Finding the Words...

by Marge Blanc

To Tell the "Whole" Story

Natural Language Acquisition on the Autism Spectrum

"I wish Pinocchio was a real boy."

"Blue skidoos; you can too!"

"Tramps like us...Baby we were born to run."

"There's only one thing left to do!"

"Look, he talked!"

"It's showtime!"

Probably each of us has a list like this...a list of colorful, but puzzling "gestalts," or whole sentences, repeated verbatim by the ASD children in our lives. We commonly call it "echolalia," or "delayed echolalia," meaning that kids "echo" it, not right after they hear it ("immediate echolalia"), but later, or "delayed." It is the language our ASD kids repeat verbatim from other sources, very often movies. We often call it "video talk," and, even though we've been told otherwise, we sometimes think of it is meaningless.

Until twenty years ago, we thought of "delayed echolalia" as deviant, and we truly thought that we were supposed to "extinguish" it. But, during the next decade, language researchers found that ASD kids use echolalia communicatively...to request, to ask questions, to achieve all the same functions of more "typical" language! We then began to treat it more respectfully.

Now, we recognize echolalia as a part of a picture of ASD, and we tend to include it in our descriptions of our kids. Unfortunately, however, we don't really seem to know what to do with it! We all but ignore it when we are with our kids, silently hoping it will just stop. In the meantime, we usually try hard to replace our kids' language "gestalts" with more typical-sounding language, using phrases that sound more "normal." With variable success, we have taught our kids vocabulary words and scripted sentences that they can access on their own – sometimes only after years of prompting and drills in generalization.

Is that the best we can do? And, is this strategy consistent with the language research referred to above?

We're here to talk about all this – and more – in this new column on topics in communication competence that affect individuals on the autism spectrum. In the next few columns you'll see "gestalt language development" on the spectrum presented in a new light. You will see it as a natural process (both on and off the spectrum), with predictable developmental stages. You will see that at Stage 1, multi-word language "gestalts" are used communicatively. At Stage 2, these gestalts are broken down, or "mitigated" into two parts and recombined with other language chunks to produce semi-original utterances. At Stage 3, these phrases are further broken down into single words and word-parts, or "morphemes," and kids begin to generate their own original sentences! At Stages 4 and higher, ASD kids look very much like "typical" (or more accurately, "analytic") language processors as they start to develop more grammatically-complex sentences!

The process outlined in the preceding paragraph summarizes the findings of researchers like Barry Prizant, Amy Wetherby, and others, and is the one we have used in our clinic for the last ten years. Translating these steps into action, we in our clinic have successfully helped scores of children on the spectrum develop language naturally.

We'll help you learn what to listen for, and how to respond to what you hear. Then, you, too, can help your child move through the process...naturally!

See if the following story rings some bells. If so, you will find that the remainder of this article will usher in a bright new future for your own child's natural language acquisition!

Will's mother called me about a year ago. She was wondering if speech and language therapy might be a good idea for her 14-year-old son who used some functional, scripted language, which was limited to what he'd been directly taught.

"He can request things he wants, saying 'I want Dumbo,' or 'I want skiing'. He can also take a scripted turn like, 'I like St. Louis Cardinals. Do you like St. Louis Cardinals?' Will's mother, Sally, continued that she wanted to see if we could work on Will's sentence structure, to see if he could learn to say other sentences without prompting. Her ABA therapists had done all they could, she said, and talking seemed to be what Will needed the most help with.

Sound familiar so far?

As we talked longer, Sally also told me that Will used to "verbally stim" regularly, using lots of rhythm and inflection. He used to "recite" lines from his favorite videos, like *Mary Poppins* and *Back to the Future...* including some sound effects like cars screeching, and an electric guitar hitting the high notes. Her ABA therapists had tried to ignore this "movie talk," and had encouraged Will to talk in ways people understood. Over time, he could, somewhat, but his communication was still pretty limited. His mother thought that he had more potential, since he seemed so smart in other ways.

I asked about some of the things Will used to recite, and if he sometimes still did, outside of his therapies. Sally thought for several seconds, and said, "Yes." She and her husband even thought that some of the lines made sense in a funny kind of way, and she gave me a few examples. Once recently, Will had said to his father, "Sent from heaven up above, here's a baby for you to love." Sally explained that this was a line from the movie, *Dumbo*. She continued that Will's father laughed when he heard the line, and thought it was clever of Will to remember such a long, complicated sentence. Sally, too, was proud of her son for expressing himself in such a poetic, if unconventional, way.

After this phone call, I couldn't wait to meet Will! And I couldn't wait to begin to listen to his language more closely. If my experience with kids on the spectrum over the last 10 years had taught me anything, it was that this gestalt language was prevalent among children with ASD diagnoses...and was part of the predictable pattern of our kids' language development! (See Sidebar: The Stages of Gestalt Language Acquisition)

We have come a long way from the days when early ABA researchers admonished kids, "Don't echo," before the functional value of language gestalts was understood. The efforts of numerous researchers, including Prizant, Wetherby, and others, established the functions of echoed utterances, analyzing over a thousand of them spoken by children with ASD dignoses, and realizing that they serve all the same communicative functions of more typical language. Prizant, Wetherby, Rydell, and others determined that "echoing" is used by 85% of ASD kids, and, in many of them, is the first step in a language acquisition process that leads to flexible, generative language development, like "typically-developing" children.

These findings were revealing and quite surprising to an autism community that had thought that "echoing" was a non-meaningful and even disturbing characteristic of autism. While historically, linguistics and language development literature have contained numerous references to gestalt language processing (variously referred to as "formulaic", "intonational", etc.) as a part of normal language acquisition, its everyday application to kids with ASD has not been widespread.

Ann Peters' hallmark book, *The Units of Language Acquisition*, originally published in 1983, was made available again in 2002 on her website. It was written about the gestalt processing that is part of ***all*** children's language acquisition, and it is refreshing reading at a time when we seem to think that ASD kids are so different from others.

