

TEACHER GUIDE



Additional background information, resources and activities based on the Tampa Bay Times Newspaper in Education publication Space4All.

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About Newspaper in Education

The Tampa Bay Times Newspaper in Education program (NIE) is a cooperative effort between schools and the Times Publishing Co. to encourage the use of newspapers in print and digital form as educational resources.

NIE serves educators, students and families by providing schools with class sets of the Pulitzer Prize-winning Tampa Bay Times plus award-winning original educational publications, teacher guides, lesson plans, educator workshops and many more resources – all at no cost to schools, teachers or families. NIE teaching materials cover a variety of subjects and are aligned with Florida’s education standards.

For more information about NIE, visit tampabay.com/nie, call 727-893-8138 or email ordernie@tampabay.com. Follow us on Facebook at facebook.com/TBTNIE.

NIE is a member of Florida Press Educational Services (FPES), a non-profit 501(c)(3) organization of newspaper professionals that promotes literacy, civic engagement and critical thinking, particularly for young people. To learn more about FPES, visit fpesnie.org.

Newspapers as informational text

Informational text is nonfiction text whose primary purpose is to inform the reader about the natural or social world. Reading and interpreting informational text is a fundamental component of the Florida’s [B.E.S.T. Standards for English/Language Arts](#). The newspaper is an excellent source of informational text. Informational text employs a variety of structures to assist the reader in finding information quickly and efficiently. These can include a table of contents, an index, bold or italicized text, glossaries for specialized vocabulary, embedded definitions for specialized vocabulary, realistic illustrations of photos, captions and other labels, and graphs and charts.

Newspapers as primary and secondary sources

“Working with primary sources builds a wide range of student skills, from reading complex texts to assessing the credibility of sources to conducting research.”

- Library of Congress

The newspaper is both a primary and secondary source. Primary sources are the raw materials of history – original documents and objects that were created at the time under study. Secondary sources are accounts that retell, analyze or interpret events, usually at a distance of time or place ([Library of Congress](#)).

Using the newspaper to teach science

Newspapers are a critical tool for exploring science beyond the classroom and for developing scientific literacy and critical thinking skills. They provide a “living textbook” that updates and extends information contained in textbooks. They also demonstrate practical applications of skills and concepts presented in school curriculum by helping students relate science to daily news relevant to their lives, happening *right now* in *their* state, community and neighborhood.

The goal of Space4All is to help students learn how to:

- Evaluate the quality of scientific information in the news on the basis of its source.
- Evaluate arguments based on evidence.
- Identify scientific issues underlying national and local issues.
- Express positions that are scientifically and technologically informed.

Activities: Analyzing primary sources

Analyzing a newspaper article

In small groups or as a class, analyze one of the newspaper articles in [Appendix 1](#) using the following Observe-Reflect-Question analysis guiding questions.

OBSERVE: Identify and note details

Write down your answers to the following questions:

- Who published the article? Who was the audience for this article?
- Who was the audience for this newspaper?
- What type of article is this (eye-witness account, straight news article, feature article, editorial, column, reader contribution)?
- On what page and section does the article appear?
- What are the topics of other articles found on the same page or section?
- Is place relevant to this article? How?
- Are one or more dates listed in the article? Was this article written at or around the same time that the text relates to?
- What information is highlighted by the headline and other text callouts, if present?
- Are there any photos or illustrations? What additional information or explanation do they provide?
- What does the text describe, explain, or provide an opinion on?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

REFLECT: Generate and test hypotheses

Write down your answers to the following questions:

- What is the main idea of the article? List several facts or arguments that support the main idea of the article.
- Is this article a news story or an opinion piece? Is the article trying to inform or persuade? How do you know?
- Are there details that reference other people or events of the time period? What was happening during this time period?
- Why do you think this text was made? What might have been the author's or publisher's purpose? What evidence supports your theory?
- Who do you think was the audience for this article? What evidence supports your conclusion?
- If there was information about the author included, does that information suggest certain biases that person might have had? What do you think those biases were?
- Why do you think the author chose to include these specific details of description or explanation? What information or perspectives might have been left out of the article?
- What source or sources does the author quote or refer to in the article? Do you think these sources are reliable? Why or why not? What evidence supports your conclusion?
- Does this article show clear bias? If so, towards what or whom? What evidence supports your conclusion?
- What do you think the author might have wanted the audience to think or feel? Does the arrangement or presentation of words, illustrations, or both affect how the audience might think or feel? How?
- What do you feel after reading this article?
- If someone wrote this text today, what would be different? What would be the same?
- What did you learn from examining this article? Does any new information you learned contradict or support your prior knowledge about the topic of this article?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

QUESTION: What didn't you learn that you would like to know about?

Write down your answers to the following questions:

- What questions does this article raise?
- What do you wonder about . . .
 - Who?
 - What?
 - When?
 - Where?
 - Why?
 - How?
- Examine the words and phrases the author uses. Does the author's language support a particular perspective? Are different viewpoints presented?
- What sources might you consult to learn more?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Source: Library of Congress, [Getting Started with Primary Sources](#)

Extension activity: The front page

On page one of a newspaper, you'll find many devices designed to draw in prospective readers. The story that the newspaper's editor considers the most important story of the day is typically located on the upper half of the front page. This space is known as "above the fold." It is called this because print newspapers are often displayed to customers folded so that only the top half of the front page is visible.

On a web page, "above the fold" content is the part of a web page shown before scrolling. Any content you need to scroll down to see is considered "below the fold." The "fold" is where the browser window ends (although the content continues underneath).

Choose two historic newspaper front pages from [Appendix 3](#) from the same date. Write a short analysis of the differences between the front pages. Share what you have learned with your classmates.

- What is located "above the fold" on each newspaper's front page?
- How are they different?
- How are they similar?
- What choices have been made in selecting the headlines and images?
- Do you think this was an effective use of the front page? Why or why not?
- How would you organize the stories on the page? What factors might explain any differences between your version and the original?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; SS.58.A.1.1; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.68.W.1.3; SC.58.N.1.6

Extension activity: Headlines

A headline in the newspaper gives a general idea of what the news story that accompanies it will be about. Headlines have several purposes:

- Give readers a clear idea what the article is about.
- Tell readers some of the news, even if they don't have time to read the entire article.
- Make readers want to read the entire article.

Using the historical newspaper articles and front pages included in [Appendix 1](#) and [Appendix 3](#), choose an article that interests you because of the headline.

Write down the answers to the following questions BEFORE you read the article.

- What is the headline?
- What is the newspaper name? Date? Section and page?
- Write down five or more specific questions that you expect will be answered when you read the entire article.

Read the article you selected. Then write the answers you found to each question you wrote above. If a question was NOT answered in the article, leave the corresponding line blank.

Finally, answer the following questions.

- What words in the headline of the article you read especially encouraged you to read the complete article?
- Was the headline an accurate summary of the article? Explain.
- What important facts would you have missed if you had not read the whole article?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Adapted from: "Lesson 1: Predicting Information from Headlines," *The Careful Reader: Teaching Critical Reading Skills with The New York Times*, The New York Times in Education

Follow up activities

1. Study the headlines throughout the main news section of one of the newspapers in [Appendix 3](#). Create a list of characteristics common to most headlines (such as large type size, bold letters, few words, etc.). How do these characteristics compare to the headlines in the main news section of a modern copy of the Tampa Bay Times?
2. Choose one headline from one of the newspapers in [Appendix 3](#). Rewrite the headline by replacing some of the wording with synonyms. Are there any changes in meaning as a result of this exercise?
3. Share your headline with your classmates.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Analyzing photographs and images

“The first photograph published in an American newspaper – actually a photomechanical reproduction of a photograph – appeared in the Daily Graphic on March 4, 1880. Before that time it was common practice for American editors to enlist artists to sketch and report on news events, from steamboat explosions to the battles of the Civil War. It was not until 1919, with the launching of New York’s Illustrated Daily News, that American newspapers began to feature photographs routinely.”

- Library of Congress

Photographs document historic events. But more than that, they tell a story.

In small groups or as a class, analyze a photograph or image in the [Space4All publication or timeline](#) or in a newspaper front page in [Appendix 3](#) using the following Observe-Reflect-Question analysis guiding questions.

OBSERVE: Identify and note details

Write down your answers to the following questions:

- Describe what you see.
- What do you notice first?
- What people and objects are shown?
- How are they arranged?
- What is the physical setting?
- What, if any, words do you see?
- What other details can you see?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

REFLECT: Generate and test hypotheses

Write down your answers to the following questions:

- Why do you think this image was made?
- What's happening in the image?
- When do you think it was made?
- Who do you think was the audience for this image?
- What tools were used to create this?
- What can you learn from examining this image?
- If someone made this today, what would be different? What would be the same?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

QUESTION: What didn't you learn that you would like to know about?

Write down your answers to the following questions:

- What questions does this article raise?
- What do you wonder about . . .
 - Who?
 - What?
 - When?
 - Where?
 - Why?
 - How?
- What more do you want to know, and how can you find out?
- What sources might you consult to learn more?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Source: Library of Congress, [Getting Started with Primary Sources](#)

Extension activity: Blue Marble

In 1959, the U.S. satellite Explorer VI took the [first photographic image of the planet Earth from space](#) while passing over the Central Pacific Ocean.

In 1972, the astronauts of Apollo 17 took the [first photograph of the whole round Earth](#) and the only one ever captured by a human being from space, known as the “Blue Marble Shot.”

In 2012, 2.5 terabytes of data from 312 orbits of the Suomi National Polar-orbiting Partnership (Suomi NPP) satellite was mapped over existing Blue Marble imagery of Earth to provide a [realistic composite of Earth’s city lights](#). This became known as the “Black Marble.”

Use the Observe-Reflect-Question analysis guiding questions above to compare these three images of Earth. You can find even more images in [NASA’s Earth Observatory](#).

As a class, discuss.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Source: ReadWriteThink, [“The first picture of Earth was taken by the U.S. satellite Explorer VI in 1959”](#)

Extension activity: Writing photo captions

A caption, also called a cutline, is the block of text that accompanies a photo. There are typically three parts of a caption:

1. In the first sentence, explain what is happening in the photo in present tense. Answer the 5 Ws. Identify everyone fully by first name, last name, year in school, or some other identifying information (unless the group is very large).
2. The second sentence is often past tense and gives background information about the photo or the situation. The focus should be on giving interesting information to readers and telling a story.
3. The third sentence should give a quote from a witness or someone who was involved in the activity.

Writing photo captions is challenging because it requires you to include a lot of information in a small space. When writing a caption, you should assume that the photo

might be published by itself without an accompanying story. This means that the caption must include all the relevant information in no more than two or three sentences.

Choose a photo from the [Space4All publication or timeline](#) with a one-sentence caption. Imagine what additional background information would be interesting to readers. Write a second sentence using your new information (it does not need to be true). Next, write an imaginary quote from one of the photo's subjects as the caption's third sentence.

Now look at the photos that accompany stories in the newspapers in [Appendix 3](#). Imagine you must cut a story due to space issues, so you need to include all of the relevant information in the photo caption. Choose one photo and change the caption to include the important information in two or three sentences.

Share one of the photos and captions with your classmates.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Source: Journalism Education Association

Follow up activity

Select one of the historic photographs and images in the [Space4All publication or timeline](#) or a newspaper in [Appendix 3](#). In a brief paragraph, predict what will happen one minute after the scene shown in the image. One hour after? Explain the reasoning behind your predictions. Next, research what actually happened. Was your prediction accurate? Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Analyzing maps

Maps are as old as language. Mapmakers use images and lines that convey important information and can sometimes tell stories. Maps can be simple illustrations, or they can be high tech: from GPS to street map views in real time. In small groups or as a class, analyze a map from [Appendix 4](#) using the following Observe-Reflect-Question analysis guiding questions.

OBSERVE: Identify and note details

- Describe what you see
- What do you notice first?
- What size and shape is the map?
- What graphical elements do you see?
- What on the map looks strange or unfamiliar?
- Describe anything that looks like it does not belong on a map
- What place or places does the map show?
- What, if any, words do you see?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

REFLECT: Generate and test hypotheses

- Why do you think this map was made?
- Who do you think the audience was for this map?
- How do you think this map was made?
- How does it compare to current maps of this place?
- What does this map tell you about what the people who made it knew and what they didn't?
- If this map was made today, what would be different?
- What would be the same?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

QUESTION: What didn't you learn that you would like to know about?

- What do you wonder about . . .
 - Who?
 - What?
 - When?
 - Where?
 - Why?
 - How?
- What more do you want to know, and how can you find out?
- What sources might you consult to learn more?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Source: Library of Congress, [Getting Started with Primary Sources](#)

Follow up activities

1. Choose one of the maps in [Appendix 4](#) and write a brief description of the map in your own words.
2. Choose one of the maps in [Appendix 4](#). Use the Internet to search for at least one additional map of the same location from a different time period. Compile a list of changes over time and other differences and similarities between the maps.
3. Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Additional map resources:

- [NASA Mapping Our World interactive visualization](#)
- [NASA Hubble Sky Map](#)
- [Map of observable universe](#)
- [Deep space sky map](#)
- [ESA Euclid's great cosmic atlas](#)
- [Live Starlink satellite and coverage map](#)
- [Map of space launch sites](#)

Evaluating scientific news sources

News stories are a great way to learn about new ideas, discoveries and research in science and technology. But some sources of information are not as good as others.

Many sources compete for attention online, including social media, partisan blogs and bogus sites posing as legitimate news organizations. Before believing information, you need to figure out if that information can be trusted.

Watch the PBS Learning video “How Sensational Claims Can Spread Misleading Information” at florida.pbslearningmedia.org/resource/how-sensational-claims-spread-misleading-info/video-mediawise-student-reporting-labs/.

What three questions should you ask whenever you see scientific claims online?

- Who is behind the information?
- What is the evidence?
- What do other sources say?

Many national and large regional news organizations, such as the Washington Post, the Tampa Bay Times or network news, have a track record of publishing accurate and verifiable information. Here are five steps that you can take:

1. **Do a quick search:** Conducting a simple search for information about a news source is a key first step in evaluating its credibility.
2. **Look for standards:** Reputable news organizations aspire to ethical guidelines and standards, including fairness, accuracy and independence.
3. **Check for transparency:** Quality news sources should be transparent, not only about their reporting practices (see above), but also about their ownership and funding.
4. **Examine how errors are handled:** Credible news sources are accountable for mistakes and correct them. Do you see evidence that this source corrects or clarifies errors?
5. **Assess news coverage:** An important step in vetting sources is taking time to read and assess several news articles.

Find an article about science that is interesting to you and that includes information or facts from at least two different individuals. Read through the article.

Next, read the article again and fill out the [Source: Can I Trust the Creators? worksheet](#) on the following pages. On a scale of 1 to 10, where 1 is no trust and 10 is deep trust, rate your overall level of trust in the article and explain your rating.

As a class, discuss your findings.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.8.E.5.12; SC.58.N.1.6

Sources: News Literacy Project, [Is it legit?](#); NewseumED.org, [Source: Can I Trust the Creator?](#); PBS Learning Be MediaWise, [Evaluating Sources](#)

Name:

Date:



Source: Can I Trust the Creators?

Find a news story that is interesting to you and that includes information/facts from at least two different individuals. Then use this chart to determine if it is a trustworthy source of information.

News story title:

Date:

Publication:

Writer(s): (If there are more than one, pick one to research and circle their name.)

Publication	Writer
Is there an About Page? (circle one): YES / NO If so, summarize the information.	Is there a bio or info page? (circle one): YES / NO If so, summarize the information.
Is there a parent company that owns the publication or another organization that funds it? If so, name it here.	Can you contact the writer via email or social media? (If yes, write their email or handle(s) here.)
What advertisements are on the page? Do any seem linked to suspicious products or services?	Does the writer have an active social media account(s)? How often do they post? Are their posts professional?
Do a search for the publication's name and list two additional facts about it: 1. 2.	Have they written other stories for the same publication or other publications? List two examples of their work: 1. 2.

Name:

Date:



Write one reason to trust this publication, if any.	Write one reason to trust this writer, if any.
Write one reason not to trust this publication, if any.	Write one reason not to trust the writer, if any.

Now that you have determined whether you should trust who produced the story, let's go deeper. Find two sources (people) who provided information for this story.

Source #1 name and description (if unnamed, write anonymous):	Source #2 name and description (if unnamed, write anonymous):
What information did this source provide?	What information did this source provide?
Search for the source's name (if given) to find out: 1. Are they an expert on this topic? 2. Would they have a reason to know the information they provided to the writer?	Search for the source's name (if given) to find out: 3. Are they an expert on this topic? 4. Would they have a reason to know the information they provided to the writer?
If the source is anonymous, why do you think the writer trusted them?	If the source is anonymous, why do you think the writer trusted them?
What else would you like to know about this source to determine how trustworthy they are?	What else would you like to know about this source to determine how trustworthy they are?

On a scale of 1 to 10, where 1 is no trust and 10 is deep trust, rate your overall level of trust in this story:

Explain your rating.

Evaluating science in the news

News stories are a great way to learn about new ideas, discoveries and research in science and technology. But some sources of information are not as good as others. Before believing information from the news, you need to figure out if that information can be trusted.

Find an article about science that is interesting to you. *Before* reading your article, write down your answers to the following questions.

- Article title:
- Date published or last updated:
- Is this date recent enough for your topic? Explain.
- Is the publisher/sponsor trustworthy? What are their basic values?

For online articles only:

- What domain does the URL use?
 - .gov or .edu (generally trustworthy)
 - .com, .net or .org (can be owned by anyone)
- Does the site's name match the URL?
- Are ads on the website (if any) clearly marked?

Now, read the article, then write down your answers to the following questions.

- What are the author's credentials/qualifications?
- What is the author trying to do?
 - Inform
 - Persuade
 - Present an opinion
 - Sell something
 - Entertain
- What affiliations or conflicts of interest are mentioned?
- Does the author seem objective (uses facts, not opinions)? Explain.
- Does the author give references for data or quotations?

Read the "Criteria for Evaluating Sources" worksheet in Appendix TBD. Based on all the information you found, is your article trustworthy? Explain your decision using evidence from your answers and the "Criteria for Evaluating Sources" worksheet. Share your thoughts with your classmates.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Source: BioInteractive.org, [Evaluating Science in the News](#)

Extension activity: What does this mean to me?

Write a detailed paragraph reacting to the ideas in the article and their possible impacts. Your paragraph should answer one or more of the following questions:

1. What did you find interesting or surprising about the article?
2. How does the information in the article connect with what you've learned in science class?
3. How does the information in the article relate to you, your community or society in general?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3 SC.58.N.1.6

Source: BioInteractive.org, [Evaluating Science in the News](#)

E.S.C.A.P.E. Junk News

E.S.C.A.P.E., an acronym for six key concepts for evaluating information, is another tool to help consumers of science news determine whether information they find online is trustworthy.

E → Evidence: Do the facts hold up?

S → Source: Who made this, and can I trust them?

C → Context: What's the big picture?

A → Audience: Who is the intended audience?

P → Purpose: Why was this made?

E → Execution: How is this information presented?

As a class, review the E.S.C.A.P.E. Junk News poster on the following page.

Break the class into small groups and assign each group one or two of the E.S.C.A.P.E. concepts.

In small groups, read the Daily Mail article “Scientists reveal what space does to your hair” on the following pages. Use the E.S.C.A.P.E. Junk News worksheets on the following pages to analyze it through the lens of your specific concept(s).

Share your group’s findings with the class. As a class, decide if the story is trustworthy or not.

Class discussion questions:

1. From one E.S.C.A.P.E. concept alone, could you make a determination about the reliability of this story? Why or why not?
2. Which of these concepts do you think is the most helpful in figuring out whether information is reliable? Why?
3. Which of these concepts do you think is the most difficult to understand or apply? Why?
4. Did you feel you had enough time to apply your concept to this story? In real life, how could you speed up the process of evaluating information that crosses your path?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Source: NewseumED.org, [E.S.C.A.P.E. Junk News](#)

PRESENTS

E.S.C.A.P.E.

JUNK NEWS

Visit

NewseumED.org

for more resources!

6 WAYS TO EVALUATE INFORMATION

<div>E</div> <div>EVIDENCE</div> <div>DO THE FACTS HOLD UP?</div> <div>Look for information you can verify.</div> <ul style="list-style-type: none"> Names Numbers Places Documents 	<div>S</div> <div>SOURCE</div> <div>WHO MADE THIS, AND CAN I TRUST THEM?</div> <div>Trace who has touched the story.</div> <ul style="list-style-type: none"> Authors Publishers Funders Aggregators Social media users 	<div>C</div> <div>CONTEXT</div> <div>WHAT'S THE BIG PICTURE?</div> <div>Consider if this is the whole story and weigh other forces surrounding it.</div> <ul style="list-style-type: none"> Current events Cultural trends Political goals Financial pressures 	<div>A</div> <div>AUDIENCE</div> <div>WHO IS THE INTENDED AUDIENCE?</div> <div>Look for attempts to appeal to specific groups or types of people.</div> <ul style="list-style-type: none"> Image choices Presentation techniques Language Content 	<div>P</div> <div>PURPOSE</div> <div>WHY WAS THIS MADE?</div> <div>Look for clues to the motivation.</div> <ul style="list-style-type: none"> The publisher's mission Persuasive language or images Moneymaking tactics Stated or unstated agendas Calls to action 	<div>E</div> <div>EXECUTION</div> <div>HOW IS THIS INFORMATION PRESENTED?</div> <div>Consider how the way it's made affects the impact.</div> <ul style="list-style-type: none"> Style Grammar Tone Image choices Placement and layout
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Scientists reveal what space does to your hair - as rescued NASA astronauts stun the world with their appearance

By [WILLIAM HUNTER](#)

Published: 07:31 EDT, 20 March 2025 | **Updated:** 07:53 EDT, 20 March 2025

After nine long months aboard the [International Space Station](#), [NASA](#)'s astronauts have finally returned to Earth.

But Butch Wilmore and Suni Williams' shockingly changed appearances have stunned the world since their landing on Tuesday.

In particular, their long stint in space appears to have turned the astronauts' hair grey.

Williams, whose 'gaunt' appearance previously sparked health concerns, [appeared notably different](#) – with a long head of grey hair.

While some online commenters joked that this could be caused by a lack 'of hair dye' on the ISS, scientists say that space really can change your hair.

Research has shown that microgravity aboard the ISS interferes with hair growth.

Trapped outside Earth's gravitational pull, hair follicles in astronauts' heads start to undergo genetic changes that suppress growth.

Some studies even suggest that microgravity leads to an increase in 'oxidative stress' in hair cells, which is a potential cause of greying.

Williams, 59, and Wilmore, 62, first arrived on the ISS in June aboard the Boeing Starliner spacecraft.

However, after a series of technical issues [made it impossible to return on the problem-plagued capsule](#), the pair were forced to wait aboard the ISS until the departure of SpaceX's Crew-9 mission in March.

In that time, Williams and Wilmore were exposed to the harsh conditions of space and the extreme stress of living in a floating laboratory 240 miles (386km) above the Earth's surface.

Even during their stay, health experts were concerned that they may have been experiencing dramatic weight loss, but [their return has raised new questions about the impact of space on the human body](#).

When Williams arrived on the ISS, her long flowing locks prompted Donald Trump to dub her the 'woman with the wild hair'.

However, as Williams was helped from the SpaceX Crew Dragon capsule, following their splashdown of the coast of Florida, her hair appeared to have become grey.

On social media, commenters were quick to suggest that the change may be due to her grey roots growing out.

On X, formerly Twitter, one commenter wrote: 'Well, looks like Suni Williams, stranded on the International Space Station, has run out of hair dye'.

What does space do to your hair?

Thinning

- Studies have shown that microgravity activates genes in hair follicles that suppress hair growth.
- This could lead to hair not being replaced as it grows.
- Research on mice has also shown that spaceflight causes skin thinning and disrupts hair's growth cycle.

Greying

- There is no direct evidence that spaceflight causes greying.
- However, microgravity does increase oxidative stress in hair cells which has been linked to greying.
- Likewise, time in space causes emotional stress which can trigger hair to become grey or white.

Another added: 'She expected to be away for a week...so obviously she couldn't continue coloring her hair.'

In reality, it is possible that Williams and Wilmore's dramatic transformations are **a product of the intense forces of space.**

A study published in 2016 by scientists from the Japan Aerospace Exploration Agency (JAXA) found that microgravity alters gene expression in human hair follicles.

The study collected hair samples from ten astronauts living on the ISS for six months.

These samples showed that the spaceflight increased the activation of certain genes which restrict hair growth – prompting balding fears.

In the paper, Dr Masahiro Terada, a researcher at JAXA, wrote: 'We found that spaceflight alters human hair follicle gene expression.'

'In some astronauts, genes related to hair growth such as FGF18, ANGPTL7 and COMP were upregulated during flight, suggesting that spaceflight inhibits cell proliferation in hair follicles.'

The study raises the prospect that humans may turn into a bald species if we start living in space and lose the ability to replenish hair as it falls out.

The changes were also found to be more pronounced in male astronauts than in female astronauts.

Dr Terada wrote: 'Although there are many differences such as hormone levels or functions between males and females, female astronauts appear to have a better response against the features of the space environment, as one example, FGF18 expression in females was more stable in space than in males.'

Likewise, a 2015 study looked at the skin and hair cells from mice who had spent three months aboard the ISS.

Researchers found that the mice had thinner skin and a disrupted hair follicle cycle.

Currently, there is no direct research into whether time spent in space causes hair greying.

However, there are studies which show spaceflight increases some of the known causes of greying.

In particular, studies have shown that changes to gene regulation during spaceflight leads to increased 'oxidative stress' in hair tissues.

Some research has suggested that oxidative stress, a type of damage created by harmful molecules called 'reactive oxygen', could be a key cause of greying.

If spaceflight does increase oxidative stress in hair cells, this could explain why some astronauts' hair appears to grey.

Likewise, astronauts undergo a huge amount of emotional stress during their time in space.

Studies have shown that astronauts undergo something called 'long-term spaceflight composite stress'.

This is a combination of multiple sources of stress unique to space such as microgravity, isolation, confinement, constant noise, and circadian rhythm disturbance.

According to research from the China Astronaut Research and Training Center, this stress is so severe that it can even trigger depression and cognitive dysfunction.

There is well-documented evidence that experiencing stress causes hair to turn grey by triggering the body's fight-or-flight reflex.

When this happens, your body's nervous system releases a chemical called norepinephrine into the hair follicles which turns the hair grey or white.

Given the stressful circumstances surrounding their stay on the ISS, it is perhaps unsurprising that Williams and Wilmore might look a little more grey once they finally got home.

Williams' transformation was so profound that it sparked a bizarre conspiracy theory that the entire mission had been faked.

On social media, confused conspiracy theorists mixed up photos taken before and after the nine-month mission, taking this as evidence that Williams's hair had actually darkened while in space.

One baffled commenter wrote: 'It was nice that Sunita Williams thought to put a color through her hair to cover up the grey for the journey home.'

'Not only that, but her gray hair magically transformed back to a rich, dark brown—no roots, no touch-ups, just pure space alchemy,' another commenter mistakenly claimed.

<https://www.dailymail.co.uk/sciencetech/article-14518479/Scientists-NASA-space-changes-hair.html>

Name:

Date:



E.S.C.A.P.E. Junk News

E → Evidence **Do the facts hold up?**

Your news story (title):

Choose three important facts from this story. The facts could be the names and roles of key individuals involved, a specific event that took place, a quote, a photograph or any other type of evidence that backs up the story.

Example fact: Fire Station 106 was closed because of a gas leak in the kitchen.

Example fact: Jennifer Smith was the firefighter who first noticed the problem.

Fact 1:

Fact 2:

Fact 3:

Verify these facts. In other words, find another source that independently reported the same fact (not a story that references the story you already have). List the second source that either confirms or contradicts each fact.

Fact 1: **Confirmed?** YES / NO

Source:

Fact 2: **Confirmed?** YES / NO

Source:

Fact 3: **Confirmed?** YES / NO

Source:

Based on this quick investigation, do you think the facts in this story hold up? YES / NO

Explain:

Name:

Date:



E.S.C.A.P.E. Junk News

S → Source

Who made this, and can I trust them?

Your news story (title):

Track down the following information for your news story:

1. **The publisher** (The site or organization that provided a space for this story; for example, *The Washington Times*)
2. **The author(s)** (The name(s) and profession(s) of the person or people who wrote it; for example, Sally Hawk, technology reporter)
3. **One source of information within the story** (A person, document or other source for the facts used in the story; for example, Juan Ortiz, a computer science professor, or *Tech Times* magazine survey on app usage)

For each element identified above, answer the following based on your overall impression. Using a scale of 1-10, where 1 is not at all and 10 is very strongly, how much do you trust these sources to provide accurate information about the topic of your news story?

1. **The publisher** 1 2 3 4 5 6 7 8 9 10

Explain your rating. (For example: I have never heard of this source and the website looks cheap)

2. **The author(s)** 1 2 3 4 5 6 7 8 9 10

Explain your rating.

3. **The source within the story** 1 2 3 4 5 6 7 8 9 10

Explain your rating.

Overall, do you think the story is a reliable source of information? YES / NO

Explain:

Name:

Date:



E.S.C.A.P.E. Junk News

C → Context What's the big picture?

Your news story (title):

What is the main issue or event in this story?

Find and read two other stories about the same issue or event.

Story 1 **Title:**
 Publication or website:

Story 2 **Title:**
 Publication or website:

For each additional story, answer the following question: Did this story provide any new or different information about the event/issue?

Story 1 YES / NO
Explain:

Story 2 YES / NO
Explain:

Based on this quick investigation, do you think this story presents the big picture, or just a piece of the story?

BIG PICTURE / ONLY A PIECE
Explain:

Name:

Date:



E.S.C.A.P.E. Junk News

A → Audience Who is the intended audience?

Your news story (title):

Publication/website:

Look closely at your news story and its publication/website and answer the following questions:

1. What does the **publication/website name** tell you about the intended audience? (For example, *The Washington Post* is intended in part for people living or interested in Washington, D.C.)
2. What does the **text of the story** tell you about the intended audience? (For example, difficult vocabulary or unusual terms might indicate that an article is intended for a well-educated audience.)
3. What does the **other content on the publication/website** tell you about the intended audience? (For example, is there a theme in the stories they publish? Do they often write about specific groups or interests?)
4. Based on your answers above, describe the type or types of individuals that make up the audience for this story:
5. Do you think the intended audience shaped the content of this story? In other words, did the writer or publisher change, omit or twist anything in the story to appeal to a certain group? YES / NO

Explain:

Name:

Date:

E.S.C.A.P.E. Junk News

P → Purpose **Why was this made?**

Your news story (title):

Look for the following possible purposes in your news story and explain why you think each one is or is not applicable.

1. Was this story made to **educate or inform** people about an event/issue? (Possible clues: detailed facts and clear sources, complete information about the topic) YES / NO
Explain:

2. Was this story made to **earn money** for the author or publisher? (Possible clues: ads around the story, appeals for money/support) YES / NO
Explain:

3. Was this story made to **influence** how someone feels about this event/issue? (Possible clues: labeled as opinion or perspective, highly emotional language that "tugs the heartstrings," extreme praise or criticism for key individuals or groups involved in the event or issue) YES / NO
Explain:

Of the three purposes listed above, which do you think is the **main** purpose of this story, and why? (Or, if you think the purpose is something other than the three listed above, explain.)

Based on your answers above about this story's purpose, do you think the story is credible? YES / NO
Explain:

Name:

Date:



E.S.C.A.P.E. Junk News

E → Execution

How is this information presented?

Your news story (title):

On a scale of 1 to 10, where a 1 is very sloppy/poorly done and a 10 is very professional/well done, rate each of the following elements of your story:

1. **Clarity** (the writer's ability to clearly present information)

1 2 3 4 5 6 7 8 9 10

Explain your rating. (For example: I found this story very confusing.)

2. **Style** (the writer's tone and ability to engage a reader)

1 2 3 4 5 6 7 8 9 10

Explain your rating. (For example: I found this story very boring.)

3. **Grammar, typos and spelling** (the writer's technical abilities)

1 2 3 4 5 6 7 8 9 10

Explain your rating. (For example: I found lots of incomplete sentences.)

4. **Layout/format** (the way the story appears)

1 2 3 4 5 6 7 8 9 10

Explain your rating. (For example: The page is well-organized and easy to read.)

Based on this quick evaluation of the execution, do you think this information is reliable? YES / NO

Explain:

Evaluating scientific arguments in the news

In everyday life, an argument is a disagreement between people. But in science, an argument is a statement backed by evidence. The purpose of a scientific argument is to answer a question about the natural world. The basic components of an argument are:

1. **Claim:** A statement backed by evidence.
2. **Evidence:** The information (data or observations) that supports the claim. It should be objective and based on facts.
3. **Reasoning:** The explanation of how the evidence supports the claim. It should rely on accepted scientific theories and concepts.

Find an article about science in the Tampa Bay Times. Read through the article and write down your answers to the following questions as an outline or on a graphic organizer.

1. What is the claim?
2. What evidence is provided to support the claim?
3. What parts of the claim are supported by each data point or observation? You may find it helpful to mark up the article with highlights, underlining, circling or numbering.

As a class, discuss:

- Does the article present a strong argument? Why or why not? How might it be improved?
- How does the information in the article connect with what you've learned in science class?
- How does the information in the article relate to you, your community or society in general?
- What did you find interesting or surprising about the article?

Florida Standards: SS.58.A.1.1; SC.58.N.1.5; ELA.58.R.2.4; ELA.K12.EE.1.1; ELA.K12.EE.2.1; ELA.58.C.1.3; ELA.58.C.1.5; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.F.1.4; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.V.1.3; SC.58.N.1.6; SS.58.A.1.1; SS.68.W.1.3

Sources: BioInteractive.org, [Evaluating Science in the News](#); The Lawrence Hall of Science, [Argumentation Toolkit](#)

Reading and interpreting scientific research

Often, news articles will point to a scientific research paper. The Internet has made scientific papers widely accessible. But because they are written for medical and scientific professionals, they can be difficult for people without a medical or scientific background to understand.

Reading and understanding research papers is a skill that every scientist has had to learn during graduate school. Reading a scientific paper is a completely different process from reading an article about science in a blog or newspaper.

Here are some tips to get you started, adapted from "[How to read and understand a scientific article](#)" by Jennifer A. Raff, Ph.D.

1. **Begin by reading the introduction, not the abstract.** The abstract is that dense first paragraph at the very beginning of a paper. In fact, that's often the only part of a paper that many non-scientists read when they're trying to build a scientific argument. (This is a terrible practice. Don't do it.)
2. **Identify the big question.** Not "What is this paper about?" but "What problem is this entire field trying to solve?" This helps you focus on why this research is being done. Look closely for evidence of agenda-motivated research.
3. **Summarize the background in five sentences or less.** What work has been done before in this field to answer the big question? What are the limitations of that work? What, according to the authors, needs to be done next? You need to be able to explain why this research has been done in order to understand it.
4. **Identify the specific question(s).** What exactly are the authors trying to answer with their research? There may be multiple questions, or just one. Write them down.
5. **Identify the approach.** What are the authors going to do to answer the specific question(s)?
6. **Read the methods section.** Draw a diagram for each experiment, showing exactly what the authors did. Include as much detail as you need to fully understand the work.
7. **Read the results section.** Write one or more paragraphs to summarize the results for each experiment, each figure, and each table. Don't yet try to decide what the results mean; just write down what they are. You'll often find that results are summarized in the figures and tables. Pay careful attention to them! Also pay attention to:
 - a. The words "significant" and "non-significant." These have precise statistical meanings.

- b. Graphs. Do they have error bars on them? For certain types of studies, a lack of confidence intervals is a major red flag.
 - c. The sample size. Has the study been conducted on 10 people, or 10,000 people? For some research purposes a sample size of 10 is sufficient, but for most studies larger is better.
- 8. **Determine whether the results answer the specific question(s).** What do you think they mean? Don't move on until you have thought about this. It's OK to change your mind in light of the authors' interpretation -- in fact, you probably will if you're still a beginner at this kind of analysis -- but it's a really good habit to start forming your own interpretations before you read those of others.
- 9. **Read the conclusion/discussion/interpretation section.** What do the authors think the results mean? Do you agree with them? Can you come up with any alternative way of interpreting them? Do the authors identify any weaknesses in their own study? Do you see any that the authors missed? (Don't assume they're infallible!) What do they propose to do as a next step? Do you agree with that?
- 10. **Go back to the beginning and read the abstract.** Does it match what the authors said in the paper? Does it fit with your interpretation of the paper?
- 11. **Find out what other researchers say about the paper.** Who are the experts in this particular field? Do they have criticisms of the study that you haven't thought of, or do they generally support it? Don't neglect to do this – but do it last, so you are better prepared to think critically about what other people say.

Find a scientific article online that relates to one of the space news articles you have read. Scimedirect.com is a good place to start. Follow the steps above to read and understand the research. Did the news article accurately portray the research? Why or why not? Using the articles in the Tampa Bay Times as models, write a new article summarizing the research for a general audience.

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Source: “[How to read and understand a scientific article](#)” by Jennifer A. Raff, Ph.D. A full-length version of this article originally appeared on the author's personal blog (violentmetaphors.com).

Fact vs. Opinion

The editorial section of the newspaper provides readers with differing opinions about news events. These articles express opinions and ideas and are expected to have a point of view. They do not necessarily report news items. Instead, they comment on current events.

- **Editorials** are written by a member or members of the editorial staff of a newspaper and express the opinion or idea of the newspaper as a whole.
- **Opinion articles** express the opinion or idea of only the person or people writing the article. These are sometimes called op-eds.
- **Letters to the editor** present the views of the newspaper's readers.

Editorials and opinion articles are often categorized into four types depending on their purpose:

- To explain, interpret or inform
- To praise or commend
- To argue, persuade, propose a solution or call for action
- To criticize or identify a problem

Knowing the difference between fact and opinion is very important.

Choose two pieces about the same space-related news event from the historical newspapers in [Appendix 3](#). One should be a factual news report and the other an interpretive news analysis, editorial or opinion column.

In small groups, read the selected articles. As you read, label each sentence as “F” for fact or “O” for opinion. Make notes about the reasons and process used to distinguish fact from opinion.

As a class, talk through students' decisions at the sentence level. Which is the straight news report and which is the news analysis piece? As a class, create a list of guiding questions to ask when reading any article – news, opinion or a mix – to help differentiate fact from opinion.

Finally, ask individual students to choose their own article and read it to test the effectiveness of their guiding questions. As with the earlier group task, students should focus on distinguishing between fact and opinion on the sentence level, labeling each sentence with an “O” or an “F.”

After their work is complete, reconvene as a class and discuss the efficacy of the guiding questions:

- Did they work?
- Were you always able to tell the difference between fact and opinion? Why or why not? What's difficult about this?
- What might be changed to make the questions more effective?
- Why is it important to have such questions in your “reader’s toolbox” as you approach any news media source?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.5.E.58.3; SC.58.N.1.6

Sources: NewseumED.org, [Here's What We Think: Editorials and Opinion Articles](#); The New York Times Learning Network, [News and 'News Analysis: Navigating Fact and Opinion in The Times](#)

Analyzing editorials and opinion articles

Most newspapers have an editorial and opinion section. These articles do not report news; instead, they express opinions and ideas about current events.

- *Editorials* are written by a member or members of the editorial staff of a newspaper and express the opinion of the newspaper.
- *Opinion articles*, sometimes called op-eds, express the opinion or idea of only the person or people writing the article.

Read the editorials and opinion articles in [Appendix 2](#). For each editorial and article, fill out the NewseumED Here's What We Think Worksheet on the following page.

As a class, discuss your findings.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Source: NewseumED, [Here's What We Think: Editorials and Opinion Articles](#)

Name:
Date:

Here's What We Think: Editorials and Opinion Articles

Most newspapers have an editorial and opinion section. These articles express a writer's or the staff's personal views. They do not necessarily report news; rather, they comment on current events.

Read three editorials or opinion articles. Find one editorial and one opinion article from your local newspaper (print or online) and one editorial from a news organization elsewhere in the country or world. Answer the questions for each op-ed or editorial.

1. Name of the editorial or opinion article. When and where did it appear? _____

2. Who do you think is the intended audience? Who is likely to read this? _____

3. What is the issue/controversy? _____

4. What is the type/purpose of the editorial or opinion piece?
_____ Explain/inform _____ Praise _____ Persuade/a call for action _____ Criticize
5. Describe the tone of the article. _____
6. Does this op-ed or editorial provide factual information? If so, what information? How do you know it's true? What evidence or sources does the author provide?

7. Is this information important for people to know? If so, why? If not, why not? _____

8. Do you agree with what this editorial or opinion article argues for? Why or why not? _____

Write an opinion article

Choose one of the editorials and opinion articles in [Appendix 2](#). Do you agree with the author's point of view? Why or why not?

Write an opinion article expressing your viewpoint. Use the opinion articles in the Tampa Bay Times or at tampabay.com/opinion as models for your article.

- Begin with an objective statement/introduction of the issue or controversy.
- State and discuss the opposing viewpoint.
- Refute the opposing viewpoint.
- State your position and reasoning. Use facts and details.
- Offer a realistic solution.
- Conclude concisely.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1

Source: NewseumED, [Here's What We Think: Editorials and Opinion Articles](#)

Letter to the editor

A letter to the editor of a newspaper is a letter addressed to the editor and meant for publication in the paper. It is a way for individuals to share their opinions on current events and issues with both the editorial staff and the readership of the paper.

Choose one of the editorials and opinion articles in [Appendix 2](#). Do you agree with the author? Why or why not? Write a letter to the editor advocating for or against this idea. Use the letters to the editor in the Tampa Bay Times or at tampabay.com/opinion as models for your letter. Your purpose in this letter is to state your opinion and support it with evidence. Your letter should include:

- A salutation ("Dear Editor:").
- The date, article title and author of the article that you are responding to.
- An introductory statement (a topic sentence) clearly stating the main point you are going to make.
- One or two facts, examples or evidence to support that point.
- A concluding sentence, which gives a call to action or a statement of how this issue will affect others.
- A signature block with your name, date and city, and any credentials that make you a credible source on this topic.

Extension activity: In pairs, exchange and read one another's draft letters. After reading the drafts, use the ReadWriteThink Letter to the Editor Peer Review Questions below to provide feedback.

1. Does the letter begin with a salutation and end with a signature block?
2. What article is the letter writer discussing? Is the article named in the first sentence or paragraph?
3. In the first paragraph, what main reason does the letter writer give for responding to the article? What position is the letter writer taking on the issue?
4. What specific points does the letter writer use to support the position taken in the letter?
5. How does the letter conclude? Is the conclusion appropriate for the letter?
6. What advice would you give the author of this letter?
7. What did you like the most about this letter? Why?

