

The confusion continues when we try to describe the people we treat. Those of us who work in hospitals and medical centers may refer to our *patients*. In university speech and hearing centers, our graduate students tend to see *clients*. When they go off on externships in schools, they may work with *students*. If the placement is in a day treatment center for individuals with developmental disabilities (formerly referred to as *mentally retarded*), they become *providers* working with *consumers*.

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## WRITING RULES

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### Apostrophes, Possessives, and Plurals

He who sells what isn't his'n

Must buy it back or go to prison.

(Daniel Drew, July 29, 1797–September 18, 1879)

#### **Target Skills:** apostrophes, possessives, and plurals

Most of us have been to markets where *apple's* and *orange's* are for sale. If we learn the rule that the apostrophe is used only for possession and abbreviation, but never for plurals, we will not make this mistake. We may make another mistake with possessive pronouns, though, writing *their's*, *our's*, *her's*, and especially *it's* (curiously never *hi's*; it must have to do with the placement of a vowel before the *s*), where the apostrophe should not appear. On the other hand, slavish devotion to correcting “mistakes” may interfere with our appreciation of diversity in English usage. For example, 19th-century American English included such pronouns as *your'n*, *our'n*, and *his'n*. Indeed, Drew's aphorism above works only because of the rhyme enabled by the use of *his'n*. Current usage of *dem* (“them,” with the phonological rule of prevocalic /ð/→/d/) as a plural allomorph in rural areas of the West Indian island of Jamaica differs from the [s] morpheme applied to the ends of words to represent plural in urban areas of Jamaica, but is not a mistake. In a

way, it may be seen as an improvement. Saying *gimme dem book* refers to a request for generic books, whereas *gimme de book dem* refers to a request for specific books.

With the *caveat* (Latin for “warning,” as in *caveat emptor*, or, “Let the buyer beware”) about diversity understood, some examples and exercises for apostrophes, possessives, and plurals follow. We also note that, in current professional and scholarly usage, it is no longer appropriate to use *apostrophe* + *s* after the name of the scientist associated with a disease. That is, *Alzheimer disease* and *Parkinson disease* are used, rather than Alzheimer’s and Parkinson’s. For more examples and exercises in this and other writing topics, see Hegde (2003).

Just as we exercise care to avoid using an apostrophe to turn a plural into a possessive (e.g., I bought two delicious *apple’s*), we must also avoid turning a possessive into a plural (e.g., The *supervisors* desk is down the hall). Remember that the apostrophe may also be used to mark a missing letter or letters (e.g., I *can’t* [cannot] do it. *That’s* [that is] mine.).

1. *Evaluate the following as correct or incorrect and explain why or why not. Try adding your own examples.*

Supervisor: Which students therapy plan is this?

Student: Its not mine; its her’s. Mine already received its grade.

The supervisor above may be referring to one or more students. If the therapy plan represented individual effort, it would be the *student’s* therapy plan; if it was a group project, it would be the *students’* work. The answer by the student indicated that the therapy plan was individual work, but used an unnecessary apostrophe in the pronoun *hers*. Finally, there are different uses of the pronoun *it*. The first two uses represent an abbreviation of *it is*, and should be written as *it’s*; the last usage, indicating that the therapy plan already possessed a grade, was correct. A good strategy for deciding if an apostrophe belongs with a pronoun is to use the word *is*, and then decide if an abbreviation is appropriate. In the example above, we can reasonably write, *It is not mine*, so *It’s not mine* would also be correct. There is never a time that *her is* would be

correct, so there can be no apostrophe in *hers*. The interaction, written correctly, follows.

**Supervisor:** Which student's therapy plan is this?

**Student:** It's not mine; it's hers. Mine already received its grade.

## 2. *Correct these errors:*

1. Their's still time left to turn in your report.
2. The toys are in the children's' playroom.
3. How many time's do I have to remind you?
4. They're keeping up with the Jones'.
5. Here is a list of do's and don't's.