Let's take a look at how language develops in all kids. Peters wrote that a "unit of language" at the first stage of language acquisition is whatever a child is able to extract from the continuous stream of sound spoken by adults. It might be a word, but it is more likely a stream of sound longer than a word. It seems that in typical language development, two avenues of

The Stages of Gestalt Language Acquisition

Stage 1 - Communicative use of language gestalts
(learned and spoken in their entirety)

"Let's get out of here!"
"Want some more?"

Stage 2 - Mitigation into chunks (a) and recombining (b)

(a)"Let's get + out of here!"
"Want + some more?"
(b)"Let's get some more!"
"Want out of here?"

Stage 3 - Isolation of single words and morphemes, and beginning generation of original two-word phrases

"Get...more!"
"Want...out?"

Stage 4 - Generation of more complex sentences

"I got more."
"I wanna go out?"

processing are seen in kids: "gestalt" processing and "analytic" processing. Each simply refers to the size of the units kids have "extracted" from running speech around them. Neurological propensities might predispose a child to favor one process over the other, but all children pick out some longer gestalts from the stream of sound they hear.

Depending on the language environment, Peters wrote, kids might hear one-word naming by mothers who presume words to be the building blocks of language development: "Dog." "Cat." "Table." If this language environment matches an analytic predisposition in the child, language is acquired accordingly.

Alternatively, if the sound a child can extract has exaggerated intonational contours, punctuated by exclamation points, (animated, lively language) the child's propensity for language is probably more gestalt. Back in the 1980's, when Peters wrote *The Units of Language Acquisition*, the language environment for a gestalt processor lacked the easy access our kids have to movies. But now, the ability to rewind videos is made to order for such kids, many of whom (our ASD kids) lack the neurological maturation and sensory integration to explore their environments effectively. They often spend considerable time hearing language gestalts on their favorite videos.

Granted, analytic learners are those who seem more "normal" to us. They use the basic constituents of language (words and word parts) to move through the stages of increasing linguistic complexity. These children are easier to understand, too, as single words are infinitely easier for little kids to say, and their motor skill grows along with their increasing sentence length.

Gestalt learners are "normal" too, but their language acquisition happens in a very different manner. Because they begin with multiword strings of words, attempting to say them as "unanalyzed chunks," their articulation skills may render their attempts unintelligible. Over time, as gestalts are mitigated, or broken down into their constituent parts, they are easier to say, and, thus more intelligible, and identifiable. But by the time we recognize that our kids are talking, they have usually been talking for a long time, albeit unintelligibly. And, because their process takes longer than analytic learners, children who use this method appear "delayed."

We can find children all around us who are gestalt language learners. Many of them are little boys who tell long, complex stories, mostly with their hands and action figures, and whose lengthy "jargon" is completely unintelligible! By the time these children are four and five years old, they have successfully analyzed their long story chunks (they really were word strings, not "jargon" at all, but too hard to pronounce by young tongues!) into phrases and single words, have learned to say these shorter sound sequences correctly, and have built up a sizable repertoire of original, generative sentences. They may appear "delayed" compared with their more analytical (often female) kindergarten peers, but that is what we "expect" of boys!

OK, so this language acquisition processing of typical kids may make some sense, as you think about boys you have known (or been!)...but, what about our kids...what about Will...what about your own child?

One reference that helps bridge our understanding from more typical kids to our kids is *Right-Brained Children in a Left-Brained World.* Reading about the children "in between" typical and ASD can be both illuminating and comforting. Writing about children with ADD labels, authors Freed and Parsons note, "Right-brained people are holistic, whole-to-part learners. They pick up skills more easily by having them demonstrated than by having the steps explained. Instead of learning to ride a bike through trial and error...they'll study how others ride a bicycle, then jump on and do it when they feel confident they're ready. They tend to be late walkers for this reason. They tend to master larger concepts first, then prefer to go back and fill in the informational gaps..."

...analytic learners are those who seem more "normal" to us.

We in the autism community are used to thinking of autism as a continuum...but we're not so used to thinking of ASD as part of a larger continuum that encompasses all learners. Educators like Jeffrey Freed view it this way, however, and consider all people on a single continuum, with those labeled "autistic" far to the right side. As he says, "Autism is found at the extreme right end of my continuum; it's the most pronounced form of hypersensitivity and right-brainedness." Indeed, Temple Grandin, in her endorsement of the book, wrote, "This book could help a lot of creative thinkers...make it through an educational system that is run by linear thinkers." (While Freed does not include Aspergers learners on his continuum, we might extrapolate. As children, they meet language milestones at the expected time, but their language complexity outstrips its social application. Although Freed includes what he calls "word salad" on the extreme left end of his continuum (run-on verbage that extremely left-brained people are capable of), those of us in the autism community might consider that Aspergers might also reside on the left side of Freed's continuum line.)

We will return to Will's story, I promise you. But before we do, let's continue to construct the conceptual bridge from typical kids to ADD kids, and next, to those ASD children who are younger and solidly within the prime language learning years...those who are 3 - 8 years old. Their story will help us better understand older kids, like Will, whose language appears more rigid and intractable.

How does the language acquisition of our younger ASD kids compare with that of other right-brained kids who are gestalt processors, and whose language appears simply "delayed?"

For starters, our kids (excluding those with Aspergers, of course) rarely "get" language without a struggle. For most extremely right-brained children, those with ASD diagnoses, the tendency to rely on strengths and avoid relative challenges, undermines the unaided progression of the natural gestalt language acquisition process.

In our clinic, we have found that intervention that acknowledges this naturally-occurring progression makes all the difference for children who cannot get there on their own. Early interests provide the starting place, and parents are the best detectives. Even before a child is old enough to be able to say anything, parents can begin to amass lists of the child's fascinations, favorites, and joys. Books, songs, and movies are the most common inputting modalities in these early years, when children's motor skills are limited to sitting and letting images go by their not-yet-developed focal visual systems.