After students have shared and received feedback, revise your drafts based on the feedback.

Extension activity: Submit your letter to the Tampa Bay Times at tampabay.com/opinion/submit-letter.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Sources: The New York Times in the Composition Classroom, [Letter to the Editor](#); ReadWriteThink.org, [Persuading an Audience: Writing Effective Letters to the Editor](#)

Analyzing editorial cartoons

Newspaper editorial cartoons are graphic expressions of their creator's ideas and opinions.

Editorial cartoons differ from comic strips. Editorial cartoons appear on the newspaper's editorial or front page, not on the comics page. Editorial cartoons are sometimes referred to as political cartoons, because they often deal with political issues.

Like written editorials, editorial cartoons have an educational purpose. They are intended to make readers think about current political issues, and can provide a window into history by showing us what people were thinking and talking about at a given time and place.

Use the guiding questions below to analyze the editorial cartoons in [Appendix 5](#).

OBSERVE: Identify and note details

Write down your answers to the following questions:

- Describe what you see.
- What do you notice first?
- What people and objects are shown?
- What, if any, words do you see?
- What do you see that looks different than it would in a photograph?
- What do you see that might refer to another work of art or literature?
- What do you see that might be a symbol?
- What other details can you see?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.68.W.1.3

REFLECT: Generate and test hypotheses

Write down your answers to the following questions:

- What's happening in this cartoon?
- What was happening when this cartoon was made?

- Who do you think was the audience for this cartoon?
- What issue do you think this cartoon is about?
- What do you think the cartoonist's opinion on this issue is?
- What methods does the cartoonist use to persuade the audience?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.68.W.1.3

QUESTION: What didn't you learn that you would like to know about?

Write down your answers to the following questions:

- What do you wonder about...
 - Who?
 - What?
 - When?
 - Where?
 - Why?
 - How?
- What more do you want to know, and how can you find out?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.68.W.1.3

Extension activity: Identifying persuasive techniques

Cartoonists use a variety of techniques, such as symbolism, exaggeration, labeling, analogy and irony, to communicate ideas and opinions with readers.

Use the chart on the following page, adapted from the Library of Congress, to identify the persuasive techniques used in the editorial cartoons you analyzed.

Once you've identified the persuasive techniques that the cartoonist used, answer these questions:

- What issue is this editorial cartoon about?

- What do you think is the cartoonist's opinion on this issue?
- What other opinion can you imagine another person having on this issue?
- Did you find this cartoon persuasive? Why or why not?
- What other techniques could the cartoonist have used to make this cartoon more persuasive?

Share what you have learned with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.68.W.1.3

Sources: [Library of Congress, Analyzing Political Cartoons Teachers Guide](#)

Symbolism	<p>Cartoonists use simple objects, or symbols, to stand for larger concepts or ideas.</p> <p>After you identify the symbols in a cartoon, think about what the cartoonist means each symbol to stand for.</p>
Exaggeration	<p>Sometimes cartoonists overdo, or exaggerate, the physical characteristics of people or things in order to make a point.</p> <p>When you study a cartoon, look for any characteristics that seem overdone or overblown. (Facial characteristics and clothing are some of the most commonly exaggerated characteristics.) Then, try to decide what point the cartoonist was trying to make by exaggerating them.</p>
Labeling	<p>Cartoonists often label objects or people to make it clear exactly what they stand for.</p> <p>Watch out for the different labels that appear in a cartoon, and ask yourself why the cartoonist chose to label that particular person or object. Does the label make the meaning of the object more clear?</p>
Analogy	<p>An analogy is a comparison between two unlike things. By comparing a complex issue or situation with a more familiar one, cartoonists can help their readers see it in a different light.</p> <p>After you've studied a cartoon for a while, try to decide what the cartoon's main analogy is. What two situations does the cartoon compare? Once you understand the main analogy, decide if this comparison makes the cartoonist's point more clear to you.</p>
Irony	<p>Irony is the difference between the ways things are and the way things should be, or the way things are expected to be. Cartoonists often use irony to express their opinion on an issue.</p> <p>When you look at a cartoon, see if you can find any irony in the situation the cartoon depicts. If you can, think about what point the irony might be intended to emphasize. Does the irony help the cartoonist express his or her opinion more effectively?</p>

Spinoffs

Every day, we interact with technology that was invented or improved by the space program. Spinoffs – industrial or consumer uses of technology invented by NASA – have had a huge economic impact on Florida and the U.S.

Watch the short YouTube video [Actor Wil Wheaton On How NASA Space Spinoffs Are Changing Life Here On Earth](#). Next, explore spinoff.nasa.gov.

Choose one of the spinoff products featured in these resources that has had an impact on Florida. Use the Internet to research the economic impact of this technology. Consider both positive (such as business startups or improvements to human life and safety) and negative (such as job losses or increased pollution) consequences.

Create an infographic depicting what you have learned. Share your ideas with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1
ELA.K12.EE.6.1; ELA.5.C.1.3; ELA.58.C.1.4; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3;
ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.3; ELA.68.F.2.4; SS.58.A.1.1; SS.68.W.1.3;
SC.5.E.58.3; SC.8.E.5.12; SC.8.E.5.10; SC.58.N.1.6

Extension activity: How much is space exploration worth?

Use the resources from [Analyzing editorial cartoons](#) to analyze the [editorial cartoons about the economics of space](#) in [Appendix 5](#).

After you analyze these cartoons in a well-developed paragraph, share your thoughts with your class.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4;
ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1;
SS.58.A.1.1; SS.68.W.1.3; SC.58.N.1.6

Extension activity: How much is space exploration worth?

Use the list of guiding questions from [Analyzing a news article](#) to analyze the following newspaper articles in [Appendix 2](#):

- “To Infinity and Beyond?: More wasteful spending at NASA,” *U.S. News and World Report*, 2013
- “The Real Cost of NASA Missions,” *Popular Science*, 2015
- “Space business an economic engine for Florida,” *South Florida Sun Sentinel*, 2017

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.68.W.1.3; SC.8.E.5.12; SC.58.N.1.6

Ethics of space exploration

Every science issue has implications on many levels: personal, social, economic, political and ethical. Advances in communication technology, for example, may increase connectivity but may also raise questions of privacy rights.

Space exploration raises many ethical issues. For example, the increasing population of “space junk,” or debris from space missions, increases the potential danger to space vehicles from all nations; while the landing of humans and uncrewed vehicles on the Moon and other planets risks contaminating those environments with microbes from Earth.

One of the most difficult ethical considerations of space exploration involves the risks to the humans involved in crewed missions.

As with terrestrial air travel, where the most dangerous periods are takeoff and landing, the most dangerous periods of space travel are liftoff and re-entry.

The first manned Apollo mission, scheduled for launch on Feb. 21, 1967, was put on hold by the death of the crew in a launch pad fire during a practice session. The crew of Space Shuttle Challenger’s tenth mission, STS-51L, was lost during takeoff. The crew of Space Shuttle Columbia 28th mission, STS-107, was lost during re-entry.

But even after having made it to space, astronauts are not out of danger. Instead, they are exposed to other risks which may prove just as dangerous.

Space is a hostile – and, without protection, lethal – environment for humans. The temperatures in Earth orbit range from a low of -200 degrees F to a high of 250 degrees F. Microgravity causes high blood pressure, muscle atrophy and bone loss. Astronauts living on the International Space Station are exposed to 80 times the radiation of humans on Earth and have experienced permanent vision loss after returning to Earth.

A recent study has shown that Apollo astronauts, the only astronauts subjected to the radiation of deep space, die of cardiovascular diseases four or five times more often than the rest of the astronaut corps.

Read the Florida Today article “Study is first on deaths of Apollo crew” in [Appendix 1](#).

Next, watch the video “Apollo Astronauts' Health Issues Reveal a Hurdle to Deep-Space Travel” at <https://nieonline.com/tbtimes/videooftheweek.cfm?id=322>.

In small groups, use the document “[Gravity, Who Needs It? NASA Studies Your Body in Space](#)” and NASA’s Human Research Program website at nasa.gov/hrp to research the hazards that astronauts face. As a group, decide: is human space exploration worth the risks?

Write an editorial for or against human space exploration, using the guidelines in [Analyzing editorials and opinion articles](#) and [Write an opinion article](#) and using the editorials in the Tampa Bay Times as models. Groups should use the evidence they gathered during their research to back up their argument. Address questions such as:

- Are human beings just too fragile for deep space exploration?
- Should we rely on unmanned vehicles to explore the solar system and beyond?
- Could we ever build viable space colonies on the moon, Mars or elsewhere?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.F.2.1; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.1; ELA.58.C.1.5; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.V.1.1; SS.58.A.1.1; SS.58.W.1.3; SC.58.N.1.1; SC.8.E.5.12

Extension Activity: NASA’s one-year mission & twins Study

In March 2015, American Astronaut Scott Kelly and Russian Cosmonaut Mikhail Kornienko began a one-year stay (twice as long as typical U.S. missions) on the International Space Station (ISS). The purpose of the One-Year Mission was to study the medical, psychological and biomedical challenges faced by astronauts during long-duration space flight.

The Twins Study evaluated identical twin astronauts Scott and Mark Kelly during the year Scott Kelly was in space. By studying two individuals who have the same genetics, but are in different environments, for one year, researchers hoped to gain broader insight into the subtle effects and changes that may occur in spaceflight as compared to Earth.

Watch the video “What we can learn from Scott Kelly’s year in space” at <https://nieonline.com/tbtimes/videooftheweek.cfm?id=302>.

Discuss as a class:

- What are the biggest hazards for people spending a long time in space?
- Should we send people to Mars? Why or why not? Would you want to go?

- When do you think a manned mission to Mars could take place?
- Should such a mission involve many nations sharing the costs, risks and discoveries?
- Could nations set aside their rivalries to mount space missions?
- What could manned missions do that unmanned missions can't?
- Are robots much better suited to space exploration than people?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.C.1.2; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.2; ELA.58.F.1.3; ELA.58.F.1.4; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.58.V.1.2; ELA.58.V.1.3; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.4; SS.58.A.1.1; SC.58.N.1.1; SC.8.E.5.12

Sources: *Apollo Astronauts' Health Issues Reveal a Hurdle to Deep-Space Travel*,
<https://nieonline.com/tbtimes/videooftheweek.cfm?id=322>; *What we can learn from Scott Kelly's year in space*,
<https://nieonline.com/tbtimes/videooftheweek.cfm?id=302>

From the front page to the history books

Journalism is often referred to as the first rough draft of history. Over time, breaking news and contemporary news coverage evolves to become part of the historical record.

In small groups, study one of the newspaper front pages in [Appendix 3](#). Fill in the left column of the From the Front Page to the History Books worksheet on the following page with the key facts about a historical event from the front page, as well as any questions that are not answered.

Next, use the Internet to find information to fill in the right column of the worksheet with key facts about their event from a historical source, as well as any answers they can find for the questions they posed in the left column.

Complete step 3 on the worksheet, underlining facts that are the same and circling those that do not match up. Then underline the questions for which you found answers and circling those for which you did not.

Finally, respond to the three questions in step 4 on the worksheet, analyzing your findings.

As a class, discuss:

- Which facts did you find were the same in both sources? Which were only found in one or the other? Why do you think this was the case?
- Which of the questions you wrote after reading the news source are still unanswered? Why do you think that is?
- What is the role of a reporter? What is the role of a historian? Compare and contrast.
- How much time must pass before news becomes history?

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1
ELA.58.EE.6.1; ELA.58.C.1.2; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1;
ELA.58.C.5.2; ELA.58.F.1.3; ELA.58.F.1.4; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1;
ELA.58.V.1.2; ELA.58.V.1.3; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.4; SS.58.A.1.1

Source: NewseumED.org, [From the Front Page to the History Books](#)

Name: _____

Date: _____



From the Front Page to the History Books

NEWS	HISTORY
Front page event: _____	Name of your source: _____
Key facts about the event:	Key facts about the event:
What information is this news coverage missing? What questions do you have about what happened?	Answers to your questions:

2. Find an account of this event in a history book or encyclopedia, or on a reliable history website. Using the information you find, fill out the right column of the chart above.
3. Underline the key facts that appear in both sources. Circle the key facts that do not. Underline the questions for which you were able to find answers. Circle the ones for which you were not.
4. On another sheet of paper, respond to these questions: A) Why do you think some key facts appear in both sources and others do not? B) Did you find answers to all of your questions? Explain why you think you did or did not. C) Do you think your front page story could be considered a first draft of history? Explain your answer.

Analyzing turning points in history

Major historic events inevitably bring about changes in society, from politics to daily routines.

Think about a major event in your life (such as moving, starting at a new school, the arrival of a sibling etc.). How was your life different before and after this event?

Choose a space “milestone,” or major event, from the [Space4All publication or timeline](#) or the newspaper front pages in [Appendix 3](#). How do you think this major event changed the lives of the people who lived through it?

Consider both big changes and small changes. For example, the 9/11 attacks prompted the U.S.-led war in Afghanistan (big change), and it also led to “God Bless America” being played at ballparks (smaller change).

Working individually or in small groups, use the Analyzing Turning Points in History worksheet on the following page to make a hypothesis about the changes this event set in motion (left column of chart) and give your evidence/reason for each (right column of chart). Next, respond to the prompt in step 2 on the worksheet, evaluating how these events continue to affect our lives today.

As a class, discuss how major events can change the course of history in big and small ways.

- What were some of the big changes you found evidence to support? What were some of the smaller changes?
- What type of evidence/reasons did you use to make your hypotheses about changes?
- Sort the changes you hypothesized into categories. Possible categories: predictable versus unpredictable; positive versus negative; political versus personal, etc.
- Which event do you think had the biggest impact, resulting in the most significant changes? Why?

Source: NewseumED.org, [Before and After: Analyzing Turning Points in History](#)

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.C.1.2; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.2; ELA.58.F.1.3; ELA.58.F.1.4; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.58.V.1.2; ELA.58.V.1.3; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.4; SS.58.A.1.1

Name:

Date:

Before and After: Analyzing Turning Points in History

	CHANGE (If you lived at this time, how would this event have changed your life?)	REASON (Why do you think this change would occur? Look for evidence on the front pages.)
1.		
2.		
1.		
2.		
1.		
2.		
1.		
2.		

On another piece of paper, respond to this question: How do these events continue to affect our lives today?
(Give at least one example for each event.)

Extension activity: Journaling History

Write a journal entry from the perspective of someone living shortly before this event occurred, then a second entry from after. At the top of your entry, give a description of who “you” (the person writing this journal entry) are. Use the second journal entry to describe some of the changes that have happened in your life since your chosen big event.

Florida Standards: ELA.58.EE.1.1; ELA.58.EE.2.1; ELA.58.EE.3.1; ELA.58.EE.4.1; ELA.58.EE.5.1; ELA.58.EE.6.1; ELA.58.C.1.2; ELA.58.C.1.3; ELA.58.C.1.4; ELA.58.C.1.5; ELA.58.C.2.1; ELA.58.C.3.1; ELA.58.C.4.1; ELA.58.C.5.2; ELA.58.F.1.3; ELA.58.F.1.4; ELA.58.R.2.1; ELA.58.R.2.2; ELA.58.R.2.3; ELA.58.R.2.4; ELA.58.R.3.3; ELA.58.V.1.1; ELA.58.V.1.2; ELA.58.V.1.3; ELA.68.F.2.1; ELA.68.F.2.2; ELA.68.F.2.4; SS.58.A.1.1

Appendix 1: Newspaper articles

'Voyager 1,' now 35, at outer edge of space

Associated Press

Thirty-five years after leaving Earth, *Voyager 1* is reaching for the stars.

Sooner or later, the workhorse spacecraft will bid adieu to the solar system — the first time a human-made object will have escaped to the other side.

When NASA's *Voyager 1* and *Voyager 2* first rocketed out of Earth's grip in 1977, no one knew how long they would last. Now, they are the longest-operating spacecraft in history and the most distant, at billions of miles from Earth.

Today marks the 35th anniversary of *Voyager 1*'s launch to Jupiter and Saturn. It is now flitting around the fringes of the solar system, which is

enveloped in a giant plasma bubble. This hot and turbulent area is created by a stream of charged particles from the sun.

Outside the bubble is a new frontier in the Milky Way — the space between stars. Once it plows through, scientists expect a calmer environment by comparison.

Voyager 1 is in uncharted celestial territory. The boundary that separates the solar system and interstellar space is near, but it could take days, months or years to cross it.

Voyager 1 is currently more than 11 billion miles from the sun. Twin *Voyager 2*, which celebrated its launch anniversary two weeks ago, trails behind at 9 billion miles from the sun.

The NASA Jet Propulsion Laboratory built the spacecraft. Their original goal was to tour Jupiter and Saturn, and they sent back postcards of Jupiter's big red spot and Saturn's glittery rings.

Voyager 2 then journeyed to Uranus and Neptune. It remains the only spacecraft to fly by these two outer planets. *Voyager 1* used Saturn as a gravitational slingshot to catapult itself toward the edge of the solar system.

"Time after time, Voyager revealed unexpected — kind of counterintuitive — results, which means we have a lot to learn," said Ed Stone, 76, *Voyager*'s chief scientist and a professor of physics at the California Institute of Technology.

Still searching

Thirty-five years after leaving Earth, NASA's *Voyager 1* continues to explore space and may soon leave the solar system.

Moving through space

Termination shock

Shifting boundary where solar winds are reduced

Heliosphere

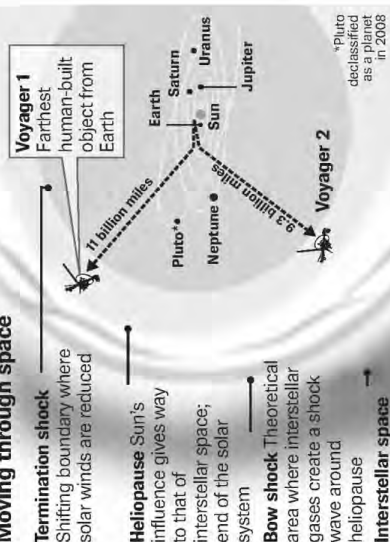
Sun's influence gives way to that of interstellar space; end of the solar system

Bow shock

Theoretical area where interstellar gases create a shock wave around heliosphere

Interstellar space

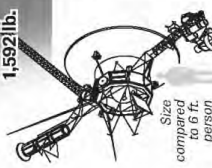
Space between two or more stars



Note: Drawing not to scale; approximate locations

Voyager 1 probe

- Travels 38,000 mph
- Carries disk with sounds and images portraying the diversity of life and culture on Earth as a greeting to any life form
- Radio signals from the craft take 16 hours and 38 minutes to reach Earth
- Has enough fuel and power to send messages until at least 2020, 12.4 billion miles from Earth



Source: NASA

McClatchy-Tribune

Tampa Bay Times, Sept. 5, 2012



NASA/AP

A crop of “Outredgeous” red romaine lettuce from NASA’s Veggie plant growth system.

SPACE STATION

Astronauts eat space-grown lettuce

A group of astronauts harvested the first samples of lettuce grown on the International Space Station and ate it as Earthlings watched the live stream of the historic salad preparation on Monday. The NASA experiment, called Veg-01, will help scientists determine the feasibility of fresh-grown food for long-term space missions, such as ones that would send astronauts to Mars. This isn’t the first batch of lettuce grown. The first round of romaine was returned to Earth and tested for safety. Some day soon, astronauts could count on a more ready supply of space veggies.

Tampa Bay Times, Aug. 11, 2015

Study is first on deaths of Apollo crew

BYRON DOBSON
DEMOGRAPHIC SENIOR WRITER

TALLAHASSEE — A high number of astronauts from the breakthrough Apollo program suffered from cardiovascular problems, according to a just-released study led by a Florida State University professor and a team of researchers.

The study on the deaths of the astronauts was conducted by professor Michael Delp, dean of Florida State University's College of Human Sciences, and a team of researchers, including FSU postdoctoral researcher Payal Ghosh. The report is being published in *Scientific Reports*.

Delp and his researchers are looking at the correlation between the development of cardiovascular problems and the astronauts' exposure to deep-space

See Apollo, Page 7A

Apollo

Continued from Page 3A

radiation.

The study is significant in that it represents the first time research has been conducted on the deaths of Apollo astronauts. The Apollo program lasted from 1961 to 1972. It launched 11 manned flights into space between 1968 and 1972. Nine of those flew beyond Earth's orbit into deep space.

According to NASA's website, the first four flights tested the equipment used in the Apollo program. Six of the other seven flights landed on the moon. The first moon landing occurred in 1969.

Twelve astronauts walked on the moon. They conducted scientific research studying the lunar surface and brought back moon rocks to Earth.

In the *Scientific Reports* paper, Delp says the men who traveled into deep space as part of the lunar missions were exposed to levels of galactic cosmic radiation that have not been experienced by any other astronauts or cosmonauts. That exposure may have resulted in cardiovascular problems.

"We know very little about the effects of deep space radiation on human health, particularly on the cardiovascular system," Delp said in a release. "This gives us the first glimpse into its adverse effects on humans."

Delp is working with NASA to conduct additional studies on the Apollo astronauts regarding their cardiovascular health. The Apollo research was funded by National Space and Biomedical Research Institute and the NASA Space Biology Program.

Significant to space exploration

Delp's research comes as the United States and other nations, plus private organizations, make plans for deep space travel.

NASA has plans for U.S. orbital missions around the moon from 2020 to 2030 in preparation for a manned flight to Mars. Russia, China and the European Space Agency are all looking at lunar missions. SpaceX, owned by Elon Musk, has proposed landing humans on Mars in the next 10 years.

The men in the Apollo program experienced different environmental conditions than anyone else in the world when they traveled into deep space, Delp said.

He found that 43 percent of deceased

Apollo astronauts died from a cardiovascular problem. That is four to five times higher than non-flight astronauts and astronauts who have traveled in low Earth orbit.

Of the 24 men who flew into deep space on the Apollo lunar missions, eight have died and seven were included in the study. The eighth — Edgar Mitchell — died after the data analysis had been completed.

Delp and his colleagues also exposed mice to the type of radiation that Apollo astronauts would have experienced. After six months — the equivalent of 20

human years — the mice demonstrated an impairment of arteries that is known to lead to the development of atherosclerotic cardiovascular disease in humans.

"What the mouse data show is that deep space radiation is harmful to vascular health," Delp said.

Delp holds a doctorate and a master's degree in exercise physiology from the University of Georgia. His expertise is in the study of effects of physical activity on the cardiovascular system and, more specifically, the microcirculation, according to his FSU Web page.

Florida Today, July 31, 2016

Space cookies slow to make, taste unknown

BY MARCIA DUNN
Associated Press

CAPE CANAVERAL — The results are finally in for the first chocolate chip cookie bake-off in space.

While looking more or less normal, the best cookies required two hours of baking time last month up at the International Space Station. It takes far less time on Earth, under 20 minutes.

And how do they taste? No one knows.

Still sealed in individual baking pouches and packed in their spaceflight container, the cookies remain frozen in a Houston-area lab after splashing down two weeks ago in a SpaceX capsule. They were the first food baked in space from raw ingredients.

The makers of the oven, Texas-based Nanoracks, expected a difference in baking time in space, but not that big.

“There’s still a lot to look into to figure out really what’s driving that difference, but definitely a cool result,” said Mary Murphy, a manager at Nanoracks.

Italian astronaut Luca Parmitano was the master baker in December, radioing down a description as he baked them one by one in the prototype Zero G Oven.

The first cookie — in the oven for 25 minutes at 300 degrees Fahrenheit — ended up seriously under-baked. He more than doubled the baking time for the next two, and the results were still so-so. The fourth cookie stayed in the oven for two hours, and finally success.

Tampa Bay Times, Jan. 24, 2020

Successful moon mission vaults China into ranks of space powers

BY GERRY SHIH
Washington Post

TAIPEI, Taiwan — Bearing 4.4 lbs. of lunar rock and soil, China's Chang'e-5 capsule touched down on the frozen steppes of Inner Mongolia early Thursday and vaulted China into the ranks of only three nations that have ventured to the moon and brought back samples.

The mission will provide earthbound researchers with the first fresh batch of lunar material in 44 years. The last delivery came in 1976, when the Soviet Luna 24 mission scooped up about six ounces of moon rocks and returned.

The Chang'e-5 mission launched on Nov. 24, and its lander touched down Dec. 1 near Mons Rümker, a volcanic mound on the near side of the moon. Chi-

nese officials say the site is of a younger geological age and can provide new insights about the makeup of the moon and the universe compared with sites sampled in the 1960s and 1970s by the Soviet Union and United States.

The mission was also significant, according to Chinese space officials, because it was the first time China synchronized and docked vessels in the moon's orbit.

Footage released by state media showed the Chang'e-5's copper-colored return capsule nestled safely in the snow and recovery staff members celebrating next to a Chinese flag. China's space-faring exploits have stoked national pride and have been a priority for Chinese leader Xi Jinping, who has spoken of his "space dream" as part of a broad-

er vision for China to become a comprehensive superpower.

In a congratulatory statement, Xi hailed the mission as a "remarkable feat" that would be remembered by the Chinese people.

China's space budget, while not publicly available, is estimated by the Space Foundation nonprofit organization to be the world's second-largest at more than \$8 billion a year, compared with NASA's \$22 billion. U.S. and Russian funding for their space programs has fallen relative to their national budgets since the space race of the 1960s. Last year, China became the first country to land a rover on the far — or "dark" — side of the moon, a technical challenge that required the use a dedicated lunar satellite to relay signals to Earth.

Tampa Bay Times, Dec. 20, 2020

China's Mars rover touches ground on red planet

BEIJING

China's first Mars rover has driven down from its landing platform and is now roaming the surface of the red planet, China's space administration said Saturday.

The solar-powered rover touched Martian soil at 10:40 a.m. Saturday Beijing time, the China National Space Administration said.

China landed the spacecraft carrying the rover on Mars last Saturday, a tech-

nically challenging feat more difficult than a moon landing, in a first for the country. It is the second country to land and operate a spacecraft on Mars, after the United States.

Named after the Chinese god of fire, Zhurong, the rover has been running diagnostics tests for several days before it began its exploration. It is expected to spend 90 days in a search of evidence of life.

— ASSOCIATED PRESS

The Miami Herald, May 23, 2021

China's space station has its first inhabitants after launch

BY SAM MCNEIL
Associated Press

JIUQUAN, China — A Chinese spaceship carrying a three-person crew docked with China's new space station at the start of a three-month mission Thursday, marking a milestone in the country's ambitious space program.

The *Shenzhou-12* craft connected with the *Tianhe* space station module about six hours after takeoff from the Jiuquan launch center on the edge of the Gobi Desert.

The three astronauts are the first to take up residency in the main living module and will carry out experiments, test equipment, conduct maintenance and prepare the station for receiving two laboratory modules next year.

The mission brings to 14 the number of astronauts China has launched into space since 2003, becoming only the third country after the former Soviet Union and the United States to do so on its own.

The astronauts were seen off by space officials, other uniformed military personnel and a crowd of children waving flowers and flags and singing patriotic songs.

The rocket dropped its boosters about two minutes into the flight



NG HAN GUAN | Associated Press

Chinese astronauts, from left, Tang Hongbo, Nie Haisheng and Liu Boming wave as they prepare to board for liftoff at the Jiuquan Satellite Launch Center in northwestern China on Thursday.

followed by the cowlings surrounding *Shenzhou-12* at the top of the rocket. After about 10 minutes it separated from the rocket's upper section, extended its solar panels and shortly afterward entered orbit.

About a half-dozen adjustments took place over the following six hours to line up the spaceship for docking with the *Tianhe*, or *Heavenly Harmony*, module at about 4 p.m.

China is not a participant in the International Space Station, largely as a result of U.S. objec-

tions to the secrecy and close military ties of Chinese programs. However, China has been stepping up cooperation with Russia and a host of other countries, and its station may continue operating beyond the International Space Station, which is reaching the end of its functional life.

China landed a probe on Mars last month that carried a rover, the *Zhurong*, and earlier landed a probe and rover on the moon's less explored far side and brought back the first lunar samples by any country's space program since the 1970s.

Tampa Bay Times, June 18, 2021

Space launches soar

Florida hopes to capture a piece of growing intercosmic economy.

BY JIM TURNER
News Service of Florida

TALLAHASSEE — Space Coast residents had a chance to wake up Thursday to the 18th orbital launch of the year from Cape Canaveral, as a SpaceX Falcon 9 topped with 53 Starlink internet satellites lifted off just before sunrise.

With at least five more launches expected this month, Space Florida President and CEO Frank DiBello said Wednesday that local launch facilities might handle more than 40 additional launches before the end of 2022 from private companies, NASA and U.S. Space Force.

"We're likely to see 60, 61, 62 launches this year," DiBello said during a conference call with the Space Florida Board of Directors.

"That, to me, is really significant in terms of the investments that we've made over time, thanks to the board and to our partnership with (the Florida Department of Transportation) and to the support that we've had from the legislature to investing in infrastructure that supports the increased capability that we have," DiBello added.

Hours before Thursday's launch, SpaceX's Dragon Endurance spacecraft, carrying three NASA astronauts and a

European Space Agency mission specialist, splashed down in the Gulf of Mexico off Tampa Bay. The Dragon's return wrapped up a 176-day expedition to the International Space Station that began with one of the 31 rockets that reached orbit from Cape Canaveral Space Force Station and NASA's neighboring Kennedy Space Center in 2021.

Since the start of 2022, launches from licensed sites tied to Space Florida, the state's aerospace arm, have put about 250 tons of equipment and supplies into space. Last year, Space Florida facilities accounted for about 370 tons of materials put into space, including 1,730 satellites.

"We could conceivably in the first four months of this year — having done 250 (tons) — we could easily see 550 to 600 tons to orbit this year, which is a big boost in our lift capacity," DiBello said.

Meanwhile, with nearly 700 satellites launched so far this year, including the 53 that went up Thursday, DiBello said the pace is ahead of the 2021 pace, which ended 30 percent higher than in 2020.

"We see a decade where between (50,000) and 100,000 satellites are going to be launched by 2030," DiBello said. "And, we want to try to capture a lion's share of those out of Florida. Again, what's driv-

ing the growth in the industry is our insatiable demand for bandwidth that all of us have. We feed that market regardless of the device that we're using."

Space Florida is also looking to focus on capturing a piece of an emerging market that services the space economy by developing the capabilities to send robots and people into space to extend satellite life, move crews, conduct research and manufacturing and undertake the removal of space debris.

"We're really looking at this industry," DiBello said. "Forecasts are for this to be between \$15 (billion) and \$20 billion (in economic impact) by the end of the decade. And that's not insignificant."

Among the more anticipated launches this year is the uncrewed Artemis I, now expected in August, which would mark the first integrated test of NASA's deep-space exploration systems: the Orion spacecraft, Space Launch System rocket and the ground systems at Kennedy Space Center. Orion is planned to travel 280,000 miles from Earth, beyond the orbit of the Moon.

Also in August, the Psyche asteroid explorer is expected to be sent to a region between the orbits of Mars and Jupiter aboard a SpaceX Falcon Heavy rocket.

Tampa Bay Times, May 7, 2022

UF researchers grow plants from moon soil

Their history-making findings could advance space exploration by helping to sustain longer human stays.

BY DIVYA KUMAR
Times Staff Writer

In a groundbreaking study published Thursday, researchers at the University of Florida have found that plants can grow in moon soil.

The study is the result of more than a decade of experiments, which led to NASA loaning UF the lunar regolith, or moon soil, collected during the Apollo 11, 12 and 17 missions. The researchers received four 1-gram amounts — about a teaspoon — from each mission after their 2019 proposal was approved, but previously spent years perfecting how to successfully grow plants in a tiny amount of soil.

Anna-Lisa Paul and Rob Ferl, whose past experiments have traveled aboard Richard Branson's spaceship, worked with UF geology professor Stephen Elardo in planting *Arabidopsis* plants in the lunar regolith last year.

The small flowering plants,

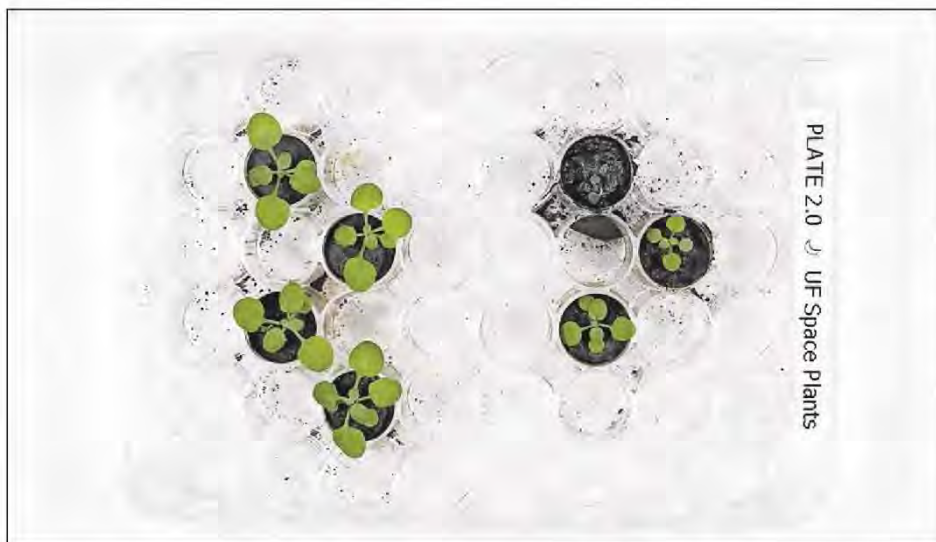


TYLER JONES | University of Florida

belonging to the mustard family, are commonly used in labs, favored because they grow and respond to their environment in the same way as many crop plants, according to the National Science Foundation. They also have a well-mapped gene pattern, a UF news release said.

By the second day of the experiment, everything was germinating. **See SOIL, 10A**

UF researchers Rob Ferl and Anna-Lisa Paul look at plates containing plants grown in samples of soil collected from the moon during three Apollo spacecraft missions.



The plants on the left were grown in soil simulating soil found on the moon, while those on the right were grown in actual lunar soil.

TYLER JONES | University of Florida

SOIL continued from 1A

ing, Paul said in an interview.

“It was awe-inspiring,” she said.

Ferl said he remembered thinking, “Holy cow!” when he witnessed what had never been seen before.

“Was it surprising?” he said. “I don’t know. Does it affect the brain and heart and spirit? Definitely.”

The researchers also grew the same plants in soil from extreme environments, as well as soils designed to mimic lunar soil and soil from Mars.

Paul said the plants grown in actual lunar soil were smaller, and the study found that the plants appeared to struggle most with soil collected during the Apollo 11 mission in 1969 and least in the sam-

ples taken by the Apollo 17 crew in 1972. Further studies would need to be done to determine if the maturity of the soil would impact that success of the plants.

What the study did show, Paul said, was that plants were capable of reaching into their “metabolic toolboxes” to activate different ways to respond to stressors.

“They can grow, but they don’t like it,” she said. “They turn on different genes to physically adapt to their environments.”

Paul and Ferl are professors of horticultural sciences in the UF Institute of Food and Agricultural Sciences. Their findings, reached in concert with the geology professor Elardo, were published in the journal *Communications Biology*.

The plants’ ability to grow in moon soil could

advance space exploration by helping to sustain longer human stays. While previous experiments have found that plants could grow in simulated moon soils, the study is the first of its kind using the actual material.

“The commitment by NASA is a really powerful statement not only about the interest, but the need to have us there as colonists and not just visitors,” Ferl said.

Paul said transporting plants for sustaining life has a long history, from the time of the ancient Polynesians who introduced crops to Hawaii.

“Humans are explorers,” she said. “Plants are what enable us to be explorers.”

Contact Divya Kumar at dkumar@tampabay.com or 727-893-8806. Follow @divyadivya.

Tampa Bay Times, May 13, 2022



Roscosmos State Space Corporation via Associated Press

The Soyuz-2.1b rocket with the moon lander Luna-25 automatic station takes off from the Vostochny Cosmodrome in Russia's Far East on Friday. The launch of the Luna-25 craft to the moon is Russia's first since 1976.

Russia launches moon mission

**BY ADELA SULIMAN AND
NATALIA ABBAKUMOVA**
The Washington Post

Russia launched a spacecraft Friday that is headed to the moon — its first attempt since 1976, around when the Soviet Union and United States were in deep competition for space dominance during the Cold War.

Moscow is now hoping to make history, in a race to be the first country to make a soft landing on the moon's

icy south pole.

The uncrewed spacecraft, known as Luna-25, took off in the country's southeast at 2:11 a.m. local time, according to Russia's space agency, Roscosmos.

It will take just over five days for the vessel to travel to the moon's vicinity, Roscosmos said. Then it will spend several days orbiting before attempting the soft landing on the lunar surface, north of the Bogu-

slawsky crater, on Aug. 21, the agency said.

The timetable pits Russia in a race against India, which launched a similar mission — the Chandrayaan-3 lunar lander — last month and is aiming to soft-land by Aug. 23.

"We hope to be first," Roscosmos chief Yuri Borisov reportedly said at the launch.

The move thrusts Moscow into the rare and coveted geopolitical space of

advanced lunar exploration, as it aims to join the United States and China in this expression of global power. Attempts by Japan and Israel have failed in recent years.

The moonshot, which Russia has been planning for decades, comes at a time when the Kremlin is facing international economic sanctions and a pariah status among much of the Western world for its invasion of neighboring Ukraine.

Tampa Bay Times, Aug. 12, 2023



EUGENE HOSHIKO | Associated Press

Japan Aerospace Exploration Agency staff watch a livestream of the pinpoint moon landing by the Smart Lander for Investigating Moon — or SLIM — early today.

Japan becomes the 5th country to land a spacecraft on the moon

BY MARI YAMAGUCHI
Associated Press

TOKYO — Japan became the fifth country in history to reach the moon when one of its spacecraft without astronauts successfully made a soft landing on the lunar surface early today.

However, space officials said they need more time to analyze whether the Smart Lander for Investigating Moon, or SLIM, achieved its mission priority of making a pinpoint landing. They also said the craft's solar panel had failed to generate power, which could shorten its activity on the moon.

Space officials believe the SLIM's small rovers were launched as planned and that data was being transmitted back to Earth, said Hitoshi Kuninaka, head of the Institute of Space and Astronautical Science, a unit of Japan's space agency.

But he said that SLIM's solar battery wasn't generating power and that it had

only a few more hours of battery life. He said that the priority now was for the craft to gather as much data about its landing and the moon as possible on the remaining battery power.

Japan follows the United States, the Soviet Union, China and India in reaching the moon.

Kuninaka said he believes that Japan's space program at least achieved "minimum" success.

SLIM landed on the moon at about 12:20 a.m. Tokyo time today.

There was a tense wait for news after the Japan Aerospace Exploration Agency's mission control initially said that SLIM was on the lunar surface, but that it was still "checking its status." No further details were given until a news conference nearly two hours later.

For the mission to be considered fully successful, space officials need to confirm whether SLIM made a

pinpoint landing. Kuninaka said that while more time is needed, he personally thinks it was most likely achieved, based on his observation of data showing the spacecraft's movement until the landing and its ability to transmit signals after landing.

SLIM, which was aiming to hit a very small target, is lightweight and about the size of a passenger vehicle. It was using "pinpoint landing" technology that promises far greater control than any previous moon landing.

While most previous probes have used landing zones about 6 miles wide, SLIM was aiming at a target of just 330 feet.

A landing of such precision would be a world's first, and would be crucial technology for a sustainable, long-term and accurate space probe system, said Hiroshi Yamakawa, president of the Japan Aerospace Exploration Agency, or JAXA.

Tampa Bay Times, Jan. 20, 2024

A vaccine to live in space? What's happening in a Florida lab may help earthlings, too

BY MICHELLE MARCHANTE
mmarchante@miamiherald.com

Traveling by plane isn't always easy on the body. And neither is space travel.

Astronauts often experience atrophy, the loss of bone and muscle, during their months living in space's zero gravity. People on Earth also tend to see their bones and muscles weaken as they age, increasing risk of injuries from falls.

Companies like Elon Musk's SpaceX and Miamian Jeff Bezos' Blue Origin are working to open space travel for more people.

And figuring out how to reduce atrophy — a condition that affects space explorers as well as senior citizens on Earth — is on the mind of scientists.

At the University of Central Florida in Orlando, researchers have received state funding to collaborate with biotech company Vaxxinity, which moved its headquarters from Texas to Cape Canaveral in Florida last year, to develop vaccines that can prevent and mitigate muscle and bone weakening, a common health problem for people experiencing long-term spaceflight — and aging seniors.

The funding for space medicine research is in line with UCF's roots — the public university opened in 1968 to support the U.S. growing space program — and will help researchers develop studies to assess the effects of Vaxxinity's immunotherapies on proteins in the body that could affect bone and muscle growth.

The goal? Create a vaccine that can help reduce muscle loss or help regain it in case of injury, immobility or space travel. This vaccine

could help people on Earth and in space live a better and healthier life as they age, according to Dr. Melanie Coathup and Dr. Michal Masternak, professors who work in UCF's College of Medicine and involved in the collaboration.

If all goes well, human clinical trials for the vaccines could begin as early as 2025, said Lou Reese, co-founder and executive chairman of Vaxxinity, who is also a self-proclaimed "space dork."

"UCF was born as a university to support the space program, and the College of Medicine is continuing that mission, working to bring back to Earth the secrets that space medicine research can reveal," Dr. Deborah German, vice president for health affairs and dean of UCF's College of Medicine, said in a statement. "We look forward to collaborating with Vaxxinity on this research and applying their unique technology to benefit the aging population on our planet and future space travelers."

READ NEXT: Want to live to 100 or older? Experts in Miami suggest taking these five steps now

THE FUTURE OF AGING IN U.S. AND FLORIDA

Research into how people can live longer and healthier lives as they age is becoming more important in the U.S., which is expected to see its population of people 85 and older triple by 2060.

Healthy aging research is also key to Florida's future, which has more than 5.5 million residents 60 and older, outnumbering the senior population of 20 other states combined, according to Florida's Department of Elder Affairs. Florida is second to California in people 60

and older. By 2045, Florida is projected to have more than 8.4 million older adults, or over 30% of the state's population, according to the department's 2022-2025 state plan on aging.

It's not surprising that a vaccine to help astronauts and seniors drew Florida's interest.

Besides Florida's large population of aging seniors, the Sunshine State also has a tourism-driven economy, which includes Mickey Mouse, beaches, and space. Florida is home to NASA's Kennedy Space Center in Cape Canaveral, which every year sees more than 1.5 million visitors. People visit the center to learn more about space exploration, and if they're lucky, see a rocket launch, too.