## Corporeally Challenged

**Target Skills:** euphemisms, political correctness, use of adjectives as nouns

How far is too far to go in terms of political correctness? Clearly, to describe an individual as “dead” instead of the example of “corporeally challenged” used above will not offend the decedent. Should a wheelchair-borne individual see a staircase as a “physical challenge” when it is actually an impossibility?

The concept of referring to challenges stems from an important concept in rehabilitation, which is expressed as the ratio of challenge to assistance. In speech-language rehabilitation, we work to increase the client's challenge, in terms of communicative responsibility, while decreasing assistance in the form of prompts or cues. In audiology, we challenge the consumer of hearing aids to assume responsibility for maintenance and use. The philosophy is to maximize therapeutic challenge while minimizing therapeutic assistance; the more we assist, the more we have to assist, until we are figuratively killing our clients with kindness.

Euphemisms, including the family of “challenges”, are created for noble reasons. We want to include people with differences, impairments, disabilities, disorders, and handicaps in the great sea of humanity; we want to focus on what makes us one, not what

separates us. Accordingly, in the early 1980s, our national organization (ASHA) took a first step when it stopped using the term *aphasic* as a noun (e.g., separating *aphasics* from *controls* in experimental research) in its professional journals. The term *aphasic*, an adjective, never made much sense when used as a noun. It probably should have been *aphasiac*, to correspond with the politically (and diagnostically) incorrect use of *maniac* to describe an individual with schizoaffective disorder. We currently prefer to think of an individual who is “wearing” a disorder, rather than the other way around. We also refer to unimpaired individuals as *typical* rather than *normal*, and to individuals in experimental research as *participants* rather than *subjects*.

#### EXAMPLES:

*Here are some examples of correct usage. Try adding some of your own.*

1. Change *stutterer* to *individual who stutters*.
2. Change *autistic child* to *child with autism*.
3. Change *cleft-palate child* to *child with orofacial anomaly*.
4. Change *an apraxic* to . . .
5. Change *deaf mute* to . . .
6. Change *retarded child* to . . .

There continues to be controversy in the use of such terms as *hearing impaired* versus *hard of hearing* and *deaf*, depending on the community using the terms.

### **About the Deaf Community and “Hearing Impairment”**

There are many terms used to describe individuals with hearing loss, including *hard of hearing* or *hearing impaired*. The use of such terms may vary depending on the severity of the loss or the communicative method used by the individual, such as manual, spoken, written forms, or their combinations. The term *deaf* is specifically used to describe an individual with a severe to profound degree of hearing loss, such that hearing cannot be used as a principal means of receiving communication. Individuals who are deaf and communicate primarily using manual language (e.g., American Sign Lan-

guage, or ASL), sharing a culture of similar traditions and values, are part of what is referred to as the *Deaf community* (differentiated by the term *deaf* with a capital D). At issue with its members is the connotation of disability or handicap often associated with terms relating to hearing loss. The Deaf community does not consider deafness a deficit but rather a characteristic of an individual's hearing severity (Debonis & Donohue, 2004; Martin & Clark, 2006). In an effort to address such disparities in terminology, a position statement, *Hearing Loss: Terminology and Classification* (1998) was prepared jointly by a committee of ASHA and the Council on Education of the Deaf (CED) proposing "that terms delineating a continuum of communication function be used to describe individuals with hearing loss . . . and should reflect the personal preference of the individuals involved" (ASHA & CED, 1998, p. 22).

## Our Pet, Peeve

**Target Skills:** punctuation, capital letters

For those whose eyes glaze over at the thought of punctuation, and cannot imagine anyone using a comma, dash, semicolon, or colon as a toy, please avail yourselves of a recording of the legendary Victor Borge performing "phonetic punctuation." You may laugh yourself off your seat.

## Commas

Rules of punctuation seem to be guided by the notion that every generalization is false, including this one. Regarding commas, high school English teachers may invoke the *when in doubt, leave it out* rule, based on student compositions with commas appearing after rather than before conjunctions. Beyond the accepted convention that commas are needed between every three numbers in a group (e.g., 1,000,000 to represent one million; note the comma after *e.g.*; there would also be a comma after *i.e.*; see Latin Abbreviations below for rules on those), there are other situations where writers tend to have more trouble (Shipley, 1982).