The second area to look at early on is evidence of gestalt thinking. That first evidence will rarely be with language, since speech needs to be fairly sophisticated before children can say the long strings of sounds they have in their heads. Evidence may come with some motor accomplishment, some play routine, or interest in collections or sets of things. Early interest in the entire alphabet, a set of story characters, or the completed circle of a train on a track are common examples of gestalt thinking.

Parent stories of children learning to walk commonly illustrate a gestalt cognitive style. Truman's parents, for instance, said that their boy never even tried to walk at all, when all of a sudden, he got up one day and walked all the way across the room! Many parents describe how their children never ventured onto a bicycle until they simply got on and rode one day. This characteristic "flat learning curve" can be torturously horizontal for parents who wait years for some evidence that their child is taking in anything. When the curve abruptly elbows up vertically, it is stunning and seems to come out of "nowhere".

Cam's mother described the first evidence she had that her child was registering anything he saw around him. Here is her story: "Cam used to love to watch videos, and I would sit with him many a night, and we would watch

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the videos together. At this time, he basically was non-verbal, didn't say much, didn't point...was basically very passive. I would sing to him all the time. I'd sing the songs and try to get him to the video, or whatever we were doing. We were sitting there one time and I remember I was singing him the 'Pooh' song, and I went, 'Winnie the...' and he went, '...Pooh.' I started to cry, and I looked at him again, and I said it again, 'Winnie the...' and he went, 'Pooh.' He never made eye contact, but he filled in the blank. And that's the first time I realized that something was getting through. Even though he didn't have the capacity to tell me what he was doing with it, I realized that stuff was getting through. And that made a big impression on me because I realized I had to keep doing it. I had to keep sitting there. We had to watch the video 800 times. We had to sing the song 8 million times, because it mattered." Cam's motor system was finally able to provide the proof that he had mitigated the gestalt of this favorite song! Armed with some evidence that her child was paying attention, this mom's confidence was buoyed up for the long road ahead!

Cam's mother was fortunate. Even though Cam was moderately dyspraxic, and mostly silent up until then, he did have the motor strength and coordination to say something at a relatively young age. Those children who are more severely dyspraxic might not say anything intelligible for many more years, and parents' glimpses of gestalt thinking and processing might not appear through language for a very long time.

Nicky's mother could see it in other ways, though. Kay understood gestalt thinking because she recognized it in herself, and, then could sympathize with her son's dilemma when asked to share his toys in preschool. Nicky had always lined up his toys, from the time he was motorically coordinated enough to do so. This his mother honored, seeing it as a way of looking at "sets" or "wholes." But, if another child tried to break up one of those sets, Nicky's world was shattered. Kay explained her child's perspective to his teachers this way: "For Nicky to share his set of pirates, it would be like asking another child, 'Please share your doll with me. I'll just pull one arm off to play with.'"

As we know, among children who are verbal as youngsters, gestalt language processing is often seen as "echoing" from movies. With Daniel, a child we will highlight in the next column, the language acquisition process was easy to see...if you knew what you were looking for, that is! When we first met him, he was nearing four years old, and he could recite numerous lines from favorite videos. His mother knew all the lines, and could say the preceding and following lines, a strategy she used to create verbal interactions with her son, and to "keep the conversation going." Karen was doing more than that, however, but until she met us, she wasn't aware of it. What Karen was doing was many-fold: she was confirming her child's interests and intentions by joining him, she was acknowledging his language as communicative, she was creating emotional and social reciprocity, and she was allowing her child plenty of practice with language at the first step of the gestalt language acquisition process!

We helped Karen learn to build useful, flexible "gestalts" into their daily lives. Recognizing that all language that surrounds a child constitutes inadvertent "models," we wanted to make sure that Daniel heard not only Walt Disney's language, but plenty of other language that would become useful in everyday communication. "Let's get out of here!" works much of the time, but "Come on!" is more generally communicative.

What we did with Daniel's family was create home-made videos they could watch together. We made sure our language was fun and lively, like Walt Disney's, but more predictable, and lent itself to ready mitigation. Repetitive games and stories were also created so Daniel could hear, "Let's play with the..." and "It's a..." a bizillion times a day. When Daniel was ready for Stage 2 of the gestalt language acquisition process (mitigation) he knew that "Let's play with the..." could be extracted from the many examples he heard daily, and that "It's a..." could be equally mitigated from the wholes.

Daniel moved through the stages in a "textbook" fashion, recombining parts of his former gestalts in Stage 2, and, eventually, isolating individual words in Stage 3. Up until then, Daniel's language sounded grammatically intact, because whole sentences and phrases had been "lifted" verbatim from other sources. The mitigations and recombinations at Stage 2 sounded quite good ("Let's play with the + alphabet", "Let's play with the + blocks"), but Stage 3 single words and two-word combinations would have sounded like a step backwards to someone who didn't understand the gestalt process.

We were delighted, though, because we knew that the progression from "Let's play with the monsters" to "I...toy" was truly progress!! As startling as it was, we knew that Daniel had begun the process of generating his own unique sentences. We never actually witnessed single words being spoken in Stage 3, however, as Daniel's language competence led immediately to rudimentary generative grammar.

In the next column, we will examine Daniel's progress in more detail, taking you through the stages of mitigation and then those of generative grammar. We will provide a roadmap to use with younger children, but also a model that can be modified for an older child... like Will.

Will's case, and those of other children who are beyond the preschool and early elementary years, is much more complex. Will's language acquisition, now that he is older, is not proceeding as neatly or completely as it did for Daniel. On the other hand, some aspects of the process are actually easier to see in older children, because their motor systems (including speech) are more refined, and their ability to store and use lines from many sources can be so extensive.

Before we wrap up this column, let's review Will's situation. He could be prompted to say, "I want Logical 1 Ranch, please," but

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at age 14, he couldn't generate adult-sounding language spontaneously. Would it be appropriate to expect him to expand his drilled sentences? Could he still learn generative language at all? Or, as the conventional "wisdom" suggests, was it too late? And if so, were his parents supposed to just "let" him say lines from *Mary Poppins*...assuming that there was some elusive meaning hidden in them? Were they to figure out what Will had in mind when he said things like, "But you got to take orders!" or "Angels in the Outfield"

To answer the question, we already knew that Will was attempting to communicate with his gestalts. Considering the thousand utterances analyzed by Prizant et al, plus all those we'd heard in our clinic, we knew that gestalts served all the same communicative functions of "typical" language. We knew that the Wills in our lives, and the Daniels, are attempting to communicate. The only missing link to successful communication is our ability to understand what they mean!