On Thursday afternoon, SpaceX launched a private astronaut mission from Cape Canaveral to the International Space Station. The mission is the third one organized by Houston company Axiom Space, and carried Axiom's first all-European crew, including Turkey's first astronaut Alper Gezeravci, Space.com reported.

READ MORE: Why do some people get Alzheimer's and others don't? How a new UM tool checks your risk

HOW DOES SPACE AFFECT THE HEALTH OF ASTRONAUTS?

A vaccine to help stop or reduce the deterioration of bone and muscle could also help further space exploration, too.

"It opens up a whole new opportunity for thinking and trying to work out what solutions can come from this ... and trying to learn as well because what happens in that extreme environment [space] is so different

to what happens in Earth," Coathup said.

"We mentioned deep space exploration to Mars and a lot of people think, 'Oh, it's not possible.' Well you know, at the moment, I guess it isn't. But for me, there's an excitement to actually make that possible. What can we do? What are the barriers? And how can we potentially get through them?"

NASA is planning to send astronauts back to the moon, a mission planned for 2025. And if the U.S. wants to do longer space missions, such as to Mars, finding ways to reduce bone and muscle deterioration will be key in reducing some of the health strains of space, Masternak said.

"There's a lot of excitement from many people working in this sector in order to develop new discoveries that will push health for astronauts but also like we're saying we'll be able to deliver new discoveries for people on earth as well," Coathup said.

READ NEXT: Her work has 'gone beyond the sky.' Here's how this Miami woman made it to NASA

Astronauts exercise for an average of two hours a day to reduce the bone and muscle deterioration caused by zero gravity, according to NASA. Without the exercise, the space agency says astronauts wouldn't be able to walk or stand up when they return to Earth months later.

A recent 2022 study of bone loss in 17 astronauts who flew aboard the International Space Station, with missions ranging from four to seven months, found that the astronauts experienced "significant bone loss" during six-month spaceflights. The astronauts exhibited 2.1% reduced

bone mineral density in the tibia, one of the bones of the lower leg, and 1.3% reduced bone strength, according to Reuters.

The loss is what "we would expect to see in older adults over two decades on Earth, and they only recovered about half of that loss after one year back on Earth," University of Calgary professor Leigh Gabel, the lead author of the research published in the journal Scientific Reports, told Reuters. Nine of the astronauts didn't recover bone mineral density a year after their flight.

"Putting humans into this extreme environment [of space], it shows the kind of weak points of our body and by studying this we can also apply it to humans living on Earth," Masternak said. "So this combination of better understanding what's happening there can give us much quicker answers to some problems that we are getting here on Earth with our everyday living."

THE FUTURE

Reese, Vaxxinity's executive chairman, said the company wants to help "humanity prepare for the next millennia," and that this vaccine research is just part of the puzzle.

"If humanity is to become a spacefaring species, solving fundamental problems related to space travel and living are table-stakes," Reese said.

"Vaxxinity is all-in on developing and commercializing these solutions, and working with the State of Florida and UCF, collectively, we strive to promote both healthy aging and ensure humanity can become multi-planetary, brave low gravity exposure, and be of the stars," Reese said. "The support for this research from the State of Florida exemplifies a commitment to pioneering solutions in the fields of space travel, as well as longevity and age-related diseases."

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The Bradenton Herald, Jan. 21, 2024

SPACE RACE

Musk's rocket complex ignites local economy in South Texas, but change comes at a cost

Rick Jervis
USA TODAY

BOCA CHICA, Texas – To Gilberto Salinas, the gleaming glass-and-steel building with the "SPACE X" sign emblazoned across its top stretching along State Highway 4 represents a portal into the future – a doorway to deep-space exploration just a few miles from his home.

Just down the road, workers mill in and out of the launch pad area where SpaceX founder Elon Musk and his team propel 5,000-ton rockets into outer space and from where the tycoon hopes to someday send humans to Mars.

"I still get goosebumps when I see those rockets launching," said Salinas, chief executive of Brownsville's economic development arm. "The future of deep-space exploration is happening here in our backyard."

To date, SpaceX has generated more than \$800 million in direct and indirect taxes to local and state governments, drawn more than \$99 million in tourism to the region and created more than 3,400 jobs for employees and contractors, according to figures SpaceX provided to Cameron County.

But for Nansi Guevara, a visual artist in Brownsville, Texas, the rocket-making complex is an irrevocable disruption to the shorebirds, ocelots and endangered Kemp's ridley sea turtles that nest in the Rio Grande delta. It's also the reason rents and property taxes are on a steep rise, she said, and why skilled workers from California and Florida are descending upon South Texas to fill high-paying jobs once promised to locals.

"More and more people are questioning it," said Guevara, an activist who has opposed SpaceX.

Musk, the richest man in the world, has poured more than \$3 billion into the ever-expanding rocket-producing venture of SpaceX, perched in a river delta about 22 miles east of Brownsville. Space travel enthusiasts have applauded his ambitious plans to launch rockets into outer space with the stated goal of some day placing a man on Mars.

Locally, support – if not outright enthusiasm – for SpaceX remains strong and widespread, though some like Guevara question just how much the venture has benefited locals and warn of harmful environmental impacts.

SpaceX's media relations officials re-



Elon Musk gives President-elect Donald Trump and others a tour of the SpaceX control room on Nov. 19. Musk, a Trump confidante, has been tapped to lead the new Department of Government Efficiency alongside former presidential candidate Vivek Ramaswamy. BRANDON BELL/GETTY IMAGES FILE

ferred USA TODAY to their website for details on how they mitigate environmental concerns, where the company claims the list of measures it takes "just for operations in Texas is over two hundred items long, including constant monitoring and sampling of the short and long-term health of local flora and fauna."

The company also partners with Sea Turtle, Inc., a local nonprofit focused on sea turtle conservation, and deploys workers to pick up litter around Boca Chica, according to the website.

"SpaceX is committed to minimizing impact and enhancing the surrounding environment where possible," it said.

So far, the team at SpaceX has launched its biggest and most powerful rocket, Starship, six times, the latest one occurring last month. Musk has requested approval to ramp up operations to 25 launches a year and said he plans to move his entire rocket-building operation from California to South Texas.

Environmentalists and watchdog groups worry that Musk and others in the spaceflight sector may soon have freer rein when President-elect Donald Trump takes office in January; Trump has said he will appoint Musk to the "Department of Government Efficiency," an advisory group mandated with downsizing government.

Musk, who spent more than \$750 million to help Trump get re-elected, is now tasked with reducing government – even as he's amassed billions of dollars in federal contracts and has faced scrutiny from federal agencies as chief executive of various ventures.

How that close relationship with the federal government plays out in South

Texas remains to be seen.

"They've already been getting away with doing whatever they want and causing environmental damage to our community," said Bekah Hinojosa, co-founder of the South Texas Environmental Justice Network. "Now, we're just worried it's going to exacerbate and get worse."

Launch day celebrations attract swarms of space enthusiasts

To reach the SpaceX complex, visitors drive east from Brownsville along Highway 4 toward the beaches, on a road that runs roughly parallel to the Rio Grande.

A decade ago, the area was desolate tidal flats dotted with sabal palms and Spanish dagger yucca.

Today, two futuristic-looking office towers and a soaring black-glass building comprise Starbase – 220,000 square feet of buildings spread over 350 acres. This is where SpaceX staffers design and build the rockets and control their launch.

About a quarter mile down the road, two soaring launch towers – one for each launch pad – sit sentry on SpaceX's launch site, as workers mill around.

For Barton "Bic" Bickerton, 55, owner of the Hopper Haus Bar & Grill in nearby Port Isabel, Texas, the real magic happens during each launch, when his small establishment crams with space enthusiasts from around the world and SpaceX employees.

On those days, the bar, which has the word "BARBASE" painted on an outside wall and serves "Cosmic Coco" and

"Lucky Launch" draft beer, opens early to accommodate enthusiasts watching the early morning launch. SpaceX employees celebrate at the bar with shots of Jameson. Visitors from Norway, Russia, Germany, South Africa and other countries fill the bar and spill out outside, toasting to space exploration or dissecting the science behind the latest launch.

"It's really pretty cool," Bickerton said.

Business has grown 40% since opening in 2021, said Bickerton, a former high school baseball coach. He's building a larger dining room adjacent to the bar and a backyard patio to accommodate the ever-growing crowds during launches.

"Business wise, it's been unbelievable," he said.

Dean Putegnat, co-owner of Redfish Recycling in Brownsville, quickly saw an opportunity to service Starbase's sprawling complex and all the recyclable refuse it produces. His company collects 14 commercial containers and 70 residential containers from the space explorers a few times a week, "about the size of a mini-municipality," he said.

What he didn't foresee was the influx of people from California, Austin and other areas who readily signed up for residential recycling service – and who are steadily pushing parts of the border into a more recycling-friendly area. As a result, the residential recycling segment of his business is rapidly growing, said Putegnat, 51.

Given the sudden interest, a city proposal to bring curbside recycling to Brownsville could pass through city council next month, making recycling even more widespread, Putegnat said.

"More houses want recycling, more convenience stores need a recycling container, more restaurants need recycling," he said. "SpaceX definitely has a lot to do with the indirect growth we've had."

Rising rents, indigenous tribe restrictions hinder some locals

But with growth comes growing pains. Some locals point to rising rents, as out-of-towners move in to fill SpaceX jobs.

Christopher Basaldú, an anthropologist and environmentalist, said he was forced to vacate his Brownsville apartment in late 2021 when the owners sold the building. He's now living in a smaller apartment with fewer amenities at a higher monthly rent, he said.

More concerning to Basaldú is the way SpaceX's operations have threatened habitats near the launch site and, by closing the only access road to the beach during tests and launches, limit

See SPACE, Page 10C

Space

Continued from Page 9C

the Carrizo/Comecrudo Tribe of Texas' access to Boca Chica Beach, which the tribe considers to be its historical and spiritual center. SpaceX closes the only access road to the beach several hundred hours a year during tests and launches.

During certain cycles of their native calendar, members of the tribe venture to the beach and place offerings and prayers – practices Basaldú said are hampered by SpaceX.

"We can't participate in traditions that have been happening for many thousands of years," said Basaldú, who is a member of the tribe. "In the course of just a few years, this foreigner billionaire has stopped that from happening."

Last year, environmental and cultural groups, including the Carrizo/Comecrudo tribe, filed a lawsuit in federal court against the Federal Aviation Administration, claiming the agency failed to fully assess Starbase's impact on the surrounding area. The FAA has denied the claims.

For years, the Tesla and SpaceX CEO has bristled at what he sees as government overreach in his space ventures – something he may have greater control over given his future position in the Trump administration.

Scott Amey, general counsel for the Project on Government Oversight, a Washington-based watchdog group, said Musk's role in the upcoming administration presents two potential conflicts of interest: steering federal contracts toward his companies or watering down agencies that monitor his businesses, such as the FAA or the Securities and Exchange Commission.

"There are quite a few ethics and conflict of interest laws that will apply to him," Amey said. "It will take a lot of self-policing as well as a strong ethics officer to make sure he doesn't cross the line."

Earlier this year, the FAA fined SpaceX more than \$633,000 for reportedly not following regulations during two launches in 2023. In a post on X following the penalties' announcement, Musk threatened to sue the federal agency.

"The biggest impediment to progress that we're experiencing is overregulation," Musk said earlier this year. "It takes longer to get the permit to launch than to build a giant rocket."

SpaceX officials have agreed to take steps to mitigate the company's impact on the surrounding environment. But recent events, such as the April 2023 explosion of a booster of the Starship rocket that sent debris flying in all directions and rattled homes several miles away, continue to alarm environmentalists and locals.

Rocket and other debris could be 'completely habitat-altering'

On a recent afternoon, Justin LeClaire, an avian



Barton "Bic" Bickerton, 55, owner of the Hopper Haus Bar & Grill in Port Isabel, Texas, gets a packed house on launch days. "Business-wise, it's been unbelievable," he says. PHOTOS BY ANGELA PIAZZA/CORPUS CHRISTI CALLER-TIMES



Elon Musk's SpaceX complex in Boca Chica, Texas, encompasses 220,000 square feet of buildings spread over 350 acres of Rio Grande delta, about 22 miles east of Brownsville.

conservation biologist with the environmental advocacy group Coastal Bend Bays and Estuaries, plodded through the sand dunes just north of the launch sites, looking for signs of the snowy plover, Wilson's plover and least tern – all shorebirds protected under the Migratory Bird Treaty Act.

Instead, LeClaire pointed to a large chunk of concrete with a tangle of rebar sticking out of it, like a giant spider, wedged in the sand – a relic from last

year's explosion. Nearby, smaller chunks of debris – like bowling balls – dotted the sand.

Last June, his group surveyed nine shorebird nests the day before a Starship launch. The next day, they returned and tallied the impact: Out of 22 eggs that were in the nine nests, only five survived the launch intact – all other eggs were missing or deemed too damaged to be viable, according to the group.

The launches and occasional explosion, along with the steep increase in human traffic and the trash they bring, is wreaking irrevocable harm on the surrounding habitat, LeClaire said.

"All of these things combined could really be completely habitat-altering for the Boca Chica area as a whole," he said.

Guevara, the artist, said when she first moved to Brownsville from Laredo, Texas, eight years ago, she visited Boca Chica beach and ventured down to where the Rio Grande empties into the Gulf of Mexico. There, she took off her shoes and stepped into the river.

Across the river, Mexican families splashed along the shoreline.

She felt a deep connection with the region and the historic river that has separated the U.S. from her ancestral homeland of Mexico for nearly two centuries.

Guevara said she's dismayed that her access to that area is now restricted and bristles at the thought of Starbase slowly desecrating the area – all in the name of sending rockets into space.

"My quality of life here is good because of nature," she said. "If we don't have nature, what do we have?"

Pensacola News Journal, Dec. 29, 2024

2025 space missions



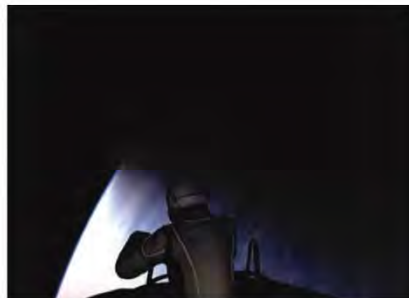
SpaceX Falcon 9 rocket on Starlink Mission 6-58 launches another batch of Starlink satellites into orbit on May 12 from Launch Complex 40 at Cape Canaveral Space Force Station reflecting Florida's record-breaking launch cadence.
MALCOLM DENEMARK/FLORIDA TODAY

What Florida can expect in space in the new year

Brooke Edwards Florida Today | USA TODAY NETWORK

As 2024 came to an end, it was evident that as impressive as it was, this was a year in space exploration which was set to be outdone. ● A record-breaking launch cadence from Cape Canaveral. SpaceX catching a Starship Super Heavy booster in Texas. The first spacewalk by a private company. A mission to Europa. The troubled Starliner crewed flight that had to return without its astronauts. And Blue Origin's New Glenn rocket making progress. 2024 was an eventful year in space exploration. ● However, the upcoming year has many ground-breaking missions already on tap. Here's some of what we can expect to see in space exploration in 2025. **See SPACE, Page 3A**

On Sept. 12, Jared Isaacman exits the Dragon spacecraft on the first ever SpaceX spacewalk. Image from SpaceX live stream.
PROVIDED BY
SPACEX



SpaceX's Starship is not just a vital tool for SpaceX's ambitious plan of reaching Mars, but has been contracted by NASA to land humans on the lunar surface during the Artemis III mission in 2027.

Space

Continued from Page 1A

Increased Florida launch cadence

With SpaceX continuously launching Falcon 9 rockets on Starlink and customer satellite deliveries and NASA missions – add in United Launch Alliance (ULA) launching the occasional Department of Defense mission, too – the Space Coast launch cadence has been rising over the past few years.

While 2023 saw a whopping 73 launches, 2024 shattered that record with more than 90 launches – even amidst two Falcon 9 Federal Aviation Administration (FAA) groundings.

As of Friday, Dec. 27 the Space Coast had counted 91 launches.

With SpaceX continuing their Starlink internet constellation, and other launch providers such as Blue Origin starting launches from the Space Coast, 2025 could be a year where the launch record is again easily broken and then some.

Jared Isaacman as NASA Administrator

Jared Isaacman was recently nominated by President-elect Donald Trump to serve as the upcoming NASA administrator. If appointed, Isaacman will replace current administrator, Bill Nelson.

Isaacman founded financial company, Shift4, commanded the SpaceX Inspiration4 and Polaris Dawn missions, and conducted the first-ever spacewalk by a private company. He is expected to bring big changes to NASA. Experts are keeping an eye on Artemis – NASA's much-delayed and hugely expensive return-to-the-moon mission – to see if Isaacman rethinks this program.

Artemis II, the mission that will take astronauts around the moon, is now set for no earlier than 2026, with the Artemis III moon landing targeting no earlier than 2027. These dates were pushed back after NASA investigated the cracking of the Orion spacecraft's heatshield during the uncrewed Artemis I mission in 2022.

SpaceX's Starship must also be ready to meet that 2027 deadline, as it will be utilized to land the Artemis III astronauts on the lunar surface.

A question has repeatedly come up: could SpaceX's Starship replace the giant Space Launch System rocket that NASA plans to carry Orion to the moon?

Starship progress toward coming to KSC

Locally, this coming year will bring answers to the outcome of the Federal Aviation Administration (FAA) and Space Force environmental reviews required ahead of the proposed Starship launches from Kennedy Space Center Pad 39A, where a Starship tower already stands.

The reviews collected input from citizens and looked at the possible impacts to surrounding infrastructure, ecosystem and wildlife.

Meanwhile, an undisclosed \$1.8 billion heavy-lift rocket infrastructure project is set to start in January. The project, known as Project Hinton, is fore-



SpaceX caught the Super Heavy booster for the first time on October 13. It sits in the Mechatronics arms on the launch pad post landing. This could be a scene in the near-future at Cape Canaveral. PROVIDED BY SPACEX



Jared Isaacman was recently nominated as the new NASA Administrator. CRAIG BAILEY/FLORIDA TODAY

cast to create 600 local jobs with average annual wages of \$93,000.

While the company behind the project remains disclosed, SpaceX's Starship could be a strong contender. The results of the Space Force and FAA environmental impact studies are to be released in 2025.

SpaceX's Starship is not just a vital tool for SpaceX's ambitious plan of reaching Mars, but has been contracted by NASA to land humans on the lunar surface during the Artemis III mission in 2027.

For now, SpaceX continues testing and improving Starship in Boca Chica, Texas. Flight 7 is anticipated in January, and the company plans eventually to be able to reuse both the booster and spacecraft. The reusability would drastically cut down on the cost of launching. It remains to be seen how far Starship development will come in 2025.

Blue Origin launch and NASA's Escape

Blue Origin is aiming for a debut launch of their orbital New Glenn rocket by the end of the year. Assuming all goes well with the inaugural test flight, plans call for it to launch satellites, such as Amazon's Kuiper internet constellation of 3,232 satellites, as well as NASA's ESCAPE mission to Mars no earlier than Spring of 2025.

This is Blue Origin's entry into the heavy-lift market, and could position

opening humanity's most capable space stations, pioneering the next giant leap toward long-term living and thriving in space."

Just recently, Vast tapped SpaceX to launch two private astronaut missions to the ISS. This is similar to Axiom's private missions to the ISS.

IM-2/Lunar Trailblazer

This mission will follow the Intuitive Machines-1 (IM-1) mission, which launched to the moon in early 2024, but tipped upon landing. While things didn't go quite as planned, the mission was the first successful lunar landing of a spacecraft built by a private company.

The IM-2 lander will head for a landing on the lunar south pole, using a drill and mass spectrometer to look at the makeup of the moon's subsurface. In simple terms, the mass spectrometer reveals what element is present by determining the mass of a molecule after converting it to a gas. NASA plans to send Artemis astronauts to the lunar south pole. While we do not know what IM-2 will find, it is suspected that there is water ice present on the moon's poles.

The IM-2 mission will carry with it NASA Jet Propulsion Laboratory's (JPL) Lunar Trailblazer, which is a small orbiter that will look for the location and forms of water on the moon.

This mission is currently set for no earlier than early 2025.

Blue Ghost headed to moon

Firefly Aerospace is also set to provide a lunar lander which will carry 10 NASA payloads no earlier than January 2025. According to NASA, some of the investigations being conducted by Blue Ghost payloads include:

- Heat flow from the lunar interior
- Plume-surface interactions on lunar surface - how the rocket exhaust impacts the surface
- Electric and magnetic fields
- Sampling of the rocky material found on the moon, known as regolith
- Global Navigation Satellite System abilities
- Radiation tolerant computing - how cosmic radiation impacts instruments
- Impact of lunar dust on instruments
- Taking X-ray images of the Earth's magnetosphere

FRAM2 mission

SpaceX has plans for an upcoming private astronaut mission like no other. The FRAM2 mission will take four explorers on a mission to orbit the poles – an orbit never before traveled by astronauts. Instead of the typical orbit, the FRAM2 crew will orbit from pole to pole. The three to five day mission is set for no earlier than Spring 2025, and will launch from Florida on a SpaceX Dragon.

The crew is led by entrepreneur and polar explorer Chun Wang. Also on the mission are: filmmaker Jannicke Mikkelson, polar explorer Eric Phillips, and engineer/polar scientist Rabea Rogge.

Brooke Edwards is a Space Reporter for Florida Today. Contact her at bedwards@floridatoday.com or on X: @brookeofstars.

Florida Today, Jan. 2, 2025

Starliner astronauts discuss ISS stay

Extended deployments on station 'not unusual'

Eric Lagatta
USA TODAY

Suni Williams and Butch Wilmore, the two NASA astronauts who rode into space months ago on a Boeing Starliner spacecraft, aren't spending their days pining to return to Earth.

The saga of the two spacefarers has garnered no shortage of publicity since June, when Williams and Wilmore first arrived at the International Space Station for the Starliner's maiden crewed voyage.

NASA decided that the troubled spacecraft wasn't up to the task of reliably transporting them back to Earth, and so the Starliner undocked in September without them, landing in the New Mexico desert. Many have referred to the astronauts as being "stuck" or "stranded." President Donald Trump this week said they'd been "abandoned."

But the astronauts themselves don't seem preoccupied with thoughts of leaving their celestial digs. In an exclusive interview Tuesday with USA TODAY, both said their focus has been on conducting science experiments, participating in space walks and soaking in as many sunset views of Earth as possible.

"We're here, we try to focus on the now, what's taking place here, the important work that's going on, because it requires that," Wilmore said. "I try not to long for anything I don't have now and just fret over it – there's no benefit to that."

Williams and Wilmore were among four American astronauts currently aboard the space station to speak with USA TODAY's Dana Taylor, co-host of the publication's flagship podcast "The Excerpt." The full episode featuring the conversation will be available at 5 a.m. EST Sunday on USA TODAY's podcast and vodcast platforms.

All seven spacefarers aboard the International Space Station are members of Expedition 72. The Americans are Williams, commander of the expedi-



Nick Hague, left, Butch Wilmore, Don Pettit and Suni Williams, NASA astronauts aboard the International Space Station, appear Tuesday for an exclusive interview with USA TODAY. Wilmore and Williams, who have been stuck the ISS since June, said their focus has been on conducting science experiments, participating in space walks and soaking in as many sunset views of Earth as possible. USA TODAY

tion; Wilmore; Don Pettit, who arrived Sept. 11, 2024, with Russians Alexey Ovchinnikov and Ivan Vagner aboard the Roscosmos Soyuz MS-26 craft; and Nick Hague, who arrived Sept. 29, 2024, with Russian Aleksandr Gorbunov on a SpaceX Dragon capsule.

Williams and Wilmore, who have both now been to space three times, said that their training and experience thoroughly prepared them for lengthy stays in orbit.

"Being deployed for a little while is not unusual for any of us and that's part of the game," Williams said. "You might not come home right away."

The interview took place hours before Trump took to Truth Social to implore SpaceX CEO Elon Musk to "go get" the astronauts. Musk acknowledged on his social media site X that he had readily agreed. It was not immediately clear if the two had crafted a new plan different from the one NASA announced in August, which has the astronauts flying back as early as March on a SpaceX Dragon capsule.

That spacecraft has been docked at

the station since September for a simple reason: Its passengers, Hague and Gorbunov, are scheduled for a six-month science rotation under the Crew-9 mission. The Starliner and Crew-9 spacefarers are also awaiting the arrival of their Crew-10 replacements, who are due to launch on a new Dragon capsule in late March.

Williams and Wilmore are making the best of the extra time in the cosmos.

When astronauts don space suits and venture outside, it's to spend hours performing station maintenance and other seemingly menial tasks. There are moments, though, when they can't help but take in an astonishing view that few or will ever experience.

Hague certainly didn't pass up the opportunity to steal a few glances of Earth and its magnificent sunsets during a Jan. 16 spacewalk with Williams.

"The Earth is such a miraculous thing to look down on, and when you're in the space suit it's a little different than when you look out the windows inside the space station," Hague said. "Our field of view is so large, for a moment

you can just feel like that suit melts away and it's just you witnessing the marvel that is the Earth."

At the time of the interview with USA TODAY, Williams and Wilmore were preparing for another space walk. For about 6½ hours, the Starliner astronauts removed radio communications hardware and swabbed the outpost's exterior to collect potential microbe samples for analysis. Williams now holds the record for the woman with the most cumulative time spent on space walks: 62 hours, 6 minutes.

In its two decades in orbit, the space station has become a critical hub for scientific research – much of it to prepare humans for deep-space exploration. The research the U.S. astronauts are conducting could pave the way for NASA to send astronauts back to the moon.

Recently, a SpaceX vehicle on a resupply mission transported a bevy of cargo to the station that included scientific research samples and hardware for Expedition 72 crew members. Much of it was meant to take advantage of the space station's microgravity environment – research Pettit has played a large role in conducting. Some of that research explores how microgravity and ultraviolet radiation affect plant growth, the findings of which could enable crews to grow crops on spacecraft during long-term missions further into the cosmos.

As Hague described to USA TODAY, if it's possible to grow microalgae in orbit, it could be a vital alternative to machines that consume carbon dioxide and produce oxygen for astronauts.

"As we try to go and explore deeper into space – go to the moon, go to Mars – those complicated machines are a failure point," Hague said.

The astronauts also described witnessing Earth from about 250 miles above as a profound experience – one that gives a new outlook on the commonalities all humans share.

"The perspective here allows you to see Earth as this precious whole thing that lacks a lot of boundaries," Hague said. "We're all connected on the Earth and in large part we have more things in common than we have different."

Pensacola News Journal, Feb. 1, 2025

China builds space alliances in Africa

As Trump cuts foreign aid, Beijing looks to others to enhance global surveillance network

Joey Roulette, Eduardo Baptista,
Sarah El Safty and Joe Brock
REUTERS

On the outskirts of Cairo, a cutting-edge space lab was supposed to be the first in Africa to produce homegrown satellites. Step inside the plant, though, and the made-in-Africa image begins to fade.

Satellite equipment and parts arrive in crates from Beijing. Chinese scientists scan space-tracking monitors and deliver instructions to Egyptian engineers. A Chinese flag hangs from one wall. The first satellite assembled at the factory, hailed as the first ever made by an African nation, was built mainly in China and launched from a spaceport there in December 2023.

The Egyptian satellite lab is the latest advancement in China's secretive overseas space program. Beijing is building space alliances in Africa to enhance its global surveillance network and advance its bid to become the world's dominant space power, Reuters has learned.

China has publicly announced much of this space assistance to African countries, including its donations of satellites, space monitoring telescopes and ground stations.

What it hasn't discussed openly, and which Reuters is reporting for the first time, is that Beijing has access to data and images collected from this space technology, and that Chinese personnel maintain a long-term presence in facilities it builds in Africa.

The satellite plant, which began operating in 2023, is part of a suite of space technology that China has gifted to Egypt over the past two years. Transfers that have been disclosed publicly include a new space monitoring center, which features two of the world's most powerful telescopes, plus two Earth observation satellites launched in 2023 – the one that was assembled in Egypt, and another manufactured solely in China.

In addition, China that year launched a third, Chinese-made satellite for Egypt, one capable of military-grade surveillance, according to two people with knowledge of the matter.

The satellite facility is the centerpiece of Space City, a complex being constructed about 18 miles east of Cairo near a new administrative capital being built by Egyptian President Abdel Fattah El-Sisi's government.

He has fostered closer ties with China in recent years, including inking infrastructure and energy projects under President Xi Jinping's Belt and Road Initiative.

The Egyptian presidency did not respond to a request for comment.

Egypt, a major recipient of U.S. mil-



Egypt's Space City, a gated complex near Cairo, also hosts a new African Space Agency created by the African Union.
SARAH EL SAFTY/REUTERS FILE

itary aid, is not the only country in Africa being drawn into China's orbit. Beijing has 23 bilateral space partnerships in Africa, including funding for satellites and ground stations to collect satellite imagery and data, according to the United States Institute of Peace, a think tank. In the past year, Egypt, South Africa and Senegal agreed to collaborate with China on a future moon base, a project that rivals the United States' own lunar plans.

This is just the beginning. In a meeting with dozens of African leaders in Beijing in September, Xi said satellites, as well as lunar and deep-space exploration, would be among the priorities for \$50 billion in Chinese loans and investment earmarked for Africa over the next three years. Xi's administration says publicly it is helping boost African space programs because China wants no country left behind as economies and militaries become increasingly reliant on space technology.

Privately, China is getting far more in return for its investment. This includes access to surveillance data collected by satellites and telescopes as well as a permanent presence in facilities it builds, according to six people with direct knowledge of China's space projects in Africa.

As China advances its relationships in Africa with technology incentives, the United States is pulling back. Billionaire Elon Musk, CEO of SpaceX and Tesla, is heading President Donald Trump's drive to shrink the federal government. One of his first targets has been the U.S. Agency for International Development, the aid agency that has

spread American soft power around the world since its establishment by then-President John F. Kennedy in 1961.

The Pentagon says China's space projects in Africa and other parts of the developing world are a security risk because Beijing can Hoover up sensitive data, enhance its military capabilities and coerce governments if they become locked into China's communications ecosystem.

The Pentagon did not provide specific evidence that China has used space technology it has donated to Africa for intelligence or military purposes, and Reuters was unable to independently verify these claims.

Liu Pengyu, spokesman for the Chinese Embassy in Washington, D.C., did not respond directly to questions about whether China is using equipment in Africa for surveillance. He said the U.S. "is not in a position to smear or defame China" because of America's own record of spying.

"The U.S. is the world's largest surveillance state," Liu said.

The space infrastructure and equipment that China is installing in Africa have common civilian uses such as transmitting data, monitoring the impact of climate change and helping fly spacecraft. But they also have military applications.

Powerful telescopes are used for space situational awareness. They could predict when U.S. military satellites pass overhead and help coordinate the use of anti-satellite weapons, according to a 2022 report by the U.S. Defense Intelligence Agency.

During a conflict, for instance, if Chi-

na invaded democratically ruled Taiwan, knocking out an enemy's satellites could disrupt missile guidance systems and tangle communications between ground, air and naval troops. China and Russia have previously tested ASATs and are continuing to develop more advanced versions, the DIA report said.

Access to a broad range of Chinese-built, foreign-owned satellites gives Beijing the ability to better coordinate military operations. These satellites could also give China a clearer picture of U.S. military activities around the world. The Earth observation satellite assembled in Egypt, for instance, has the ability to take high-resolution images of areas where the U.S. and Egypt carry out joint military exercises.

China's overseas ground stations, like one it has built in Ethiopia and another it is planning with Namibia, can be used for coordinating military operations, tracking missile launches and monitoring other countries' space assets. They also add to a sprawling global network of data collection infrastructure, which includes undersea internet cables and 5G networks.

U.S. allies have pulled back from terrestrial space partnerships with China. In 2020, Sweden declined to renew a contract with China that had allowed Beijing to use satellite ground stations in Sweden and Australia, citing the "geopolitical situation."

Sweden's state-owned space company declined to comment further on the contract. Australia's defense department did not respond to a request for

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comment.

To understand China's space push in Africa, Reuters interviewed more than 30 people with knowledge of Chinese projects on the continent, including diplomats, space engineers, consultants, and military and intelligence officials. Reuters also reviewed over 100 patents and papers published by Chinese government and military bodies leading Beijing's space program.

China's space web

China's rapid expansion of its space infrastructure on Earth is an example of a broader trend in which Beijing is catching up with the U.S. on everything from satellites to uncrewed moon landings to anti-satellite weapons, Gen. Stephen Whiting, commander of the Pentagon's U.S. Space Command, told Reuters.

China has accelerated the launch of low-earth orbit communications satellites over the last two years in an effort to compete with Musk's Starlink. The mogul's rocket launch company SpaceX owns Starlink, which provides commercial internet service, but is also building a network of hundreds of spy satellites for the National Reconnaissance Office, a U.S. intelligence agency that manages spy satellites.

"We see breathtaking advancements by China in space," Whiting said, adding that the Pentagon is "paying attention" to Beijing's partnerships with developing countries.

China Aerospace Science and Technology Corporation, a state-owned military and space contractor, has announced a goal to make the country the world's top space power by 2045. Plans include sending astronauts to the moon by 2030, building a moon base and developing nuclear-powered space shuttles.

The U.S. still has by far the biggest space program in the world, which is underpinned by SpaceX and a host of other private space companies.

China's space investments overseas also haven't always gone to plan. For instance, when a Chinese rocket carrying an Indonesian satellite exploded in 2020, it allowed SpaceX to swoop in and entrench itself as the Southeast Asian country's primary space contractor, Reuters reported.

Still, China's advances in space pose a challenge to Trump. During his first term, Trump created the U.S. Space Force, a new arm of the military that recognized the importance that space will play in future conflicts.

Trump's space team is unlikely to prioritize forging bilateral space relationships in the way Beijing has done in Africa, according to three space policy veterans who advised the former presi-

dent's transition team.

They predict Trump is more likely to double down on America's military capacity in space and push ahead with a race to the moon and possibly Mars, bolstered by his friendship with Musk.

NASA's Artemis program, supported by rocket launches by private companies like SpaceX, aims to get astronauts back on the moon by 2028. NASA, in partnership with the United Arab Emirates, Canada, Japan and the European Space Agency, also plans to build a space station in the moon's orbit known as the Lunar Gateway.

The White House did not respond to a request for comment.

Washington's efforts at space diplomacy have been unable to counter China's growing bonds in Africa, which are gaining significance as a new global space race takes off, according to interviews with U.S. and African space officials.

Around 90 countries now have space programs of their own, with many smaller nations aligning their national policies around frameworks set out by Washington or Beijing. By helping developing countries build space industries, China is nurturing crucial alliances.

The moon has emerged as a test of allegiance. The U.S. has signed up more than 50 countries to the Artemis Accords, a set of rules to influence space exploration and the use of the moon and Mars. China has described the U.S. rule book as a colonial-style land grab, proposing instead to build a collaborative International Lunar Research Station. China has gained the support of a dozen countries for its moon base, including Russia and Egypt.

Scott Pace, head of the National Space Council in the first Trump administration, described China as a fundamentally "self-interested actor" whose partnerships aim to cement China as the "center of power" in space.

China's main space agency, the China National Space Administration, did not respond to a request for comment. In response to a question from a Reuters reporter at a media briefing in Beijing in October, Yang Xiaoyu, director of the agency's System Engineering Department, said China has data-sharing agreements with partner countries but "has never, and will never" use images and data to enhance its military surveillance capabilities.

Liu, the Chinese Embassy spokesman, said "African countries and their people have the wisdom and ability to choose partners that align with their own interests."

US missteps

In many ways, China's space diplomacy mirrors a strategy the U.S. has been implementing for decades. NASA,

the Space Force and U.S. private companies maintain networks of global ground stations for tracking and communicating with satellites, mostly hosted in U.S. overseas territories or allied countries. These sites are used for monitoring space and downloading data – and for conducting secretive military operations in space.

Whiting said the U.S. programs aren't comparable to China's.

"We publicly talk about where they are, what they do," Whiting said of U.S. military ground stations. "With China, we don't see that same level of openness, and that does create doubt as to what's happening."

Whiting said the U.S. Space Command does not have any space-tracking assets in countries where China is setting up similar capabilities.

China's expanding space presence in Africa stands in sharp relief to America's absence. NASA last year began construction on a ground station in South Africa – its first on the continent – to communicate with spacecraft in the U.S. moon program. Its partnerships consist mainly of a network of 36 shoe-box-size atmospheric sensors scattered across 14 African countries, according to NASA international agreements reviewed by Reuters. It has also enlisted three African countries – Angola, Nigeria and Rwanda – to the Artemis Accords.

Some African governments have grown weary of Washington's security warnings about China and are more interested in which country is going to provide money and space technology, said Temidayo Oniosun, managing director at Space in Africa, a Nigeria-based consultancy.

"The U.S. had decades to help Africa develop their space programs, but they never did," Oniosun said. "These countries are realizing that the U.S. doesn't exactly have their best interests at heart."

Pace, the former top space official under Trump, said the U.S. should have done more to build relationships in Africa and elsewhere. A big part of the problem is that NASA, the State Department and the U.S. development agencies often don't coordinate their efforts as closely as Chinese arms of government do, he said.

The State Department and NASA did not respond to requests for comment.

China's more coordinated approach was demonstrated in the way it embedded itself inside Egypt's space program from the start, according to interviews with five people involved in the projects.

Space City

In 2017, CNSA, the Chinese space agency, announced a partnership with Egypt's National Authority for Remote Sensing and Space Sciences to build a

satellite facility in Cairo. The Chinese deal coincided with Cairo's creating the Egyptian Space Agency in January 2018 and laying out plans for the construction of a Space City on the outskirts of Cairo.

Between November 2017 and January 2018, Egyptian technicians and engineers went for training in China at space and military sites, two people with direct knowledge of the collaboration told Reuters.

When ground broke on the satellite plant, the Chinese ambassador to Egypt, Liao Liqiang, was on site. Liao, a career diplomat and vocal advocate for more Chinese-led space projects in Africa and the Middle East, would go on to closely oversee the development of the lab, according to the two people.

Dozens of construction workers and engineers from CASC, the Chinese space firm, moved into the Space City site. Some have never left.

The project was seen as a priority for China's space agency, and progress on it was fed back to CASC President Zhang Zhongyang, two sources said. CASC develops space tech to support China's military capabilities, according to a Reuters review of patents. This includes using satellites to coordinate missile strikes.

Zhang is a pivotal figure in China's space and military firmament. His background in missile design has made him a valuable player in efforts by the People's Liberation Army to build up its space capabilities, according to statements posted on the official website of China's State Council.

Zhang's role is highlighted by his membership in the military's Science and Technology Committee, a key part of the PLA's efforts to upgrade its technology and maintain war readiness. His high status in the Communist Party hierarchy is underscored by his inclusion in one of Xi's top decision-making bodies, the Central Committee.

In July 2024, Zhang visited Egypt to inspect the satellite facility, official photos show.

CASC, Zhang and Liao did not respond to requests for comment.

Egypt's satellite facility does not, however, add up to a full-fledged space program – it relies on China for almost every aspect of the project. Two of the three satellites emanating from the partnership so far were built solely in China, while the third was assembled in Egypt from Chinese components. All three were launched from China.

The first, dubbed Horus 1, was put into orbit in February 2023. That Earth observation satellite can help Egypt monitor agriculture productivity, predict natural disasters, and spot criminal activity such as narcotics cultivation, EgSA said at the time.

See SPACE, Page 10C

Space

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The second, Horus 2, was launched weeks later from the same spaceport in China, CASC announced, without disclosing the customer. Horus 2 is a military-grade surveillance satellite built for Egypt, two sources with knowledge of the satellite said. EgSA did not respond to questions about the purpose of Horus 2.

Egypt's third satellite, MisrSat-2, was launched in December 2023. It was the first to come out of the Cairo plant.

Most of the construction of MisrSat-2 was done by CASC in China; parts were shipped to Cairo, assembled and tested by CASC and Egyptian engineers, then shipped back to China for launch, two people with direct knowledge told Reuters. While the \$72 million satellite technically belongs to Egypt, CASC still monitors the data and images it collects, the people said.

Sherif Sedky, CEO of EgSA, told Reuters that the assembly facility and MisrSat-2 were "donations" from China and nothing was expected in return. Sedky said data from Egypt's satellites belongs to and is controlled by Cairo.

EgSA did not respond to questions about whether China also has access to the satellite data.

MisrSat-2 will help Egypt tackle climate change, enhance farming output and improve urban planning, EgSA says.

Sedky said Egypt is not picking sides in the space race by partnering with China. Cairo has received more than \$80 billion in U.S. military and economic assistance since the late 1970s, according to the State Department website.

"We are neutral, we deal with everybody," Sedky said in an interview in his office in Egypt's Space City, a gated complex that also hosts a new African Space Agency created by the African Union. "If we get an offer, we take it."

A Reuters journalist saw Chinese engineers buzzing in and out of the Space City complex. Asked about their presence, Sedky said they were there to install equipment and train Egyptian staff. He said these Chinese workers would leave eventually.

Egypt's satellite plant may soon have a new tenant with Chinese connections. In August, USPACE Technology Group, a



Dr. Sherif Sedky, CEO of the Egyptian Space Agency, told Reuters that the assembly facility near Cairo and the MisrSat-2 satellite were "donations" from China and nothing was expected in return. Sedky said data from Egypt's satellites belongs to and is controlled by Cairo. SARAH EL SAFTY/REUTERS FILE

Hong Kong-listed private space tech firm, said it had signed a strategic partnership with EgSA to develop satellite technology at Egypt's Space City.

USPACE did not respond to requests for comment.

Telescopes too

China and Egypt are also collaborating on a project to monitor satellites in orbit using sophisticated telescopes. That's a capability military analysts say is crucial as the number of satellites in space multiplies – along with the development of weapons to cripple them.

Two optical telescopes were recently erected on the roof of a hilltop research station outside Cairo. Workers from the

National Astronomical Observatories of China helped.

Makram Ibrahim, professor of space physics at Egypt's National Research Institute of Astronomy and Geophysics, said the collaboration with China was for scientific research.

"There could be political motives, and you can do that analysis yourself on how they benefit politically," Ibrahim told Reuters. "Secondly, they benefit scientifically because the data I get here, we both use it."

Liu, the Chinese embassy spokesman, did not comment on China's specific motives for investing in Egypt's space program. He said "supporting Africa's development is a shared responsibility of the international community."

Ethiopia is another recipient of space aid from Beijing. Since 2019, China has launched two Earth observation satellites for the East African country and funded construction of a ground station there. China also funds data collection to help Ethiopia monitor floods and droughts, said the country's top space official, Abdissa Yilma, the general director of the Ethiopian Space Science and Geospatial Institute.

He said his nation is neutral and wouldn't get drawn into the U.S.-China rivalry. But he said the contest could help supercharge technological development, just as East-West competition did in the Cold War.