Most references on punctuation insist on a comma before the *and* to separate items of a series of three or more (e.g., parsley,

sage, rosemary, and thyme), which is called “closed punctuation.” Shipley (1982) agrees, rejecting the “open punctuation” model of no comma before the *and*, and so do we.

As noted in Out-of-Control Sentences below, commas are needed in sentences with relative or nonessential clauses. However, we do not use a comma after *relative* in the sentence above, because *relative or nonessential* describes and identifies the clause. A comma is also not used between two parts of a compound predicate (e.g., *The client progressed well and was discharged from therapy.*) Finally, there is a comma after *however* (and *finally* in this sentence) when used alone to begin a phrase or sentence, but not when used as part of a phrase (e.g., *However you go, don't take the train.*)

*Is a comma missing? Should the comma be deleted?*

1. Before you do a hearing screening make sure your audiometer is calibrated.
2. Take a case history, give the *PPVT*, and, observe attending behaviors.
3. This 68-year-old man presented with aphasia, and apraxia of speech.
4. We will use stickers and playtime as reinforcers.
5. Articulation errors consisted of substitutions, omissions and distortions of fricatives.

*Answers:*

1. Need comma after *screening*.
2. No comma after *and*; comma is needed after *PPVT*.
3. No comma after *aphasia*.
4. Correct; no comma needed.
5. Need comma after *omissions*.

### ***Hyphens and Dashes***

Both hyphens and dashes are made with the lower-case key to the right of the zero, one press for hyphen and two for dash. Dashes are to be used sparingly, and only when interrupting the flow of a sentence. Most sentences can be changed to avoid the use of dashes, without any obvious loss of clarity. Hyphens are used much more

## CHAPTER 7

# The Diagnostic Report

The diagnostic report represents a comprehensive written account of the clinical assessment/evaluation and serves two general purposes. First, the report is a professional document (and thus a legal document; see discussion below) and written evidence of the clinical service. Second, the diagnostic report is often sent to other professionals involved with the case, as the source of or for referral. As such diagnostic reports, though they may differ among clinics, are generally written in formal, professional language. We begin this chapter with rules for diagnosis and end with strategies for writing the diagnostic report, with guidelines specific to speech-language pathology or audiology.

### Diagnostic Labeling

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A recent article in *The New York Times* (Carey, 2007) reported a 40-fold increase in the number of American children and adolescents who were treated for bipolar disorder in the decade from 1994 to 2003. Almost certainly, the number has increased further since then. There is little concern about the likelihood of a vast increase in incidence of bipolar disorder, as the consensus is that doctors currently use the diagnosis more aggressively than before. The startling magnitude of the increase in diagnosis intensifies the debate over the validity and reliability of the diagnosis. If the term *bipolar disorder* is applied as a catchall for any child exhibiting explosive or aggressive behaviors, then far too many children are being treated with powerful psychoactive drugs with few demonstrable benefits and many potentially serious side effects.

The field of communication sciences and disorders is hardly exempt from faddish behavior in applying diagnostic labels. The term *cluttering* was widely used in the 1960s and 1970s to describe rapid-fire, indistinct speech with some word-finding difficulty and lack of awareness of difficulty by the speaker. This may be seen as a result of adopting the theories of Deso Weiss (1964), but the term subsequently fell into disuse. It may be reviving currently, in part because of new research efforts (see, for example, St. Louis & Myers, 2007).

Similarly, the term *central auditory processing disorder* (CAPD) has frequently been misused to label individuals, particularly children, who present with listening problems in the absence of apparent hearing loss. Though true CAPD is a deficit of the auditory modality, comparable listening difficulties may be noted in children with attention deficit hyperactivity disorder (ADHD), language impairment, or learning disability, rendering a possible misdiagnosis of CAPD. Following decades of inconsistency on the definition, assessment, and remediation of CAPD, ASHA organized a Task Force on Central Auditory Processing in 1993, which arrived at consensus on the issues (ASHA, 1996; 2005).