Time and again we have learned that once we examined the original source of a gestalt, and tried our best to understand its meaning from the child's perspective, we could respond accordingly! And it is pure magic when our kids realize we "get it!" Their joy is palpable, and sets the stage for more to come! We know from considerable "near misses," too, that even the attempts at understanding are amazingly satisfying to our kids. They know then that we take them seriously as communicators, and will keep trying to understand them better.

So therapy with Will began with this strategy...with acknowledging, and helping Will's parents further acknowledge, the language gestalts Will used. The first time we realized that Will's rendition of "Earth angel, earth angel, won't you be mine..." was addressed to us when we did something helpful, we blushed and loved him for it. As the weeks went by, we started saying, "Thank you!" in response. Recently, our joyful banter over our mutual admiration led to the following conversation among C1 (the primary clinician), C2 (a supporting clinician), P (one of Will's parents), and W (Will):

W: Earth angel, earth angel...

C2: We'll have another earth angel here next week, too, Will!

P: Will always likes the girls.

W: I love 'em! (spoken rapidly)

C2: Did you just say, "I love 'em?"

W: (signs "like" to clarify himself and everyone bursts out laughing!)

This single example illustrates the use of multiple gestalts in a real-time conversation, and the use of a mitigated, signed word as a conversational repair! So, Will is solidly in Stage 1. But he also mitigates at Stage 2. We often hear him saying part of a gestalt under his breath, and the part he wants to communicate out loud. Will recombines at Stage 2 routinely, and even isolates individual words and recombines them in a rudimentary Stage 3 fashion.

This one example shows how, with older children, even without a history of support in natural language acquisition, the stages of the process can occur. That all the stages are happening at once with Will is confusing, to be sure. But we overcome that by writing it all down (Will's mother is our most reliable scribe). If we don't know where a gestalt comes from, she and Will do. Then we speculate about its current usefulness to Will. We can then respond conversationally, often giving Will a more "transparent" (common) gestalt as his next language model.

Over the next few columns, we'll provide further examples of Will's language development progression, and contrast it to the more predictable pattern demonstrated by a younger child, Daniel.

Once you have the more detailed progression to look at, you can begin to apply the intervention techniques to your own child...and begin to see that natural language acquisition does take place in children on the spectrum!

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Natural Language Acquisition on the Autism Spectrum

Part 2

In a radio interview earlier this year, Temple Grandin was asked, "Tell me about the process you went through to become as remarkably verbal as you are. You write early on that people said that you were a tape recorder. You had certain phrases that you said over and over again. And listen to you now!"

Temple responded, "Well, what happens is, as I put more and more and more information on the hard drive - and I do have a big hard drive; tiny processor, big hard drive - as I get more and more phrases on the hard drive, I can recombine them in different ways, and then it's less tape recorder-like....The thing is, it's gradual learning. You know, you gradually just keep getting better and better and better..."

If you are like me, and have been an admirer of Temple Grandin over the years, you would never doubt that her "hard drive" surpasses most, and that her public speaking skills have become very sophisticated. Her assurance to us that the process of "recombining" language continues well into adulthood is particularly validating to those of us who realize that the idea that our kids' language becomes hard-wired by age 8 is simply not true! Yes, with "typical" language development, kids' heads have all the rules of grammar by then. New learning seems to be "inhibited" by the rules they already know.

But not so with our kids! In our clinic, we see older kids, even teenagers, who are learning rule-based grammar...some for the first time! With older kids like Will, who was highlighted in our last column, the process of breaking down language "wholes" or "gestalts" doesn't happen as rapidly or as readily as it does with kids who are younger. But it still happens! We will return to these older kids in a later column, but, now, we want to give you a longitudinal picture of how the language acquisition process works when ASD kids begin it sooner. As promised, 4-year-old Dylan's ['Daniel' from our previous column] progression through the first three stages of Gestalt Language Acquisition (See Sidebar) will be detailed in this column.

It was ten years ago when Dylan's mother came to us. She told us that Dylan's language was all "echoed" from his favorite videos, *Land Before Time* and *All Dogs Go to Heaven* at that time, and that she doubted that Dylan intended to communicate anything with this "video talk." She added, however, that Dylan would often use particular lines before certain behaviors. "Stay off the field, Charles" signaled a retreat into private space, and "Sharptooth attack!" heralded rough and tumble play.

We first met Dylan at his home, and played with him in our clinic the following week, recording everything he said during that second meeting. Most of what Dylan said was unintelligible to us, although his mother knew much of it, and even which video it came from. Long strings of vague sounds representing multiple sentences such as, "Let's go find him come on Spot now let me think where are you" made up the bulk of Dylan's verbal output. Other, shorter comments like, "Where's

the snowball?" were easier for us to understand, but still confusing on this early fall, snow-free, day.

During our first clinic session, we knew about things like "snowballs" already, and it was exciting to discover that at least some of Dylan's utterances turned out to be quite related to what was going on! The following dialogue took place at the end of our session, when Dylan attempted to keep us engaged by introducing a play sequence he had witnessed in a video (a snowball fight):

D: Snowball! (Dylan reaches down to "pack" some "snow")

C: I'm gonna get you...ready?

D: Helen, Tom! (calling us by the names of movie characters)

C: I'm gonna get you!

D: Take that! Take that!