"It seems that the race has started again," Yilma said.

Pensacola News Journal, Feb. 16, 2025

Lunar lander expected to hunt for water

Commercial mission could launch this week

Eric Lagatta
USA TODAY

The U.S. company that made history in 2024 with an uncrewed lunar landing is looking to do it again.

The second lunar lander developed and operated by Intuitive Machines, a Houston-based space exploration company, is set to launch to the moon this week, according to NASA. The U.S. space agency is paying top dollar to finance the mission, dubbed IM-2, which will see the delivery of scientific instruments that will hunt for water under the lunar surface.

Intuitive Machines etched its name in the history books a year ago when its spacecraft *Odysseus* became the first commercially-built lunar lander to ever make it to the moon. The lunar mission also marked the United States' return to the moon for the first time in more than five decades since NASA's Apollo era came to an end.

The lunar lander, which could launch this week aboard a SpaceX rocket, is among a fleet of moon-bound uncrewed spacecraft slated to get off the ground in 2025 as NASA prepares to send humans back to the surface in the years ahead. Another lander developed and operated by Texas-based Firefly Aerospace is already more than a month into its own voyage to the moon, with plans to land early in March.

NASA's Artemis campaign envisions the moon as being a crucial pit stop to prepare U.S. astronauts and their vehicles to travel onward to Mars.

What is the IM-2 lunar mission?

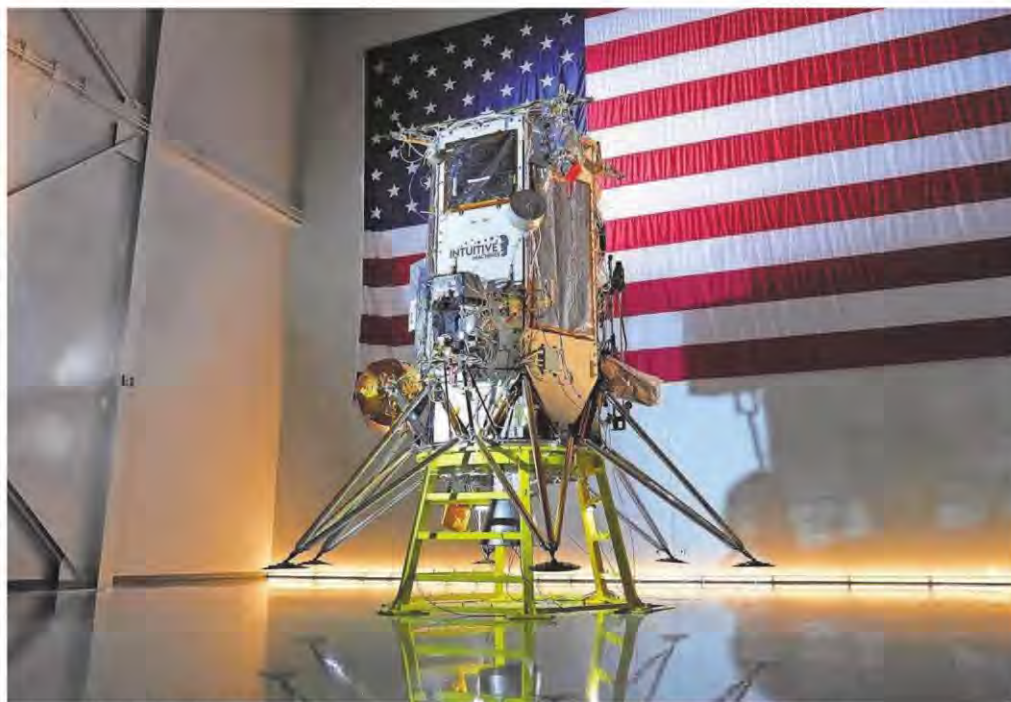
Athena, the name of the six-legged Nova-C lander, is carrying a number of scientific instruments meant to pave the way for astronauts to return to the lunar surface as early as 2027.

NASA is just one of many customers on the mission, which it is helping to bankroll under its Commercial Lunar Payload Services program, or CLPS. The CLPS program allows the space agency to find lower-cost methods to finance lunar deliveries without having to develop spacecraft of its own.

The solar-powered Athena lander, a hexagonal cylinder capable of carrying up to 300 pounds of cargo, will prominently carry a drill and a mass spectrometer, NASA said. Drilling operations will seek to detect and measure the potential presence of gases from beneath the lunar soil.

Other objectives include testing a Nokia LTE 4G communications system and deploying a propulsive drone capable of hopping across the lunar surface.

Additionally, an instrument known as a Laser Retroreflector Array on the



Intuitive Machines' second delivery to the moon will carry NASA technology on the Nova-C lunar lander. PROVIDED BY INTUITIVE MACHINES

top deck of the lander will be activated. The array should be able to bounce laser light back at any orbiting or incoming spacecraft – a vital capability that will provide a permanent reference point on the lunar surface.

The four-day window for the launch opens on Wednesday. Athena will hitch a ride on a SpaceX Falcon 9 rocket, which will lift off from Launch Complex 39A at NASA's Kennedy Space Center in Cape Canaveral, Florida.

If it launches Wednesday, the lander will attempt to touch down March 6 on the moon's south pole near a plateau known as Mons Mouton. The mesa-like lunar mountain towers over a landscape carved by craters, including the Shackleton Crater, a cold, dark region where water, ice and other materials that turn into gas are thought to be abundant.

Launching as a rideshare on the SpaceX rocket with the IM-2 delivery, NASA's Lunar Trailblazer spacecraft will also begin its own separate journey to lunar orbit to map the distribution of the different forms of water on Earth's only natural satellite.

NASA's interest in the moon

The mission is the latest uncrewed lunar venture that is meant to lay the foundation for astronauts to return to the moon and set up a long-term lunar settlement on the south pole.

NASA has said that ice thought to be abundant in the region could be extracted and used for drinking, breathing, and as a source of hydrogen and oxygen for rocket fuel to make expeditions to Mars possible.

But while NASA has been preparing for crewed moon missions under its Artemis campaign, President Donald Trump seems to favor focusing on Mars. During his inauguration speech in January, Trump made no mention of NASA's lunar ambitions while touting his goal of humanity reaching the red planet during his second term.

SpaceX founder Elon Musk, a staunch Trump ally who has often stated his goal of making "life multiplanetary," has himself envisioned a more aggressive approach of sending humans straight from Earth to Mars – perhaps as soon as 2028.

Musk's dream would involve SpaceX's massive Starship vehicle, which has yet to reach orbit in any of its seven flight tests so far. The 400-foot Starship vehicle, though, has also been hired by NASA to one day meet Artemis III astronauts in orbit and ferry them down to the lunar surface from the Orion capsule.

The potential launch of this lunar landing comes just more than a year after Intuitive Machines ushered in America's first return to the moon in more than 50 years.

The 14-foot-tall Nova-C lander, nicknamed *Odysseus* for the hero of Greek myth, touched down Feb. 22, 2024, landing in the southernmost location of any lunar craft. The lander remained functional for a week, collecting data and photos that were beamed back to Earth. *Odysseus'* landing marked the first time a commercial company built a spacecraft that made it to the lunar surface.

Another lander on way to moon

If all goes according to plan, Athena could touch down just four days after another lunar lander manufactured by a separate company makes its own landing.

Firefly Aerospace's lunar lander, named *Blue Ghost*, launched Jan. 15 on a much longer spaceflight bound for the moon. NASA, which is also the primary customer on the mission under its CLPS program, paid for a fleet of scientific instruments to be delivered and tested once the spacecraft attempts to land March 2.

The targeted landing site is on the moon's near side at a volcanic feature called Mons Latreille. The region is located within Mare Crisium, a 300-mile-wide basin believed to have been created by early volcanic eruptions and flooded with basaltic lava more than 3 billion years ago.

News Press, Feb. 25, 2025

Appendix 2: Editorials and opinion articles

Moon Program: Is Time Ripe For Questions?

By WILLIAM HINES

WASHINGTON — Now that the initial shock of the tragedy at Pad 34 is beginning to wear off, the second guessers are stirring. They are wondering — with a murmur now which will grow to a shout later — whether we should be going to the moon at all.

The time to have asked this question was 68 months ago, when the proposition was first laid out. The then President Kennedy challenged Congress to hash out the matter thoroughly before setting the nation on the road to the moon. Congress listened to his May 25, 1961, space message with slack-jawed wonderment and then — with little debate and no dissenting votes — authorized the moon program.



Thus Congress — as well as the administration and the nation as a whole — is stuck with project Apollo, and any six-year veteran of Capitol Hill who raises his voice in doubt now is in peril of being asked where he was when the great debate didn't materialize.

There are probably as many good reasons for not going to the moon as for going, but now is not the time to bring them up. The United States has laid its prestige on the line. It has spent most of the billion dollars Apollo will cost, and it would probably be harder now to turn the program off than it was to turn it on in the first place.

IN ADDITION — to be just a bit mawkish about it — it would dishonor the memories of astronauts "Gus" Grissom, Ed White, and Roger Chaffee to scrub the program now because they died so suddenly and tragically.

There is probably some justification for the assertion, sometimes heard from heretics here and there, that Kennedy sold the country a tremendous bill of goods.

He was new in office, a bit bloodied by the Bay of Pigs fiasco and the Russian propaganda victory scored the month before by Yuri Gagarin in the spacecraft Vostok 1. In addition, he had been elected on a promise "to get America moving again."

BUT, HE MADE it clear to the Congress it was their decision to reach: "This is the judgment which the members of Congress must finally make — let it be clear that I am asking the Congress and the country to accept a firm commitment to a new course of action — a course which will last for many years and carry very heavy costs."

Well, the decision was made, and 5½ years later we found ourselves in the face of a very great difficulty. What is to be done?

FROM ANY RATIONAL point of view, the only thing to do is carry on. The Apollo program necessarily will mark time until the true cause of the spacecraft disaster is located and corrected. It is entirely possible that the Russians will get to the moon ahead of us.

But so what? The world will not end, or America vanish, if Russians beat us to the moon. Kennedy covered this point, too, in this amazingly prescient message of May 1961:

"While we cannot guarantee that we shall one day be the first, we can guarantee that any failure to make this effort will make us last."

St. Petersburg Times, Feb 3, 1967

To Infinity and Beyond?: More Wasteful Spending at NASA

The Obama administration is squandering government dollars on useless space programs.

By **Peter Roff**, Contributing Editor for Opinion April 10, 2013



FILE - In this Jan. 13, 2013 file photo, the Orion Exploration Flight Test 1 crew module is seen in the Operations and Checkout building during a media tour at the Kennedy Space Center in Cape Canaveral, Fla. Senate Science and Space subcommittee Chairman Sen. Bill Nelson, D-Fla. says President Barack Obama and NASA are planning for a robotic spaceship to lasso a small asteroid and park it near the moon. Then astronauts would explore it in 2021. Nelson said the plan would speed up by four years an existing mission to land astronauts on an asteroid by bringing the space rock closer to Earth.  JOHN RAOUX/AP PHOTO

THE SEQUESTER HAS forced Washington, D.C. to tighten its belt.

The spending restraint is long overdue. Total federal debt now exceeds, by most estimates, one year's U.S. gross domestic product. Even so, the modest reduction in spending the sequester has forced the federal government to absorb is not nearly enough to get the books in balance.

It's also not, as recent reports have shown, enough to force the government to prioritize or even to show a little common sense. Exhibit A is the new plan underway at NASA, which has had little to do since the space shuttle program was terminated, to lasso an asteroid at an estimated cost of \$100 million.

[[See a collection of political cartoons on the budget and deficit.](#)]

According to the online blog [Hot Air](#), "The capture plan is being described as a 'baggie with a draw string' to snag the rock – ideally 25 ft across and 500 tons – and drag it back here to park it in orbit near the moon." Scientists could then examine it with an eye to potentially learning something "which could be used for asteroid mining in the future."

If the economy were growing at a healthy rate, say 4 percent per year, then maybe such an experiment could be justified. Science and experimentation drives job creation, produces economic growth and, to put it bluntly, can be really interesting. The nation certainly profited from President Kennedy's vow to put a man on the moon and return him safely to Earth within a decade. The Mercury, Gemini, and Apollo programs added considerably to America's national honor, fostered a countrywide spirit of adventure and attracted countless children into careers in math and science.

Now, under Obama, NASA has little to do. Instead of returning to the moon or planning for a manned mission to Mars, as President George W. Bush once proposed, the current administration has relegated the once storied agency to the job of making the Islamic world feel good about the many contributions it has made to science and mathematics over the centuries.

Turning astronauts into space-based version of Gene Autry and Roy Rodgers, doing what amounts to extremely expensive, technologically sophisticated rope tricks, does not measure up – especially when the economy is growing at less than 1 percent. The money is just not there for such flights of fancy.

In fact, the entire U.S. science budget could stand stricter scrutiny. From studies of poultry genitalia to the Starbase Youth Program – which teaches science, technology, engineering, and math to at-risk youth living near military bases located around the United States, a task that could easily be taken up by a private sector that needs the trained work force – there is just too much science pork out there for anyone to be comfortable.

More than that, government science, as a cultural matter, becomes the "accepted science," which then attracts the best scientists and researchers because the funding stream is continual and essentially guaranteed.

To boldly go where no man or woman has gone before, America must first get its financial house in order. If the government continues to spend money on such luxuries as the "Lasso an Asteroid" program, there will be less money available for core functions. By failing to choose between "guns" and "butter," the country may someday find itself in the position where it can afford neither – unless the Chinese, who have a space program of their own, continue to lend us the money.

The Real Cost Of NASA Missions

How much are we really paying to explore the universe?

By SHANNON STIRONE NOVEMBER 4, 2015

Since its inception in 1958, NASA has accomplished some pretty spectacular feats of science. Our country has landed humans on the Moon six times. We've successfully put laboratories onto the surface of Mars, and we've flown by every single planet in our solar system, including the recently promoted asteroid-turned-dwarf planet, Ceres.

Despite decades of scientific and technological achievements, some people still think that funding NASA is a waste of money. However, when you do the calculations, it turns out we are actually getting a great value from this government-run agency.

What NASA Gives Us

We can thank the Cold War for NASA's existence in the first place. After the launch of Sputnik in 1957, President Eisenhower realized we were losing the space race. So, on July 29th, 1958, the National Aeronautics and Space Administration was born. Upon signing the Space Act, Eisenhower said this about the new program: "There are many aspects of space and space technology which can be helpful to all people as the United States proceeds with its peaceful program of space and exploration. Every person has the opportunity to share through understanding in the adventures which lie ahead."

For 57 years NASA has provided the world with new perspectives on our species and our place in the cosmos. After the Apollo 8 mission sent back the famous "Earthrise" image, we were able to see ourselves for the first time. There we were, a beautiful blue ball, where everyone lives. Then on Valentine's day in 1990, the Voyager 1 spacecraft turned around on its way out of our solar system, and took the ultimate family portrait. This time, from a distance of 3.7 billion miles away, we were tiny, just a speck among the stars. It was because of moments like these that for decades when children were asked what they wanted to be when they grew up, they answered, "an astronaut!" This dream only existed because of NASA.

Recently, the world was united once again in the spirit of space exploration as the New Horizons spacecraft flew by Pluto. Always the underdog of the solar system, and discovered only in 1930, we never really knew what Pluto looked like; it is 3 billion miles away, after all. On July 14th it seemed as though the world stopped; people tweeted, Facebooked, and cheered on the streets while humankind accomplished something great. And while no one could see the spacecraft, we all

watched in awe as the nine-year journey came to a close and we flew past Pluto, only to find out it was more interesting than anyone could have ever imagined.

The Price Of Awe And Amazement

Getting inspired by science and discovery is one of the most rewarding parts of being a human. But exploring isn't free, especially not in the space case. What is the price of awe and amazement?

Since the end of the Apollo program in 1972 NASA has operated with an average 0.5 percent of the total US budget. That's not even a percent of the total 3 trillion dollars allocated to the U.S. in 2014. Although that may still seem like a lot of money, let's compare it to the beginning of the Apollo program.

In 1961, President John F. Kennedy decided that NASA would send humans to the Moon before the end of the decade. At that time, each U.S. citizen was paying \$20 per year to NASA. JFK needed that number to go up to \$26 a year to help get our astronauts to the Moon. In 2015 dollars, the Apollo era budget would have been equivalent to each American paying over \$200 a year to the space administration. If NASA still had that sort of funding in 2015, that would make its budget a whopping \$65 billion dollars per year, compared to its actual budget of \$17.5 billion. Instead, in 2014 each American paid an average of \$54 per year to NASA.

That money gets spread out over many different projects. So even though the Curiosity rover had an astounding \$2.6 billion price tag, each citizen only paid about about \$0.41 per year to put the SUV-sized robot on Mars.

Since 1972, NASA's budget hasn't increased, but has been cut by roughly 75 percent, and it's stayed that way for 42 years. While the Apollo era budget was arguably not sustainable, it raises questions as to what might be possible if NASA once again had access to more financial support.

NASA has made a little bit of money go a long way. In addition to organizing science missions, the space agency employs over 60,000 people including private organizations. But NASA can't do it all. Budget cuts are delaying the development of the Commercial Crew program, which would get astronauts launching from American soil again. In the meantime, we'll be forced to continue buying tickets on the Russian Soyuz.

What Lies Ahead

Despite its ongoing budgetary battles, NASA continues to do good science.

Next on the horizon for NASA's space exploration agenda is a flyby of Europa. The mission to Jupiter's icy moon has created a lot of excitement for astrobiologists. Because Europa has more water in its oceans than all of the water combined on Earth, it has the potential to harbor life.

There won't be another "Apollo moment" for our space program.

The quest to land humans on Mars in the 2030's is also something scientists at NASA are trying to plan for.

It's widely accepted that there won't be another "Apollo moment" for our space program. NASA will probably never receive the amount of funding it did when JFK set his sights on the Moon. There also probably won't be another Cold War, but there will always be this question: What else is out there?

We've barely scratched the surface of the solar system--there are so many more questions, and many more questions we don't even know we have. The price of understanding is small, and for people around the globe to feel connected over a rocket launch, a rover landing, a photo, or a spacewalk is priceless. Let's not stop. Let's keep pushing forward and as NASA says, let's continue to "dare mighty things."

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Space business an economic engine for Florida

BY PEDRO MEDELIUS



Space an economic engine for Florida
Recovering from the downturn following the retirement of the Space Shuttle program six years ago, Florida continues to successfully expand the business of space.

Building upon our heritage, the space industry and Florida are evolving to meet new competitive challenges including resuming manned flights in the near future.

These initiatives include establishing commercial operations in suborbital and low-Earth orbits, as well as developing national deep space human exploration capabilities involving Orion and NASA's Space Launch System (SLS).

All Floridians should be proud to know space operations and facility upgrades continue to progress at Kennedy Space Center and Cape Canaveral Air Force Station. The Vehicle Assembly Building, a crawler transporter and a firing room are being modified to support the SLS launches. Furthermore, the Executive Office of Gov. Rick Scott announced that the budget for the 2017-18 fiscal year, starting July 1, 2017, includes \$34 million for launch complex improvements.

Growth in the space business arena impacts all of Florida, not just the Space Coast. Today more than 150,000 Floridians are employed by more than 19,000 aerospace companies generating in excess of \$20 billion in annual sales and revenues. All 67 counties contribute to this multi-billion dollar industry. The aerospace product and parts manufacturing sector is the largest manufacturing segment in Florida with an average wage of \$77,343.

Florida's future continues to look bright. Private companies are launching cargo to the International Space Station and preparing to fly American astronauts from American soil in the next few years, eliminating America's dependence on foreign nations for space access and demonstrating — once again — we are the preeminent space faring nation in the world, with Florida being the premier launching location in the U.S.

We also are developing new spacecraft and rockets, along with the necessary infrastructure to support launch operations

**Growth in the
space business
arena impacts
all of Florida,
not just the
Space Coast.**

— more capable and powerful than those used to put humans on the moon — pushing the frontiers of human spaceflight exploration forward to Mars and beyond.

On Wednesday, Florida Space Day, industry leaders and other aerospace supporters met with Florida legislators and executive branch officials in Tallahassee to discuss the state's space industry and effective strategies for leveraging economic development policies to attract more private sector investment and jobs, and effectively face on-going active competition from other states.

aging economic development policies to attract more private sector investment and jobs, and effectively face on-going active competition from other states.

Florida's elected officials have played an extraordinary role of winning jobs and capital investment from aerospace throughout the state of Florida, and commercial companies have started investing on manufacturing facilities at Kennedy Space Center's Exploration Park managed by Space Florida. Other states, including Virginia, Texas, Georgia, California and Colorado, compete vigorously for high-tech, high-wage aerospace business and leverage the economic development tools at their disposal to combat Florida's efforts to bring those jobs to the Sunshine State. We must continue to innovate and position Florida to compete and win in this arena.

Florida's aerospace industry supports both the legislative initiatives and priorities of Enterprise Florida and Space Florida. These major organizations have driven the state's success in competing for aerospace sector jobs.

Specifically, we support the following legislative actions:

- Florida's economic development efforts
- Maintaining Space Florida's budget of \$19.5 million

Florida is poised to exceed the competitive challenges of this new space era with a high-tech ready workforce, innovative use of existing space infrastructure, a robust educational system, pro-job creation business environment and unmatched quality of life. With the help of Florida leadership and the Legislature, we will create additional high-tech/high-pay jobs, scientific discoveries, business opportunities, and support educational excellence in Science, Technology, Engineering and Math (STEM) for our next generation of Floridians.

Pedro Medelius is the chief technologist for ASRC Federal Space and Defense and the chair of Florida Space Day 2017.

South Florida Sun Sentinel, Mar. 10, 2017

The promise of Ingenuity

The little helicopter weighs only 4 pounds, and its first flight lasted a mere 30 seconds and reached an altitude of only 10 feet. But it did so on Mars. Stop and wonder about that for a moment. For the first time, humankind has achieved powered flight on another planet. A feat that would be nothing for a 10-year-old child to accomplish with a back-yard drone takes on new meaning when it happens 178 million miles away on a planet with 1 percent of Earth's atmosphere.

Engineers at NASA's Jet Propulsion Laboratory in California didn't know the flight had succeeded until more than three hours after it was over; that's when the burst of data was finally relayed to Earth. Hold that thought in your mind for a second.

In a year in which a pandemic has claimed more than 567,000 American lives and 3 million across the globe, in which the promise of American justice and equity is on trial again — this time in a Minneapolis courtroom, it's worthwhile to look outside of ourselves for a second to other worlds and remember what we can accomplish as a species.

Sixty years ago this month, human space flight began. It wasn't an American; it was a Russian cosmonaut — Soviet, actually — named Yuri Gagarin who made one orbit of Earth and set in motion the Space Race, which pitted the Americans and the Soviets against each other in a kind of Cold War for preeminence in the actual heavens. In a stark bit of symbolism, some of the same kinds of rockets that launched astronauts into space were secreted in missile silos topped with nuclear warheads, ready to fire in an instant on command of the president that

would have started a war that could only be lost.

That Space Race effectively ended in July 1969, when the late Neil Armstrong jumped off the last rung of the Lunar Module's ladder to announce "a giant leap for mankind." Back on Earth, while people across the globe were astonished that Earthlings were walking on the moon, many also wondered if those billions of dollars should have been spent instead on what we would now term social justice. The 2018 movie *First Man*, a decidedly unheroic look at the Apollo moon mission, captured that mood in using the Gil Scott-Heron protest song as a sort of soundtrack: "Was all that money I made las' year (for Whitey on the moon?) How come there ain't no money here? (Hmm! Whitey's on the moon.)" The parallels to today are instructive, and we face some of those same choices. So was it worth it? Is it now?

On Thursday, an international crew will rocket toward the International Space Station aboard a commercial spacecraft called the SpaceX Crew Dragon. On board will be four astronauts — two from NASA, one from Japan and one from France who will take command of the space station after



NASA/JPL-Caltech

This image from NASA's Perseverance rover shows the agency's Ingenuity Mars Helicopter on the Martian surface.

they dock. The key word here is "international." Space has gone from a race for national dominance to a largely cooperative scientific and commercial enterprise. From satellites that make GPS and global communications possible to space probes and orbiting telescopes that enrich our understanding of the universe itself, space exploration is far different than 60 years ago when it was a battle of international will. Today's watchwords are cooperation, not competition; wonder, not proxy war.

That little helicopter on Mars will make more flights, but it has no point except to expand our sense of the possible. If we can fly on Mars, we are capable of so much else. If we don't keep looking boldly to the far horizon and the future, where do we look instead? Down at our feet? So, yes, it is worth it, for reminding us all what we can accomplish on Mars — and back here on Earth — if we put our minds to it.



NASA/Bill Ingalls

French astronaut Thomas Pesquet will be among four flying to the International Space Station on Thursday.



Associated Press

Soviet Major Yuri Gagarin became the first human in space on April 12, 1961.

Our space partnership with Russia can't go on

Tampa Bay Times, Mar. 11, 2022

Over the past two weeks, the war in Ukraine changed the politics of the world. It also changed the politics of spaceflight, but spaceflight has some catching up to do.

As relations between Washington and Moscow have fallen to their lowest ebb since the Cuban missile crisis, NASA Administrator Bill Nelson, the former Florida senator, has worked hard to keep everything normal aboard the International Space Station, crewed by four Americans, two Russians and one German. Given the complexity of the space outpost, the need to keep it safe for habitation and the agreements that govern its operation, Nelson's calm approach is understandably dictated by both technical necessity and high-level diplomacy.



**HOMER
HICKAM**

The Russians, however, have not reacted in the same spirit. Dmitry Rogozin, the belligerent chief of the Russian federal space agency known as Roscosmos, has made clear that he fully supports the invasion and has even made threats toward his ISS partners, including invoking nuclear war. He has also indicated he is willing to abandon the ISS, in a recent tweet expressing the hope it would crash into the United States or Europe.

In nearly every arena, the Biden administration has imposed harsh sanctions on Russia. The space station should not be immune. It's time to end our well-intentioned partnership with Russia — even if, as seems almost certain, it would mean the early closing and decommissioning of the space station.

The realpolitik of the International Space Station is that it is not only a symbol of cooperation between us and the Russians, but it also provides a certain amount of diplomatic leverage. The fact is, Russia needs the ISS a lot more than we do.

The realpolitik of the International Space Station is that it is not only a symbol of cooperation between us and the Russians, but it also provides a certain amount of diplomatic leverage. The fact is, Russia needs the ISS a lot more than we do.

When the space station began continuous occupancy in 2000, we wanted to learn how to build large structures in space and get experience with lengthy spaceflight. These goals have been accomplished, and now the station is approaching obsolescence, its recently planned life extension to 2030 notwithstanding. With our flourishing commercial space companies, who are already cutting metal on their own future space stations, plus our federal government's Artemis moon program, the United States is entering a new golden age of space exploration. The Russians, meanwhile, are stuck in the past with antiquated spacecraft and nowhere to go except the ISS.

If we are truly determined to stop Putin's brutal war, we have to use every lever we've got. Unhappily, that includes the space station.

The decision-making on a matter this important shouldn't be NASA's alone. The White House will need to direct it. A 1998 memo of understanding, which I helped to negotiate while at NASA, controls the joint operation of the ISS; it should be reviewed by the National Space Council, headed by Vice President Kamala Harris, who should then call in our partners, principally Europe, Canada and Japan, to determine whether Russia should remain aboard.

If the partners agree that Russia's illegal war warrants exclusion, this decision will put the Russians on notice that using their ISS role to apply pressure — space blackmail, essentially — won't work. If, as is likely, the Russians refuse to drop out, then for safety purposes we will have to continue to work with them, but there should be instructions to our astronauts to avoid any friendly optics; this is not the moment for smiling and hugging Americans and Russians in space. We should also proceed on our own to carefully and resolutely decommission the ISS.

Right now, the Russian contribution principally involves boosting the station when it needs to move into a higher, safer orbit. Recently, we performed that function with our Cygnus spacecraft. We should immediately make contingency plans to take over that responsibility, along with any others the Russians perform.

President Ronald Reagan got the ball rolling on the space station program in 1984, but it was Vice President Al Gore who kept it alive in 1993 when he directed NASA to make the Russians our partners. Although some say he did it so Russian engineers wouldn't go to work for our adversaries, I think his primary reason was simple goodwill. When I went to Moscow in 1996 as a NASA manager to help figure out how to train space station crews, I saw firsthand the struggle of its people after the collapse of the Soviet Union. Although I'm a Vietnam vet and served in the Army during the worst years of the Cold War, my heart went out to the Russian people. It was also right and proper that we should make them our partners.

And for more than two decades that partnership worked very well. Each side benefited from the other's know-how, and many friendships have grown between American and Russian engineers and astronauts and cosmonauts. At its heart, this is the way to avoid war — to recognize each other as human beings with families who deserve to live in peace.

But now, with this reckless war by one of the major ISS partners, NASA just can't go on as if everything is normal — because it simply isn't.

Homer Hickam is a former NASA engineer, an adviser to the National Space Council and the author of multiple books, including the memoir "Rocket Boys."

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Moving NASA to Fla. makes sense



Your Turn
Jim Thomas
Guest columnist

On Florida's sunlit shore, the Space Coast launched humanity's first steps into the cosmos. From our first satellite, Explorer 1, to Apollo's moonwalks, iconic missions like Gemini, Shuttle, and SpaceX's Falcon rockets began here, cementing its unrivaled legacy.

That legacy now fuels a second space age, where a wave of private space companies — SpaceX, Blue Origin, and others — join NASA's Artemis missions in pushing boundaries. The Space Coast is ready to lead again. Let's seize the moment.

For decades, Cape Canaveral and Kennedy Space Center have been the heartbeat of human spaceflight. Alan Shepard's leap, John Glenn's orbit, and Hubble's gaze into the universe all started here. No other place matches this history.

Yet, as we stand on the cusp of a new era, clinging to outdated structures risks ceding leadership to others. Why settle for less when the Space Coast offers so much more?

The new Space Age

Today, private pioneers like Sierra Space, Vast, Axiom, Intuitive Machines, Phantom, Stoke, Vaya, and Relativity, among others, alongside SpaceX and Blue Origin, are redefining exploration with innovations from reusable rockets



The International Space Station is pictured from inside a window aboard the SpaceX Crew Dragon Endeavour during a fly around of the orbiting lab that took place following its undocking from the Harmony module's space-facing port on Nov. 8, 2021. NASA

to lunar landers. Together with them, NASA's Artemis missions aim to return us to the Moon, while the U.S. Space Force defends our orbital assets, securing America's future in space. Together, they're driving a new space age—one the Space Coast is prepared to lead.

NASA's nationally scattered centers, shaped by past political decisions, along with legacy programs from a bygone era, stifle innovation and hinder leadership. To truly forge ahead, we must break free from these constraints.

Let's set politics aside and establish the Space Coast as the undisputed hub for space exploration, capitalizing on its unmatched history, infrastructure, and potential. While other spaceports will emerge, none will match Cape Canaveral's legacy or promise.

NASA and the U.S. Space Force are

NASA's nationally scattered centers, shaped by past political decisions, along with legacy programs from a bygone era, stifle innovation and hinder leadership.

poised to fuel this renaissance — if we opt for progress over the past.

A unified collaboration

NASA's mission to explore and the Space Force's duty to protect align perfectly on the Space Coast, where they can collaborate seamlessly. For NASA, proximity to Kennedy Space Center streamlines Artemis missions, speeds decisions, and deepens industry ties—vital for lunar and Mars goals. For the Space Force, this coastal hub enables rapid satellite launches and stronger defense of U.S. assets. Sharing launch facilities and talent here would accelerate joint initiatives, like lunar networks and orbital security.

Yet NASA's operational heart remains fragmented. It should maintain a presence in Washington, but its headquarters and vital resources belong here. To unify its efforts, relocating to Kennedy Space Center would cut costs, spark innovation, and amplify this partnership, anchoring America's global space leadership where history was made. Why settle for Washington when the Space Coast is the future?

Beyond mere launches, the Space

Coast excels as a place to live and build. New communities like Tranquility, close to Kennedy Space Center, complement thriving hubs such as Melbourne, Viera, Lake Nona, and the upcoming Sunbridge, where top institutions like Embry-Riddle, Florida Tech, UCF, and UF foster elite talent. Seamless global connections through international airports, Port Canaveral, and Brightline Rail make it an ideal business location. For space companies, Cape Canaveral provides unparalleled facilities and global recognition, attracting innovation and investment. No other place combines this level of livability with the resources needed to lead the future of space exploration.

75 years ago, Cape Canaveral launched humanity's first dreams into orbit. Now, we ask: What will the next 75 years bring? Artemis will return us to the Moon, commercial space stations will redefine low-Earth orbit, and Mars is within reach. The Space Coast has always led these leaps—and it will lead us again to the cosmos.

Will we cling to the past or soar into the future? The choices we make now will shape our cosmic destiny. Let's make the Space Coast the official capital of space exploration for the next 75 years and beyond.

From the shores that launched us to the stars, let's write that future—together.

Jim Thomas is the co-founder of Karman Line, Inc., fostering innovation and connectivity within the space industry. He is passionate about humanity's journey to the stars and has given international talks on the future of space.

Appendix 3: Newspaper front pages

For larger images of front pages and pdfs of complete editions, visit nieonline.com/tbtimes/hse_trunk.cfm.

Complete Leased
AP Wire and
WIREPHOTO Service,
INS, Dow Jones, Reuters,
Chicago Tribune Wires
63RD YEAR—No. 278

TAMPA MORNING TRIBUNE

TWO SECTIONS—32 PAGES

TAMPA, FLORIDA, SATURDAY, OCTOBER 5, 1957

DAID CIRCULATION
September Average
Daily 135,722
Sunday 144,826
PRICE FIVE CENTS

Hoffa Gets Top Job in Teamsters

Big Union Ignores Rackets Charges in Picking Beck's Successor

MIAMI BEACH, Oct. 4 (AP)—Stubby, square-jawed Jimmy Hoffa today took over control as president of the 440,000-member Teamsters Union and pledged to turn the organization into a "model of trade unionism."

The 44-year-old target of 12 federal grand jury indictments was elected by a vote of 1,200,000 over a tremendous margin of nearly 3 to 1 over the combined vote of two opponents.

In the last round, 1200 votes he received delegates voted for Hoffa, 213 for William J. Miller and 140 for Thomas J. Hagerty.

Lee and Hagerty, both from Chicago, were charged with the corruption charges in the union.

The charges, which were ignored by the U.S. Supreme Court, were leveled against Hoffa by the U.S. Supreme Court in 1951.

The charges against Hoffa included associating with known hoodlums and racketeers.

Hoffa, denying the charges, said he was a "clean" man and that the Teamsters Union "has just come through the most vicious attack any group of workers has ever experienced."

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HOFFA VOTE EXPECTED TO BRING NEW LEGISLATION

WASHINGTON, Oct. 4 (AP)—James H. Hoffa's election as president of the Teamsters Union today is expected to bring new legislation.

It is believed that Hoffa's victory at the 1,200,000-vote convention was a challenge to Congress to enact laws that will protect the union rank-and-file from "gangsterism and racketeering."

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Coming Events Cast Their Shadows?



Dean Of Men At FSU To Head College In Manatee

TALLAHASSEE, Oct. 4 (AP)—Dr. Samuel R. Neal, Jr., dean of men at Florida State University, today was named to head the Manatee County College.

The college, which will be located in Manatee County, is expected to open in 1958.

Dr. Neal, 41, said he would assume the presidency of the Manatee County College during the first week of November.

He said his first job will be to develop plans for the buildings that will house the new institution.

As FSU since 1948, Dr. Neal has been a member of the Florida State University faculty.

He was in charge of the personnel department during the 1950-51 academic year.

Dr. Neal was graduated from the University of Florida in 1934 and received his doctorate from the University of Florida in 1942.

He served as a combat chaplain overseas in the Pacific during the Korean War.

Dr. Neal married Helen Adams Vander Zant in 1934. They have two children—Helen, 14, and Samuel, 11.

Military School Ordered To Remove Firing Pins Of Guns

JACKSONVILLE, Oct. 4 (AP)—An official of the Jacksonville Army Post today said a Department of the Army order had been received to remove firing pins from rifles "due to an incident in another area."

The official would not be quoted by name but said the order was issued to the boys' military school which is located at the Jacksonville Army Post.

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Russians Say They Have Satellite Circling Globe Now

Last Resort School Bill Substitute Proposed

MARTIN WALDRON
Tribune Staff Writer
TALLAHASSEE, Oct. 4 (AP)—The House today prepared a counter-attack for Monday.

Rep. Ben Hill Griffin of Fla. and Rep. Nath Johnson of Ohio joined together to draft a bill they hope can draw some support away from the last resort school bill.

The bill, which would allow parents to withdraw their children from public schools, is expected to be introduced in the House.

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NAVY, OTHERS PICK UP SIGNALS FROM SATELLITE

WASHINGTON, Oct. 4 (AP)—The Defense Department said today the Navy and other agencies had picked up signals from a Russian satellite in the Pacific.

The satellite, which was launched by the Russians, is expected to be used for reconnaissance purposes.

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Claim Victory Over U. S. In Race To Probe Higher Space

MOSCOW, (Saturday) Oct. 5 (AP)—The Soviet Union said today it had the world's first artificial moon satellite circling the globe.

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NIGHT
FINAL

Moment With Morgan

Gratulations Advice To
The New Alcalde Of The
Ybor Commonwealth

By MIKE MORGAN

DEAR ALAMANDO Gonzalez, Tonight amidst scenes of pomp and splendor comparable to the opening of a new supermarket you will be installed as the latest model Alcalde of Ybor City.

I gaze at your picture and take note of that holy brow with the big, combed left, those intelligent, restless eyes, those muscles in that neck upper lip, those gothic features, and I am at a loss to understand that you will hold fast to the honored traditions and principles of Ybor City government as laid down by your predecessors.

Ramely one of unbroken continuity... with liberty and justice to all who vote against you.

Unless I have been grossly deceived, you will justify the faith of your supporters who worked so tirelessly stuffing ballot boxes, electing you to this position of democracy as recognized by the Ybor City Council as a whole.

It saddens me that I shall be unable to attend the Alcalde Ball tonight. This will mark the first time I have been unable to attend the installation of the Alcalde.

UNHAPPILY (although by now, I shall be) by the way, I am sure that you will mark the first time I have been unable to attend the installation of the Alcalde.

I hope to bring back pictures of a few genuine smiles of the Ybor City residents who will be with you when you are sworn in. If I can't do this, I will bring home some pictures of the Alcalde who will be with you when you are sworn in.

For example, the man you succeed in office, Frank Canale, demonstrated during his tenure in this field (Alcalde—not battleships) while Frank did not make as many official appointments as did other Alcaldes, he certainly collected the largest official volume of official appointments any Alcaldes had.

Another point: There was a time when the Ybor Commonwealth had all other governments in new arenas of political activity. But we have fallen behind in recent years.

For instance in the field of investigation, the Ybor Commonwealth has been investigated in the Ybor Commonwealth. How can we be considered complete with press, radio, and bureau express coverage, to investigate corruption, malfeasance and malfeasance in the Ybor Commonwealth?

Teamsters Victory Holy



HOFFA ELECTED—Retiring President Dave Beck, left, raises the hand of James R. Hoffa who was elected to a five-year term as president of the Teamsters Union at their convention in Miami Beach. At right is Mrs. Hoffa who came to the convention hall platform to take part in her husband's victory celebration.

—AP Wirephoto.

THREATENED WITH BAYONET

Little Rock, Ark., Oct. 5 (AP). A 19-year-old youth tonight reported that a Federal paratrooper knocked him down with a rifle butt and threatened him with a bayonet.

High School Field House. The youth, who said he was a member of the Little Rock Central High School, was threatened with a bayonet after being knocked down by a paratrooper.

NAACP Claims Klan, Negroes In Gunfight

Memphis, Tenn., Oct. 5 (AP). NAACP officials said a paratrooper shot a Negro youth in the back of the head with a rifle butt and threatened him with a bayonet.

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Last Revision Articles Ready For House Action

Tallahassee, Fla., Oct. 5 (AP). The last round of constitutional revision articles—the most controversial ones—were ready today for action by the House when they arrived in Tallahassee.

Crucial Fight. The crucial fight will come on the Education, Health and Welfare plan for reorganizing the state government. The plan is expected to be passed by the House in the next few days.

Wanna Make A Trip To The Moon?

By FRED CLAMITY
Times Staff Writer
The Russians say the launch of the satellite will be the first step in a flight to the moon.

Yankees, Braves Clash In Third Game Today

Milwaukee, Oct. 5 (AP). The New York Yankees and the Milwaukee Braves met today in the third game of the World Series, the first ever played in Milwaukee.

Pulitzer Prizewinner Tells The Story of Little Rock

Little Rock is a pleasant Southern city, peopled by friendly, courteous Americans. Yet today it is an ugly symbol. Not only in America, but over the world.

Satellite Said Launched To Keep Data From West



Satellite's Predicted Orbit

CASHWORD NOW Worth \$50 See Page 2

United Fund Drive Kicks Off Monday

Greater Tampa To Turn Out for Huge Parade, Rally

Tampa's second annual United Fund Drive kicks off at 10:45 A.M. Monday at a drill held from the rail front of the Greater Tampa Council, headed by Mayor J. Lee Smith.

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Astronomer Says Course Deliberate

U. S. Official Says Soviets Chose Plane To Preclude Free World

Cambridge, Mass., Oct. 3 (AP). A Cambridge astronomer who declined to be identified said it was obvious the Russians chose the sun plane angle for their satellite to preclude observations by scientists in the Free World.

Police Join Negroes, Whites To End Violence

Philadelphia, Oct. 5 (AP). Police here, assigned 700 men to join the police academy to join the concerted effort against violence, which has taken on the form of a riot in recent weeks.

Brucker Refuses To Give Byrd Riot Order Text

Washington, Oct. 5 (AP). Secretary of the Army Brucker refused today to give the text of a letter to the director of the Federal Bureau of Investigation, which would order the training of riot duty, went out the day after Federal troops were sent to Little Rock, Ark., to enforce court integration orders.

Last Minute News

KURE HOMERS AS YANKEES OPEN WITH 3 RUNS

ALABAMAS CLEARED IN NEGRO MURDER TRY

ALABAMAS CLEARED IN NEGRO MURDER TRY

Partly Cloudy
Partly cloudy today with
chance of widely scattered
showers. Breeze, S. to
moderate variable winds.
High 84-87; low, 73-74. U.S.
Weather Bureau, Tampa
News, Page 5-B.