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### Threats to Accurate Diagnosis

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Problems in written diagnostic reports may be traced to the following two threats:

- *Polytypicality*: Schwartz (1984) noted shortcomings in the descriptors for aphasia. She noted that adults with aphasia commonly display language characteristics that cross diagnostic boundaries. That is, they are polytypic in nature. It is not unusual for a patient with Broca's aphasia, for example, to have difficulty in auditory comprehension, an impairment listed among the principal diagnostic characteristics of Wernicke's aphasia. As noted in Diagnostic Rule 1 below, it is appropriate to write about the speech, language, and hearing characteristics of the individual, rather than merely assigning a label, especially if the diagnostic category is not obvious.
- *Dumping it in the chocolate*: One of the authors (RG) supported himself through college by working in an ice cream

factory. As an interesting aside, he had firsthand experience with homeostasis, or the body's tendency to maintain itself in an essentially healthy state. Alternating half-hour shifts in the ice box, where the temperature was  $-42^{\circ}$ , with half-hour shifts outside, where the temperature was as high as  $90^{\circ}$  in the summer, his internal temperature stayed at  $98.6^{\circ}$ . Occasionally, at the end of the workday there was excess ice cream mix. The next day's run would start with chocolate, and the excess mix would be blended in. Chocolate was strong enough in flavor and color to absorb the leftover.

There are frequent instances in our professions where we metaphorically dump the diagnosis in the chocolate. Some gratuitous examples occur in the diagnosis of "quirky" children. Catch-all terms begin at birth, where the diagnosis of FLK (for *funny-looking kid*; see Chapter 1) has only recently been discontinued. Children whose language impairment is presented in the absence of other disorders are classified as having *specific language impairment* (SLI). Not so many years ago, *aphasia in children* was the preferred classification. In the Middle Ages, the medical diagnosis for quirky children was *humors of the liver*; more recently, the children were diagnosed with brain fever, minimum brain damage, and minimal cerebral dysfunction. Currently, the chocolate into which these children's problems are dumped is the reticulo-limbic complex.

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## Rules for Diagnosis

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### Rule 1

*Say what the client does, not what the client is. In other words, report behaviors and limit the number of diagnostic labels.*

Nobody likes to read an overlong diagnostic report. Efforts at brevity are laudable, and a particular strategy for summarizing case history information appears later in this chapter. However, a haphazard use of diagnostic labels often does more harm than good. A general application of Rule 1 is to follow any diagnostic label with the phrase, *characterized by* . . . Although this rule may seem similar to the signing statements of a U.S. President, indicating the

applications and limitations of a new law (which may or may not be constitutional), the rule addresses the need of school districts and third-party payers for a diagnostic label, and summarizes the areas of deficit to be addressed in therapy.

A diagnostic report is a legal document. In the following trial transcriptions, the first author was employed by the defense as an expert witness, to counteract claims put forth by the plaintiff that were supported by a speech-language pathologist. Although trial transcriptions are a matter of public record, names and identifying information were changed here. Certifying a witness as an expert allows that individual to offer opinions; a witness who is not certified as an expert can offer only facts. Certification as an expert may be based on academic standing (a rank of full professor, not adjunct instructor), publications (which have been peer-reviewed), or experience (many years in positions of high responsibility).

The judge is indicated as *the court*; the first author is *the witness*.

*The Court:* In your opinion, using these two documents [Exhibit H and Exhibit RR], has Ms. B been misdiagnosed?

*The Witness:* Yes. Let me give two examples in the speech-language evaluation report where Ms. B was misdiagnosed.

The first diagnostic term that was used in error was *paragrammatism*. That is on page 2. Here we have, "Paragrammatisms and superfluous words were noted in writing and speech." We have as an example that sentence beginning, "Lee Atwater was a tumor."

The definition of paragrammatism is that it occurs in Wernicke's aphasia, and that it is characterized by substitutions of functors. A functor is what might be called a helping word as opposed to a substantive or a lexical word. So under functors we look at things like prepositions, articles, conjunctions, auxiliary verbs. And what I am interpreting here is that the justification for the diagnosis of paragrammatism is the word "was" after "Lee Atwater" when the word should have been "had." "Lee Atwater had a tumor," as opposed to, "Lee Atwater was a tumor."

