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# Bright Beginnings fosters family literacy



**Making a Difference**  
Joe Landon  
Guest columnist

As we continue to mourn the passing of former first lady Barbara Bush, we have learned of the several connections she had with people here in Southwest Florida. An article in the paper on April 18 shared a number of those with us.

Here's yet another Collier County connection that I discovered just the other day.

We know that Mrs. Bush believed that everyone should have the opportunity to secure a better life through literacy. And in 1989 that belief inspired her to create the Barbara Bush Foundation for Family Literacy which has raised more than \$110 million to create, support or expand family literacy programs across the nation.

Locally, her foundation was a pivotal funder of the Grace Place Bright Beginnings family literacy program. We understand that a foundation board member, familiar with the wonderful work being done by Grace Place, brought the organization to the attention of the foundation.

Grace Place's chief executive officer, Tim Ferguson, explained that they work across what they call the full-scale family education spectrum in providing pathways out of poverty by educating children and families. "We are trying to break the cycle of poverty and illiteracy in our community by minimizing the education gap between the haves and have-nots," he emphasized.

"When the foundation approached us in 2013 about becoming a Barbara Bush Network Partner, Bright Beginnings was a one-day-a-week parenting and literacy class for mothers and their children," according to Diane Ponton, director of family literacy at Grace Place. "The partnership afforded us the ability to enroll more families, enhance our curriculum and assessments, and increase the program to four days a week which ensured we would have a deeper impact," Ponton added.

And the affiliation continued to generate benefits for Grace Place. As a Barbara Bush Network Partner, resources



The Diaz family, Jesus, Marley, Emelida and Bonilla, reading together during the Bright Beginnings program.

PHOTO BY ALEXIA HORN PHOTOGRAPHY

**Bright Beginnings pairs early childhood education services, delivered to preschool students, with parenting and literacy education services delivered to their parents.**

and relationship opportunities for Bright Beginnings increased. Ponton told us that "Grace Place gained access to research and information on new innovative strategies which allowed us to shape the program into the comprehensive family literacy model we have today."

Bright Beginnings pairs early childhood education services, delivered to preschool students, with parenting and

literacy education services delivered to their parents, most frequently their moms. The goal is to build a culture of education in the home. The first focus is on kindergarten readiness. But then it's on the continued academic success of both the child and the parent. The adult piece includes the building of literacy and English language skills. Then there's parent and child together time which helps the parent use what they've learned to engage their child in learning.

And the program is truly making a difference. Of the Pre-K students tested at the end of the 2016-2017 school year, 94 percent tested school ready. As for their participating parents, 74 percent showed improvement of at least one grade level in their English language skills during the 2016-2017 school year.

The Grace Place bond with the Bush foundation goes even further. The foundation hosts an annual Celebration of

Reading event here in Southwest Florida. Grace Place has had students speak at three of those events over the years. Adult student Maria Flores spoke in 2014 and 2018 and told the gathering that "thanks to the foundation and Grace Place, my daughter Miriam entered school above grade level. And I now read and write in English and understand and speak so much more which helped me advance at my job."

If you'd like to find out more about the marvelous work Grace Place is doing, or if you're interested in volunteering or donating to help support their efforts, please visit [www.graceplacena.org](http://www.graceplacena.org).

Joe Landon is a communications consultant having retired as executive director of communications for the Collier County School District. Please send suggestions for future columns to [JoeLandon@Outlook.com](mailto:JoeLandon@Outlook.com).

## How do astronomers know the distance to a star?



**Looking Up**  
Ted Wolfe  
Guest columnist

I am often asked this question. The answer is relatively simple, and involves different techniques based on the distance to the star. Today we will discuss the first technique used by astronomers to measure the distance to nearby stars.

Lets use the four bright stars in a line in the picture to get us going along what astronomers call the "Cosmic Distance Ladder." We'll call the far left blue star #1, the next one to the right will be #2, then #3 and #4.

We can see all four stars are relatively bright. This almost always means the stars are closer rather than really far away. Some dim stars are nearby but bright ones usually are definitely nearby.

So the first tool in the astronomer's distance estimation box is for nearby stars. It works very well for stars up to about 3,200 light years away. Remember one light year equals 6 trillion miles. However, the universe is extremely large, and just our own galaxy is about 100,000 light years across. So 3,200 light years is relatively close.

This first tool is called "parallax." You can demonstrate parallax by just holding your thumb out at arm's length in front of a wall. Look at your thumb first with one eye closed, and then the other one closed. It will seem to jump from side to side. This is because of the difference in the angles that you see your thumb from the left eye vs. the right eye.

You will recall how parallax can be used to measure distance from your high school trigonometry class. It is simple triangulation. When you know the length of one side of a triangle, and you know the angles at each side of that length you know how long the other two sides are. Hence, if you could establish a base line, and two angles to a star from



Let's use the four bright stars in a line in the picture to get us going along what astronomers call the "Cosmic Distance Ladder." We'll call the far left blue star #1, the next one to the right will be #2, then #3 and #4. PHOTOGRAPH TAKEN FROM HERE BY TED WOLFE WITH HIS TELESCOPE IN CHILE

earth you know how far each side extends — thus giving you the distance.

Well OK, but how do we get the baseline, and angles to a distant star? This turns out to be pretty easy. You just use a very high-resolution telescope to take two pictures of a star. The pictures will be taken 6 months apart. So the Earth is on one side of the sun for the first picture, and the other side for the second picture.

We know with great precision how far the Earth is from the sun, so that gives us the distance across our base line.

The high-resolution telescope then

pinpoints the exact location of the star against its background for each of the two photos. That gives us the angles that the light from the star is following in reaching the Earth for each of the two points in time. Now we can easily calculate the distance to the star.

A special telescope orbiting the Earth called "Hipparcos" was used for these measurements. As I said earlier, this works well out to about 3,200 light years, which includes over 100,000 stars. (Before Hipparcos we could only go out to about 400 light years with this method). The angles get to be incredibly small beyond that, and astronomers

then use other tools in their distance measurement box which we will discuss in future articles.

So lets go back to our picture above. Here is what parallax tells us about the 4 bright stars in the upper left:

■ Star #1 - It is 506 ly away. (A blue/white type "A" star.)

■ Star #2 - It is 897 ly away. (A blue/white type "O" star.)

Hipparcos recorded an uncertain number for its distance, so we used another measurement to get its distance called a spectroscopic fingerprint, which we will discuss in the future.

The object is really a double star. Two stars situated close to each other, separated in telescope much larger than mine by only 0.8 arc sec. One star is brighter at seventh magnitude than the other which is 9th magnitude.

■ Star #3 - It is 248 ly away. (A yellowish type "K" star.)

■ Star #4 - It is 331 ly away. (A blue/white type "O" star.)

Lying in deep space beyond the four bright stars is the red emission nebula, NGC 6357. It lies 5500 ly away. How astronomers determine this remote distance is another story for another time.

Ted Wolfe is a member of the Everglades Astronomical Society. Organized in 1981 it serves the Naples community, providing information in all aspects of amateur astronomy. Its goals include educating the general public, school children and other groups to the wonders of the universe. The society meets at 7 p.m. every second Tuesday of the month at the Norris Center (public invited). Regular viewing visits to a special, dark sky site in the Everglades are held each month, allowing the general public to observe the night sky through telescopes, under pristine conditions. For more information, visit the website at <http://naples.net/clubs/eas>. A Blu-ray disc for viewing on TV is now available which features 70 of Ted's deep space images with original background music. For more information, go to [www.naples.net/clubs/eas/sales.html](http://www.naples.net/clubs/eas/sales.html).