St. Petersburg Times

74th YEAR No. 73 COMPLETE ASSOCIATED PRESS, AN ASSOCIATED
UNITED PRESS AND INTERNATIONAL NEWS SERVICE

ST. PETERSBURG, FLORIDA, SATURDAY, OCTOBER 5, 1957

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46 PAGES 5 CENTS

THERE'S
GOOD NEWS
on Today's
SATURDAY SPECIAL PAGE

Russians Launch Earth Satellite

20,000 Poles Renew Rioting In Warsaw

WARSAW, (UPI) — An estimated 20,000 Poles rioted last night, battling police and militiamen in central Warsaw. Many of the rioters shouted for the downfall of Communist party chief Wladyslaw Gomulka.

Two separate clusters left a number injured, including some women. It was the second straight night of rioting in the tense Polish capital.

Students surged into the streets and were joined by other demonstrators. Police and militiamen charged in to break up the demonstration. Another demonstration promptly started in another district.

FIGHT WITH FISTS
The rioters fought with their fists. The police and militiamen used their clubs.

The rioting apparently was an outgrowth of Thursday night's street brawl during which police smashed a student demonstration.

FIRST MAJOR UNREST
The student protest against government closing of an anti-Communist weekly newspaper was Warsaw's first major show of public anger since the restoration of the Polish regime following the Russian springing last year.

Many are police and factory militia charged into the crowd of 2,000 students waving clubs and burning torches.

More than 30 students were reported to be in a Warsaw hospital and many others were treated by doctors. Seven militiamen were in the military hospital.

DOES WITH COMRADES
There were shots of a kind never heard before here — "does with comrades." Genshina, the national Communist leader who decried the Polish regime.

An estimated 4,000 police succumbed in breaking up the demonstration. But a new protest formed in front of the Polytechnic High School where Thursday night's student rally originated.

Police squads moved in to disperse the crowd, people moved away and turned into new groups. Whistles and catcalls filled the streets.

PLEDGES FUNDS FOR ARABS

Irene Dunne In Debut As Delegate To U.N.

UNITED NATIONS, N. Y. — Irene Dunne, actress, will make a dramatic and widely anticipated debut yesterday in the United Nations General Assembly.

Speaking as a member of the U.S. delegation, the actress will read the statement of the United Nations Relief and Works Agency for Palestine refugees. "We are here," Mrs. Dunne told the representatives of 48 non-rehabilitating groups.

Inside the Times

- 4 Sections Today
- INFLUENZA CASES DOUBLE
Asian flu cases jump to 200,000 in week. Page 2-A.
- NEW SYRIAN ACCUSATION
Syria says U.S. disturbs her national aims. Page 3-A.
- BYRD REQUEST REJECTED
'Riot' order request is refused by Army. Page 4-A.

LANDSLIDE



KISS FOR NEW TEAMSTER BOSS JIMMY HOFFA
... comes from Mrs. Hoffa after landslide vote.

WILL QUIT CONGRESS

Rep. Cole Named To Atomic Agency

By GEORGE GARRETT
(Pittsburgh Courier)

A country boy who grew up in a New York State village and served 20 years in Congress has been named to the Atomic Energy Agency.

Atomic Energy Agency. Reports from Vienna, yesterday, said Rep. Sterling Cole (R-N.Y.) had been named to a four-year term.

As an estimated 4,000 police succumbed in breaking up the demonstration. But a new protest formed in front of the Polytechnic High School where Thursday night's student rally originated.

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Hoffa Is Boss; Teamsters Face Ouster

MIAMI BEACH, (AP) — Shifty, square-jawed Jimmy Hoffa, yesterday took over full control as president of the giant Teamsters Union and pledged to turn the organization into a "model of trade unionism."

The 46-year-old target of labor scandal charges was elected chief officer of the 1 1/2 million member union by a tremendous margin of nearly 3 to 1 over the combined vote of two opponents.

In the final count, 1,388 with 17 cheating delegates voted for Hoffa, 313 for William A. Lee and 148 for Thomas J. Magarity.

Lee and Magarity, both from Chicago, had campaigned for a change in the corrupt conditions charged to the union.

The delegates thus chose to ignore the charges against Hoffa, retiring Union President Dave Beck and other Teamsters bosses.

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'Moon' Races Around Globe 560 Miles Up

LONDON, (AP) — The Russians announced yesterday they have an artificial moon 560 miles up into space and that it is circling around the world at enormous speed.

They said it can be seen with glasses and followed by radio through instruments it carries.

Sighting of man's first satellite was reported from Columbia, Ohio and Terre Haute, Ind. Signals from the radio-equipped sphere were picked up by the Naval Research Laboratory at Washington, D.C. and by amateur radio operators throughout the nation.

National Broadcasting Co. said Radio Corporation of America communication had picked up the sound of the Russian earth satellite launched somewhere in Russia yesterday.

MORSE WIRELESS
NBC interrupted its regularly scheduled radio and television program at 8 p.m. (EST) to broadcast the satellite's radio transmission, which sounded like a steady series of Morse wireless sendings.

The Columbia Broadcasting system also broadcast the signal which it picked up from RCA.

In this announcing the launching of the first earth satellite even put in a globe-jumping effort in a globe-jumping effort.

The two big powers had been in a hot but mostly secret race to be first to probe the high atmosphere.

Facts Of 'Moon'
MORSE, (UPI) — Facts and figures of the Soviet satellite that is circling the globe.

Speed: 18,000 miles per hour. Estimated: 560 miles above the earth.

Signal: Two radio transmitters sending signals at 15.85 and 40.00 megacycles, strong enough to be picked up by ham operators.

Visibility: Radio at sunset and sunset with naked eye.

Reliable: Cycles each every one hour and 22 minutes.

Space terms: moon races with spheres laden with instruments.

The Moscow announcement "The successful launching of the first man-made satellite makes tremendous contribution to the treasure house of world science and culture."

SPACE TRAVEL
"Artificial earth satellite will pave the way for space travel and it means that the present generation will witness how the first and conscious steps of the people of the new socialist society turn over the most daring of man's dreams into reality."

It is a special holiday, the Soviet Union says, the Russian moon "is now revolving around the earth at the rate of one circuit every hour and 46 minutes."

The launching occurred just three months and four days after the first satellite was launched.

TOPS IN FOOTBALL, BASEBALL

Times Readers To Get Full Sports Coverage

Today will be one of the busiest sports days of the calendar year and The Times will offer its readers full and complete coverage of the exciting day's activities.

Sports Editor Bill Beck is in Philadelphia to cover the Florida State-Villanova game in sports writer Leonie Bart.

This will be an afternoon game. In addition to the heavy college football schedule, the big game of the World Series between the New York Yankees and Milwaukee Braves is scheduled at Milwaukee.

News photos featuring game highlights will be supplied by Associated Press, Wirephoto and United Press Telegrams.



WAY OF TWO MOONS
... This drawing by AP staff artist Ed Guder shows orbits of Russian moon — launched yesterday — and projected U.S. earth satellite.

AS 'LAST RESORT' REPLACEMENT

'Parent-Option' School Proposal To Face House

By FRANK TRIPPETT

TALLAHASSEE, Fla. — A bill designed to allow parents to withdraw their pupils individually from integrated schools will be offered in the House of Representatives, probably Monday.

It sponsors hope it will be passed instead of the fiercely controversial "last resort" bill which would allow localities to close schools.

Plans to introduce the bill were disclosed by Rep. Bill Griffin of Fort County, who last week twice sided with the anti-integrationists which has stalled introduction in the House of the Senate-approved bill.

Griffin tagged the new proposal a "parent-option" plan. He said he and Mrs. Beth Johnson, wife of a local school board member, were the authors.

It would be a suspension of compulsory attendance laws in individual cases. Controls would remain in the hands of local school boards.

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PANAMA CITY NEWS

Heart of The Miracle Strip

Northwest Florida's Most Complete Newspaper

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Russia Claims Earth Satellite Launched

He also said there had been a recent contact between the White House and the special committee of Southern governors. Hager made the statement just before President Eisenhower went to Gettysburg, Pa., for the week-

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Space4All Teacher Guide Page 96 of 196



Gloomy Sunday
Cloudy with rain beginning this afternoon or tonight. Temperature mostly 5 to 13 m.p.h. High, 60 to 65 degrees. Low, 45 to 50 degrees. See U.S. weather map, temperatures and winds on Pages 1 and 3.

St. Petersburg Times



VOL. 122 — 75th Year

COMPLETELY ASSOCIATED PRESS, UNITED PRESS INTERNATIONAL AND NEW YORK HERALD TRIBUNE NEWS SERVICES

ST. PETERSBURG, FLORIDA, SUNDAY, JANUARY 4, 1958

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132 PAGES 20 CENTS

Soviet 'Lunik' Heads Toward Sun

Urrutia At Cuba's Helm; Havana Waits For Castro

Rebel Chief Named Armed Forces Head

HAVANA, (UPI) — Provisional President Manuel Urrutia took over as head of the Cuban provisional government last night and named rebel chief Fidel Castro commander-in-chief of the armed forces.

Rebels Arrest 1,000 Persons In Santiago

Sancti Spiritus, former town center, returned to Cuba in time for the revolution. Last night he called this dispatch from Santiago, capital of the new Province.

By TOM DUNN

SANTIAGO, Cuba—Sporadic gunfire, mass arrests of more than 1,000 persons and arrival of actor-turned-war correspondent Errol Flynn occupied citizens here yesterday. A scattering of political exiles returned from Miami Friday night, including a group of Cuban Airline pilots who will be the nucleus of Fidel Castro's new air force.

Santiago is comparatively quiet, except for outbreaks of gunfire here and there, mostly in the suburbs. There are jerry-built houses, but the city is low and flat, and a steady stream of armed Batista troops as they are paid. But the rebels are active with no view here. They snatched occasionally at the situation, but in various parts of the city. One incident involved the city museum, where a reported gunman on a Sancti Spiritus was said to be held up. Rebel soldiers surrounded the area, firing into the air, but found no one. Most of the people arrested since the revolt and go to jail placidly. One is (See REBELS, Page 1A)

Strike End Predicted With Castro's Arrival

WASHINGTON, (UPI) — Errol Flynn, Cuban rebel commander in Washington, expressed confidence yesterday that the Cuban revolutionary strike would end with the arrival of rebel leader Fidel Castro in Havana.

Bayamón, Castro's residence in Washington, said he expected the situation in Cuba to return to normal "very soon," perhaps early next week.

He confirmed reports that he would return to Cuba in the near future, but he said he would not return until the revolutionary army and the people had been freed from the military dictatorship.



PROVISIONAL PRESIDENT URRUTIA
... signs papers in Santiago before he leaves for Havana. With him are leaders of rebel forces in Santiago.



AND LONG MAY OUR NEW FLAG WAVE OVER THE LAND OF THE FREE
... and the home of the brave with its 48 stars.

'Old Glory' Is Remodeled For Alaska

WASHINGTON, (AP) — The new U.S. flag, chosen with an eye to the addition of a 49th state, has been arranged in seven rows of stars, with the even rows of stars.

President Eisenhower, who signed the bill, said the new flag was a symbol of the nation's growth and progress.

The flag, with its 48 stars, will be used until the new flag is adopted. The new flag will have 49 stars.

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Alaska Proclaimed As 49th U.S. State

WASHINGTON, (AP) — Alaska became the 49th state of the United States yesterday by proclamation of President Eisenhower.

The President signed the bill, which provided for the admission of Alaska into the Union.

The bill was passed by the House of Representatives in 1955 and by the Senate in 1956.

The bill was signed by President Eisenhower on July 7, 1956.

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Mikoyan Plans To See Ike In Washington

COPENHAGEN, Denmark (UPI) — Soviet First Deputy Premier Anastas Mikoyan flew to the United States last night in the midst of renewed cold war.

Mikoyan is expected to meet with President Eisenhower and other top officials.

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Another 'First' Hailed By Nikita

MOSCOW, (AP) — The Soviet Union expressed confidence last night its 12-ton cosmic rocket had conquered earth's gravitation and will orbit about the sun after bypassing the moon.

"The velocity and direction of the flight make it possible to say with confidence the rocket ship will never again fall back to the earth," Vice President Alexander Tikhonov of the Academy of Sciences told Tass news agency.

Tikhonov gave the rocket's speed as 8,000 kilometers (5,000 miles) an hour. The government put the initial speed of the rocket at 11.5 kilometers a second (about 24,000 miles an hour).

Moscow Radio announced the "cosmic rocket" had passed its nearest approach to the moon at 9:30 p.m. EST, and said radio contact with the rocket might resume within 24 hours.

GRAVITATION FULL
The rocket must have great initial speed to escape from the earth's gravitation pull. It gradually slows down as it climbs higher into space.

First Deputy Premier Nikita Khrushchev hailed the project, saying it was a "great stride forward."

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Europe Reacts With Wonder And Misgiving

LONDON, (AP) — The Soviet Union's cosmic rocket spread mingled wonder and misgiving across Europe last night.

Radio stations broadcast program reports as fast as they came from Moscow. Newspapers carried the news on their front pages.

IN WASHINGTON Chairman John W. McClellan of the House Space Committee said the Soviet achievement accounts the need for rebuilding United States space efforts to meet "a Paul Harvey in outer space."

McClellan, who is House Democratic leader, said the conclusion is "unavoidable" that the United States is not matching Soviet space efforts.

In Communist countries, from East Germany to Red China, commentators poured out praise for the Soviet Union.

MILITARY IMPLICATIONS
Among Western European commentators, the realization grew that the space thrust could have far-reaching military implications.

Scientists in general warmly applauded the feat of Soviet technicians.

"This is confirmation of the ability of the Soviet Union to do this kind of thing in a very consistent way," declared Dr. D. C. Martin, secretary of the British Interplanetary Society (BIS).

A call for concerted Western action to solve the problems of space travel was sounded by Kenneth Gifford, vice chairman of the BIS Interplanetary Society.

"TREMENDOUS CHALLENGE"
"Russia's achievement throws down a tremendous challenge to the West," Gifford declared.

German scientist Dr. Hermann Oberth, who recently quit work at the U.S. Army rocket project at Huntsville, Ala., urged the Americans to develop rocket engines.

Compared with Russia's rocket, Oberth said U.S. rockets are "primitive" with "no warhead."

He said the Soviet rocket was "a great stride forward" and that it was a "great stride forward."

He said the rocket was a "great stride forward" and that it was a "great stride forward."

He said the rocket was a "great stride forward" and that it was a "great stride forward."

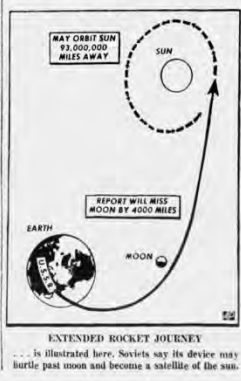
He said the rocket was a "great stride forward" and that it was a "great stride forward."

THE DAY WAR REACHED PINNALS

Pioneer John Bethell writes of the raid on Big Bayou in SUNDAY Magazine

Inside The Times

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SECTION B: Local News, Obituaries, Theatre.
SECTION C: Sports, Fun Page, Business, Financial.
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PARADE MAGAZINE



EXTENDED ROCKET JOURNEY
... is illustrated here. Soviets say its device may hurtle past moon and become a satellite of the sun.

Castro, Urrutia Take Over Cuba

Russians Say Cosmic Rocket To Bypass Moon, Orbit Sun

Scientists Declare
Missile Will
Never Fall
Back To Earth

MOSCOW, Jan. 3 (AP)—The Soviet Union expressed confidence tonight its 15-ton cosmic rocket has conquered earth's gravitation and will whirl about the sun after bypassing the moon.

"The velocity and direction of the flight make it possible to say with confidence the space ship will never again fall back on the earth," Vice President Alexander Topolov of the Academy of Sciences told Tass news agency.

Topolov based his statement on reports showing the space rocket had reached 176,540 miles or about nine-tenths of the distance to the moon by 9 P.M. Saturday.

At that time Topolov gave the rocket's speed at 50,000 kilometers (30,000 miles) an hour. The government put the initial speed of the rocket at 11.2 kilometers a second (about 24,500 miles an hour).

The rocket must have great initial speed to escape from the earth's gravitation pull. It gradually slows down as it climbs higher into space.

President Khrushchev initiated the project, saying it proved the Russians "are the first in the world to map out the way from the earth to the moon."

The first interplanetary flight by the Soviet scientists opens a previous page in the history of space exploration.

(Continued on Page 10, Col. 1)



The Weather

Forecast for Tampa and the
Tampa Bay Area. Cloudy
through Tuesday with rain
beginning Wednesday. High
68, low 54. Windy. Variable
winds. Mostly 5 to 15 miles
per hour. Low 54 to 68.

Forecast for Florida—Mostly
cloudy from Fort Pierce to
Punta Gorda. South Florida
High 68 to 70, Low 54 to 56.

Weather Forecasts

City	High	Low
Tampa	68	54
St. Petersburg	68	54
Clearwater	68	54
Pinellas	68	54
Polk	68	54
Manatee	68	54
Hillsborough	68	54
Alameda	68	54
Bay	68	54
Volusia	68	54
Orange	68	54
Polk	68	54
Manatee	68	54
Hillsborough	68	54
Alameda	68	54
Bay	68	54
Volusia	68	54
Orange	68	54

State Fair Plans Point To Biggest Program Yet

By Clyde Shaffer
Tribune Staff Writer

A program of entertainment and exhibitions as complete as that of any other state fair in the country is being planned for the 1959 Florida State Fair which opens Feb. 7 at the fairgrounds in Lakeland.

With Cowboy King Roy Rogers, automobile racing, thrill shows, a top-up diving contest, and a variety of other attractions, the fair promises to be the biggest yet.

The fair is being planned by the Florida State Fair Association, which has been in operation since 1901.

The fair is being planned by the Florida State Fair Association, which has been in operation since 1901.

BIG STIR IN BROWARD— Wolfson Enters Garbage Business In South Florida

By Sam Mase
Tribune Staff Writer

PORT LAUDERDALE, Jan. 3.—Leon E. Wolfson, Florida industrial broker, who makes a practice of buying and selling millions of dollars of real estate, has gone into the garbage business.

Wolfson, who is a resident of Broward County, has acquired a large tract of land in Broward County, and plans to build a large garbage incinerator on the tract.

The incinerator is to be built on a tract of land in Broward County, and plans to build a large garbage incinerator on the tract.

Congress Convenes Wednesday

Liberal Group
Plans Immediate
Attack On Senate
Filibuster Rule

WASHINGTON, Jan. 3 (AP)—A Congress heavily dominated by Democrats will waste next Wednesday into a new session and then add controversy crackling around civil rights and spending.

IN STAGGERED LINES— New Flag Has 7-by-7 Stars



WASHINGTON, Jan. 3.—President Eisenhower talks with House Speaker Sam Rayburn today as an aide holds out the new 49-star flag behind the President.—(AP Wirephoto)

WASHINGTON, Jan. 3 (UPI)—Alaska became the 49th state today at historic White House ceremonies in which President Eisenhower unveiled a ramshackle Old Glory.

The President unveiled the new U. S. flag emblazoned with 49 stars at an officially proclaimed statement for the nation's northern territory.

The design, kept strictly secret until the admission ceremonies at noon, consists of seven staggered rows of seven stars each. Instead of the traditional 50 stars, the new flag has 49 stars, with the 50th star to be added when Alaska becomes a state.

Rebel Hero Named To Head Army

New President
Takes Oath At
Santiago; Wild
Ovation Delay
Havana Entry

HAVANA, Jan. 3 (AP)—The new President of Cuba, Fidel Castro, took the oath of office at Santiago, a provincial province, today. He immediately named rebel hero Fidel Castro as head of the nation's armed forces.

The ceremony took place in Santiago, the provincial capital, a Castro stronghold. A victory celebration in Havana, his route was delayed by a series of tumultuous welcomes throughout the province.

Castro named a cabinet in ceremonies which were regarded as having historical importance for all Latin America.

The event marked one of the rare occasions when a revolution against a dictator had succeeded in Latin America.

Complete Report On 1958 Security Transactions

The Tribune today carries a complete report of security transactions for 1958 in Section 2, Pages 11 and 12. The report shows the heavy sales, high low and last prices, and the net changes from the previous year.

AREA SEARCH LAUNCHED— Clothes Of Kidnaped Baby Found In Vacant Store

NEW YORK, Jan. 3 (AP)—Two boys playing in a vacant store in Brooklyn today found garments hanging on a wall. The items were worn by a girl who was 2½ hours old when she was kidnapped from a hospital.

Sister Mary Kevin, night superintendent at St. Peter's Hospital in Brooklyn, from which the baby disappeared, identified the articles as definitely those worn by the child. Two nurses also made the identification.

The baby's clothes immediately launched a dogged search in the area where the blanket was found. In all, 123 detectives and 25 policemen were assigned to the case.

The newborn daughter of Mr. and Mrs. Frank D. Chionchio was snatched from a basket in a fourth floor nursery shortly before midnight, apparently by a woman.

1st Castro Victory Photo



SANTIAGO, Cuba, Jan. 3.—This is the first photo of Cuban rebel leader Fidel Castro after he won his long fight to oust Dictator Batista. He is shown talking Friday with Army officers at El Caney barracks here after they surrendered to his troops.—(AP Wirephoto)

SAY IT WAS NO HELP— American Refugees Hit U.S. Embassy At Havana

KEY WEST, Jan. 3 (UPI)—More than 500 weary and hungry American tourists arrived here early today aboard an ocean-going ferry from Havana. Two things occupied their minds, food and home, in that order.

The crowded refugee ferry, the S.S. City of Havana, docked about 7:30 A.M. nearly 15 hours after leaving the revolution island. Almost all were happy to be back in the United States.

The returning Americans reported some persons had been turned back at the Havana ferry landing because they lacked the fare of \$15.00.

Refugees boarding the Key West State Department camp along the vessel, said the State Department wanted "to make it clear" that the refugees would be accommodated at the Key West State Department camp.

Some of the refugees reported that they had been turned back at the Havana ferry landing because they lacked the fare of \$15.00.

AS ELECTION YEAR OPENS— Five Top Nuccio Aides Said On Shaky Ground

By Vernon Bradford
Tribune Staff Writer

The city hall rumor mill started Friday with a report that five top Nuccio aides were said to be "on shaky ground" in the city government.

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Districting Bill Passes Senate, 35-3

'Pork-Choppers'
Whip Through
Bryant Plan
Calling For
45-Member Senate

(PHOTO ON PAGE 3-B)
By MARTIN WALDRON
Tribune Staff Writer

TALLAHASSEE, April 12 — Senate "Pork Chopper" leader whipped a "taxic" reapportionment plan out of the chamber today and speed it through the state senate.

They introduced and passed a 45-member plan they said would cure the aches and pains of sectionalism for 30 years to come.

The plan, which leaves the home country of top senate leaders virtually intact, was developed by Gov. Farris Bryant and former senate president, Dr. J. M. Gandy.

Complete coverage of the legislature will be found in additional stories in Section 3, Pages 3, 4, 5 and 6, and in Section C, Pages 3 and 4.

Developed by Gov. Farris Bryant and former senate president, Dr. J. M. Gandy, the plan was adopted by other top senate leaders.

Bryant hailed the plan as a "good one" and said he had birth to mind of the idea in it during a year of study. At a special press conference, the governor smiled like a new father and said he thought the plan would give his country little county squabbling once and for all.

Future houses will be between entire counties scrambling for districts, Bryant said. Then the big counties automatically will get senate seats which their population requires 50,000.

The reapportionment bill, which passed the senate 35-3, may come up in the house tomorrow where a number of

(Continued on Page 3-B, Col. 2)

The Weather
Forecast for Tampa and Tampa Bay Area—Fair and 7 to 12 with Sun. Clear and Warm. Displayed for West-Florida 25 to 35 and 10 to 20. High today 76, Low tonight 62.

Forecast for Florida—Fair, Cloudy and Windy with Rain from 6-7 PM. High today 76, Low tonight 62.

Weather Forecasts
WFLA-Radio
8:55 A.M. 6:55 P.M.
9:00 A.M. 8:00 P.M.
10:00 A.M. 10:00 P.M.
11:00 A.M. 11:00 P.M.

Temperatures
High 76, Low 62
Normal High 81, Low 61

Humidity
1 P.M. 84%, 7 P.M. 71%

Barometer
7 A.M. 29.78, 7 P.M. 29.76

Tampa Tides
High 12:23 A.M. and 1:07 P.M.
Low 6:45 A.M. and 7:13 P.M.

Weather Elsewhere
WASHINGTON, April 12 (AP)—Weather Bureau report of temperature and rainfall.

Albany 42-57
Anchorage 42-57
Asheville 50-65
Atlanta 69-80
Baltimore 51-66
Birmingham 65-80
Boston 55-70
Buffalo 48-63
Charlotte 70-84
Chicago 41-55
Cincinnati 64-81
Cleveland 49-63
Columbus 51-64
Dallas 68-82
Denver 40-57
Des Moines 41-55
Detroit 42-58
El Paso 65-80
Houston 72-85
Indianapolis 45-60
Jacksonville 72-85
Kansas City 44-59
Knoxville 52-67
Little Rock 52-67
Los Angeles 68-82
Louisville 55-70
Memphis 68-82
Miami 78-92
Milwaukee 41-56
Minneapolis 45-60
Mobile 65-80
New York 55-70
New Orleans 78-92
Phoenix 80-94
Pittsburgh 52-67
Portland, Me. 36-51
Richmond 49-64
St. Louis 64-79
Salt Lake City 67-82
San Antonio 72-87
San Francisco 50-65
Savannah 78-92
Tampa 76-92
Washington 55-70

(Additional Weather, Page 3-B)

THE TAMPA TRIBUNE

Red Rocket, Red Face



Legislators To Get Plea Not to Annex Plant Site

By HOWARD A. STEWART
Tribune Staff Writer

Tampa's Committee of 100 will make a direct plea on behalf of a proposed \$10 million National Gymnasium Co. plant in the Hillsborough County legislative delegation at a Monday night meeting in Tallahassee.

The Tribune learned last night that the delegation announced its intention of annexing the site of the proposed plant to the city of Tampa. The gymnasium company reportedly has told the city that it will not build the plant if the area is annexed. The company has expressed this fear at a recent meeting last Friday.

"Don't Realize Need"
"We on the committee feel the delegation doesn't realize the need for some industrial site, waterfront and otherwise, to remain outside the city limits as we may compete on an equal basis with other areas," said William C. Maclean, president of Tampa Electric Co., said last night.

The meeting Monday will permit both groups to "have the benefit of each other's thinking so that an agreement can be reached," Maclean said. Neither group has met formally before.

Arrangements for the session were made by Ellsworth Simons, chairman of the senate committee which has jurisdiction over the bill. The delegation is expected to meet on grounds of the National Gymnasium Co. plant to decide.

Simons made no public announcement he would seek annexation of the site. He said he would be in Tallahassee to attend but did not know how many committee members were going to be in the delegation.

(Continued on Page 3-B, Col. 1)

HOUSE VOTES THAT PUPILS LEARN ABOUT COMMUNISM

By JACK NEASE
Tribune Staff Writer

TALLAHASSEE, April 12 — The House today voted 90-0 to require all high school students (13-17) a six-week course in anti-communism.

The bill, with amendments adopted on last night, passed the House by a 90-0 vote.

House members in an hour-long debate on the bill, changed the proposed law. The bill, with amendments adopted on last night, passed the House by a 90-0 vote.

1. Require the course be taught in all schools before September 1, 1962, instead of the September 1, 1961, deadline that was proposed.

2. Eliminate a requirement that students write a 500-word essay on "Americanism and Communism" as a condition of receiving a diploma.

3. Make the State Board of Education responsible for choosing a text book on the subject of communism, instead of leaving this solely to state boards of education.

(Continued on Page 3-B, Col. 1)

Kennedy Says 'We Are Behind In Space'

WASHINGTON, April 12 (AP)—President Kennedy said today the United States is "behind" in space exploration and in putting a manned vehicle into orbit.

The President told a news conference today that he does not like the way the United States is "behind" in space exploration and in putting a manned vehicle into orbit.

At the relative positions of the United States and Russia in space exploration, Kennedy said there is no doubt about it. "We are behind," he said.

He attributed this largely to the fact that the Soviet Union has been able to develop much more rapidly in space exploration than this country has.

Kennedy's remarks came after a news conference at which he announced that the United States will launch a manned satellite in the next few months.

He said the United States is "behind" in space exploration and in putting a manned vehicle into orbit.

(Continued on Page 3-B, Col. 1)

Russians Put Man In Space Orbit And Return Him Alive

Soviets Say
Space Man
Feels Well,
No Injuries

By HENRY SHAPIRO

MOSCOW, April 12 (AP)—Soviet Air Force Maj. Yuri Gagarin, a big grin on his face, said today he felt fine and suffered no injuries on the historic orbit around earth that made him the world's first spaceman, according to the Russian Press.

Russians danced for joy in the streets at the first of Soviet rocketry and the flight of the first man into space.

Gagarin, 34, said he felt fine and suffered no injuries on the historic orbit around earth that made him the world's first spaceman, according to the Russian Press.

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Happy, Boasting Soviet Officials Challenge West To Equal Feat

By PRESTON GROVER

MOSCOW, April 12 (AP)—A Russian astronaut's orbit around the world at five miles a second and sent humanity across the frontier of space today and left the Soviet Union challenging the West to try to catch up.

The pioneer astronaut, 27-year-old Maj. Yuri Alekseyevich Gagarin, plumed the conquest as he passed into the realm of verities, the official Russian announcement said.

His feat, said the Soviet Union's supply of superlatives and even the standard of comparison everywhere—including experts in the United States.

And tonight Nikita S. Khrushchev, who had promised a few weeks ago that the first human flight into space was soon to be realized, declared:

"Let the capitalist countries try to catch up."

The Soviet agency said Gagarin, who was on the phone, said:

"You have made yourself immortal. You will meet you in Moscow. You and I and all our people will solemnly celebrate the first great feat in the conquering of space. Let the whole world see what our country is capable of."

Gagarin, said Tan, reported that the other countries try to catch up.

Khrushchev replied: "Let the capitalist countries try to catch up. You and I and all our people will solemnly celebrate the first great feat in the conquering of space. Let the whole world see what our country is capable of."

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Red Space Feat Raises Puzzling Questions

By THOMAS A. REEDY

LONDON, April 12 (AP)—The Soviet Union's claim that it has launched a man into space set off a series of questions.

Among them:

How much have the Soviets told? And why?

For weeks the air in Moscow in London and in other capitals has been crackling with rumors a man was going up, or that one had gone up and not come down.

The tension created a climate of uncertainty, although it was reported in Moscow that the man was in space.

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MAN IN SPACE

Shot Heard Around the World: Complete Coverage

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Red Sails, Etc.

Generally fair, but some cooler in night. High 83. Small craft warnings.

MIAMI TEMPERATURES WEDNESDAY	
6:00 a.m.	78
9:00 a.m.	82
12:00 p.m.	85
3:00 p.m.	88
6:00 p.m.	85
9:00 p.m.	82
Low 78. Wind S.W. 10-15 mph.	

The Miami Herald

Thursday, April 13, 1961 No. 133 Florida's Most Complete Newspaper 51st Year 104 Pages 5 Cents

Pensacola Schools Will Be Integrated

... see story on Page 24

Catch Us Now, Nikita Challenges

District Bill OK'd In Senate Reapportion Plan to House

More Legislative News 2D

By JOHN R. MCDERMOTT

Special Staff Writer

TALLAHASSEE — The latest legislative fight in Florida history came to a speedy and dramatic end Wednesday when the Senate voted 35 to 15 for a reapportionment plan.

The proposal, which should do much to redress the inequities of the 1950 plan, will increase the Senate from 26 to 42 seats.

South Florida's growing counties gain five of the seven new Senate seats in the proposal passed by the House and approved by the voters last year.

Big county, little county and medium sized county senators joined in hailing the proposal as "the best" offered in the six years of bitter fighting on the issue.

The new Senate districts would be:

- 35th — Liberty and Collier counties.
- 40th — Calhoun.
- 41st — Sarasota.
- 42nd — Manatee.
- 43rd — Washington, Calhoun and Gulf.
- 44th — Highlands and Charlotte.
- 45th — Seminole.

Otherwise, the present 28 Senate districts would remain the same as they now exist.

Gov. Francis Bryant, who made reapportionment one of his major platform planks and had spearheaded the compromise, immediately cheered the Senate's action.

Bryant, it was learned, had met secretly with leaders of the Senate's "Pork Chop Gang" majority late Monday and worked out last details of the plan.

Sen. Verle A. Page of St. Augustine, leader of the minority bloc, accepted the plan as something approximating fair reapportionment of Senate seats, was one of the first to cheer passage of the new proposal.

And right behind him were Frank Cliff Bryant of Miami, Ted Davis of Hollywood, Ralph Blank of West Palm Beach and other South Florida senators with the exception of Sen. Harry Schiller of Port Pierce.

Schiller, Philip Beal of Pensacola and Turner Davis of Madison, the latter two members of the "Pork Chop" group.

Turn to Page 14, Col. 6

From Space: 'I Feel Fine'

By ROBERT B. DODD

Special Staff Writer

MOSCOW — (AP) — Yuri A. Gagarin reported Wednesday night he "felt good" — just like at home — during his swift, historic flight in a Soviet spacecraft.

That reaction, relayed to Premier Nikita Khrushchev in a telephone conversation, helped an earlier series of messages covering the astronaut's

impression while traveling in orbit at 17,000 miles an hour.

"You have brought glory to your homeland," Khrushchev told the spaceman. "You have shown courage and heroism in the fulfillment of such a responsible task. By your feat, you have made yourself immortal because you are the first to penetrate into space."

The astronaut was in touch with the earth by radio, sending the first words ever heard by men from outer space from the time he was blasted into the air.

Here, Soviet reports said, is how the message went after the takeoff at 9:07 a.m. 9:22 A.M. — "The flight is proceeding normally. I feel well. I can see the earth. It is covered with a blue haze. I am over South America."

9:25 A.M. — "I am now Africa. The flight is normal. I understand the state of weightlessness well. I am watching the earth. The visibility is good. I can see everything. Some places are shrouded by clouds."

A little later — "I am continuing my flight. Everything is normal. Everything is functioning well. I am proceeding as my watch."

The last message from the air — "I feel well and everything is going well. The machine is functioning normally."

10:55 a.m. from the ground

Turn to Page 14, Col. 3

Premier Gloats As Reds Orbit 1st Cosmonaut

MOSCOW — (AP) — A Russian astronaut's orbit across the frontier of space Wednesday and left the Soviet Union challenging the West to try to catch up.

The pioneer astronaut, 27-year-old Maj. Yuri Alexeyevich Gagarin, plumed the course for an hour and a half, sending back messages of reassurance as he passed into the realm of weightlessness.

His feat taxed the Soviet Union's supply of superlatives and won the plaudits of scientists everywhere—including experts in the United States.

And Nikita S. Khrushchev, who had promised a few weeks ago that the first human flight into space was even to be testified, declared: "Let the capitalist countries try to catch up."

The Tass News Agency said Khrushchev talked with Gagarin on the phone, and told him: "You have made yourself immortal."

"I will meet you in Moscow. You and I and all our people will solemnly celebrate this great feat in the company of space. Let the whole world see what our country is capable of..."

Gagarin said Tass reported: "Now let the other countries try to catch up."

"And Khrushchev replied: 'That's right. Let the capitalist countries try to catch up with our country, which has already taken the first step which has launched the world's first cosmonaut.'"

Gagarin traveled around the globe in 90 minutes, his minimum distance (perpetual) from the earth 118 miles and his maximum (apogee) 158 miles.

This, according to the Moscow announcement, was how it was done.

Gagarin was rocketed into the air and in 15 minutes reported by radio the flight was going well. Less than an hour after he reported:

"I am watching the earth. Its orbiting is good. I hear you well."

There were similar messages several times during the flight, and a final one reporting his well and cheerful and the space ship functioning normally. Reelbound Khrushchev, who had been listening to the tape recordings of some of these messages, making the first time a human voice has been heard from outer space.

Finally, the government newspaper, broke out blaring headlines to announce the news, and published an on-the-spot report of Gagarin's flight and his landing at what

Turn to Page 14, Col. 7

Russian Feat in Nutshell

NAME OF COSMONAUT — Maj. Yuri Alexeyevich Gagarin of the Soviet Air Force Reserve, 27-year-old son of a Sverdlovsk carpenter. His name means "Wild Duck."

ACHIEVEMENT — The first human being to fly around earth in a spacecraft. It is one of human civilization's greatest scientific advances.

CRAFT — A satellite space ship weighing five tons launched by multistage space rocket. The space ship is named Vostok (East), was fully enclosed from the earth.

HEIGHT — Minimum distance from earth, 118 miles; maximum distance 158 miles.

COURSE — Once around the earth on a west to east course over South Africa and South America.

TIME — Circumnavigation of the earth completed in 90 minutes, total elapsed time of flight, from blast-off to landing, 108 minutes.

A Simple Name For 'Wild Duck'

NEW YORK — (UPI) — Soviet cosmonaut Yuri Gagarin's name is pronounced "U-see Gah-gah-in" with an even accent on each syllable of the last name.

The New York office of Tass, official Soviet news agency, gave the pronunciation of the name—a relatively simple name for a Russian. It means "wild duck."



First Spaceman, Major Yuri A. Gagarin ... his orbiting outfit? Turn didn't say

Jews Won't Forget, Eichmann Is Told

Labels Slung 164

By ROBERT B. DODD

Special Staff Writer

JERUSALEM — (UPI) — Israel's Prime Minister, Golda Meir, told Adolf Eichmann, the Nazi official who organized the deportation of Jews to Europe, that he would be remembered as a traitor.

Eichmann, former head of the German Jewish Affairs Section, stood impassively at the edge of his prison cell.

The prisoner listened to the words as he leaned on his headstone set to the German translation of Hitler's remark. Eichmann, looking at his captor, said nothing.

At the start of the session, Eichmann had seemed more relaxed. As he was led into the glass dock, he smiled a greeting to his two German guards.

Robert B. Dodd, a New York Times reporter, said he saw Eichmann in a straight line as the dock in front of him, he turned to inspect the courtroom.

For the first time he seemed to recognize the existence of a courtroom. As he looked at the dock, he seemed more relaxed. As he was led into the glass dock, he smiled a greeting to his two German guards.

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Robert B. Dodd, a New York Times reporter, said he saw Eichmann in a straight line as the dock in front of him, he turned to inspect the courtroom.

Fidel Safe From U.S. — Kennedy

By ROBERT B. DODD

Special Staff Writer

WASHINGTON — There will be no intervention in Cuba by U.S. armed forces, under any conditions, President Kennedy said Wednesday.

Furthermore, the President said, "this government will do everything it possibly can... to make sure there are no Americans involved in any way in the Cuban crisis."

Although Kennedy said he would oppose efforts by anti-Castro Cubans to "mount an offensive" against Cuba from this country, he did not rule out U.S. aid to Cuban exiles.

In fact, the President said, he would support efforts by anti-Castro Cubans to "mount an offensive" against Cuba from this country, he did not rule out U.S. aid to Cuban exiles.

The question was not raised, but the President said he would support efforts by anti-Castro Cubans to "mount an offensive" against Cuba from this country, he did not rule out U.S. aid to Cuban exiles.

He said this group is "very important."

Turn to Page 14, Col. 2

Joe Smith? He's A Little Confused

By LAWRENCE THOMPSON

Special Staff Writer

Joe Smith, average American, is both worried and confused about the Russian announcement that they have selected a man around the world.

He is confused about what it means, hopeful that maybe it isn't true, sure that he just a matter of some kind, but still firmly sure that this space race doesn't mean a thing so far as he and world peace are concerned.

Joe Smith — the average Joe in all parts of the country — sums up his reactions this way: It doesn't happen. If it did, so what? Maybe we ought to get on the ball, but we can still look out.

To find out what the man on the street thought of the announcement, the top of the front page of the Herald conducted another poll of its Joe Smith polls in cooperation with 10 other newspapers.

In each of these cities, reporters called Joe Smith, picked at random from 10 telephone directories.

This was done in Miami, Denver, Albany, Chicago, N.Y., Detroit, Dallas, Minneapolis and Philadelphia, City and Seattle, Wash.

One Joe Smith said he thought the United States ought to step up its space program. Two said they doubted if the Russians really had sent a man into space.

Two couldn't see what difference it made the supposed confidence in a President Kennedy would keep the U.S. in the space race.

Twelve people seemed dumb. Twelve for \$500 on their job in... Turn to Page 14, Col. 1

The Day FDR Died

'No one ate lunch today' and several groaned on kitchen walls at Warm Springs AB

DEBATES NEW school status

Pointed out by Miami Beach High championship team 1P

DAYTON'S JULY 4TH stock races

Jumped from reports 1C

REDS INFILTRATING ministry

Bluch Society head declares 22A

U.S. INKETS General Motors monopoly changes 4D

Annex 6-8P Dwayne 8C Martindale 8C Roosevelt 6-8P

Ball 1D Editorial 6A Mohr 10C Rank 22C

Burns 3C Financial 47B Moore 1P Sports 111C

Chan 2-22C Gove 4R Nations 14A Thompson 6B

Cramer 6-73C Graham 10C Pearson 7A TV-Globe 1D

Conrad 12C Harris 6A Prentiss 6A Weather 2A

Connelly 10B Roosevelt 7C Quiz 27C Wright 7F

Trotter 11-11C Kallied 7D Q Quiz 27C Wright 7F

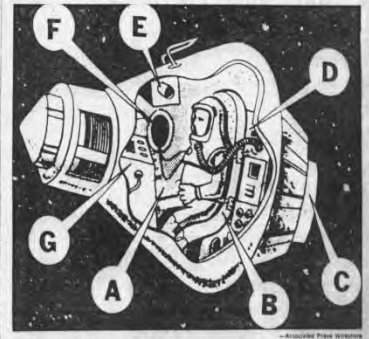
Dyer 20C Lantz 1P Fisher 7C

Turn to Page 14, Col. 1

Red Men In Space: Breaks Warm Springs In Flight; Reapportionment; Will Dozen TV Disasters

One Million Dollars in Cash: Will Dozen TV Disasters

Yves d'Arny 2-10 PM: Miami Key Audit: Guy De, Admiration Fire: one million dollars in cash-Adm.



THIS SKETCH OF the Soviet space capsule, printed in The London Daily Worker, shows various sections of the device: A—presented cabin; B—food; C—padding; D—relaxation; E—parachute; F—parachute; G—parachute.

Auto Insurance: State 20-50%... Monthly Premium: PL 8-4721-Adm. ... Turn to Page 14, Col. 1



Thundershowers
 Southern showers and evening thundershowers, otherwise fair to partly cloudy, SE to E wind 12-22 m.p.h., Low 75-76, High 88-89.
 Weather Map, Temperatures on Page 11-B, Story Page 1-B.