The problem is that paragrammatism, as I said, occurs in posterior aphasia. There was no evidence and no claim in this diagnostic report that the patient had any kind of posterior aphasia. To the contrary, there is significant evidence that the aphasia was an anterior type, that is, the kind of aphasia that is characterized by halting, effortful speech, by problems with articulation. For example, the apraxias that are referred to do not accompany posterior aphasias or Wernicke's aphasia. These apraxias accompany anterior or Broca's aphasia, as it was referred to here.

So the problem that I see with paragrammatism is that it doesn't belong as a diagnostic classification with this kind of patient.

Furthermore, the one example here, the word "was" which follows "Lee Atwater," was an example of a functor substitution. However, if we can look for a moment at Exhibit RR—I am going to try and find it; this is another large document here—we have an example where a paragrammatism was described—if I don't find it, let me explain it to you—where a paragrammatism was described, and the example given was the substitution of a substantive word rather than a functor word.

What I am saying is that a paragrammatism has to be a grammatical or a syntactic error. The example which had something to do with the organization of the government in the City of New York, I believe it was on 6/8—I am just not getting it here—the example was one of a semantic error rather than a syntactic error.

So the term "paragrammatism" was used incorrectly and was also used to describe a symptom that would occur in a different kind of aphasia.

The other misdiagnosis has to do with, again, going back to Exhibit H, the bottom of page 2: "Impression. Presenting persistent aphasia is Broca and conduction in type." Let me speak to that.

This cannot be. The aphasia cannot be Broca and conduction in type. Broca's aphasia is nonfluent aphasia. Conduction aphasia is fluent aphasia. A person can't be fluent and nonfluent at the same time.

Conduction aphasia is characterized by, among other things, a disproportionately large number of errors in repetition, as opposed to other language modalities tested.

Now, the references to repetition, again in Exhibit H, top of the page, page 2, "Repetition (sentences) was impaired and variable." Going back, bottom of the page under "Impression," we have "manifested and mildly impaired repetition."

Repetition, according to these notes, even if it was mildly impaired, was not impaired in a disproportionately significant way to other modalities tested.

Furthermore, in Exhibit RR, the first page, dated 5/14, we have a note: "Repetition intact."

The last thing I want to say about conduction aphasia is that classically Broca's area, if Ms. A was following the model of the localizationist, Broca's area is classically associated with the third frontal convolution on the left side of the brain, and Broca's aphasia then would presumably follow a lesion in that area. Conduction aphasia would presumably follow a lesion in the arcuate fasciculus, which is the neural pathway connecting Wernicke's area to Broca's area. There was no evidence and no claim that there was any damage to the arcuate fasciculus.

What I am troubled by is the tendency to form diagnostic categories or label diagnostic categories based on skimpy evidence and done in an illogical manner.

As a final note to Rule 1, all of the above criticisms might have been avoided if the speech-language pathologist, Ms. A, had described the characteristics of Ms. B's language disorder, rather than the labels

that she used in error. There is no shame in using the term *nonfluent aphasia* if you are not sure of such terms as Broca's aphasia, *conduction aphasia*, or *paragrammatism*. In fact, describing aphasia as nonfluent is probably more useful, because it describes an aspect of the communication disorder that needs to be addressed in therapy.

## Rule 2

*Be an educated consumer of tests and measures. Although the doctorate is generally seen as the degree associated with the production of research, all audiologists and speech-language pathologists must understand research methodology.*

The authors recall discussions with the late Ira Ventry, when he was developing ideas for a book on research methods in communication sciences and disorders. The current edition of the book (Schiavetti & Metz, 2006) provides the basis for the information that follows.

*Reliability* means precision of measurement. It is assessed by examining the consistency or stability of a test or measure. *Validity* means generalizability of the data. It means the degree to which a test measures what it purports to measure. It means truth or correctness or reality of measurement. A butcher's scale may consistently and precisely weigh meat at  $\frac{1}{2}$  pound over the true or correct weight. It is reliable, but not valid. On the other hand, it is not possible for a test to be valid without being reliable.