Dylan was having fun, and didn't want the play to stop! Granted, Dylan's peers would not have read this in his "opaque," "difficult-to-see-through" language. But we already knew not to take what Dylan said literally. That was our first "rule of conversation." And, over the years, it has remained our first rule with almost every ASD child we have met. This is both comforting and freeing...but not always easy to remember! We adults struggle when we don't understand; we often panic; and, to make matters worse, our feelings get hurt. When our child declares, "Back Off!!" or yells, "Go 'way!" it's hard to see past the literal, and remember that we are witnessing an early gestalt. But, if we all do our parts, that rough-around-the-edges language will later be replaced by "recombinations" like, "Not yet, OK?," and, even more-nuanced language, like, "Wait a minute, OK? I just need some more time."

Returning to the dialogue with Dylan, you will notice both Stage 1 and Stage 2 language: an obvious gestalt, "Take that!" and two mitigations, "Snowball!" and "Helen, Tom!" As we began our therapeutic relationship together, we wanted to make sure Dylan had plenty of Stage 1 experience with a variety of useful, non-movie gestalt models before we focused on the Stage 2 mitigation. The core language models Dylan had to work with were too limited to give him the "building blocks" for generative language construction. Names like "Helen" and "Tom" and pretend snowball fights might not work with anyone but the occasional savvy play partner!

The animation and language of movies make them a hard act to follow. Fortunately, real life provides the motor experiences our kids crave, and people who know how to make them fun! Our play had to be active and exciting, and our language had to be delivered with enthusiasm and all the theatrics we could muster. Predictable, "transparent," developmentally appropriate language can be deadly-dull, unless we make it otherwise! We wanted to compete successfully with Hollywood, so we created extremely fun, movement-based experiences (think, "sensory integration"), that just happened to include basic sentence forms like, "Let's...", "Hey, it's...", etc. Somehow we did it, because a few months later, Dylan routinely extracted these types of phrases from our language, and produced his own recombinations!

It was imperative to be lively, friendly, and fun, and to give Dylan something that he couldn't get anywhere else (meeting his sensory-motor needs helped!) He learned that listening to us was entertaining, and he trusted us to give him language he could use to keep us playing with him! Dylan still used movie gestalts as well, and mitigated them nicely, but all his language was becoming increasingly "transparent" and easier-to-interpret. Following are some utterances from our third month:

Let's get outta here!

Whoa! That was close!

The Stages of Gestalt Language Acquisition

Stage 1 - Communicative use of language gestalts (learned and spoken in their entirety)

Stage 2 - Mitigation into chunks and recombining

Stage 3 - Isolation of single words and morphemes, and beginning generation of original two-word phrases

Stages 4 - 6 - Generation of more complex sentences

Dylan

Here I come!

I'm the king!

By our fourth month, Dylan was mitigating routinely. He used, "I got it!" (a modeled gestalt), but also changed it to "We got it!. During a paper-cutting activity, Dylan produced all of the following:

Cut out Buzz Lightyear.

Cut out dinosaur.

Cut out the Slinky.

You cut out Slinky.

By the fifth month, Dylan included an interesting twist in his mitigation. He used the phrase from our tag game, "You're it!" in various mutations, creating the recombination, "I'm it!" but also a combination of combinations, referring to the game itself, "It's 'I it'!!"

During our sixth month, Dylan was producing far less-colorful language, in general, but it was almost all "transparent," and easy for familiar partners to "read." Following is a short excerpt from a session during that time. The two clinicians are labeled C1 and C2:

C1: Let's blow bubbles.

D: Bubbles? (goes and gets the bag of balloons)

C2: I want to play with the bubbles.

D: ...of balloons.

C1: There's a lot of balloons.

C2: I'm blowing a big balloon (blowing one up)

D: You bubble.

C2: What? What to do?

D: You try.

During our seventh month, Dylan clearly made the leap from Stage 2 mitigation to Stage 3 single word isolation and beginning generative grammar. He began building his own, unique sentences "from scratch," having isolated the building blocks from real-life language. His utterances sounded like those we'd expect to hear from a two-year-old ("I...toy" was his first!), but we knew how Dylan had gotten there, and we were so proud.

We also knew that now, the sky was the limit, and that during the next few years, we would be able to support Dylan through Stages 4-6, as he learned to produce all the grammar of childhood! We also knew that, since he already knew about whole stories, he was way beyond how his rudimentary generative sentences sounded. Just as we knew not to take him literally before, we knew not to take him literally now!

In time, Dylan was dismissed from our clinic, because his language was so recognizable and useful that he was able to flourish in less physically-supportive environments, like his public school. Dylan and his peers were "catching up" with each other. By third and fourth grades, Dylan was learning to use complex grammar, while his classmates were learning about story construction, the moral of stories, and the meaning of metaphor. Dylan already knew these things, and was way beyond his peers in his use of imagination! Now, he was learning to use the language that matched his creativity!

The rest of Dylan's story will appear in the next column. For now, though, you have enough background information to begin to observe the ASD children in your life and to begin to recognize the communicative value of those colorful gestalts... and to imagine a time when they will lead to further steps in natural language acquisition!

Reference

Grandin, Temple, Conversations with Kathleen Dunn, University of Wisconsin, Madison, WI: Wisconsin Public Radio, February 18, 2005.

"Dylan" is Dylan Schroud of Poynette, WI, now 13 years old. A story he wrote with his sister, Jesse, will appear in *Walk Awhile in My Autism: a Manual of Sensitivity Presentations to Promote Understanding of People on the Autism Spectrum*, edited by Nan Negri and Kate McGinnity. The book is available at www.walkawhile.org.

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Finding the Words...

by Marge Blanc

To Tell the "Whole" Story, Part 3

Natural Language Acquisition on the Autism Spectrum

Welcome to our third installment in the continuing story of Natural Language Acquisition on the autism spectrum! In this edition of our column, we will take you through the "generative" steps in this process...and, finally, language development will begin to look more like what you thought it would!

To review, in column one (May-June 2005), we introduced the idea that kids use Stage 1 language gestalts (whole phrases "lifted" from other sources) purposefully. In column two (July-August 2005), we continued the story of the natural language acquisition process through "mitigation" of language gestalts into their component parts...shorter phrases that can be "recombined."