St. Petersburg Times

SECTION A

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Complete Associated Press, United Press International, New York Times and Age Staff Report. Tribune House Service

ST. PETERSBURG, FLORIDA, SATURDAY, MAY 6, 1961

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46 PAGES 10 CENTS

'BOY, WHAT A RIDE!' BEAMS ASTRONAUT SHEPARD

U.S. Takes Giant Step into Space

JFK To Ask Additional Space Funds

For President's comments on South Viet Nam and Cuba, see Page 3-A.

WASHINGTON (UPI) — President Kennedy yesterday pledged his administration to follow up on the historic flight with a request to Congress for funds for a "substantially larger" space program.

The President joined all Americans in rejoicing at the success of the flight and arranged to pay tribute to Shepard — and America's six other astronauts — at a special White House ceremony Monday.

The ceremony with Shepard will be carried live on radio and television, probably about noon, as well as a news conference which Shepard will hold at noon EST.

The President extended his personal congratulations to Shepard in a telephone call to the astronaut shortly after he completed his successful flight over the Atlantic Missile Range. Later, Kennedy celebrated at a news conference.

At the same time, the President warned that the United States still was behind Russia and had "a long way to go in the field of space." But he declared that the nation was working hard and "we are going to increase our efforts."

He got a prompt promise of Congressional support from Chairman Richard B. Russell, D-Ga., of the Senate Armed Services Committee. Russell said "we must press forward... until we have achieved our dominance in space. Congress stands ready to fully support such a program."

Several members of Congress said they expected the President to award the Medal of Honor to Shepard.

The President will take part in a public ceremony with Shepard at the south lawn of the White House about noon Monday, and then talk privately with the astronaut. He also will meet privately with the nation's other six astronauts after the public ceremony.

SHEPARD, accompanied by the other astronauts, will arrive in Washington from Grand Bahama Island. He will be greeted by newly arrived Air Force One, flown by his wife, Virginia Bush, Va., and by his parents, who will come from Derry, N.H.

The astronauts then will fly by helicopter to the White House for their meetings with the President.

He said it always had been the U.S. custom — and would continue so — to give the information (See KENNEDY, Page 2-A)



SHEPARD DANGLES IN HARNESS AS HE IS LIFTED FROM THE CAPSULE... by cable from helicopter in Atlantic. Space capsule floats at left.

Manned Capsule Blasted 115 Miles Above Earth

CAPE CANAVERAL, Fla. — Beaming "Boy, what a ride!" astronaut Alan B. Shepard returned safely to earth yesterday after blasting 115 miles into space — a perfect flight that gave the United States a mighty stride forward in the space race with Russia.

"What a beautiful sight!" the 37-year-old test pilot exulted at the top of his 15-minute hop into space and back.

The 649-8-foot space capsule reached speeds of 4,100 miles an hour before plunging back down into the Atlantic 302 miles southeast, where it was plucked from the waves by a helicopter.

Shepard was flown immediately to the carrier Lake Champlain, where physicians began checking him over for any ill effects.

"I don't think there's much you'll have to do to me, Doc," he told one of the medics.

FROM THE carrier Shepard was flown to a hospital on nearby Grand Bahama Island, where a doctor pronounced him "in excellent shape and healthy."

The physician who monitored Shepard by radio during the flight — which subjected him to stresses up to 11 times that of normal gravity — reported the lean, muscular astronaut was probably the calmest man in the whole operation.

President Kennedy telephoned his congratulations to Shepard within minutes after the astronaut's arrival on the carrier and told him of the hero's welcome awaiting him in Washington.

THE PRESIDENT said, "This is an historic milestone in our own exploration into space."

A naval officer who overheard the conversation quoted the president as saying:

"Thank you very much, Mr. Shepard. It is certainly a very thrilling ride. I'd like to think everyone who made it possible."

A U.S. space agency official said Shepard's feat is only the beginning of America's exploration of space.

The Freedom 7 rocket used as a booster for yesterday's flight (See U.S., Page 3-A)



SPACEMAN ALAN B. SHEPARD

... has smile and wave as he leaves carrier for Grand Bahama Island and a physical checkup in hospital there.

BUT NO CHAMPAGNE

Spirits High, He Looks, Feels Great

GRAND BAHAMA ISLAND — off port road, in a back-slap, greeting at the airport on this pine and palm-filled island, champagne when he arrived here yesterday, but doctors waiting to check him over did not allow him to participate.

Flashing a Grand Capon-styled grin, the hungry Shepard enjoyed a huge shrimp cocktail, roast beef sandwich and red pie.

Hurried into isolation of a hospital guarded by a coterie with isolated intent, the young astronaut then began at least 24 hours of comprehensive medical and psychological checkups, and detailed reports on all technicalities of his historic mission.

"He looks great, feels great. He is jolly and jacking as all ways," said Capt. Virgil Griswold, a fellow astronaut who admitted he was a bit nervous and certainly hopes he will be chosen for the next rocket ride.

ASTRONAUT Donald Slayton called the flight "perfect" — he said Shepard, "I've never seen, couldn't have been any better." He told Shepard, "I've pulled it off."

WHEN SHEPARD reported at the top of his flight how beautiful the earth looked, Slayton said, "I couldn't have been any better." (See CHECKUP, Page 3-A)

Legislature Votes To Override Bryant's Vetoes Of Track Bills

Why did Sen. Young want out of Senate? Page 1-B. Related stories, Page 1-A.

Times-Mand Herald Service

TALLAHASSEE — An increased legislature, yesterday overrode Gov. Farris Bryant's vetoes of harness racetracks for two South Florida counties and thereby expanded legalized gambling in the state.

The action came after a pointed charge that the governor had disrespected his own statute. (See KENNEDY, Page 2-A)

Another Bill To Bar Liquor Ads Introduced

Times-Mand Herald Service

TALLAHASSEE — A Senate bill with 17 co-sponsors was introduced yesterday to prohibit the advertising of alcoholic beverages.

It differs with a previous bill only in that it permits small price tags to be displayed inside the store where the liquor is sold.

Sen. Ed Fraser of Macclenny headed the list of sponsors which include almost half the state senators. The Senate total is 30.

Both measures will be taken up by the Temperance Committee of which Fraser is chairman. The committee is expected to meet next week.

First American Voice From Space Is Calm

CAPE CANAVERAL, Fla. — The first American voice from space was calm, without waver, with precision.

Only under the mighty forces of a rocket speeding up and steadily slowing down from 3,300 miles an hour did it become strangled.

Here is a partial text of what Astronaut Alan B. Shepard Jr. reported from space, and what the guiding voices — sometimes more excited than he — reported from the ground:

"Flight ready to go."

"Flight done on go."

"128 and counting."

"112, the cherry pickers go."

"All Mercury stations keep clear of your stations unless it is an emergency."

"Suit and cabin temperature set."

"Firing command... 30 seconds."

"180-574-943-2200... lift off."

Then apparently Shepard's voice: "Rigger, lift off and the clock has started."

"Lift off looks very good, from the ground."

"It is A-Okay (means perfect). Everything still looks very good."

"This is 7" (Shepard's code word for "Go"). (See FIRST, Page 3-A)

Times Is Cited For Service To Community

The Citation

This is the citation read by Dr. Earl F. English, dean of the University of Missouri School of Journalism, when he presented a medal yesterday designating The St. Petersburg Times as the Distinguished American Newspaper of 1960.

"TO THE ST. PETERSBURG TIMES, in recognition of its record of serving aggressively and courageously the true functions of a daily newspaper for more than three-quarters of a century;

"Its faith in the future of the state of Florida and particularly its own locality, which it has helped develop into an ideal home and business community;

"The development of a planned training program for young journalists, while at the same time providing educational incentive through the granting of Foster Fund college scholarships; and

"An enlightened employer-employee relationship which has made the production of this newspaper the result of a truly exceptional team effort."

COLUMBIA, Mo. — The Missouri Award for Distinguished Service in Journalism was presented to The St. Petersburg Times, seven journalists and a foreign journalist and a foreign newspaper here yesterday.

The citation to The Times and others was presented by Dean Earl F. English of the University of Missouri School of Journalism as part of the school's 25th journalism week activities. Nelson Foytner, editor and president, received the honor medal as in behalf of The Times and its staff.

In presenting the medal, English cited The Times for its record of serving aggressively and courageously the true functions of a daily newspaper... for its faith in the future of the state of Florida and particularly its own locality which it has helped develop... for the development of a training program for young journalists... and an enlightened employer-employee relationship.

(See THE TIMES, Page 2-A)

The Medal



IN TODAY'S TIMES

Queen Of Britain Calls On Pope John

Queen Elizabeth II of Britain yesterday called on Pope John XXIII at the Vatican. For details, photo, see Page 3-A.

RICHARD NIXON, launching a "loyal opposition" campaign, described the recent Cuban invasion a "mistake" and accused President Kennedy for "words," not "deeds." Page 3-A.

PRESIDENT KENNEDY signs minimum wage bill into law. Page 3-A.

Bridge Classified Page 4-C; Jumble Page 3-B; Editorial Page 3-C; Outlook Page 3-C; News Page 3-C; Photo of Florida Page 1-B; Photo of TV Page 1-B; Photo of Sports Page 1-B; Photo of Weather Page 1-B; Photo of What's Doing Page 4-C.

Nation Hails U.S. Astronaut

President Speaks

Viet Nam May Get Aid

WASHINGTON, (AP) — President Kennedy said Friday the government is considering the question of supplying military forces against Communist encroachment in Southern Viet Nam.

Full Embargo On Trade To Cuba Studied

WASHINGTON (UPI) — President Kennedy said Friday the United States is considering a complete embargo on trade with Cuba.

He told his news conference the possibility had been discussed at recent meetings of the National Security Council.

"As you know, the only kind of supplies that are not being sent to Cuba involve food and medicine, so that we have to consider carefully all of the implications of further action, and that is being done," Kennedy said.

The President also said there are no plans to train a Cuban exile army in this country.

It was announced after the news conference, however, that Kennedy had conferred earlier with Dr. Dean Rusk, chairman of the United States National Security Council, to discuss the possibility of sending U.S. troops to assist Cuban refugees and exiles in the United States.

It was also reported that the United States would train and arm Cuban exiles in the U.S. or any other country in view of the recent successful invasion attempt.

"We have no plan to train Cuban exiles, as a Cuban exile force, as this country, at this time," Kennedy said. He said the only military training open to Cubans was that available to those who join the U.S. Army.

Kennedy announced that he has proposed an extraordinary meeting of the Inter-American Economic and Social Council for July 15 to "initiate and develop planning and arrangements for economic progress in the Americas."

He said the meeting would be held in Washington, D.C., and would be the first of its kind since the war.

He also said the meeting would be the first of its kind since the war.

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ASTRONAUT SHEPARD HOISTED ABOARD HELICOPTER
... After Space Capsule Landed In Sea

Free World Rejoices Flight Into Space

LONDON, (AP) — Alan B. Shepard's rocketing flight into space and safe return to pulpit racing Friday in Western Europe and other parts of the non-Communist world.

Government leaders, scientists and the man in the street seemed agreed generally that the United States boosted its prestige by allowing the public to witness the flight.

The feeling ran through the public comment that Shepard's flight was a shot in the arm not only for the United States but also for the whole non-Communist world.

Leonard J. Carter, secretary of the British Interparliamentary Union, said the flight was a shot in the arm not only for the United States but also for the whole non-Communist world.

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Capital To Honor Shepard Monday

WASHINGTON, (UPI) — President Kennedy Friday pledged his administration to follow up on the historic flight with a request to Congress for funds for a "substantially larger" space program.

The President joined all Americans in rejoicing at the success of the flight and arranged to pay tribute to Shepard — and America's six other astronauts — at a special White House ceremony Monday.

The ceremony with Shepard will be carried live on radio and television, probably about noon, as will a news conference with Shepard at 1 p.m. EDT, in the State Department auditorium.

The President extended his personal congratulations to Shepard in a telephone call to the astronaut shortly after he completed his successful flight down the Atlantic coast.

He said the flight was a shot in the arm not only for the United States but also for the whole non-Communist world.

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Views From Capital

Shepard May Get Medal Of Honor

WASHINGTON (AP) — America's first astronaut cried, "Boy, what a ride!" as he landed in the Gulf of Mexico Friday morning.

From the President in the White House to the people who made it possible, the flight was a shot in the arm not only for the United States but also for the whole non-Communist world.

He said the flight was a shot in the arm not only for the United States but also for the whole non-Communist world.

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More About First U.S. Astronaut

Home Town Celebrates

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He 'Followed Script'

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FIRST U.S. ASTRONAUT ALAN SHEPARD
... At End Of His Ride Into Space

He Made It— All The Way

By REED MITCHELL
Associate Editor

CAPE CANAVERAL, Fla. — When Alan B. Shepard Jr. stepped from his capsule to the ground, he was the first American to travel in space.

He made it — all the way.

He made it — all the way.

He made it — all the way.

He made it — all the way.

He made it — all the way.

He made it — all the way.

He made it — all the way.

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He made it — all the way.

He made it — all the way.

He made it — all the way.

He made it — all the way.

He made it — all the way.



Like Spring
Mostly fair and warm today. Northeast to east winds 5 to 15 m.p.h. Low 55-57, high 60-65 degrees. Weather Map, Forecast, Local Weather Page 15-B.

St. Petersburg Times

Hollins Sets State
Cape Record With
41st Victory—1-C

Vol. 78—No. 212

Complete Domestic Post, United Press International, New York Times and New York Herald Tribune Service

ST. PETERSBURG, FLORIDA, WEDNESDAY, FEBRUARY 21, 1962

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Glenn's Triple Triumph In Space Sails America Into 'New Ocean'

World Hails Epic Voyage Of Astronaut

LONDON (P)—The people of the world joined in almost universal cheer from the heart last night for Lt. Col. John H. Glenn Jr.'s epic voyage into space and his safe return.

From Vatican City in Tokyo, from government ministries to workmen's bars, in homes and offices from the Arctic to the equator mankind thrilled at the news of the 49-year-old American's triple orbit of the globe.

EXPRESSIONS of sympathy, pride and praise were in a hubbub of tongues, but the meanings were crystal clear — "congratulations... well done."

It seemed that people of almost every land, following Glenn's exploit through news dispatches, radio and TV, shared in the tension, relief and enthusiasm of the United States and the joy that yet another human being had ventured successfully into the uncharted reaches of space.

It proved to be a sort of super prodigy tour.

By contrast with Soviet secrecy, the U.S. government went all the way in its efforts to share the anxiety and excitement as well as the "tailed" triumph of the man-in-space operation.

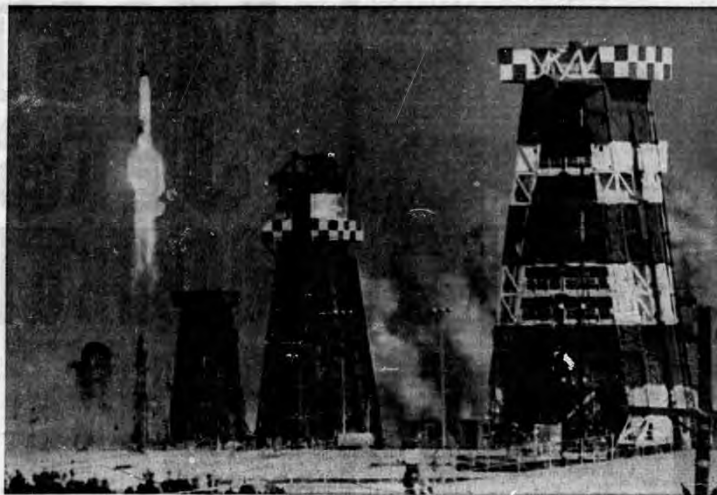
The Voice of America, heaving to work around the world, began an uninterrupted English language report at 7 A.M. EST.

AS RECEPTION times in foreign countries made it desirable to do so the voice report was broadcast in 55 other languages. Mosaics of reports were made to distribute a one-hour film of the event in 41 languages to 100 countries.

Even the Russians, sometimes disdainful of U.S. failures, showed sympathetic toward the American triumph, though it was part of the U.S. effort to firm their lead in the space race.

News radio and TV outlets carried factual accounts of the launching and the flight and were well to announce Glenn's safe return.

But radio listeners trying to get reports of the flight directly (Please see WORLD, 3-A)



DRAMA OF LAUNCHING OF AMERICA'S FIRST MANNED ORBITAL VENTURE

... is caught in this photo as Atlas rocket, with astronaut John Glenn aboard, rises at Cape Canaveral.

Astronaut John H. Glenn Jr.: His Day In Space

Astronaut John H. Glenn Jr. made yesterday a day for the history books, as he whirled triumphantly three times around the globe in the United States first manned orbital venture into outer space.

President Kennedy immediately hailed the 49-year-old Marine lieutenant colonel and said he had pushed the nation into a "new ocean." "I believe

the United States must sail on it and be in a position second to none," Kennedy said.

THE PRESIDENT will visit Glenn at Cape Canaveral, Friday and a giant reception is being planned in the nation's capital next week.

Glenn, who finally ascended to space glory after what seemed endless delays, was released, confident and apparently in top physical shape after he completed his five-hour journey. He overcame minor difficulties while whirling around the globe.

Glenn's wife and children in Arlington, Va., and his parents, in New Concord, Ohio, were jubilant over the success of the flight, as were millions of other Americans.

The nation's heart and hope went out to the astronaut, and from the early morning hours to late, late in the afternoon, there was little talk or interest in anything else.

Cheers also came from throughout the world for Glenn's triumph, and particularly for the free and open way in which it was presented. "This was in marked contrast to the Soviet Union's cloud of secrecy over the flight of its two astronauts. There was no doubt the Glenn story had won America many voices of confidence."

The St. Petersburg Times presents the full story of John Glenn's day in space today.

PHOTOS of the event can be found on Pages 3-A, 7-A, 12-A and 13-A.

AN ORBITAL chart and a diagram of the space capsule appear on Page 18-A.

PARTIAL transcript of the conversation of Glenn aboard, Page 18-A.

GLENN is Name In The News, Page 18-A.

WHAT'S AHEAD for U.S. in space, Page 2-A.

Action Today, 2:30 p.m. Newsday — Ad page 41. Long Island Sounder — Ad page 41.

JAMES RESTON probes the flight's meaning, Page 15-A.

EDITORIAL, cartoon, Page 14-A.

WHAT space age worth means, Page 15-A.

GLENN's flight compared to Soviet, Page 15-A.

SECONDARY scenes during space flight, Page 1-B.

JAPANESE visiting city hall last, Page 3-B.

A NEW STAMP for a great feat, Page 3-B.

MARKET follows Glenn flight, Page 6-C.

THE FAMILY, the state, the beach, and other sightings, Page 13-A.

Later Glenn was flown to Grand Turk Island where he will spend 48 hours. On arrival at the Bahama island, Glenn was helped out of the plane by fellow astronaut Scott Carpenter. Glenn told him, "I feel like I'm heading back toward Hawaii."

While he is there, he will be visited by Vice President Lyndon Johnson, who will fly with him to meet the President. Kennedy has already talked to Glenn personally by radio telephone to offer his congratulations.

GLENN's first comment as his capsule "Friendship 7" descended toward the water was contained in a radio message to Project Mercury control here. "Boy, that was a real fireball of a ride!"

The decision to make that third orbit, after some minor technical difficulties had developed on the first two, was Glenn's.

When asked if he wanted to try for three, Glenn replied, "Affirmative. I'm ready to go."

Even so, he landed some 45 to 55 miles short of the planned landing area after firing his braking rockets at 7:30 p.m. The reverse rockets gave him such a jolt, he cried:

"I feel like I'm heading back toward Hawaii."

As he started the third and last of his magnificent tour around the world at 17,000 miles per hour, the 49-year-old, balding Marine lieutenant colonel reported:

"I feel real good. No problems at all."

Even while Glenn was in his last orbit, varying from 100 to 160 miles high, negotiations were going on to form

St. Petersburg Times
MAN IN SPACE
REPORT



RELAXED AND HAPPY AFTER HIS TRIUMPHANT JOURNEY

... astronaut John H. Glenn Jr. rests comfortably aboard U.S.S. Naos last night.

JFK Offers U.S. Gratitude After Venture

CAPE CANAVERAL (P)—Astronaut John H. Glenn Jr. soared triumphantly around the world three times yesterday — safely—and President Kennedy said he would tender a grateful nation's thanks here Friday.

The 49-year-old Marine lieutenant colonel's flight ended at 2:45 p.m. in the Atlantic Ocean near Grand Turk Island in the Bahamas, about 700 miles south-east of here.

Kennedy's announcement that he would make a flying visit to Glenn said he would also receive the astronaut in Washington Monday or Tuesday, a fact likely to touch off a huge celebration for the man who will be remembered as a hero as long as there is a United States.

CAULING the spacemaster, President Kennedy hailed him as the kind of man of whom the country could be proud.

"We have a long way to go in the space race and we started late," Kennedy added. "This is the new ocean and we must sail on it and be in a position second to none."

TO CIRCLE the globe three times and travel more than 81,000 miles in the process required only four hours and 48 minutes.

Despite persistent control problems that threatened to end the flight prematurely, the astronaut completed the three full turns about the earth, as planned. This was two orbits more than were flown by Russian cosmonaut Yuri Gagarin last April 12 but 14 less than another Russian, Gherman Titov, flew on Aug. 6.

Glenn and his capsule were placed from the ship area by the destroyer USS Naos at 2:44 p.m. and Glenn reported, "My condition is excellent."

GLENN transferred to the carrier Randolph at 1:44 p.m., spent 45 minutes on deck talking to Navy personnel before going below for a preliminary physical examination.

After completing the physical, Glenn, clad in light blue flying suit and blue sneakers, was treated to the best filmstrip camera the Randolph's cooks could prepare.

Later Glenn was flown to Grand Turk Island where he will spend 48 hours. On arrival at the Bahama island, Glenn was helped out of the plane by fellow astronaut Scott Carpenter. Glenn told him, "I feel like I'm heading back toward Hawaii."

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"I feel real good. No problems at all."

Even while Glenn was in his last orbit, varying from 100 to 160 miles high, negotiations were going on to form

Glenn Returns Safely After 3 Orbits

'It Was Hot in There,' Astronaut Says of Capsule



CAPE CANAVERAL—The Atlas rocket moves skyward yesterday from its launch pad at the Cape Canaveral missile test center, carrying astronaut John Glenn inside the Mercury capsule into orbit around the earth. Other launch sites at the test center are shown in the foreground.—(AP Wirephoto)

Reported In Good Condition

Eats Big Steak After Arriving On Carrier

ABOARD THE AIRCRAFT CARRIER RANDOLPH (C-92)—John H. Glenn Jr., his first post-orbital physical examination completed, moved aboard this big flat-top at night and was treated to the best (first mission) dinner the cooks could prepare.

The 40-year-old astronaut was transferred aboard the Randolph by helicopter at 3:45 p.m. EST. Five hours after he landed in the Atlantic in his Mercury spacecraft, 168 miles east of Grand Turk Island.

Destroyer There First
He had spent the intervening time aboard the destroyer USS, in the great glow of its searchlights, had been first to spot him and had combed him out of the water.

Glenn slipped into a light blue flying suit and blue sneakers for his first post-orbital physical examination.

Glenn, he said, "is the kind of American of whom we are most proud, as are the other astronauts. We all express our thanks to him."

The President then returned to his office and talked by radio-telephone with Glenn aboard the destroyer.

Glenn, he said, "is the kind of American of whom we are most proud, as are the other astronauts. We all express our thanks to him."

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CAPSULE PICKED UP—Mercury "Friendship 7" space capsule with astronaut John Glenn inside is pulled out of water by destroyer USS yesterday. Glenn remained inside until it was on the deck of the ship.—(NASA Photo via AP Wirephoto)

World Cheers U.S. Feat

Astronaut Flies 81,000 Miles In Under 5 Hours

By BEN PRICE
CAPE CANAVERAL, Fla.—Astronaut John H. Glenn Jr. rocketed triumphantly around the world three times yesterday and landed safely while the world cheered the greatest U.S. space feat yet.

President Kennedy said he would tender a personal salute to Glenn here Friday.

The 40-year-old Marine lieutenant colonel's flight ended at 3:45 p.m. in the Atlantic Ocean.

Other stories and photos on the orbital flight are on Pages 4, 5, 7, 8 and 5, Section A.

To circle the globe three times and travel more than 81,000 miles in the process required only four hours and 56 minutes.

Glenn and his capsule were picked from the tepid sea by the destroyer USS Nautilus at 3:45 p.m. and Glenn reported "my condition is excellent."

Special Examination
Later Glenn was transferred to the carrier Randolph and then to Grand Turk for examination by a special team of doctors and scientists. He will remain there for 48 hours.

While he is there, he will be visited by Vice President Lyndon B. Johnson, who will fly with him to meet the president. Kennedy has already talked to Glenn personally by radio telephone to offer his congratulations.

As he left the Randolph for Grand Turk in a Navy plane, Glenn remarked "I'm glad to be back and let somebody else do the flying this time."

Shinned Kneecaps
He had suffered a minor injury on his flight. As he left the space craft he skinned his kneecaps. He arrived aboard the aircraft carrier, wearing two little pieces of adhesive bandages on his right hand, and asked for a glass of beer.

Upon arrival at Grand Turk, he was met by Glenn's son, Scott Carpenter, who helped him out of the aircraft and bussed him to his quarters.

Glenn will undergo a thorough physical examination and talk for a couple of days into a tape recorder, covering every phase of his flight in minute detail.

Through the nation followed the flight with intense interest and pride, there was one who was

Continued on Page 8, Col. 8

Kennedy Going To Cape

Police Prober Calls 33 More Witnesses

By KEITH COULBOURN
Tribune Staff Writer

The probe of alleged undue influence on Tampa police set to start again yesterday as 33 persons—mostly officers—were called for questioning.

The grand jury's report recommendations and possible criminal indictments are expected Friday or Saturday.

The investigation, which has already apparently delved into about four instances of possible undue influence on police, apparently swung into yet another direction yesterday.

Two of the 12 witnesses called for yesterday were told to bring records. They are Police Inspector Harold Barkey and Leo Quintana, who operates Central Weeker and Storage Group for nightclub owner Tony Gennaro.

Inspector Barkey was told to bring with him a complete record of calls. (Continued on Page 5-B, Col. 1)

President Will Greet Glenn There Friday; Ceremony Also Set in Washington Next Week

WASHINGTON (AP)—President Kennedy told astronaut John H. Glenn by telephone yesterday "we are really proud of you" and arranged to fly to Cape Canaveral Friday for a public ceremony honoring the Marine's space flight.

The White House also announced that Glenn will visit Kennedy at the executive mansion here next Monday or Tuesday. The astronaut then will be honored by a parade to the Capitol where he will meet at a congressional reception.

Does Some Planning
Kennedy also telephoned Mrs. Glenn and the astronaut's two children at their home in nearby Arlington, Va., and offered his congratulations.

After following the historic flight by television from 7:15 a.m., Kennedy stepped out on the lawn behind his office when Glenn was plucked from the sea and expressed the nation's "great happiness and thanksgiving."

The President declared that the space "America must be in a position second to none."

Referring to Glenn, Kennedy said:

"Some years ago as a Marine pilot he went the other way across country—and lost. Today he won."

"We have a long way to go in the space race and we started late. This is the new dawn and we must sail on it."

Urban Bill Loses Test In Senate

WASHINGTON (AP)—President Kennedy lost the first big political skirmish of the year yesterday—an effort to force a quick Senate floor test of his plan to create a cabinet department of urban affairs and housing.

The move was defeated 50 to 42 by Republicans and Southern and Western Democrats. It was the first time since 1956 all senators—excluding one in a wheelchair—were present.

The defeat did not kill the administration plan creating the department which would go into effect automatically March 1 if not voted down before then by either House or Senate.

But it did sidetrack administration efforts to record all senators for or against the department before the House vote and probably kills the plan, perhaps today. House Speaker (Continued on Page 4, Col. 5)

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Business	1-B
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TV and Radio	1-C
Viv Dittus	1-C
Weather	1-C
Winning	1-C
Women's News	1-B, 1-C

Mrs. Glenn Says It Was Her 'Most Wonderful Day'

ARLINGTON, Va. (AP)—"It's the most wonderful day for my family," exclaimed Mrs. John H. Glenn Jr., smiling and happy after her astronaut husband's historic trip to orbit the earth yesterday.

"The children are so proud of their father and the Mercury team and everyone else who made this possible," the petite 41-year-old housewife told reporters about an hour after her husband completed his mission safely.

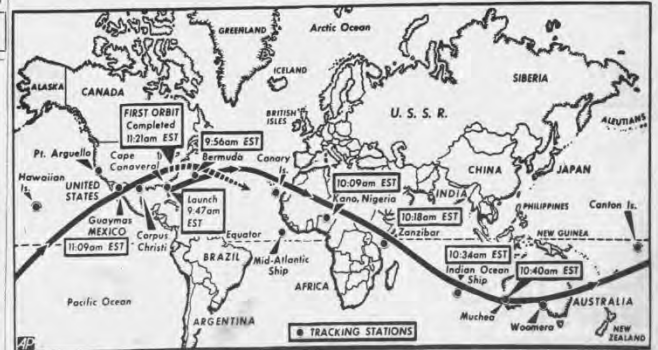
For Mrs. Glenn there was more joy to come—telephone calls from President Kennedy and from her husband.

Glenn called from aboard the destroyer USS Nautilus, which had plucked him from the Atlantic at 3:45 p.m. He talked to his two children and Mrs. Glenn.

A few minutes later Kennedy telephoned and expressed his congratulations in a 10-minute chat with Mrs. Glenn.

Continued on Page 5, Col. 2

Here's Timetable of Glenn's First Orbit Around the Earth



THIS MAP indicates times the Mercury capsule carrying astronaut John Glenn Jr. passed over key tracking points on his orbit around the earth yesterday. The Atlas rocket lifted off the Cape Canaveral pad at 9:47 a.m. (EST) and completed the first circuit of the globe at 11:21 a.m. (EST).—(AP Wirephoto Map)

FOR BUSY PEOPLE—

Quick Look at News Inside

International
Astronaut Glenn's flight drew cheers from around the world (Page 9-A).
Turkish officials protest the death of an American woman school teacher (Page 4-B).
National
U.S. pilot Francis Gary Powers cooperated with interrogators (Page 2-B).
The clock turned backward as Astronaut Glenn circled the globe (Page 9-A).
Glenn's feat pioneered new worlds in space (Page 9-A).
A special stamp was issued immediately to commemorate the historic flight (Page 9-A).
Thousands of spectators cheered and passed in amusement at Glenn's takeoff (Page 9-A).
Seven were indicted on charges of embezzling Teamster Union funds (Page 8-B).
Florida
A federal official granted Florida's citrus crop estimating service (Page 2-B).
The Florida Citrus Research Foundation decided to seek an annual federal grant (Page 2-B).
Sports
Tampans were involved in key Dixie Tennis Tournament matches (Page 1-C).
Joe Book won from the underdog to take school to the New York Mets (Page 1-C).
Florida State soccer plays tonight (Page 1-C).
Editorials (Page 1-A)
Colonel Glenn's flight: "Later But Better."
Judicial appointments: "Patience Robes the Judges."



He Did It!

FULL STORY OF GLENN'S ORBITS

Transcript from Outer Space Page 2A
 'We the People' Are 'Go' 6A
 From the Halls of Montezuma ... 11A
 Move Over, Yuri! 11A
 This Time Glenn Kept His Date 15A
 Your Dictionary of Space Terms 15A
 Glenn Earned \$245 Flight Pay 11A
 Work Stalls, Capital Orbits 1B

Orbit Cooler

Mostly fair Wednesday. A little rain at 4 p.m. High 80's, low 70's. Wind, mostly north and northeast, at 14 miles an hour. Miami Beach, from 2 p.m. to 3 p.m. Tuesday. Air, 76; ocean, 76.

The Miami Herald

Wednesday, February 21, 1962 No. 32 Florida's Most Complete Newspaper 52nd Year 64 Pages 5 Cents
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 Chicago Daily News Foreign Service
 STREET EDITION

Glenn Travels in Best Circles, Back Safe After Three Orbits



Kennedy Going to The Cape

He Will Join In Ceremony

By FRANK KAHLE

Special Staff Writer

CAPE CANAVERAL — Astronaut John H. Glenn Jr. rocketed triumphantly three times around the world Tuesday and landed safely, proving this country is very much in the race to put the first man on the moon.

At 2:41 p.m. four hours and 56 minutes after his flame-spouting Atlas rocket soared into the sky, the 40-year-old Marine lieutenant landed smoothly down in the Atlantic about 700 miles to the southeast of Grand Turk Island in the Bahamas.

"Boy, that was a real ball of a ride," Glenn said by radio as the Freedom 7 capsule splashed down. "The heat barrier of the atmosphere."

Glenn remained in his spacecraft as it was picked up and placed on the deck of the destroyer USS Von S at 3:18 p.m. Anticipating his arrival, the crew had painted a welcome sign and made him the ship's "father of the month."

"My landing is excellent," he said as he ended the U.S. broadcast in the space race with his 81,000-mile triumph of 10 at 15,000 miles an hour. The 101 had been postponed 10 hours.

The United States hopes to land on the moon in 1967. In the past hours and 56 minutes, Glenn was up 100 miles up, engaged a million South Floridians Tuesday.

In a speech, Miami Beach Mayor Robert La Follette Jr. said Glenn's flight was "a great day for the city."

In a broadcast Miami de- partment store, a crowd stood simply and took of TV sets. The store, the atmosphere electric with tension.

In a bridge office in one watched the big board. In a bar on one drink. On a street corner a man clutched a portable transistor radio to his ear and wept with joy.

This was Miami Tuesday, Feb. 20, the sixth decade of the Twentieth Century, the day



Victory Dinner at the Glenn Home ... Mrs. Glenn wheels out tray of food for newsmen

Glenn Captures World's Plaudits

By The Associated Press

The orbital flight of Lt. Col. John H. Glenn Jr., Tuesday proved to be a sort of super-continental tour. Expressions of sympathy, pride and congratulation came around the world.

The people of Britain and Western Europe, kept up to date by news dispatches, radio and TV, shared in the triumph, relief and enthusiasm of the United States.

Even the Russians, sometimes disbelieving about U.S. failures, seemed sympathetic toward the American effort to trim their lead in the space race. Moscow radio and TV outlets carried brief, factual announcements without comment.

"I hope he gets back," said one Moscow on listening to the U.S. broadcast.

In any case, he came safely through and his main parachute, which opened at 16,000 feet, settled him down gently.

President Kennedy, presiding, congratulated astronaut John H. Glenn Jr. Tuesday and bid the first American to orbit the globe he would see him at Cape Canaveral on Friday.

Kennedy plans to fly to Palm Beach late Thursday and Friday to be in the Cape Friday afternoon in person.

The White House and Kennedy also would greet Glenn at the White House next Monday, Tuesday morning.

That meeting likely will be a ceremony honoring Glenn.

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That meeting likely will be a ceremony honoring Glenn.

Astronaut Glenn Rides in Orbit in Friendship 7—Upright and Backward Through Space

Area Families Get 42 Amigos Today

Forty-two Southwest Miami families will go to South- west High School today to "adopt" a new teenager tonight when they open their homes to the 42 "Amigos" families with whom they will live.

The Amigos program, being in Miami by the American Red Cross, will spend four weeks in the area.

The school's hand and a large student delegation will be at Miami International Airport at 5 p.m. when the Amigos arrive.

From there, the Amigos will be taken to their homes.

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The Amigos will be taken to their homes.

Bus Strike Probe Launched

By GEORGE LAMMERS
 Special Staff Writer

The Greater South Florida Transit Authority is probing the cause of a bus strike that ended Tuesday.

The strike, which ended Tuesday, was the first in the history of the transit authority.

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'Greatest Show' Enraptures Miami

By GENE MILLER

Special Staff Writer

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Comparison of U.S. And Russian Flights

There is less Astronaut John Glenn's orbital flight plan com-

pare with the flight of Russian Spacecraft Yuri A. Gagarin

and Cheslav Yeliseyev

on Feb. 23, 1962

Type of Flight

GLENN

GAGARIN

TITOV

Orbit

100 miles

100 miles

100 miles

100 miles

100 miles

100 miles

100 miles

100 miles

100 miles



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Tis a Privilege to Live in Central Florida

Vol. 77—No. 283

Orlando, Florida, Wednesday, February 21, 1962

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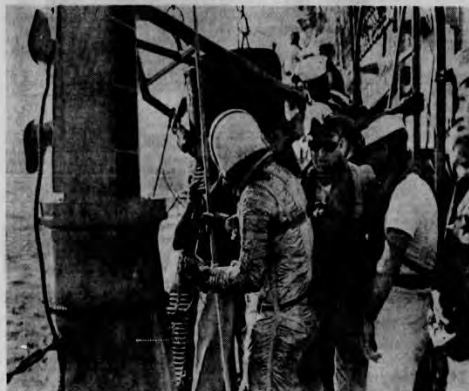
32 Pages

Pres. Kennedy To Show Nation's Thanks At Cape Friday

'America Is Coming,' New Paul Revere Cries With Three Rides Around Earth



FRIENDSHIP SEVEN SPACE CAPSULE HOISTED ABOARD DESTROYER NOA
... Few minutes later Glenn blew hatch and emerged okay



GLENN TALKS WITH NAVY MEN ABOARD DESTROYER USS NOA
... After being plucked from sea and wriggling out of spacecraft



NAVY MEN REMOVE MAIN CHUTE CANNISTER FROM HATCH
... Capsule hit Atlantic in sight of destroyer Nautilus

I Feel Fine, Glenn Grins After Flight

CAPE CANAVERAL, Fla. — Astronaut John H. Glenn Jr., soared triumphantly around the world three times yesterday — safely — and Pres. Kennedy said he would tender a grateful nation's thanks here Friday.

The 40-year-old marine lieutenant colonel's flight ended at 2:41 p.m. in the Atlantic Ocean near Grand Turk Island in the Bahamas, about 700 miles southeast of here.

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He was to leave the Randolph for Grand Turk Island for examination by a special team of doctors and scientists. He will remain there for 48 hours.

WHILE HE is there, he will be visited by Vice Pres. Lyndon Johnson, who will fly with him to meet the president. Kennedy has already talked to Glenn personally by radio telephone to offer his congratulations.

There was someone else vitally interested in Glenn's welfare: his wife. At her Arlington, Va., home, Mrs. Glenn, her face shining with happiness, told reporters, "I'm happy — I feel great."

"It is," said the 41-year-old Mrs. Glenn, "the most wonderful day for my family... the children are so proud of their father and the Mercury team and everyone who made this possible."

The Glenns have two children, Dave, 16, and Lynn, 14.

PRES. KENNEDY personally congratulated Glenn and told the first American to orbit the globe he would see him at Cape Canaveral on Friday.

"We are really proud of you and I must say you did a wonderful job," Kennedy told Glenn in a short radio conversation.

And Glenn, speaking from the destroyer Nautilus, replied that "it was a wonderful trip — almost unbelievable, thinking back on it right now. But it was really tremendous."

As to the plans for meeting with the president, Glenn commented "I will certainly look forward to it."

Kennedy plans to fly to

(Cont. on Pg. 4A, Col. 1)



GLENN CHATS WITH HIS WIFE ON SHIP-TO-SHORE RADIOPHONE
... Astronaut with stars in his eyes relaxes after flight



NEXT-TO-GO ASTRONAUT DONALD SLAYTON IN CONTROL CENTER
... With astronauts' personal physician and Alan Shepard

FREE! IN PERSON FREE!
GINNY TIU
And Her Family... Outside The New
RIKSHA INN
HIGHWAY 17-92 FERN PARK
Two Shows Nightly 6:00 P.M. & 8:00 P.M.
NO CHARGE OF ANY KIND

MYRICK'S
Big Furniture Values
Boost Remodeling
SALE
Open Friday 'til 9 P.M.
441 N. Orange Ave.
GA 4-8363
Free Parking Behind Store

ANNIVERSARY
SALE
SAVINGS
UP
TO
70%
Castro Convertibles
27th St. & St. Division
GA 4-3293

SEABROOK AUCTIONS—TODAY
10 P.M. — TELEPHONE 730-0743
BONNIE TERRACE

Coastal
Fair and cold through
Sunday. Low today near
65. High near 82.
Northeast to north
winds 10-25 m.p.h.
Dale, Page 5-A.

St. Petersburg Times

Florida's Best Newspaper

ST. PETERSBURG, FLORIDA, SATURDAY, JANUARY 28, 1967

VOL. 85—NO. 188

50 PAGES

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3 SPACEMEN TRAPPED BEHIND CLOSED HATCHES

Astronauts Grissom, White, Chaffee Killed in Flash Fire On Pad At Cape



GOVERNOR
MEETS
THE PRESS

The Highlights
• His "public-private" financing plan was outlined.
• He limited the use of private agents in the war on crime could end.
• Claimed he has no national aspirations.
• Scheduled a governor's conference on education. Details are below.

Kirk Discloses Finance Plans

Interpret, Page 10-A

Times Wire Services

TALLAHASSEE — Gov. Claude Kirk yesterday gave the first real rundown on his "public-private" financing plan. His explanation of the plan, which have drawn sharp criticism from the press and Democratic opponents, went this way:

• All his private financial interests have been placed in an "irrevocable trust" administered by W. Aubrey Verlander, president of American Heritage Life Insurance Co. in Jacksonville.

• If a group of private citizens have paid off \$75,000 of his personal campaign obligations, as the press has reported, "I do not know the amounts they contributed."

• Expenses for the recent executive jet aircraft he is using will be paid for by the state Republican Party.

Kirk acknowledged the campaign expense debt, but he said he had never been informed by Verlander whether or not it had been paid through donations. (Herbert White, a St. Augustine banker, said last week he and other friends of the governor had defrayed the \$75,000 obligation.)

• "APPARENTLY they saw the amount that I put into politics (Please see KIRK, Page 10-A)

Legislators 'Stick Together'

Legislative school, 1-B

By DON PRIDE

Times Bureau

TALLAHASSEE — A "stick together" movement emerged in Florida's Legislature yesterday as a five-year appointment battle approached the witching hour of midnight. House Speaker Ralph Turbin told he and other representatives were considering running the present House as a unit. The U.S. District Court in Miami orders rejection of a new Legislature with candidates running at large statewide.

• "I CAN'T think of any more sensible advice," he said. A compromise move was under study in the Senate. It would designate all incumbents. (Please see STICK, Page 10-A)

Deadly Storm Rips Midwest; Twenty Killed

Times Wire Services

CHICAGO — The worst snow storm in Chicago's history paralyzed the nation's second city yesterday. Widespread looting broke out and two persons were shot, one fatally, in some looting neighborhoods where police were almost helpless to act.