There are three ways to check reliability of a test or measurement.

1. *Test-retest reliability*: Completely repeat the test. If the test is repeated with the same client after a latency period (to avoid the practice effect or learning to learn), but within a reasonable period of time (to avoid effects of maturation or spontaneous recovery), the score should be pretty much the same as it was in the first administration of the test.
2. *Parallel or equivalent form*: Examine consistency of the results across the two equivalent forms. These forms are used when testing two different modalities or two different conditions (see, for example, time-altered word association tests by Goldfarb & Halpern, 1981).

3. *Split-half*: Subdivide the test or measure into two equivalent parts (usually odd-even) to examine consistency of these parts. This is similar to parallel or equivalent forms, where one half may be used at the beginning of therapy as a baseline measure, and the other half at the end of therapy for baseline recovery.

Another type of reliability, called inter-rater or inter-scorer reliability, is used in experimental research, to ensure that there are no significant differences in scores assigned, and is based only on how people score the data.

There are also three ways to establish the validity of a test or measure.

1. *Content validity*: Logically or rationally evaluate items on a test to see how well they reflect what the tester wishes to measure, using subjective procedures.
2. *Criterion validity*: See how well the test or measure correlates with some outside validating criterion. There are two types of criterion validity.
  - a. *Concurrent validity*: Administer a test or measure and an outside validating criterion at the same time. For example, the first edition of the *Peabody Picture Vocabulary Test* used an IQ test as a measure of concurrent validity, and indicated an equivalent IQ score based solely on this test of receptive vocabulary (It no longer has a space to report an IQ score.). A key concept is that an *outside* validating criterion is used. Hildred Schuell (1966; 1973) assessed concurrent validity using two versions of the same test (the short and long forms of the *Minnesota Test for Differential Diagnosis of Aphasia* [MTDDA]), a questionable strategy also used to compare the third and fourth editions of the *Clinical Evaluation of Language Functioning*. However, Schuell determined that the short form of the MTDDA was not valid.
  - b. *Predictive validity*: Use a test or measure to predict some future behavior. Administer the test, allow time to elapse, and then administer the criterion measure. For example, use the *Boston Naming Test* (BNT) as a baseline measure and the *Porch Index of Communicative Ability* (PICA) to predict how much an adult might be expected to improve

word retrieval following therapy for aphasia, and then give the BNT at the final therapy session. See how the differences in the BNT correspond to the “HOAP slope” predicted on the PICA. Note that IQ tests, such as the *Stanford-Binet* or the *Wechsler Intelligence Scale for Children*, are predictive tests. An IQ score is properly used to predict how well a child may be expected to perform in school.

3. *Construct validity*: Assess the degree to which a test or measure reflects some theory or explanation of the characteristic to be measured. The test or measure should confirm the theory if the test is valid *and* if the theory is correct. For example, a theory might predict that post-stroke and typical adults might use vocabulary differently. If the test or measure confirmed this, then the measure would have construct validity with respect to that aspect of the theory. However, if the theory has been discredited, as has Osgood’s notion that language is based on the sum of a set of specific abilities, then no manner of validity in the content of the *Illinois Test of Psycholinguistic Ability* (short of attempting to confirm another theory) will yield construct validity.

### Rule 3

*Beware of “clinicese.” Clients may exhibit behaviors in the clinic that they do not generalize outside of the speech and hearing center.*

Young children, particularly those with disfluencies, may present dramatically different patterns of communication disorders, depending on context. For example, a child may stutter more when evaluated by “Dr. Goldfarb,” who is wearing a tie and a lab coat, than when “Bob” conducts the same evaluation wearing casual clothing.

Yaruss, LaSalle, and Conture (1998) recommended a three-part evaluation to determine quantitative and qualitative differences in arriving at a diagnosis of stuttering:

1. conversational interaction between child and caregiver(s) (20 to 30 minutes);
2. evaluation of the child’s speech, language, and related behaviors (60 to 90 minutes); and
3. an interview of the child’s caregiver(s) (45 to 60 minutes).