We introduced two children, Will, 14, and Dylan, 4 (called "Daniel" in column one), to illustrate the extremes...and consistencies...of the process. I say "extremes" because while both children made excellent progress, Dylan moved from Stage 1 to Stage 3 in about a half year, and Will has not done so yet, after a year. And, I say "consistencies" because their process is basically still the same! While some things were easier for Dylan (he had less language to mitigate from, less language to find the commonalities among), some are easier for Will (his articulation is better and people understand him more often; he is familiar with a wider variety of language and so "generating" language, when he is ready, will not be so foreign).

So let's pick up where we left off at the end of the last column. Stage 3 was where Dylan learned to isolate single words and began to generate his first original, "from scratch" phrases. Yes, Dylan's language sounded a lot less "colorful" at this stage, but his short phrases were "transparent" to his partners, and they literally meant what they said!

After 7 months of language therapy, we had helped Dylan successfully isolate single words...the component parts of his gestalts and the building blocks for his future generative language. His utterances sounded a lot like those of a two year old at that stage, but we knew that his thinking was way beyond how he sounded! We knew that once he caught up with his peers linguistically, he would actually be ahead of them in his use of story, metaphor, and imagination!

Those of you who have watched a more "typically-developing" child acquire language know what two-year-old language sounds like. It isn't necessarily grammatically accurate, and it's "all over the map." With the same two words (e.g. Mommy + sock), a child can combine them both ways, and mean innumerable things, including, "These are Mommy's socks", "Mommy, put my socks on", "I'm gonna give my socks to Mommy", etc.

Stage 3 combinations of single words lead, eventually, to all the more-sophisticated sentences of the English language, and are not to be taken lightly! Variously referred to in language development literature, this "pivot grammar" is nicely outlined in Developmental Sentence Types of Pre-Sentences (a part of Developmental Sentence Analysis), which illustrates that kids need to use tons of two-word phrases in their play, so that their grammar eventually develops variety and flexibility. These rudimentary two-word combinations are more like

combinations of concepts than combinations of word classes, and they lay the important groundwork for thinking about concept relationships with language. Ultimately, all the grammatical relationships of English develop from them.

Knowing how important it is, we, in our clinic, try to help kids make the most of Stage 3. We set up situations where all kinds of conceptual categories naturally "bump into" each other, and we help kids put words to these conceptual combinations. Grammatical accuracy is absolutely unimportant as "sock Mommy" and "Mommy sock" are equally "accurate." When Dylan was at Stage 3, a typical conversation sounded like the following [D is Dylan; C is a clinician]:

D: Basketball. [making a ball out of playdough]
C: Basketball.
D: All right, basketball. [finding a "basket" to throw into]
C: Throw it in the basket.
D: To basketball.
J: Oh, basketball.
D: We...to basketball.
C: Pass it! Pass it!
D: One, two.
C: One, two. Want more? Oh, ugly [referring to some gray playdough]
D: I...yuck.

It is telling that at Stage 3, Dylan didn't use accurate sentences, and we didn't care! We wanted him to explore, explore, explore...and to hear and use words in all kinds of combinations! In our clinic today, just as ten years ago, we spend plenty of time at Stage 3, knowing that kids will naturally move on to Stage 4 when they are ready. As you can see, we believe in this process, because we have seen it unfold scores of times. We don't need to teach kids to use, "I want..."and "I see..." prematurely, because, when they are ready, they will use these sentences...and so many more...naturally!

As you look at the Developmental Sentence Type sidebar, I think you will be struck by the utter breadth of variety... all about a ball and eating cookies! Study these word (and conceptual) combinations carefully, and see how the whole world can be described in two-word phrases. Then think how much we miss if we make the mistake of jumping from single words to "I want ..." sentences prematurely!

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Well, dear reader, even if everything up to this point sounds terribly logical, you may still be wondering how you will ever

Developmental Sentence Types of Pre-Sentences

Nouns and Noun Elaborations:

ball, a ball, balls, more balls, this ball, my ball, now ball, Daddy ball, big ball, baby ball, ball truck, not ball, another ball?, what ball?, and ball

Designators and Designative Elaborations:

here, there, this, that, it, those, these, this?, here?, here ball, these balls, there now, there one, not there, that ball?, who that? and here.

Verbs and Verbal Elaborations:

imperatives (eat!), basic elaborations (eating, ate, eat?), eat cookie, eat now, eat it, not eat, eat it?, what eat?, and eat, wanna eat

Other vocabulary items and phrase fragments:

yes, no, OK, hey, Hi, bye-bye, oh-oh, again, now, what?, in car, for me, plurals, adverbs (all gone, too big, up here), sentence modifications (to you, in it, not big, in here?), conjunctions (and, but)

Highlights of Developmental Sentence Scoring levels

1. It, I, my, you, simple verbs, not, Is it?
2. He, she, verb+s, verb+ed, gonna, gotta, let's, what, where
3. We, they, those, more, some, and, to...
4. Can't + verb, don't + verb
5. But, so, or, if, when, how
6. Could, would, because
7. Why, everybody, first, last, passive voice (has gotten)
8. Embedded clauses (I got soaked when it rained)]

set up a situation that promotes language like Dylan's. You might be thinking that your child just likes to sit and watch movies, so how will you get him up and moving enough to want to throw a "basketball," or discover yucky playdough? It is a matter of combining your intimate knowledge of your child's loves with his current sensory motor system. If he loves Tigger and Pooh, then finding them hidden in surprising places, and discovering them leaping from the pillow to the floor may be just funny enough to provide the back-drop for you saying phrases like, "It....'s Tigger!!!!" When Pooh emerges from a second pillow, "And Poooooh's pillow" might be the natural language model. As you run from the room with "Tigger aaaaand Pooooh!!!" you will know if you've successfully become the Pied Piper or not. And what your child says (or doesn't say) gives you invaluable feedback for your next models. Don't feel shy saying tons of utterances that no one seems to find interesting at all, however, since you may hear them said back to you when you least expect it! It's just like those earlier "gestalts" no one meant as a model but then heard their child say one day "out of the blue."