Throughout the vast Midwest area, trains, buses and planes could not move. Chicago's bustling Loop seemed like a ghost town, and the threat of a blizzard hung over South and West Side Negro neighborhoods where policemen, their patrol cars mired in drifts, had to slog through the drifted streets on foot.

The killer storm, which left at least 18 dead in Illinois and two others dead in Indiana — paralyzed the nation's midsection with snow that closed schools, highways and airports.

CHICAGO was crippled by a blizzard snowfall. All three major airports were closed and no schools were open. The emergency roomed huge parking lots. Sidewalks were impassable. Side streets were merely places for parked cars. Bizarre driving warnings were issued for Illinois, Indiana, Kentucky and lower Michigan, and for Maine, New Hampshire, Vermont and Northeast New York. Heavy snow was forecast for northern Maine.

The hardship in Illinois and Wisconsin was furthered by temperatures dipping to zero last night.

To add to this complex weather picture, a tornado struck the farming community of Falmouth, Del., slightly injuring seven persons and damaging more than a dozen homes. But none appeared seriously hurt.

CHICAGO — In Chicago called the storm a "catastrophe" and the term seemed apt. According to the weather bureau, the storm ended over Chicago at 10:10 a.m. EST, 24 hours and a second blizzard snow after it began.

But the snow kept whirling down on the southeast city and a new cold snap threatened to lock the city in ice.

State Chilly —But Warm In Comparison

Florida and the South decided to join the shivering nation last night, but by comparison the southern weather is warm.

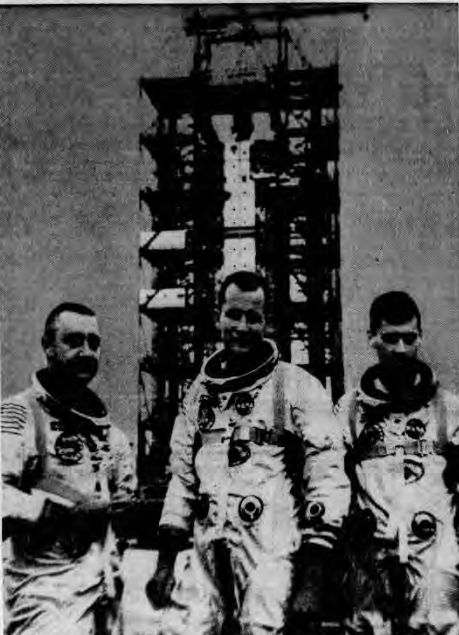
A cold front passing through the state yesterday brought a little rain with it but its biggest "gift" for the Suncoast will be temperatures ranging from the mid 20s in the north to the low 40s in Central Florida.

The front is expected to pass out of Florida by this afternoon and a slight warming trend is seen for Sunday.

High temperatures today should range from the high 50s to the mid 60s under clear skies.

THESE ANALYSTS go on to explain that Wang is concurrently the head of the Communist Party provincial committee in Sinking. Therefore, the analysts say, Wang could hardly be expected to use his troops to oust himself and his comrades from office.

According to Japanese correspondents, the situation in Sinking was deteriorating so rapidly that regular army troops might be sent into the region. The Kyodo news agency said the wall posters as saying that machine guns, grenades, rifles and other weapons were used in the Sinking fighting.



Saturn Booster And Apollo Teammates (From Left) Grissom, White And Chaffee

China Province Clash Deepens

Times Wire Services

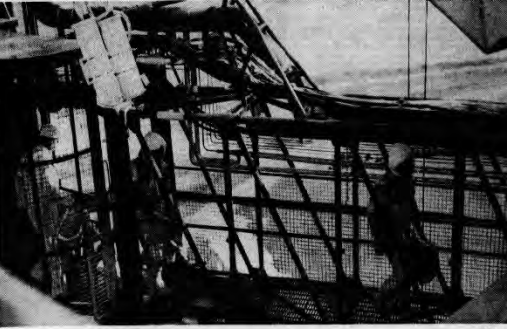
Peking wall posters reported yesterday more than 100 persons have been killed and "unknown numbers" wounded in gun battles between pro- and anti-Mao forces in the northwest province of Sinkiang. Japanese correspondents, reporting in Hong Kong on the wall posters, said seven of the eight army divisions in Sinkiang province have turned against Party Chairman Mao Tse-tung in an "anti-revolutionary rebellion."

IF THE NORTHWEST province lines up against Mao, it will be a serious blow to the party chairman's prestige. Sinkiang is Red China's nuclear testing ground, is rich in uranium and has many atomic plants.

There was little reason to doubt the reports of a critical struggle. Mao forces ordered the army to stamp out all political resistance to the "cultural revolution," as the current purge is called. However, analysts pointed out that the troop commander in the Sinkiang area is Wang En-mao, who has been denounced by Maoists for having ties with "counter-revolutionaries."

An aerial bomb fell on St. Petersburg last night. One of her sons had died.

Air Force Lt. Col. Edward H. White II was only an "adopted" son in a city of many adopted offspring. But the White family meant something special here.



Only Hours Before Their Death, Grissom (Right) And Chaffee Walk To Spacecraft

A City Grieves For One Of Its Sons

By RICHARD NELLIS
Of The Times Staff

The famed astronaut's parents, retired Maj. Gen. Edward White and his wife Mary, learned of the tragedy at their home, 286 Bayview Dr. N.E., on Jacksonville's Seaside Isle. They took the news like troopers.

"They're very much composed," said neighbor George Morrison. "Everything is under control. They're very quiet and courageous people."

The blinds were down and lights were dim as the elderly Whites closed off their grief with silent dignity.

Their famous son actually spent little time in St. Petersburg. In fact, his younger brother, James, was better known here for years as a star athlete at Northeast High School.

BETTER KNOWN, that is, until Edward White II made history as the first American to walk in space.

Gen. White, a pioneer pilot and balloonist, graduated from (Please see A CITY, 6-A)

Apollo One Crewmen Die Inside Capsule

Times Wire Services

CAPE KENNEDY — The entire three-man crew of the Saturn Apollo 1 mission was killed last night in a flash fire aboard the huge spacecraft designed to take man to the moon.

Killed in the blaze were Air Force Col. Virgil I. (Gus) Grissom, one of the seven original Mercury astronauts; Air Force Lt. Col. Edward White II, the first American to walk in space; and Navy Lt. Cmdr. Roger B. Chaffee, a rookie awaiting his first flight in space.

(White's parents live in St. Petersburg.) They were the first U.S. astronauts, and as far as is known, the first in the world, to die in man's attempt to conquer space. They died silently, and apparently quickly.

A CLOSED circuit television camera was relaying pictures of the astronauts, lying on their backs in the Apollo 1 spacecraft atop the two-stage Saturn 1, when the fire broke out.

"There was a flash and that was it," said a spokesman watching the screen in the blockhouse a few hundred yards away. The screen went black and there were no communications from the crewmen at that time.

The fire broke out at 6:31 p.m. EST while the three men were involved in a full-scale simulation of a scheduled Feb. 21 launch that was to take them into the heavens for 14 days of orbiting the earth.

They were trapped behind closed hatches, a National Aeronautics and Space Administration (NASA) spokesman said.

PAUL HANEY, voice of the astronauts, said at the Manned Spacecraft Center in Houston, Tex., that he understood there was a fire in the cockpit. He said minutes received no word from the astronauts during the fire.

HANEY said 21 members of the launch pad crew were treated for smoke inhalation but that none were believed to be seriously hurt.

HANEY said space agency officials were alerted by someone on the ground that the fire had broken out. He said emergency crews tried to reach the astronauts but were blocked by the dense smoke that ruled out at that time.

★
Inside Story

NASA gloom	6-A
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Site Of Tragedy

AP Wirephoto

★

(Please see THREE, Page 7-A)

The Weather
For Tomorrow: Part and Cloudy with
Tonight: High Near 62, Low Tonight
Near 46. (National Weather Map, Page
3-B.)

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Grissom, White and Chaffee Are Victims—

3 Apollo Astronauts Killed In Fire During Cape Tests



Chicago Youths Toss Snowballs While Drifts Keep Them at Car Top Level
... in vicinity of Kenmore and Foster Avenues, in city's northwest side—(AP)

Snow Paralyzes Chicago; Young Girl Slain in Looting

CHICAGO (AP)—The worst snowstorm in Chicago's history paralyzed the nation's second largest city yesterday. Widespread looting broke out, and three persons were shot, one fatally, in neighborhoods where police were almost helpless to act.

A cold wave, with temperatures expected to dip to zero and perhaps below, began sweeping into the area, compounding the wintry problems of about 7 million people in an eight county Chicago metropolitan area.

The usually bustling loop seemed like a ghost town, and O'Hare International Airport,

metropolitan area, 10 to 25 inches of snow was on the ground. Drifts piled to as high as 10 feet. Cars, trains, buses and planes—many of them piled in deep snow—could not move.

Three 2,000-ton diesel engines plowed through seven miles of drifted snow to open a path for a passenger train that evacuated more than 2,000 stranded motorists in a fire station near the Indiana line south of Chicago.

The threat of more violence hung over the city's west side, where a riot raged last summer. Police cars were stuck in the snow, and looters attempted to approach the looters on foot.

A 12-year-old Negro girl, Dolores Miller, was shot and killed on West Roosevelt Road, scene of the most widespread and uncontrolled looting. The circumstances of her death were not immediately known.

Lewis Wilson, 28, a store guard on the West Side, suffered a bullet wound in the shoulder and was listed in fair condition at the hospital. The shot was fired by looters, police said.

Another man, Arvin Moore, 30, was wounded in the back with a bullet.

At least 20 weather-blinded deaths were reported, 18 of them in the Chicago area. The governors of Michigan and Indiana called out the National Guard to help search for motorists still stranded in their cars after 30 hours or more.

But it was in the Chicago metropolitan area—an eight county expanse with a population of 7.5 million—that the brutal impact of the storm hit hardest.

Chicago officials called it a "catastrophe" and the term seemed apt. According to the weather bureau, the storm ended over Chicago at 10:10 a.m., 30 hours and a record 23 inch snow after it began.

But the snow kept whirling down on the snowbound city through the afternoon, and an expected even cold snap threatened to lock the city in ice.

This was the situation in and around Chicago as the monster blizzard eased.

Most streets outside the loop were blocked with drifts up to 10 feet deep. Abandoned cars, swarmed, every which way and stranded under drifts, could be found in blocks.

Crew Trapped In Saturn Capsule

CAPE KENNEDY (AP)—America's first three Apollo astronauts were killed last night when a flash fire trapped the crew in their space craft atop a 200-foot rocket during a launch pad test.

Killed were Air Force Lt. Col. Virgil I. Grissom, one of the seven original Mercury astronauts; Air Force Lt. Col. Edward White II, the first American to walk in space; and Navy Lt. Commander Roger B. Chaffee, a rookie awaiting his first flight in space.

The accident occurred at 6:31 p.m. EST, while the three men basked themselves in a full-scale simulation of the Feb. 21 launch of the first Apollo flight scheduled for up to 14 days in orbit.

They were trapped behind closed hatches, 2 National Aeronautics and Space Administration spokesmen said.

"Some one said there was a fire in the cockpit," said Paul Haney, voice of the astronauts. Mission control at the space center here, which was participating in the test.

Haney said there was no word from the astronauts during the fire.

Haney said the first warning of the fire came from someone on the ground. Emergency crews tried to reach the astronauts but were hampered by dense smoke. An unknown number of Cape Kennedy launch crew workers were treated for smoke inhalation.

At 10:20 p.m. EST, rescue teams began to remove the bodies from the charred spacecraft. A NASA spokesman said the dead astronauts were left in the ship for four hours to aid the investigation into the tragedy.

The pilots climbed into the spacecraft about 3 p.m. During the test they had encountered minor difficulties with the environmental control and communications system.

NASA said only that all data had been impounded, pending an investigation.

Grissom, 40, was one of the famed seven Mercury astronauts chosen to pioneer America's efforts in space in 1959.

He flew the second U.S. manned space flight on July 12, 1961. At that time he was victim of a near tragedy, when he had to swim for his life as his Mercury spacecraft, Liberty Bell 7, sank.

His flight lasted 15 minutes. On March 23, 1963 Grissom

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Astronaut Edward H. White
... Who Made the First U.S. Space Walk



Astronaut Virgil I. Grissom
... He Made Two Flights Into Space



Astronaut Roger B. Chaffee
... Was Getting Ready For First Space Venture

Tribune Writer Gets Kirk Award

TALLAHASSEE (UPI)—The governor's award for excellence in reporting was established by Gov. Claude Kirk yesterday with the first to go to David Watson of The Tampa Tribune.

The award, Kirk said, will be a pen and pencil, the "weapon" of the press which Kirk referred to as "keepers of the truth and poets."

At other times, if newsmen can expect from his administration.

Newsmen have complained that Kirk, during his first month in office, is the most inaccessible governor in modern times.

Instead, of the traditional weekly news conference of the past, Kirk said, press releases will be called when he feels there is news to announce.

At other times, if newsmen have a question that is "general" if they put it in writing, it will be considered and

perhaps a personal interview will be granted.

In a first moment, he presented a Virginia baked ham to Miami Herald political editor John McDermott as "the only man who has outlasted me in the march toward greatness."

(Continued on Page 5, Col. 4)

McDermott was one of four newsmen supplied from a secret meeting of the state senate Thursday.

To Don Price of the St. Petersburg Times, Kirk presented a bar of pink rose soap.

(Continued on Page 5, Col. 4)

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Peace-in-Space Treaty Signed at White House

WASHINGTON (AP)—Diplomats from 60 nations signed the new peace-in-space treaty yesterday at an unusual White House ceremony which President Johnson described as "an inspiring moment in the history of the human race."

Representatives of the United States, the Soviet Union and Great Britain were the first to sign the document that aims at preventing territorial or military rivalries in outer space and at blocking the writing of nuclear warheads.

Ambassador Anatoly Dobrynin, after signing for the Soviets, told an east room audience:

"Let us hope we shall not wait long for solution of earthly problems."

Johnson, who proposed such a treaty last May, said that if disarmament on earth still remains a goal to be sought, "We can at least keep the stars from spreading" to space.

Secretary of State Dean Rusk said the treaty demonstrates that conflicts or disagreements among nations cannot be allowed to deter a persistent search for areas of agreement. Nations, he said, "must be even small steps" toward unity and cooperation.

The 2,000-word treaty works to block the orbiting of nuclear warheads or any other weapons of mass destruction. It is aimed also at preventing territorial claims



Johnson Shakes Hands With Dobrynin
... after U.S., Britain, Russia sign treaty—(UPI)

in space—such as asserting national title to real estate on the moon.

Other provisions bar military tests or maneuvers on the moon or other celestial bodies and call for the prompt return of any spacecraft, communications, and a self-sustaining assembly that might land accidentally on alien soil.

Earlier yesterday, Soviet Premier Alexei N. Kozlov presided at a similar ceremony in Moscow, where Ambassador Llewellyn E. Thompson, signed for the United States. A third signing, which also drew American participation, took place in London.

The treaty, while drafted under United Nations auspices, resulted largely from negotiations between the United States and the Soviet Union.

(Continued on Page 5, Col. 4)

(Continued on Page 5, Col. 4)

Trellby

Fair, High in low 70s.

Complete Weather
Page 3A



THE MIAMI NEWS

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10 CENTS

36 Pages

Deepening Inquiry Is Opened In Spacemen's Fiery Deaths

B-52s Hit Cong Near Cambodia Frontier

SANJOSE — (AP) — Giant U.S. B-52 bombers rained fire bombs on Viet Cong "C" today in an attempt to burn out the lone three-jungle sanctuary of the Viet Cong near the Cambodian frontier.

It was the second incendiary raid this month by the high-flying Stratofortresses.

A U.S. military spokesman, who announced the raid, said the results were not yet known.

In the Mekong Delta, U.S. Army gunship helicopters used searchlights to track down Viet Cong guerrillas drifting about in sampans during the night.

Helicopter pilots reported destroying 33 sampans and killing 44 Viet Cong last night and this morning while flying "firefly missions" 25 miles southeast of Saigon.

On these missions, one helicopter beams its searchlights on the enemy while two flanking gunship helicopters open up with automatic weapons.

In all action over North Vietnam yesterday, U.S. planes flew 40 bombing missions. They concentrated all their strikes in the lower part of the country as poor weather covered the northern portion.

During the raids, an Air Force F-4C Phantom jet was shot down by Communist ground fire, U.S. headquarters said.

The two-man crew nursed the crippled craft out to sea in the Gulf of Tonkin, before it was rescued by a U.S. Marine helicopter within about 15 minutes of landing in the water.

A U.S. spokesman said one of the three turned on his radio while in his rubber dingy and informed the air controllers of his rescue.

The plane was the 40thth announced U.S. loss in the two years of aerial bombings of the North.

In South Vietnam, two U.S. helicopters and a light observation plane were shot down by ground fire yesterday during widely scattered ground fighting.

In the northern part of the country, U.S. Marines reported killing 45 Communists in three actions with

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Pixies

By Wahl
HAVE IF YOU
BUT YOUR HAND
OUT OF THE
CLOUDS, HERE
YOU'VE SUCCEEDED
IN BUSINESS.

The storm left at least 37 dead in Illinois — 28 in Chicago — as well as 19 in Michigan, five in Wisconsin and three in Indiana.

The storm slipped across the border into Canada, spraying rain and snow on Toronto and pelting the Laurentians of Quebec with what was expected to be a soft



Apollo Crew... Edward White, Gus Grissom And Roger Chaffee... In Recent Photograph

3 Brave Men As Newsman Knew Them

From the beginning of manned space flight in Project Mercury, The Miami News has assigned two reporters, Mill Sasin and Al Volker, to cover the exciting events at the Cape. In the following story, Volker recalls some of his personal contacts with the astronauts and their families.

By AL VOLKER

Somehow the most news

Six weeks to the minute — before death struck, at the last press briefing they were over to attend, the Apollo 1 Astronauts seemed confident, enthusiastic, ready to strap on with the new men they had come to know so well.

Gus Grissom, Ed White and Roger Chaffee attended the final session of a special school on Project Apollo held Dec. 15 and 16 for newswriters at NASA's Manned Spacecraft Center in Houston. I was there for The Miami News.

Grissom, reviewing the delays caused by flaws in Apollo 20's environmental control system, said that the problems were being solved. Asked if the crew would be ready if the spacecraft were to be cleared that instant, Grissom hesitated a few seconds and said the crew would prefer not to go — "We've still got some training we'd like to do."

Later I ventured the query, "With all three of you talking during a mission, a lot of babble would be coming down. Will you elect a spokesman?"

Gus grinned and said, "We will appoint one, and since I'm the command pilot —"

Those of us who covered all the manned missions are finding it hard to realize that Gus is gone. As one of the original Mercury Seven, Gus was better known to us than the younger astronauts.

Gus seemed to have a charmed life. In addition to his space-time adventures in Korea, Gus walked away from a crash after he became an Astronaut.

Then in his Mercury flight, the hatch unaccountably blew open and Gus had a tough time keeping his nose

Continued on Page 3A, Col. 1



Paul Hancy, Hands Clasped, Head Bowd, Answers Questions

STORM KILLS 37 IN ILLINOIS

Snowed-In Chicago Fights Looters

The Associated Press
Looters ransacked Chicago's streets today and all police forces were canceled as Illinois, Indiana and Michigan struggled free of a suffocating blanket of snow.

The second storm left at least 37 dead in Illinois — 28 in Chicago — as well as 19 in Michigan, five in Wisconsin and three in Indiana.

The storm slipped across the border into Canada, spraying rain and snow on Toronto and pelting the Laurentians of Quebec with what was expected to be a soft

snow, but its main force had been spent.
The Weather Bureau reckoned the storm "one of the biggest snowstorms of the century." The 23 inches dumped on Chicago in 29 hours and eight minutes surpassed the 1953-inch record for a single storm set March 25-26, 1950.

The worst single snowfall was in Kalamazoo, Mich. — 28 inches. But the snow blanket, averaging two feet in depth, stretched in a hundred-mile-wide band from north-

east Missouri to lower Michigan.
Chicago was hardest hit. Civic leaders estimated the storm would cost the city \$35 million in lost business.

Temperatures tumbled toward zero in Chicago as police chased looters from the streets. But the bone-numbing cold only made it harder to get the snow off the streets so residents could get back to their cars, their jobs, their schools and their families.

A 10-year-old girl was shot to death in a west side storm during an ex-

change of gunfire between police and about 50 looters. A security guard was shot in the wrist and wounded during another looting episode in the same neighborhood, an area of West Roosevelt Road plagued last summer by three nights of Negro rioting and looting finally quelled by national guardsmen.

Gov. Otto Kerner authorized the use of National Guard vehicles to help clear the streets, Iowa and Wisconsin loaned equipment and crew.

But most cars were stalled in snowdrifts. Families

walked through four-lane arterials usually clogged with motor traffic, greeting their neighbors with not a car in sight.
One newspaperman skied to work in the park-like city. It took him two hours. He said he spent three hours and 15 minutes riding a bus back home.

Virtually every city and suburban school closed, as did courts, financial exchanges and most businesses. Officials said Officers

Continued on Page 3A, Col. 2
Rudy Clonard 317 Outbid \$50
WT 7-6445, PR 3-8125. —Adv

White, Chaffee, Grissom Killed On Cape Pad

By WILLIAM TUCKER

Reporter of The Miami News

Space officials named a board of inquiry today to investigate the deaths of three astronauts who were engulfed by smoke and flames while rehearsing a blast-off in the trouble-plagued Apollo 1 moonship.

The nation was appalled and the moon program set back for months, perhaps, by last night's tragedy on pad 34 where the spacemen had no chance to escape their tightly locked capsule.

Flames of the flash fire and tapes of the doomed men's voices — if indeed, they were able to get out any radio messages before they died — were impounded for the investigation.

The inquiry board was headed by Dr. Floyd Thompson, director of the space agency's Langley, Va., research center. Other members are Max Faget, director of engineering development at the manned spacecraft center; George A. White, director of Apollo reliability and quality; Astronaut Frank Borman and John Williams, director of spacecraft operations.

One and a half miles from the scene of the tragedy, the charred bodies of Virgil I. (Gus) Grissom, Edward H. White II and Roger B. Chaffee lay in an infirmary.

Funeral plans for Grissom, the brilliant member of the seven original astronauts, for White, the nation's first space walker, and for Chaffee, the rookie spaceman, were to be announced later. Grissom was 40; White 38 and Chaffee 31.

Investigators already were swinging into action and it was obvious from the start that the tragedy will dilate added safety equipment in future moonship tests.

"It is inevitable" that safety procedures will be reviewed in Washington, said Rep. Charles A. McNair of Ohio, second ranking Republican on the House Science and Astronautics Committee.

DEATHS BELIEVED INSTANTANEOUS
Death was believed to have come instantaneously to the trapped astronauts. If they had any premonition of such grave trouble — believed to have been touched off by an electrical fault — they might not have been able to save themselves. The Apollo, launched in a Saturn booster, was immobilized in the gantry tower. The moonship was designed to be ejected in its entirety in an emergency. But this could not be done when it was enclosed in the gantry and in this case the necessary explosive equipment was not aboard.

Last night's holocaust climaxed a long series of troubles, some mechanical and some budgetary, which have slowed the Apollo program. It originally was scheduled to blast off late in 1966. During the final checkout and testing, many modifications and changes were made. Now many more appear to be ahead.

Preliminary examination of the gutted moonship was being made by a team under Maj. Gen. Samuel Phillips, Apollo program director.

PROGRAM WILL GO FORWARD
While officials from President Johnson down said the goal of reaching the moon in this decade would go grimly forward, the program obviously had suffered a body blow.

The disaster that had always lurked just beyond a leaky valve or a frayed bit of insulation finally caught up with the astronauts, a lucky, hairless crew who seemed to have charmed lives.

Three others had died in conventional aircraft accidents. But the United States had accumulated almost 1,900 man hours in 10 Gemini flights before it suffered its first fatalities directly connected with space operations.

ONLY 218 FEET ABOVE GROUND
Then, too, the tragedy occurred in earthy atmosphere only 218 feet above the ground where the first Apollo moonship was being counted down for a simulated flight. Grissom, White and Chaffee were to have gone aloft in her on Feb. 21 for a 14-day orbital flight.

They were 10 minutes away from simulated blast-off when it happened. The capsule suddenly erupted in fire as if the rocket assembly was going into action from the wrong end.

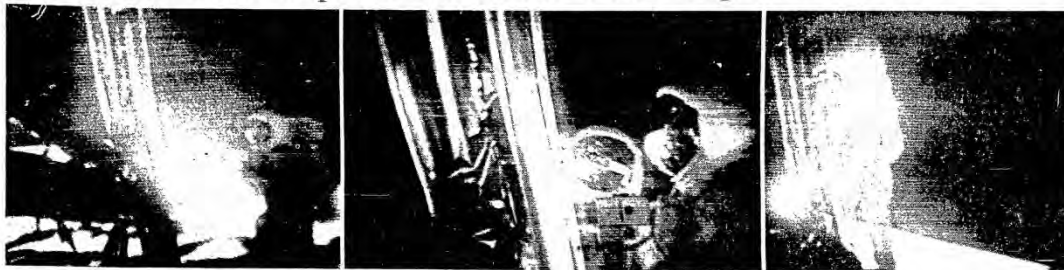
The three men were strapped inside helplessly. They may have gotten off a call for outside help. Emergency crews swarmed in the top of the gantry tower holding the Apollo. At least 27 men were overcome by

Continued on Page 3A, Col. 1

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One Small Step For Man... One Giant Leap For Mankind



They're Fuzzy And Out Of Focus, But They're Real As McCoy Himself



"He who cannot forgive others breaks the bridge over which he must pass himself."
—George Herbert

PANAMA CITY NEWS

WEATHER

Partly cloudy to cloudy with scattered showers and thunderstorms. An important temperature change. High 81 to 92.

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VOL. 17 — NO. 224 18 Pages UPI TELEPHOTO SERVICE Panama City, Florida, Monday Morning, July 21, 1969 SEA COMPLETE SERVICE AT AND UPI WIRE SERVICE Telephone 703-7021 PRICE 10 CENTS

We've Done It! Kilroy's There



OLD GLORY FLIES ON MOON — Apollo astronauts Ed Aldrin and Neil Armstrong stand in front of their lunar landing module and near American flag. — (UPI Telephoto)

Footprints On The Moon ...And The World Saw Them

SPACE CENTER, Houston (UPI) — Man reached the moon Sunday at 4:17:43 p.m. EDT. Then, for the first time, he set his foot on the soil of an alien world.

The first step, by 28-year-old civilian Neil A. Armstrong, hit the lunar dust at 10:56:00 p.m. EDT, about 6 1/2 hours after Armstrong and Edwin S. "Buzz" Aldrin Jr. landed their spaceship Eagle on the lunar surface.

"That's one small step for man, one giant leap for mankind," Armstrong's first words as his foot touched the lunar soil which he likened to powdered charcoal.

Armstrong placed the American flag on the moon at 11:41 p.m. EDT, experiencing a little difficulty driving the staff into the lunar soil.

A worldwide television audience watched Armstrong's first step on the moon. It was Armstrong's left foot, stepped in a space foot in his white 11-inch long and with a rising sole (heel-toal) moment of first.

The step was a dramatic moment in a day littered with such moments—the landing itself and Armstrong's speech.

(Turn to PAGE 2)

'It's Fantastic,' ...Panama City

By DOROTHY REANLAND
Staff Writer

Man's space-age venture on the moon drew a variety of reactions from carholders in the Panama City area Sunday. The most common one being "it's fantastic."

For once, the moon outside the sun played the Alamo. It was, according to several motel owners. Virtually every vacationer was inside watching the moon happenings on television, they said.

The downtown area well suited the description given by an Italian businessman here who said, "I look up the street — I look down the street — I see only one people." Everyone apparently was inside watching television.

The topic of the day was definitely the moon and the trip preparing in step on its surface. While the interest of most was the walk on the lunar surface, one elderly woman brought the mind of those around her strictly to the earth scene by asking in dead seriousness, "will this keep Einstein off the air?"

One youngster expressed total boredom with the happening by saying, "that old Apollo thing is on instead of Walt Disney."

But for the most part, a theme appeared somewhat spellbound with the historic event.

Panama City's century-old cinema, E. S. Baggett, described it as "a mad racing to the moon." He expressed concern for the safety of the astronauts' return and said "I'll be up in the air" until they take off the moon safely.

Baggett couldn't remember a single happening in his 100 years of living that compared with the moon landing. He however did say in expressing his worry over the astronauts he was just about this concerned when a man aimed a six shooter at his head years ago in Kentucky during a loud fight.

A preacher with a green thumb, the Rev. Howard Fourn, said "I'm not really in short farming a garden on the moon. I couldn't grow peaches, corn and potatoes. I'd have to grow something else."

(Turn to FANTASTIC, Page 2)

Millions Of Floridians Enthralled By Apollo Crew Accomplishments

By THE ASSOCIATED PRESS

Millions of Floridians thrilled Sunday when American astronauts Neil A. Armstrong and Edwin Aldrin landed on the moon, but few were as excited as a retired insurance man from Sun City.

"I think it's a wonderful thing," said Neil D. Armstrong, "I have exactly the same name I'd like to see the moon mission sent just to say hey.

The moon landing sent waves of excitement rippling along the Florida peninsula and through the inner hamlets of the state's panhandle. It was here, after all, that man's greatest adventure began.

"I think it's the greatest thing that ever happened," said Joyce Snow, a homemaker at Moon Gardens, a Cocoa Beach tavern a few miles south of Kennedy Space Center. "We feel like we had a little part in it."

"We're as excited as anybody could be," said Mrs. Kenneth Engle, operator of a sewing machine at WFB Industries at West Palm Beach. "I think it's just marvelous that the United States can accomplish something like that."

"I was proud to be watching. I was proud of them and I was proud to be an American," said Russell Caldwell, 26, most rock at a Jacksonville insurance company.

David Hildebrand, 25, assistant to the President of a Miami manufacturing firm, said the moon flight united men's minds around the world.

"For once everybody in the world was thinking one good, they make it down safely," he said. "The ones nobody was thinking of anybody else."

Clergymen throughout Florida led congregations in praying for the safety of the first men to set foot on another celestial body.

"I prayed that God may save them and bring them back to the great admiration and for the welfare of mankind," said Father Abraham Hoffman of St. Peterburg's Beth Shalom synagogue.

Patience Lind at Panama and

hundreds watched quietly at Florida State Hospital at Ocala as the lunar module's landing was reported on television.

"I was proud to be watching. I was proud of them and I was proud to be an American," said Russell Caldwell, 26, most rock at a Jacksonville insurance company.

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Patience Lind at Panama and

Apollo Recovery Ship Sailors Jubilant Over Lunar Landing

BOARD USS THORNTON — Sailors aboard this 2,500-ton recovery ship, Sunday night were ecstatic that the astronauts had landed on the moon.

The announcement was relayed to the 2,500-man crew via a public address system after the communication center picked up a Voice of America Radio broadcast from the shuttle center in Houston.

The Hornet, a World War II carrier, was steaming near the primary recovery area, about 1,000 miles southwest of Hawaii, where it is scheduled to retrieve the three spacecraft Thursday.

The remote location of the

Experts Still Puzzled Over Luna 15 Goal

(Turn to PAGE 2)

Bookmakers Pay Off Bet On Moon Walk

LONDON (UPI) — David Threlk, who bet \$100 five years ago that man would set foot on the moon before 1971, was handed a check for \$2,000 on British television Sunday night even though he barely set eyes on the moon.

The bet was a dramatic moment in a day littered with such moments—the landing itself and Armstrong's speech.

(Turn to PAGE 2)

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WEATHER
Partly cloudy to cloudy.
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"I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth. No single space project in this period will

be more impressive to mankind, or more important for the long-range exploration of space; and none will be so difficult or expensive to accomplish."

President Kennedy,
May 25, 1961

Neil, Buzz Take Moon Walk



ARMSTRONG FIRST MAN ON MOON
Very Level Surface, Astro Says Of Site

By Paul Wills Services
SPACE CENTER, Houston — Neil A. Armstrong and Edwin "Buzz" Aldrin Jr. set out on foot Sunday night to explore the new world of the moon.

The first step, by 38-year-old civilian Armstrong, hit the lunar dust at 10:56:30 p.m. EDT, about 4 1/2 hours after Armstrong and Aldrin landed their spaceship Eagle on the lunar surface.

Other Stories

Pictures...Pages 2, 10

"That's one small step for man, one giant leap for mankind," were Armstrong's first words as his foot touched the lunar soil which he likened to powdered charcoal. A world-wide television audience watched man's first foothold in a world other than his own.

It was Armstrong's left foot — shod in a space boot 6 inches wide, 13 inches long, and with a zig-zag sole tread — that impacted first. The step was a dramatic moment in a day jammed with such moments — the landing itself, and Armstrong's superb calm when he overrode the automatic pilot of the lunar lander which was taking the spaceship toward a boulder field, and manually steered himself and Aldrin, an Air Force colonel, free of almost certain disaster.

Armstrong stepped first onto one of the four saucer-like footpads of his

spaceship. Then the moon. He was in the bitter cold of lunar shadows as the camera caught the sight of his left foot, size 9 1/2, pressing into the lunar soil.

Armstrong said the spaceship's footpads had pressed only an inch or two into the dusty soil. His foot sank only a "small fraction, about an eighth of an inch" into it, he said.

His first steps were cautious in the one-sixth gravity of the moon. But he quickly reported, "There is no trouble to walk around."

Aldrin joined Armstrong on the lunar surface at 11:18 p.m. EDT to start the rock gathering and exploration.

Aldrin had waited inside the Eagle to watch Armstrong's progress before venturing down himself.

They had been impatient to be out, to complete a man's ancient dream. They asked, and received permission, to make their walk early.

The two intruders on the rocky surface decided, and were granted permission by ground control, to step outside the spacecraft several hours earlier than scheduled. First Armstrong, then Aldrin.

Armstrong read from the plaque on the side of the spacecraft. In a steady voice, he proclaimed, "Here man first set foot on the moon, July, 1969. We came in peace for all mankind."

At 11:43 p.m. EDT they unfurled the Stars and Stripes and it stood in the airless, wintry atmosphere of the moon, held fast by a rod along the top. One of the Americans stood back and saluted.

Continued on Page 3, Col. 1



NEIL ARMSTRONG LISTENS TO NIXON
Conversation Relayed After Flag Planted

Whole World Waited — And Saw Sheer Drama

By Paul Wills Services

SPACE CENTER, Houston — They kept the whole world waiting while they dressed to go out, but once there, the whole world saw Neil Armstrong's "one small step for man, one giant leap for mankind."

Never before had so many been eyewitnesses to such high adventure. Armstrong's white boot coming down a ladder.

"It's different, but it's very pretty out here," Armstrong said as his eye scanned a vista a human eye had never held — the moon.

The picture was like a nickelodeon of grandma's time, starkly black and white, somewhat jerky, hard to see. Like a 1920's movie, but with real life, breath-taking drama.

But it was man first stepping down to the moon.

The whole world watched as Armstrong guided his companion, Edwin Aldrin, down that historic ladder, seeing Aldrin's foot tentatively seek that last step.

"It's a very simple matter to hop down from one step to the next," Armstrong said. "It's very comfortable, you've got three more steps and then a long one."

And the world saw, and heard Aldrin, breathing hard from the unusual exertion, go down that last step, and then, for practice, hop up again.

"That's a good step," Aldrin said. "Yeah, a three footer," Armstrong replied.

Before stepping from the front porch of the Eagle, Aldrin said he partially closed the hatch, "making sure not to lock it on my way out."

"Hi! Good thought," said Armstrong. "It's our home for the next couple of hours. We want to take good care of it," Aldrin said.

President Nixon phoned the astronauts after their landing, from the oval room of the White House.

"Because of what you have done the heavens have become part of man's world," Nixon said through 250,000 miles of space. His call lasted about two minutes.

The astronauts saluted twice as Nixon said his final words.

Kennedy Facing Charge Of Leaving Death Scene

By Paul Wills Services

EDGEMONT, Mass. — Police Chief Dominic J. Arena said Sunday he will seek a complaint today charging Sen. Edward M. Kennedy, D-Mass., with leaving the scene of an accident.

Kennedy, 37-year-old assistant majority leader in the Senate, was driver of a car that reversed off a bridge early Saturday and overturned in a salt water pond on a small island off the Massachusetts coast.

The senior straggled injury, but a woman passenger, Miss Mary Jo Koepcke, 28, of Washington, D.C., was killed. A medical examiner ruled her death a case of accidental drowning.

"I am satisfied there was no negligence, but the time element causes me to conclude it was a case of leaving the scene of an accident," Arena told newsmen Sunday.

Kennedy waited more than eight hours before going to the police, Arena said. Kennedy said in a statement that he was in a state of shock after the mishap. He said he couldn't even recall how he got out of the car, which was submerged in about eight feet of water.

The bridge is less than 11 feet wide and has no rails. The rock, approaching it curves sharply just before reaching the pond's edge.

Miss Koepcke, whose body was found in the rear seat of the auto, was a former secretary to the late Sen. Robert F. Kennedy, D-N.Y. At the time of her death she was employed by a Washington political firm.

Continued on Page 17, Col. 1

The Unattainable Attained; First Men Land On Moon

By Paul Wills Services

SPACE CENTER, Houston — Man landed on the moon at 4:18 p.m. EDT, Sunday, July 21, 1969.

Two Americans, Neil A. Armstrong and Edwin E. Aldrin Jr., 246,000 miles away from home on the planet Earth, dropped to a dusty landing on the moon's alien soil, the first men in that strange land.

"Houston," Armstrong's voice called out from the lunar surface. He paused a full two seconds. "Tranquility Base here. The Eagle has landed."

"Fantastic," said the third Apollo 11 astronaut, Col. Michael Collins, piloting the command ship Columbia on its lonely orbital patrol some 69 miles above.

As Eagle neared the surface, its computerized automatic pilot sent the fragile ship toward a moat of rocks and boulders in the projected landing site in the moon's Sea of Tranquility.

Armstrong grabbed control of his ship, steered it clear of certain disaster and it dove four miles beyond the original landing point.

"The auto targeting was taking us right into a football field sized crater with a large number of big boulders and rocks," Armstrong said. "And it required us to fly manually over the rock field to find a reasonably good area."

When Eagle began its descent to the moon, Armstrong's heart was beating at 110 throbs a minute. When they touched on the moon's surface, it had slowed to 156. Less than 45 minutes later it had calmed to 96, about 30 beats a minute above normal.

But the voices of Armstrong and Aldrin were always tightly under control despite the excitement of the moment.

Even during the powered descent, they read off their altitude figures with the dispassion of a broker reading stock market quotations. The descent rocket burned for some 15 minutes, the controls in Armstrong's right hand, as Eagle followed the long arc over the lunar surface and came down like a hovering helicopter.

Just after landing, there was a busy silence while the men quickly set up the spacecraft for an emergency takeoff if necessary. The first minutes were devoted to making the decision whether to stay.

The dust was still settling. The rocket kicked up clouds of dust from the moment it reached a point to feet over the lunar surface.

The men on Tranquility Base, accustomed to the weightless state of space flight, were suddenly subjected to the moon's gravity — one-sixth as strong as earth's. They fell as though they weighed about 30 pounds. They said they did not think there was any difficulty adapting to it.



STARS AND STRIPES PLANTED ON MOON
Armstrong And Aldrin Place American Flag

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Continued on Page 3, Col. 1

PARTLY CLOUDY
Partly cloudy, hot and
humid, with 60 per cent rain
today and 30 per cent tonight.
High today and Tuesday 90,
low tonight 74. Winds variable,
5 to 15 miles per hour.

Tallahassee Democrat

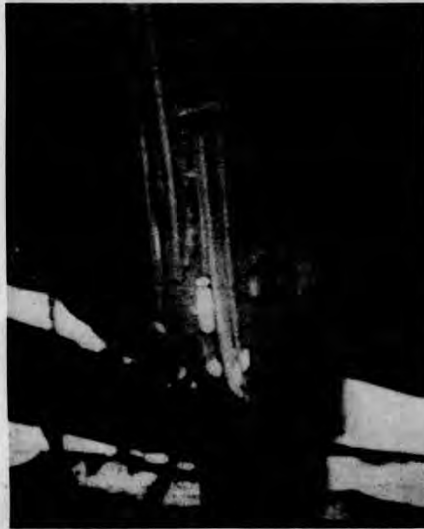
Monday
Afternoon

64th Year, No. 200—24 Pages

Florida's Capital Newspaper

*** Monday July 21, 1969 10 Cents

Man Conquers Moon



A.U.S. 'Giant Leap' Risky Home Trip Faced

SPACE CENTER, Houston (UPI)—America's two moon pioneers completed man's first exploration of the lunar surface today and sealed themselves back in their spaceship Eagle for the hazardous voyage home to earth.

But no matter what lay ahead, Neil A. Armstrong and Edwin E. Aldrin Jr. already belong to history as the first to set foot on the surface of the moon. In doing so they made a "giant leap for mankind" toward new conquests of the universe. They collected about 80 pounds of lunar stones and dirt for study by scientists on earth.

With millions the world over watching the black and white television pictures they beamed back, Armstrong and Aldrin planted the American flag and explored the gray, alien surface of rocks, ridges and dust that turned their blue space-boots cocoa colored.

THEY WERE CLAM, deliberate and encountered no difficulty during their time outside Eagle—2 hours and 31 minutes for Armstrong and 23 minutes less than that for Aldrin.

They still had to blast off from the moon in the lunar module, rendezvous with Michael Collins circling the moon in the Apollo 11 commandship and fly home to a splashdown in the Pacific Ocean Thursday morning.

The firing of the Eagle's ascent engine to get them off the moon was scheduled for 1:53 p.m. EDT.

But with half the mission still left, there was no doubt about the place history would assign the flight proved the possibility of travel "between the earth and other bodies."

"The heavens have become part of man's world," President Nixon told the astronauts from the White House, 250,000 miles away.

Television clearly showed Armstrong, a 39-year-old civilian from the same part of Ohio as the Wright Brothers, backing down a nine-run ladder on the lunar module, stepping on the yard across landing pad, and planting his left foot on the surface.

HISTORY WILL mark the time as 10:56:20 p.m. EDT.

That was three and a half days after their blastoff from Cape Kennedy, 8 hours, 39 minutes after the Eagle settled on the moon and eight years and two months after John F. Kennedy's challenge.

(Continued on page 12)

HIS FIRST STEP ON MOON: Astronaut Neil Armstrong Descends Ladder From Lunar Module



Memory Is
Excited, Too

Exciting events recall memories, which gave substance to exciting expectations.

There was breathless tension as the fragile bag carrying our men hovered for that first landing on the Moon, and when one took his first cautious step onto that hostile ground.

But we who have lived very long in this century have known such excitement before from human exploits.