This 3-hour procedure may be unrealistic in many work settings. However, the traditional method of assessing a wide variety of interacting psychosocial, psycholinguistic, and physiologic variables will likely take longer and may not differentiate among children at risk for stuttering.

Yaruss et al. (1998) used measures of speech fluency, measures of speech and language development, and other measures, including the child's diadochokinetic rate and parents' speaking rates to determine presence of a pathological condition. There was still considerable overlap between children recommended for reevaluation and those who received neither treatment nor reevaluation. "It would seem essentially impossible to develop absolute criteria for determining which children should receive which diagnostic recommendation" (Yaruss et al, 1998, p.72).

## Rule 4

*Do differential diagnosis when appropriate. Diagnostically related groups (sometimes abbreviated as DRGs) often present similar audiometric and/or language profiles.*

Our research has proceeded from the premise that linguistic data can aid in the differential diagnosis of diagnostically related groups. The following case study (Goldfarb, 2006b) illustrates the need for differential diagnosis, and assumes the reader to be a physician, nurse, or social worker at University Hospital:

An elderly homeless man, identified as Mr. X because he cannot say his name, has been admitted with what the emergency room physician described as "disorganized language." The patient has no identification, no documented medical history, and has not yet had brain imaging studies. You have been asked to determine if the disorganized language represents fluent aphasia, the language of schizophrenia, or the language of dementia.

The patient is referred to a speech-language pathologist at University Hospital. Evaluation of Mr. X's language reveals preservation of prosody, phonology, morphology, and syntax, with disturbances

in semantics and pragmatics. This still fits the pattern of the diagnostically related groups of fluent aphasia, the language of Alzheimer and multi-infarct dementia, and the language of chronic undifferentiated schizophrenia.

In a standard diagnostic audiologic evaluation, several subtests within the complete battery of testing provide information on a patient's middle ear and hearing status (degree, configuration, and type of hearing loss). However, several auditory or vestibular pathologies may exhibit similar audiometric profiles, warranting further differential diagnosis before an appropriate treatment plan can be implemented. Characteristics such as a report of sudden hearing loss and dizziness along with audiometric findings of unilateral sensorineural hearing loss and normal middle ear function may be associated with disorders such as Ménière's disease, acoustic neuritis, or acoustic tumor. In this case, the audiologist may need to perform further diagnostic tests such as auditory brainstem response testing (ABR) or electronystagmography (ENG) in order to assist the physician in a medical diagnosis.

## Rule 5

*Obey the limits of our scope of practice. Provide diagnostic labels that relate to the communicative disorder, not the medical cause.*

It is no wonder patients frequently assume audiologists are physicians; given recent changes in ASHA certification standards (Council For Clinical Certification in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 2007) most now hold the "doctor" title, typically work in a medical setting, and perform many "medical-like" tasks such as otoscopy, ABR, ENG, and cerumen removal. It is also logical that the audiologist, who upon otoscopic examination detects fluid bubbles and redness of the tympanic membrane and finds conductive hearing loss following audiometric testing with reduced tympanometric peak admittance, will conclude *otitis media* as the underlying cause of pathology. Nonetheless, however obvious the disorder, it is not within the audiologist's scope of practice to provide a medical label. Similarly, the speech-language pathologist who evaluates an adult with imprecise articulation, word-finding deficits, and right facial

droop may diagnose aphasia and dysarthria, but not the underlying stroke. The role of the communicative disorders specialist, audiologist or speech-language pathologist, is to describe and identify the disorder and to refer the patient for medical diagnosis of the cause (in these examples, middle ear pathology and brain damage).

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### Writing the Diagnostic Report

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A generation ago, Dr. Aaron Smith tended to highlight his presentations to the Academy of Aphasia by noting that, “The patient doesn’t lie.” The current television incarnation of Sherlock Holmes, Dr. Gregory House, tends to tell his Dr. Watson (Dr. Wilson on TV) that the patient always lies. In Dr. House’s case the resolution between the received wisdom and the awful truth involves a heavy dose of misogyny as well as breaking and entering, and takes 1 hour. In Dr. Smith’s case, the differences between the patient’s language behavior and the population norms described in professional literature are not resolved.