So, let's return to Dylan's story. When he had been in therapy for a little over a year, his use of generative grammar had been at Stage 4 for a few months. A language sample at that time revealed Stage 4 constructions (Developmental Sentence Scoring levels 1-3) such as the following, and a few Stage 5 constructions (DSS levels 4-6):

I slam it.
Door's lock.
You go in there, Mom.
I want move mattress.
I got magic!
Go get a magic.

Dylan still produced numerous utterances at Stage 3, where he experimented with word (and concept) combinations:
It two books.
Red and blue.
My...me.
All done balloon.
Some magic?

A few months later, Dylan still had a few Stage 3 constructions, but was more solidly at Stages 4 and 5. Typical utterances included:

I gonna running.
Don't move!
I rolling.
Scary monster.
I can fall.
I get a pillow.
Mommy, no out.

I don't like it.
Whoa, I'm gonna get bounce.
Hey, can't falling.

Another eight months later, Dylan's language was a mixture of Stages 4, 5, and Stage 6 (DSS levels 7 and 8), with constructions such as the following:

Yikes, she's got hurt.
Curious George is...climb tree.
You get the rhino.
I'll teach him on a rope.
What you going?
I take him map.
I gotta fix.
Oh, the ship and the house.
Where did the ladder go?
Tigger, are you promise?

By the time of the preceding language sample, Dylan was 6½ years old, and while still clearly "language delayed," he was producing a nice variety of original sentences in near-non-stop dialogue! Did Dylan still produce language gestalts? Did he still love to quote from his favorite videos? You bet he did! Now, however, it usually was to "research" an idea, or to find a subject he wanted to understand. Quoting from *Lion King* was not a cause for panic, or a warning that Dylan was "regressing." He was still a gestalt thinker natively, and he still looked to whole stories, whole ideas, and whole patterns as his prime source of meaning. It was not surprising, then, to find him reciting whole lines. But, unlike a few years ago, it was clear that Dylan would "mitigate" from these gestalts quickly, find what he wanted from them, and use them in his own unique ways.

Dylan continued his steady language progress for another half year, and at the time of his dismissal, Dylan was speaking with far greater accuracy, and was regularly reformulating sentences to make them more understandable to his listeners. A few examples from that time include:

We got it...we got the treasure, Pooh.
Pull...let's pull...let's pull the rope!
Oh, Tigger, you got to get the anchor.
What's this? A star!
I don't want to, Marge...I don't want to balloons...I don't want to blow a bubble.

As we conclude this story of Dylan, and complete the progression of Natural Language Acquisition on the spectrum, we should recap the journey. In three years, from the age of 4 to 7, Dylan moved from using language gestalts (Stage 1), to

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mitigating them and recombining them (Stage 2), isolating single words and beginning to generate original phrases (Stage 3), developing simple sentences with a variety of pronouns and verbs (Stage 4), using a variety of verb tenses and phrase relationships (Stage 5), and forming complex sentences with more advanced verbs and conjunctions (Stage 6).

While, at age 7, Dylan's story was far from complete, he was clearly on his way as a generative language user! As Digest readers learned in the last issue, Dylan has since gone on to tell his own story in the book, *Walk Awhile in My Autism*...and we know that Dylan will continue to teach us as he continues to grow up!

In the meantime, your child, too, can benefit from Dylan's story … and Will's example as well. And we plan to help support you in that process! In our next column, we will highlight the "how to's" of the Natural Language Acquisition process, so that you can "plug into" the system at the right place for your child! Until then, please try some of the ideas we've outlined so far, and by our next column, you'll be ready for the next step! ■

Reference
Lee, Laura L., Developmental Sentence Analysis, Evanston, IL: Northwestern University Press (1974)

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Finding the Words...

by Marge Blanc

To Tell the "Whole" Story, Part 4

Natural Language Acquisition on the Autism Spectrum

"Mom! Spike is talking!" announced Bevin, referring to the previously speechless dinosaur in the movie, *Land Before Time*. **"Yes,"** his mother said, **"And we're so happy."** When Bevin continued, **"Mom! Spike says more words,"** his mother reiterated, **"We're so happy!"** But Bevin persisted, **"Mom! Spike can talk!" "Really?"** laughed his mother, pleased with Bevin's pride in "Spike," who clearly represented her son. Then Bevin added his own twist, **"...when he wants to!"**

It wasn't like this six months earlier, however. Bevin used "movie talk," as his mother called it, all day long, every day. Bevin's family was understandably tired...tired of hearing video dialogue repeated at fast forward speed, without any indication that Bevin meant any of it to be communication.

But after his second week in our clinic, Bevin said something remarkable. He sought out his mother and declared, "Spike talks! I found it! Yea!" Bevin's mother told me, "It is the first time Bevin ever talked to me! All I did was repeat what he said, like you told me to, and he looked at me like I understood him! Now, he says things to me, knowing I'll listen!"

An impressive story, yes...but unusual only in the speed with which Bevin successfully mitigated from his gestalts, and generated his own, original sentences. His process is the same one we see with every child we have worked with in Natural Language Acquisition!

We will address that process here: first, by helping you know what your own child's natural language is; where that language fits developmentally; and, finally, how to facilitate your child's progress.

Step 1 seems simple, but, until you get used to it, it isn't! Find a time when you and your child are alone, and you hear your child say something you think you can repeat. Do just that...repeat it back to your child, just like you hear it! If you can, say it to your child a second time...and, if he looks up, again! This may not be too hard, if what he says sounds like language. But even if it just seems like a sound contour, without any words you can distinguish, repeat it back...try for the tone and the vowels, if you can. Make it sound as much like your child as you can. And even though you probably don't understand what your child means, say it back to him anyway, the best you can!

It will probably seem like a "foreign language" to you for a while, so try to continue to say it to yourself as the day goes on. As it slowly becomes "your own", you can begin to talk like your child, with his sound sequenes, tone, and language. You may have no idea what's important about it until you've mumbled it to yourself all morning...finally experiencing the "Aha!" of knowing what language it represents, where you've heard it before... and, maybe, what it might mean to your child!