The large-sample studies reported in our journals are essential to provide the theoretical bases for our professions and to permit generalization of the findings to untested populations. However, there are two problems in using clinical data to support or disconfirm hypotheses. The first is that language, speech, and hearing are incredibly complex processes. The underlying basis for the disorder is often debatable, especially in speech-language pathology (see Goldfarb, 2006a, for a description of the atheoretical discipline of stuttering). Our tendency toward reductionism in thinking and writing works better in audiology, which is a more mature science, but is still a reflection of what we may call *physics envy*. Boiling down cascades of data into a more manageable size is typical of the natural sciences, but does not work very well in the behavioral sciences. The second problem is that clinical data reflect the client’s, not the population’s, language, speech, and hearing. As we have learned in Diagnostic Labeling above, the client’s communication disorder may cross typical categorical boundaries, and may be uniquely the individual’s own, in terms of type and severity of disorder. That is why we always put the individual first in our descriptions; an individual who stutters, rather than a stutterer. It is also why we must be logical in our report writing.

## The Logic of Report Writing

*If only fools are kind, Alfie,  
Then I guess it's wise to be cruel.*

Although Burt Bacharach is to be commended for the excellence of his song writing, his logic is flawed. Beginning with the thesis of “if p, then q,” there are four constructions, only two of which are logical. Accordingly,

Statement: if p then q

Converse: if q then p

Inverse: if not p then not q

Contrapositive: if not q then not p

In the *Alfie* song, the logical thesis, which is accepted here for argument's sake, is, *If a person is kind (p), then that person is a fool (q)*. The actual lines of the song represent the inverse of the argument, which is not logical. Examples from our discipline follow.

Thesis: If there is a lesion in Broca's area (p), then there will be a word retrieval deficit (q). This statement is accepted as logical.

Inverse: If there is not a lesion in Broca's area, then there will not be a word retrieval deficit. This statement is not logical.

Converse: If there is a word retrieval deficit, then there will be a lesion in Broca's area. This statement is not logical.

Contrapositive: If there is not a word retrieval deficit, then there will not be a lesion in Broca's area. This statement is logical.

Curiously, the patient Broca described in 1861 (called “Tan” or “Tant” because that was his stereotypic utterance) probably did not have Broca's aphasia. Broca described Tant as having *aphémie*, or aphemia, which corresponds to apraxia of speech, rather than

having *aphasie*, the French word which corresponds to aphasia. In addition, Tant's lesion was in the anterior portion of the third frontal convolution in the left hemisphere, rather than the posterior portion described as Broca's area. Damasio (2008) reviewed the case of Tant and concluded that he must have suffered from global aphasia. So Broca's patient didn't have Broca's aphasia, nor did he have a lesion in Broca's area.

## The Diagnostic Report Format

Though the specific format and subheadings of the diagnostic report may differ among clinics, most follow a commonly used medical organizational outline known as *SOAP* (*S* = *subjective*; *O* = *objective*; *A* = *assessment*; *P* = *plan*).

The subjective section (a.k.a. referral, background information, or history) includes the client's biographical information, reason for referral, and relevant developmental (with a pediatric client), medical, and communicative history. The objective part (a.k.a. assessment information; *note*: this term differs from the SOAP definition of assessment; see below) incorporates all the information obtained during the session, including observed behaviors and elicited test procedures and outcomes. The information obtained from the subjective and objective sections is synthesized to formulate a diagnostic statement, often headed in a section entitled, "Clinical Impressions" (in the SOAP format this section is referred to as assessment). Finally, a plan (a.k.a. recommendations) for treatment, further recommendations, and follow-up is indicated.

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### Guidelines for Writing Diagnostic Reports in Speech-Language Pathology and Audiology

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## Writing Aspects

1. Always write in complete, grammatically correct sentences. Use professional books, not a dictionary, to make sure you are using the appropriate terminology and that terms are spelled correctly.
2. Write clearly and present the information accurately.