Even if no "Aha" happens yet, you have begun to get used to the process, and it will be easier the next time!

And, best of all, by repeating his speech, you have acknowledged him in a tangible way! You honor him with your attentive listening, and empower him with the added volume of your voice and stature. Even if you have no clue as to what he said, he will adore you for taking him seriously! And, the effect is exponential.

Before long, just like with Bevin, he will be expecting that you will listen...and then the magic happens...he talks to you!

Step 2 in your process is getting used to your child's language. After you have been repeating your child for a day or so, write down several examples of what he has said each day. Write down where and when your child used the language, what was going on at the time...and try to remember the original "source," like a movie or book, if possible. If you can, think about the character who said the line in the movie or book, and what that person may have meant by it! This may well be what your child means!

Remember that it is your child's spontaneous language you are interested in...not the language he was taught. So, get used to really listening when he is talking to himself, when he is using what sounds like "gibberish," and pay close attention to what sounds like "movie talk." This is where the process begins!

If your child is quite fluent and uses lots of gestalts, you will have to learn to tune into just the louder parts. You may hear your child speed through some parts and emphasize others. Your task, then, is to pay attention just to the loud parts, and to repeat them back as the important mitigations they almost are!

Continue with Step 2 until you have a good selection of examples. It should take you at least a week.

Step 3 is to review the charts in Part 3 of this series of articles on Natural Language Acquisition (September-October 2005 issue) and find some matches with what your child says. If your child is young (2-4 years old), you may find only one level, e.g. Stage 1 gestalts, too long for his young speech system to say well. Maybe it just sounds like "gibberish," or "jargon," or maybe "his own language." This is what we, in our clinic, call "intonational utterances," and includes the tone and rhythm of whole language gestalts, but not the individual speech sounds.

Some children who are four years old have begun some mitigating, isolating the parts of the gestalts they can actually say clearly. Depending on a child's speech skill, it is possible to move on to Stage 2, 3, and even 4 with a little help. After all, little boys do this all the time, and some young ASD children are happily coming up with their own original sentences at Stage 4 or even higher. If your child's language does not sound "stilted" and forced, you have probably found your child's level.

If children aren't moving through the process readily, it may be because they are not quite finished with a stage. So, children who are a bit older (5-7 years old) can exhibit a complex combination of gestalts, mitigations, and some original sentences.

If your child is older still, the picture may be even more complex, as was Bevin's. When I first met Bevin, his language consisted primarily of long gestalts, delivered at lightning speed, with a smattering of mitigations, and some learned phrases such as "Help!" and "I need a break." I understood little of what Bevin said, but found he said some parts of his gestalts louder and more slowly than other parts. I could catch the loud parts, and repeated them back to him. I figured that

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If children aren't moving through the process readily, it may be because they are not quite finished with a stage.

the faster, unintelligible parts were just the "fast forward" to the next important part. Bevin was trying his best to mitigate the important parts, and all he needed was a little boost to move solidly from Stage 1 to Stage 2!

It was not that Bevin didn't have any Stage 3 isolated words or Stage 3 rudimentary phrases...or even some nice Stage 4 sentences. But, the bulk of Bevin's language was back at Stage 1, and he had no way of moving out of that stage by himself. If I had decided to work at Stage 3 (single words) or Stage 4 ("I want..." and "I see..." for example), I would have made the most common mistake of well-meaning adults working with children on the spectrum. Few of us have understood that there is a Stage 1 or 2 at all, and have assumed that Stage 3 is the beginning. If I had started there, or at Stage 4, Bevin would have no tools at his level of language: stuck at Stage 1, and trying to move to Stage 2.

And I would have met a dead-end, like we usually do with children on the spectrum. Smart kids like Bevin can learn "I want *Land Before Time*," but, if their language development level is primarily at Stage 1 or Stage 2, this sentence becomes just another "gestalt" Bevin either learns as a whole, or tries to mitigate by himself. Saying, "I want *Land Before Time*" or "I want..." becomes just a "skill." And when children learn any language as a skill, they have a certain, limited level of success; when they move through a developmental progression, however, the sky is the limit!

Step 3 is complete when you decide where your child usually "lives" with language. It is not his "best" language, or his most useful. It is his most common and natural. And, as in Bevin's case, if a child straddles two or more stages, chose the more foundational level. It may seem counterintuitive to "teach" the very thing we wish our child would stop doing, but, think of it this way: we are not teaching him anything; he already knows it. We are simply acknowledging it so we can help him move on from it to the next stage.

Step 4, then, is working within the level you have determined is accurate for your child...in a way that will help him move from it to the next stage. So, if you are helping your child move from Stage 1 to Stage 2, you want to make sure that the gestalts he is using are mitigatable. For Bevin, an older child, they already were, and he was half-way to mitigation anyway! For Dylan, a younger child, they were not, so we introduced new gestalts that would be more easily mitigated (See Part 2, July-August 2005 issue).

And with Will, the 14-year-old from Part 1, we had little evidence that he knew how to move beyond Stage 1 with any confidence. He had many learned sentences, and a few mitigations of his own, but where his heart seemed to sing was when he was quoting Julie Andrews in the *Sound of Music*, or the sports announcer in his ice hockey videos. Because his mitigations were limited, we wanted to show him that there was a process. We began with some of his own gestalts like, "Earth angel, earth angel...won't you be mine." Because Will routinely used the mitigated form, "earth angel" when he addressed someone he felt thankful for, we could show Will what he already knew how to do. After a year, Will had learned all there is to know about mitigation, and was moving on to Stage 3, self-generated phrases. It has been a slow process, much more arduous than Bevin's, but just as successful!

In closing, this author fully acknowledges the complexity of this topic, and the inadequacy of a four-column article on the subject. We would be happy to hear from you, and happy to address your questions in the book we hope to be writing in the next year! Your child's stories might find a home there, so please keep us posted!

In the meantime, your dear children will thank you for your efforts in attentive listening and acknowledging, and for being the "earth angels" you already are!

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