(Man always has known it as he awaited such natural events as the birth of a child or some sensational religious experience, some intellectual test or the impact of a vicious storm.)

Today, though, all minds are on the triumph of man in travel through the air, and the magnitude of it is multiplied by the buildup and the focus of world attention on a single occasion. Certainly, so many never held their breaths in unison before.

But, looking back, this seemed to me to be no greater miracle than that first, unexpected sighting of a flying machine.

Out on that vast flat treeless Canadian prairie someone at morning recess noticed an odd speck. It grew, and our first grade excitement grew with it. Probably none of us ever had seen an airplane. But we knew about them. And this had to be Clyde Hobbins, hero of our parish, because he was the only man who had an airplane. It was.

Chuckle
One of the shortest measurable intervals of time is between the day you set a little extra aside for a sudden emergency and the arrival of a sudden emergency.



NEW GLORY FOR OLD GLORY: Moonmen Plant American Flag

'One Small Step, One Giant Leap'

TRANQUILITY BASE, The Moon (UPI)—That's one small step for man—one giant leap for mankind.

They were the first words of Neil A. Armstrong when he set foot on the moon Sunday.

Voices from the moon: Edwin E. Aldrin, describing the surroundings.

"It looks like a collection of just about every variety of shape, angularity, granularity and every variety of rock you could find... there doesn't seem to be too much of a general color at all."

Told that ground controllers were smiling: Armstrong—"There are two of them up here."

Armstrong, looking from his perch back at earth: "It's big and bright and beautiful."

Armstrong's first words to Michael Collins, flying 70 miles above in the command ship Columbia: "Just keep that orbiting base ready for us up there."

"Magnificent... desolation," were Aldrin's first words on setting foot on the moon.

"Hey Neil, didn't I say we would see some purple rocks? 'Find a purple rock?'" Armstrong asked.

"Yep."

And after becoming accustomed to the lighter gravity on the moon, Armstrong decided: "Isn't it fun?"

Apollo Schedule

SPACE CENTER, Houston (UPI)—Timetable of main events coming up in the flight of Apollo 11, all times EDT and subject to change:

Monday	Tuesday
10:32 a.m. EDT—Command module pilot awakened.	12:53 a.m. EDT—Command module fires its main engine to break out of moon gravity and start trip homeward.
11:32 a.m.—Lunar module astronauts awakened to prepare for liftoff from the moon.	2:22 a.m.—16-hour rest period for astronauts.
1:31 p.m.—Liftoff of ascent stage of lunar module, boost to intermediate rendezvous.	3:52 p.m.—Midcourse correction.
2:49 p.m.—LM raises orbit for rendezvous with command module.	8:50 p.m.—Television from space.

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 Above probability 8
 per cent today, 78 per
 cent tonight. Heavy
 clouds, high in upper
 80s, low this morning
 70. Weather map, this
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St. Petersburg Times

Florida's Best Newspaper

ST. PETERSBURG, FLORIDA, MONDAY, JULY 21, 1969

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32 PAGES

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Moon, We're Onto You



'That's one step for
 man . . . one giant
 leap for mankind.'

— Apollo 11 commander Neil
 Armstrong's first words after set-
 ting foot on the moon.



Armstrong Walks The Lunar Surface...Man Conquers Moon

Americans Land On Moon's Plain

Time Wire Services
SEA OF TRANQUILITY, Moon—Man walked on
 the moon yesterday.

Two American astronauts, Neil A. Armstrong, a
 civilian, and Edwin E. Aldrin Jr., an Air Force col-
 onel, raised a cloud of dust as their lunar landing mod-
 ule Eagle settled on the surface of the moon at 4:31:45
 p.m. EDT. It marked the first time man had reached
 another terrestrial body. The time was 10:36:31 p.m.
 EDT, the date, Sunday, July 20, 1969.

With the world waiting expectantly 30,000 miles
 away, they prepared for man's first walk on the moon
 several hours later.

They had been impatient to be out — to complete

man's ancient dream. They asked, and received per-
 mission, to make their walk early.

Michael Collins — in the mother ship that brought
 them — continued to glide the moon awaiting their
 reunion 22 hours later.

"Houston," Armstrong's voice called out in the
 first human communication from the moon. "Tran-
 quility Base here. The Eagle has landed."
 "Fantastic," said Collins on his lonely orbital
 perch some 69 miles above.

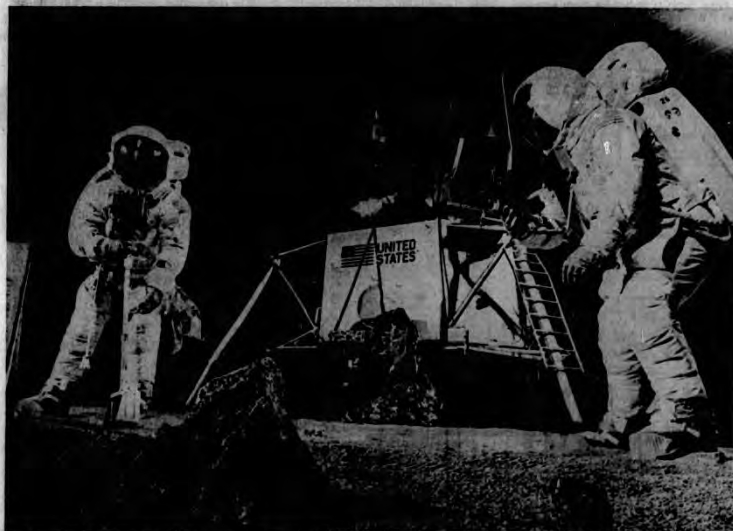
LATER Aldrin sent a message "to ask every per-
 son listening, wherever they may be, to pause for a
 moment and contemplate the events of the past few
 hours and to give thanks in his or her own way."

(See APOLLO, 5-A)

Luna Orbit Raises Speculation, 9-A

A Nation Prayed...And Waited; Borman Leads White House Service, 8-A
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 The Moon—One Of Only 32 In The Solar System, 13-A

Man's Boundary: Always One Step Away



Simulated Scene Of Moon Walk: Man's Greatest Adventure, Dreamed And Planned For Centuries

By ISRAEL SHEKNER

Heard To The Times From The New York Times (C)
 The legend who walks like a god and acts like a man now
 stands triumphant on the moon, looking back toward a planet
 that was once home enough for his pleasures and his grief.

Realize, unaided by the wondrous tricks of his brief evolu-
 tionary hour, man has now moved from Earth to heaven to
 write destiny in bolder script.

There were no natives to fear the strange invader, no sa-
 trap to proclaim his coming, nothing but stillness and gran-
 deur and perhaps the uncomfortable feeling that Little Brother
 on Earth was watching.

GIVING BODY to his infinite longings, man has moved in
 every direction for discovery, pleasure, and escape — on what-
 ever pretext and often on none. As the new lunar age opened,
 the latest larvae of the celestial top, skip and jump had finally
 conquered a first foothold in space.

The astronauts who went to the surface of the moon are
 members of a breed that sets impossible goals and (with a lit-
 tle bit of luck) stays alive.

In nursery rhymes and folklore, in mythology and litera-
 ture, and in the hardest way of all — history — man has not
 only moved mountains but moved round them, penetrating
 inner and outer space, this world, heaven and hell.

The urge to locomotion is deeply inscribed in man's psyche,
 perhaps even more deeply than the sweet delight of resting in
 one place.

OPHREY, THE mythical musician, was perhaps the most
 luckless and certainly the most foolish trigger of all the ages.
 On the earth of his wife, Eurydice, he followed her into the un-
 derworld.

(See ONE STEP, 5-A)

Kennedy Faces Accident Charge

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Man on The Moon



Veni,
vidi,
vici

"I CAME, I SAW, I CONQUERED"

JULIUS CAESAR



The Moon's 'Very Level Surface' Touched First Time By Human
... Neil Armstrong steps on the surface of another planet as the world watches via TV

President Nixon, following the flight on television like millions of others around the world last night, called the two astronauts after they planted the U.S. flag.

"Because of what you have done the heavens have become part of man's world," Nixon said in a two-minute call that spanned 250,000 miles of space.

"Thank you, Mr. President. It's a great honor and privilege for us to be here, representing not only the United States but men of peace of all nations, men with interest and curiosity and men with a vision for the future. It's an honor for us to be able to participate here today," Armstrong responded.

Nixon replied: "Thank you very much and I look forward, all of us look forward to seeing you on the Hornet on Thursday."

'Small Step For Man... Giant Leap For Mankind'

SPACE CENTER, Houston (UPI) — Neil A. Armstrong sidled carefully through the hatch of his Eagle moon lander first last night, and started down the nine steps of its ladder toward the lunar surface.

Then Armstrong carefully crawled through the 23-inch

square hatchway, moving onto the ship's "front porch" while Aldrin guided him.

"OK, Houston. I'm on the porch," Armstrong told ground control.

The porch is the platform extending from the hatch opening to the top of the ladder to the surface. It has two

low hand rails.

"I'm going to step off the LM now," Armstrong said.

"That's one small step for man and a giant leap for mankind," he said as he set his left foot on the moon at 10:56 p.m. EDT.

He said the surface was powdery.

"I only see an eighth of an inch, but I can see my foot prints . . . in the fine particles."

"There seems to be no difficulty in moving around," he said as he tested man's equilibrium on the surface at the other world or the first time.

The television camera that

televised the historic moment to Earth was mounted inside an equipment bay that Armstrong opened as he climbed down the nine rung ladder.

"The descent engine did not leave a crater of any size. We're on a very level place here," Armstrong said.

Armstrong stood at the foot of the ship's ladder as Aldrin began his climb down.

"OK, you saw what difficulties I was having," Armstrong told Aldrin as he guided him out of the ship's hatchway.

Armstrong stood at the foot of the ship's ladder as Aldrin began his climb down.

"You're right at the edge of (Continued on Page 10, Col. 1)

Luna 15 Darts To 10 Miles From Moon On Mystery Trip

JODRELL BANK, England (UPI) — Luna 15 darted dramatically near the moon yesterday in a maneuver Jodrell Bank scientists said could only mean the Soviet unmanned probe was bent on reconnaissance during the Apollo 11 mission or was preparing to land.

Observatory Director Sir Bernard Lovell said that after

Luna 15 had carried out two course corrections its mean altitude was 10 miles above the lunar surface.

In Moscow, the Soviet news agency Tass said Luna 15 was within 10 miles of the moon at its lowest point. It added that the probe was functioning normally in its scientific exploration of Lunar space.

Semi-official leaks in Moscow before the launching a week ago said Luna 15 would pick up moon soil and come back before U.S. astronauts could carry out this feat.

Another possibility mentioned in Moscow was that Luna 15 would observe the Apollo 11 flight and possibly send back television coverage.

Lovell said Luna's new orbit meant it was possibly on a course over the Apollo landing site in the Sea of Tranquility.

He said the orbit was on close to the moon that the (Continued on Page 7, Col. 8)



Mrs. Jan Armstrong Is Happy, But Taking No Chances
... chats with newsmen after the landing ... with fingers crossed—(AP)

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Other pictures and stories on Apollo will be found on Pages 6, 7, 10-A and 1-B



Beautiful

Continued fair through Sunday. Low 60 to 65 degrees. High 77 degrees. Variable winds less than 15 m.p.h. except for gusts, breeze. Weather map, data, Page 54.

St. Petersburg Times

Florida's Best Newspaper

ST. PETERSBURG, FLORIDA, SATURDAY, APRIL 14, 1970

VOL. 86—NO. 288

6 PAGES

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... Gladly have they
set foot on land and
escaped an evil end.
—The Odyssey, Homer

Oh, Happy Landing

'Farewell, Aquarius
...and we thank you.'
'She sure was a good
ship.' — The voyage of
Apollo 13.

By VERN HAUGLAND
Associated Press Writer

More Apollo coverage, 4-A, 15-A,
16-A. St. Petersburg news, 1-B.
They're back.

Days of cold and peril behind them, three tired and quiet American astronauts splashed down to a happy, on-target landing in the Pacific Ocean Friday. They were safe at last in the warmth of their home planet.

A doctor who examined the spacemen only minutes after their return to Earth reported that astronaut Fred W. Haise Jr. was suffering from a mild urinary tract

infection and had a low-grade fever of 100.5.

Dr. Keith Baird of the space agency, said, however, the astronauts were "all in good health."

"They were considerably more tired than the other crews I have been associated with," said Dr. Baird. "Except for being tired, I think they are all in good health."

Haise went right to bed after a medical examination and a meal. Astronauts James A. Lovell Jr. and John L. Swigert Jr. revisited the space craft which had carried them back from a near tragedy in space. The command ship was placed on the deck of the carrier

Two Jima and the two astronauts spent a few minutes inside its cabin.

Dr. Baird said all three of the astronauts complained that it was too cold for them to sleep in space and that was why they were exhausted. All had lost five to 10 pounds.

The doctor said he recommended rest for Lovell and Swigert and noted: "I didn't hear any objections to my advice at all."

The astronauts will tell their story to the world at a news conference Tuesday after they return to Houston. The Apollo 13 astronauts

dropped out of a partly cloudy sky, their orange and white chutes billowing in the South Pacific sun, within sight of the cheering sailors of the waiting aircraft carrier Two Jima, testimony to the courage and expertise that rescued them from space.

The President announced he would fly to Hawaii today to present the astronauts with the Medal of Freedom. But first he will stop in Houston to pick up the wives of astronauts Lovell and Haise so that they can meet their husbands in Hawaii.

The President proclaimed Sun-

day a day of national prayer and thanksgiving.

The faithful, spidery moon lander Aquarius, deprived of its moments of glory on the moon, found a glory of a different sort.

IT ALONE stood between the astronauts and disaster.

Its electricity, its oxygen, its water, its fragile shell were the margin of survival for Lovell, Haise and Swigert.

In flight they ejected the craft — at 11:43 a.m. Friday. Their only words were, "LM jettison."

"Okay," said Mission Control as the craft floated away.

Then, as if something else need-

ed to be said, Capsule Commu-

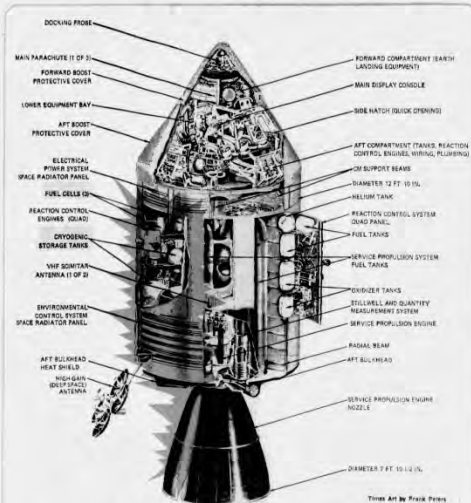
nicator Dr. Joseph Kerwin in Mission Control added: "Farewell Aquarius... and we thank you."

"She sure was a good ship," said Lovell.

SINCE MONDAY night, Lovell, Haise and Swigert had traveled more than 240,000 miles to get home again safely, their planned exploration of the moon's surface only so much lost history.

But the happy ending Friday came with an amazingly accurate landing considering the crippled na-

(See APOLLO 13, 4-A)



The Perils Of Apollo 13

Times Wire Service

HOUSTON — "Man, that's unbelievable." Astronaut Fred Haise said when he saw the term boards of the Service Module dangling beside the Command Module Friday morning.

HERE IS SOME of the dialogue between the crew and mission control when they backed away from the damaged module:

"There's a whole side of that spacecraft missing," Commander James A. Lovell radioed ground controller Joe Kerwin.

Kerwin: "Is that right?"

Lovell: "Right by the — look out there, out a minute — right by the high gain antenna the whole panel is blown out. Almost from the base to the engine."

Kerwin: "Take pictures."

Haise: "Looks like it got the SPS (service propulsion system) valve, too, Houston."

Kerwin: "Could you see the SPS engine on, huh?"

Haise: "The way it looked, just a dark brown streak. It's really a mess."

Kerwin: "Take pictures, but we want you to conserve RCS (reaction control system) fuel."

Lovell: "Right on that."

Haise: "I'm looking down the SPS bell now. It looks OK on the inside, maybe it was just a —"

Kerwin: "Was the bell deformed on the outside, or just cracked, or what?"

Haise: "I think the explosion, from what I could see, (or, had stages, I don't know whether there was any actual information for the bell) or not."

Kerwin: "OK."

Haise: "Man, that's unbelievable."

(See PERILS, 16-A)



Haise Climbs Into Raft As Swigert Starts Out Of Command Module

on the
INSIDE today

Cambodians Slaughter 100 Vietnamese

See story, Page 7-A

U.S. Accepts Jordan Envoy's Ouster

See story, Page 3-A

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Next Mission Seen Delayed
★ ★ ★ ★
Look At Damage A Shocker
★ ★ ★ ★
Aquarius Toast Of Center
★ ★ ★ ★
Faith Helped, Say Wives
—See Pages 4-5-A

Fliers' Safe Return Stirs Entire World

All Reported 'Feeling Fine'



Smiles Describe Astronauts' Mood As They Emerge From Recovery Helicopter
... (L-R) Fred Haise, James Lovell, John Swigert step onto deck of carrier Two Jima

By VERN HOUGLAND

ABOARD USS TWO JIMA (AF)—Days of cold and peril behind, three tired, quiet American astronauts splashed down to a happy, on-target landing in the Pacific yesterday, safe at last in the warmth of their home planet.

A doctor who examined the spacemen only minutes after their return to earth reported that astronaut Fred W. Haise Jr. was suffering from a mild urinary tract infection and had a low grade fever of 100.6.

Dr. Keith Baird of the space agency, said however, the astronauts were "all in good health."

"They were considerably more tired than the other crews I have been associated with," said Dr. Baird. "Except for being tired, I think they are all in good health."

Haise went right to bed after a medical examination and a nap. Astronauts James A. Lovell Jr. and John L. Swigert Jr. re-visited the space craft which had carried them back from a near-tragedy in space. The command ship was placed on the deck of this carrier and the two astronauts spent a few minutes inside its cabin.

Dr. Baird said all three of the astronauts complained that it was too cold for them to sleep in space and that was why they were exhausted. All had lost five to 10 pounds of weight.

Haise received an antibiotic, Dr. Baird said, after an above average increase in white blood cells was discovered.

(Continued on Page 4, Col. 1)

Courage Of Space Trio Acclaimed

By FREDERICK WINSHP
United Press International

The world welcomed the Apollo 13 astronauts back to earth yesterday with tears, cheers, tickertape, sirens, prayer and praise after the space age's most terrifying cliffhanger.

In all but a few countries the successful splashdown after the aborted moonflight was hailed as a triumph of American technological skill. Man-kind—with the exception of the Red Chinese who were kept in ignorance—shared its pride in the cool courage of Jim Lovell, Fred Haise, and Jack Swigert.

"The entire world is thankful and all men will long marvel at the unmatched combination of technological skill, courage and indomitable spirit which alone could safely bring them back to earth's embrace," said Secretary-General of the United Nations in a telegram to President Nixon.

Nixon Will Greet Astronauts In Hawaii, Bestow Medals

WASHINGTON (UPI)—President Nixon will fly to Hawaii today to greet the Apollo 13 astronauts and present them with the Medal of Freedom, the nation's highest civilian award.

He made his plans known after proclaiming Sunday a national day of prayer and thanksgiving for the astronauts' safe return.

Nixon said spacemen he will stop off at the manned spacecraft center in Houston to pick up the wives of astronauts James A. Lovell Jr. and Fred W. Haise Jr. and take them with him to Hawaii. In addition, he will present Medals of Freedom to members of the Apollo 13 ground crew "who made the very difficult decisions on the spot" while he is in Houston.

The White House said later that Dr. and Mrs. J. Leonard Swigert of Denver, parents of bachelor John L. Swigert Jr., will attend preliminary ceremonies in Houston and will travel with the Presidential party to Hawaii.



Spacemen Leave Command Module
—Pooled Photos from NASA
... Haise climbs into raft as frogman Ernie Jabneke holds hatch for Lovell, Swigert was still inside—(AP)

Jordan Riots Mark U.S. Envoy Recall

By United Press International

New anti-American demonstrations and a 100 per cent effective general strike gripped the capital city of Amman yesterday as Jordan forced the recall of U.S. Ambassador Harrison Symmes.

The official Jordanian news agency said, "the Jordanian government has informed the American government of its wish to transfer American ambassador to Amman Harrison Symmes."

In Washington, State Department spokesman Robert J. McCook confirmed the recall in a statement saying, "we regret this development which, we trust, will not impair the close and cordial relations which we have had with Jordan for many years."

WESTERN DIPLOMATIC sources in Amman said King (Continued on Page 12, Col. 1)

THE WHITE HOUSE said Mrs. Nixon also would accompany the President.

The President spoke to newsmen after he had watched the Apollo 13 splashdown in the Pacific on a television set in a room adjacent to his White House office.

"No adjectives can describe (Continued on Page 4, Col. 1)

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Today's Chuckle

Future generations won't be squandering their hard-earned money foolishly—we've already done that for them.

Sweet Wins New Trial In Murder Of Millionaire

By GARTH GERMOND
Tribune Staff Writer

LAKELAND — John J. Sweet, yesterday won a new trial for the murder of Charles Von Macey, millionaire Selmaing cattle and citrus man.

Reversed was the Nov. 8, 1962, first-degree murder conviction of Sweet, now 34, for being about the Oct. 3, 1960, shooting and slaying death of Macey in Macey's home, on a split decision of Second District appeals court judges.

Sweet was sentenced to a life prison term by Circuit Judge William K. Love after jurors returned a guilty verdict, and a recommendation for mercy, at the end of an 11-day trial.

LOVE ALSO presided at an 11-day hearing of the case in May that ended in a mistrial. The case was tried both times in Bartow on a charge of

venue from Highlands County.

Oral arguments on the appeal were heard here last Jan. 15.

Judge Joseph P. McElroy of the appeals court, who wrote the court's majority opinion with concurrence of Chief Judge T. Frank Hobson Jr., took into the state had attempted to show Sweet had hired (William) Kelly and (Andrew) Von Etter to do the

(Continued on Page 13, Col. 1)

Nixon to greet spacemen in Hawaii It's all over but the shouting

Fear and fatigue give way to joy for the wives

HOUSTON — Fear and fatigue gave way today to tribute and thanksgiving for the Apollo 13 wives and they gratefully accepted an invitation from President Nixon to fly with him to their husbands in Honolulu.

After a presidential award ceremony honoring the ground support crew at the Manned Spacecraft Center, Mary Jo Lovell and Mary Haise planned to board Air Force One for the return flight to Hawaii.

Yesterday's successful splashdown of astronauts James Lovell Jr., Fred Haise Jr. and John L. Swigert Jr., a backfire, smoothed over the trouble and worry felt by wives, astronauts and space scientists alike since a dangerous power failure incident Monday night crippled Apollo 13.

But the tension-filled days and nights were not forgotten.

"I have never experienced anything like this in my life and I never want to go through it again," Mrs. Lovell said in a front yard press conference.

"It was a long night — the longest there's ever been," said Mrs. Haise.

"A wonderful beginning and a beautiful ending, but I wouldn't give you two hours for anything that happened in between," said Swigert's father, Dr. and Mrs. J. Leonard Swigert of Denver, Colo., planned to accompany the President to Hawaii for a reunion with their son.

"I'm so happy it's all over," Haise's mother said as she stood crying on the front porch of her home at Bloom, Miss.

Mrs. Lovell was asked how she would feel if her husband, America's most experienced space traveler with four missions, should change his mind about Apollo 13 being his last flight.

"I have always gone along with what he wants to do, but selfishly I would not want him to make another flight," she said.

Both wives and Swigert's parents were bubbling over with happiness after the astronaut trio reached safety of the recovery ship. First there was the excitement of watching the blossoming parachutes on TV, then a telephone call from the President and finally a special telephone call from their astronauts.

"That was the most beautiful sight I've ever seen," Mrs. Haise told the President.

"That's a great day," Mrs. Lovell said.

"This is the happiest day of my life," said Swigert's mother.

Oswald informed on U-2, Powers says

When U-2 spy plane pilot Francis Gary Powers was shot down over the Soviet Union in 1960, it created an international incident. Powers is sure the Russians knew about the flight but couldn't stop them because they lacked certain data about the U-2 and high-flying radar. In his forthcoming book "Operation Overflight," to be serialized in The News beginning Monday, Powers says one of the Kremlin's sources of information was Lee Harvey Oswald — the man who killed President John F. Kennedy.

Watch for Powers' series Monday in your Miami News.



SPECIAL: Dr. John DeGrove, Dean of the College of Social Sciences at Florida Atlantic University analyzes Metropolitan Hialeah. The infatuated expert, in the first of two articles, see Saturday Seminar, Page 8A.

Abby	8A	Garnett	8A
Amuse	4-5A	Horsepower	7A
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Deaths	10A	U.S.A.	2A
Editorials	8A	World	2A

The fairest
Complete weather
on Page 2A



Home are the heroes... Fred Haise, James Lovell and John Swigert

Sniper fire kills youth in Santa Barbara riot

SANTA BARBARA, Calif. — One youth was shot to death today as young activists smashed into a Bank of America branch and attempted to set it afire.

Sherrif's deputies said the victim, Kevin Moran, 22, of Isla Vista, was killed by sniper fire from unknown demonstrators.

The shooting occurred during a second night of disturbances at the troubled student-populated community of Isla Vista, adjacent to the University of California at Santa Barbara campus.

The deputies, armed with carbines, said they lobbed tear gas bombs to break up milling crowds.

The number of youths involved in the disturbances ranged up to 400 at times, deputies and newsmen estimated. Many roamed in small groups, apparently ducking in and out of apartment houses that dot the area.

The bank under attack was made of prefabricated parts and was hastily erected after the original Bank of America building at the site was burned to a shell in February as a crowd of 800 looked on, and deputies held back firemen, saying they feared for their safety.

Individuals involved said they were attacking the bank again because Bank of America had not gotten the message that it wasn't wanted in Isla Vista.

They said the bank was also a target because it was the only business structure of any size in the diminutive business section.

Those involved said they were motivated by a dissatisfaction with the establishment, the war in Vietnam, and the oil spill pollution that hit beaches near the campus last year.

Occasional gunfire could be heard through the night.

Deputies rode through the area in dump trucks or flat-bed trucks in groups of six or more. Heavy boards were strapped onto the sides of the trucks to protect the deputies, who lobbed tear gas

canisters over the barricades at the milling groups.

Witnesses said sniping broke out after youths cut off electrical power to the bank, smashed its glass doors with rocks and threw a glass

line bomb inside, but it went out without spreading to the bank structure.

The dead youth was hit as he stood at the rear of the bank's driveway.

A sheriff's department spokesman said no deputies had been injured.

At least three arrests were made, but the charges were not immediately disclosed.



Rescue workers pry driver from truck after fatal Hialeah crash

2 teenagers crushed to death in Hialeah truck-car crash

By WILLIAM TUCKER
Miami News Staff Writer

A small truck that allegedly ran a stop sign crashed into a small car on the edge of Hialeah early today, killing the teen-agers occupants of the auto.

Metro police identified the victims as Alfred M. Gomez, 17, of 1180 W. 53rd Ter., and his girlfriend, Terry A. McDonald, 16, of 283 W. 51st Pl., Balaire 14, both of Hialeah.

The truck-trailer rig, loaded with bottles and jars, turned over on the car and its occupants, crushing them.

The injured truck driver, identified as James Thomas Mayo, 28, of Westinghouse, N.C., was trapped in his cab for more than two hours before he could be freed by Metro and Hialeah rescue units.

The truck, going north on W. 30th Ave., NW 62nd Ave. south in Hialeah, ran a stop

sign at W. 30th Place NW 110th St., police said.

The tangled vehicles wound up on the unincorporated Dale County side of the intersection and Metro police took jurisdiction.

The girl was killed instantly when she was thrown out of the small Rambler car and crushed by the truck. Young Gomez, freed from the car, died en route to Palm Springs General Hospital.

A passing doctor, Alan Grubert, gave first aid and pain relief to the driver while rescuers worked to free him. A large number of

Continued on 18A, Col. 1

Continued on 18A, Col. 2

President sets day of prayer

ABOARD USS TWO TINA — Back safely from space after a four-day battle for life, the Apollo 13 astronauts journey today toward a reunion with their families and the congratulations of their President.

Astronauts James Lovell Jr., John Swigert Jr. and Fred Haise Jr. fly today to Hawaii to greet their families and President Nixon tonight.

The President, in a statement yesterday after Apollo 13's flight ended, said, "A relieved nation says, 'Welcome Home.'"

He also declared tomorrow a national day of prayer and thanksgiving for the astronauts' safe return.

The spacemen rested last night after bringing their Apollo command ship to an on-target landing in the South Pacific, splashing down within sight of this carrier and worldwide television cameras.

Their return ended a desperate drama which began Monday night when an explosion racked their spacecraft as they headed toward the moon. It took away much of their electricity and canceled their moon-landing plans.

Apollo 13 left the immediate future of Apollo 14 — originally scheduled for October — in doubt.

"It was definitely off for October, but it certainly isn't definitely on for October," said space agency Administrator Thomas O. Paine.

He said a review board will study Apollo 13's problems. Paine indicated it was "too early to speculate" on the launch date of Apollo 14 until the source of the oxygen tank rupture is determined.

Apollo 13's return triggered a worldwide mood of thanksgiving. The astronauts' near tragedy and a dramatic

Continued on 18A, Col. 2

'Take us... or we will all die'

By HENRY KAHM
The New York Times News Service

TAKED, Cambodia — About 100 Vietnamese civilians, including perhaps 30 children were shot to death by Cambodian soldiers Tuesday night in a grade school where they were under detention, survivors said yesterday at the scene of the slayings.

"Take us away or we will all die tonight," an old man pleaded with me.

The smell of death hung over the roofed but unwarmed school building, where about 150 Vietnamese residents of this provincial capital 30 miles south of Phnom Penh were herded together under detention four days ago.

Three bodies — of a man, a boy and a woman — lay under their mats at the edge of the position. Four dying men lay unattended, eyes vacant, lips crawling on their wounds.

Three groups of men, totaling 40 or 50, sat or lay in terror and pain, awaiting the worst. At least half were wounded and all were bloodstained clothing.

The small building offered little space for 150 men to live and die, and the dead touched those who survived.

Taken, like the rest of the region on the frontier with Vietnam, is threatened by Viet Cong and North Vietnamese invaders. Throughout the region, Vietnamese resi-

Continued on 18A, Col. 1

Continued on 18A, Col. 2

Student unrest at U-M

Ombudsmen move called stall

By LINDA KLEINDIEST
Miami News Staff Writer

In a move to quiet undergraduate rumblings at the University of Miami, President Henry King Stanford has appointed 18 faculty and administrative ombudsmen — intermediaries to hear student complaints.

Students promptly labeled the effort an administrative stall.

No student was named to the panel, which is a Scandinavian concept under which every citizen has someone between him and the government through whom the citizen may seek redress of his grievances.

"tokens" by Jim Yasser, president of the Undergraduate Student Government, which will be leaving office in two weeks.

"President Stanford did this because we're a lame duck administration," Yasser said. "They won't listen to anything we do now."

Law student Bud Mac-

Continued on 18A, Col. 2

Kentzie, who operated as an ombudsman for about two months without administrative approval, feels that the ombudsman is important to the campus because he can help settle unrest before it becomes violent.

"An ombudsman could help settle unrest before it becomes violent."

Continued on 18A, Col. 2

Sports Highlights

Melbourne edges Satellite 1-0 in sub-district high school baseball finals, 1C.

Joe Gettys of Melbourne makes singles finals in state high school tennis tournament, 1C. (Complete sports 1-3C)

Saturday, April 18, 1970

TODAY

Florida's Space Age Newspaper

Published by The Gamett Company in Howard County, Florida

Next Space Shot

Delta rocket will boost Intelsat 3 communications satellite into earth orbit Wednesday.

TODAY's Weather

Partly cloudy. High 77-83, low 65-70. Winds east to southeast 5-15 mph. (Complete weather Page 2A)

10 Cents

'O Lord, we joyfully welcome back to earth astronauts Lovell, Haise and Swigert, who, by Your grace, their skill and the skill of many men, survived the dangers encountered on their mission and returned to us safe and whole. We offer our humble thanksgiving for this successful recovery. Amen.'

- Chaplain Philip E. Jerauld's Apollo prayer aboard the Carrier Iwo Jima

'13' Home at Last

World Sighs At Sight of Splashdown

By SANDERS LaMONT

HOUSTON — Three Apollo 13 astronauts ended days of annoying cold, unbelievable mental and physical pressures and the gravest crisis in U.S. space flight history Friday with an on-target splashdown in the South Pacific.

They were tired,

quiet— and safe.

Smiling and walking

steadily on the deck of

the USS Iwo Jima, Jim

Lovell, Fred Haise and

Jack Swigert avoided the

set up microphones. The

only word from them

was relayed by a helicopter

pilot whom Lovell

told they felt fine.

The cheers from sailors

in dress whites was

testimony to the courage

and expertise that en-

abled the astronauts to

be safely on board.

They were back from

moments of extreme dan-

ger, from long hours of

discomfort, chilled by

cabin temperatures in

the thirties, and tired by

the constant battle to

keep their battered

spacecraft going.

On the deck at 1:31

p.m., the astronauts step-

ped out of Navy Helicopter

66, dressed in blue

coveralls and two Jima

baseball caps. Unshaven,

plainly tired and a little

rocky after their seven

days in space, the three men waved wanly to the

television cameras and walked along a red carpet

to a battery of microphones.

Lovell apologized for their beards: "We were plan-

ning to come aboard clean-shaven like other crews."

The crew was greeted by Task Force Commander

Rear Adm. Donald C. Davis and Cmdr. Philip M. Jerauld, the two Jima's Episcopal chaplain who expressed

the sentiments of the entire earth on their safe

return home.

With that, a 16-piece Navy band struck up the

song — "Aquarius" — which by no coincidence

was the name of the Apollo 13 landing craft that

saved the crew's lives during the 82 hours that the

Command Module was out of action.

Whisked below decks, the crew went through a

three-hour medical examination by nine doctors and

then made ready to sit down to a warden dinner of

rib roast, broiled lobster tails cooked in wine and a

foot-high 200-pound cake they shared with the two

members of the two Jima crew.

The three will spend the night on the two Jima,

be helicoptered to Pago Pago and flown by jet on

Saturday to Hawaii.

People in 21 nations, including the Soviet Union,

watched live television set up in a Navy helicopter

as the orange and white parachutes blossomed over

the ocean.

The spindly-looking Little Lunar Module named

Aquarius, which became the astronauts' "lifeboat" af-

ter their Service Module was ruptured by a ruptured oxy-

Haise Suffers Mild Infection

ABOARD USS TWO JIMA

1AP — Dr. Keith Baird,

physician for the Apollo 13

astronauts, said Fred Haise

had a mild infection of the

urinary tract, probably

acquired from a shortage of

drinking water.

He said Haise and

astronauts Jim Lovell, Jack

Swigert had to conserve water

and didn't drink as much as

usual.

"This sometimes

contributes to this kind of

trouble," he said, adding, "I

do not believe that Haise is

slightly or even moderately

ill."

Dr. Baird said he was

treating the infection with

antibiotics. He sent Haise to

bed immediately.

Lovell and Swigert were

pronounced fit, although they

were tired and a little de-

hydrated.

Navy Chaplain Philip Jerauld: 'We offer humble thanksgiving' for the astronauts' return

TODAY-AP Wirephoto

Apollo 13 Headlines

Spider and Snoopy, Eagle and Intrepid—heroic ships all. But Aquarius! Ah, Aquarius! She was the mightiest ship of them all. (2A)

Whole world was waiting, watching. And then Odyssey came out of the clouds and fluttered down in a safe landing in the calm Pacific Ocean. It was all over. (3A)

Happiest three women in the world — the two wives and mother of the Apollo 13 crew. Mrs. Lovell, Mrs. Haise and Mrs. Swigert. Thankful and humble. (3A)

"I thought the most exciting day was when I was elected President, but this is the most meaningful day of my life." President Nixon. (3A)

Apollo 13 plight zooms attendance at Barn Theater where "Marooned" is in its eighth week. (3A)

"Disregard the options. This is what we are going to do." And Flight director Gerald Griffin took over after a secret 30-minute conference with his inner circle. (4A)

Everyday Features

After Dark, 4D
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Movie Times, 4D
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State News, 3 & 8D
Weather, 2A

Five Sections

PETRONE 'GUARANTEES' SUCCESS

NASA Plans Flights as Usual

By THOMAS O'TOOLE

TODAY—Houston: NASA has

guaranteed that the Apollo 13

mission will be successful.

While some critics of space

are already talking of cutting

back the funds for manned

space flight to avoid any

future disaster, the space

agency plans not only to press

on with manned flight but to

maintain its schedule of

Apollo flights to the moon

almost as if nothing

happened.

The "almost" has to do

with the oxygen tank rupture

in the Apollo spacecraft that

almost cost the lives of

astronauts Jim Lovell, Fred

Haise and Jack Swigert.

"We know we can't go on

exploring the moon if we

can't get there," Apollo

program director James A.

Peterson said the other night

at Houston's Manned

Spacecraft Center. "Let me

tell you that, we're going to

find the cause of this tank

failure and fix it. I guarantee

that."

By Friday night, the space

agency was sure it had

enough clues to the cause of

the tank failure that it would

not have to postpone the flight

of Apollo 14, which is

scheduled to take off from

Cape Kennedy Oct. 1 and

carry astronauts Alan

Shepard and Ed Mitchell to a

landing near the crater Horre-

bus, east of the Sea of Serenity.

While astronaut Stuart Roosa

writes the moon in the

command craft.

"It's too early to speculate

about the mission," NASA

administrator Thomas O.

Paine said. "It's not definitely

off for October, but it's not

definitely so for October."

Privately, Paine feels the

odds are in favor of an

October launch for Apollo 14.

"The basic question we

have to ask ourselves about

Apollo 13 is, 'do we fully

understand what happened

and can we make the basic

fixes on a won't happen

again?" Paine said. "I

personally feel we have

enough information to

pinpoint the cause of failure

and make the necessary

fixes."

One irony of the mishap

that aborted the flight of

Apollo 13 is that the space

agency now feels it must

redouble its efforts to land an

Apollo crew in the moon's Fra

Continued Back Page

This Section



DR. THOMAS O. PAINE

... program goes on

Cape T.G.I.O. Parties Celebrate Success

By EVERETT PARKER

And JERRY GREENE

TODAY—Houston: NASA

today saw news

The word was "Age of

Aquarius," and the word was

T.G.I.O. — Thank God It's

Over.

Both echoed throughout the

Cape Kennedy area Friday in

celebration of the return of

three honored guests who

failed to make the parties.

But no one seemed to mind

that Jim Lovell, Fred Haise

and Jack Swigert were on the

recovery ship somewhere in

the South Pacific. It was

enough that the Apollo 13

astronauts were on the same

planet, and safe.

It was pent-up pressure that

exploded into cheers and

applause at splashdown, and

the relieved, relaxed

celebrations later in the day

revealed the South Pacific for

witness.

There have been other

lauchages and other

splashdowns, but this one was

different.

"We never felt safe until

the men were back on the

carrier," said John Van

Dergill, manager of

Grumman public affairs.

But once they were, the

conference room at Kennedy

Space Center slapping each

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Central Brevard Edition

Sports Highlights

Bowie Kuhn re-elected at Milwaukee as major league baseball commissioner, IC.

Jury deliberating in assault trial of hockey player Dave Forbes, IC.

Complete sports, 1-5C.

Friday, July 18, 1975

FRIDAY Headlines

IN THE WORLD

BEATLE RINGO STARR divorced by his wife Maureen on grounds of Starr's adultery with American girlfriend, 5A.

EGYPT'S THREAT to oust the U.N. peace army from the Sinai a bargaining maneuver aimed at splitting United States from Israel, Analysis, 5A.

ISRAELI OFFICIAL warns that withdrawal of U.N. peacekeeping forces could lead to another Mideast war, 5A.

EUROPEAN COMMON Market countries issue a blunt warning to Portugal they will go forward with projected \$700 million aid program only in support of a pluralist democracy, 7A.

TWO YOUNG radicals throw gasoline bombs that narrowly miss Japan's crown prince and princess, 10A.

IN THE NATION

'MODERN ARMY' recruiters upheld them as the first husband-and-wife team to join the U.S. Army 2 1/2 years ago and now Timothy and Ellen Goeke say the Army's promises have turned to sour grapes and are splitting, 7A.

REPRODUCTIVE CAPACITY was lost, says a 33-year-old bachelor who underwent a vasectomy after placing his semen in a sperm bank and which was accidentally destroyed—as he sues for \$5 million, 8A.

ANCIENT CHINESE, who kept the feet of women small by binding them, have given a Los Angeles dentist an idea and he says he can use the same force to reshape children's noses, jaws and lips, 9A.

PRESIDENT FORD's energy plans are the target of House and Senate actions which would strangle his attempt for higher fuel prices for energy economy, 10A.

IN FLORIDA

GUNNEY CASE should go to jury sometime next week; jurors to be sequestered during deliberations, 5B.

STORE CLERK survives wild four-hour ride with abductor as she convinces him to seek psychiatric help, 5B.

THEY'RE TIP-TOEING around the surf at New Smyrna Beach after latest reported shark attack, 1B.

CENTRAL BREVARD

COUNTY COMMISSION approves cut-back of 139 federally funded public service jobs due to reduced federal aid, 1B.

BREVARD OFFICIAL warns that the county will face severe budgetary cuts in order to have a 'no new taxes' budget, 1B.

COCOA BEACH Mayor John Moore proposes direct pay to sheriff's department for services rendered, 2B.

SPECIALS TODAY

IN SPORTS, there may be an emphasis on winning at all costs, but the TODAY Invitational softball tournament, starting tonight, has an aspect that stresses fun—a division for some of the weaker area teams where competitors are more evenly matched. The TODAY Typos are examples. Ray Hollman reports, IC.

'CREATURES OF THE Night Take a Sun-bath' will be the first play of the newly organized Titusville Young People's Playhouse when members ring up the curtain on an original comedy spoof, 1D.

TODAY'S Features

Any Clark, 1D
Bridge, 5D
Business, 12-14C
Classified, 5-11C
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Dear Abby, 5D
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Earl Wilson, 5D
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Local News, 1-3-6-9
Miami, 12-14C
Movies, 2-3-5D
Names and Faces, 5A
People, 1-3D
Ray Hollman, 1C
Sports, 1-5C
State News, 7-8-9
Television, 2D
Weather, 2A



TOGETHERNESS IS A SOYUZ CAPSULE 140 MILES HIGH
... from left, Kubaev, Leonov, Stafford and Slayton

'Well Done, Tom, It Was A Good Show'



SOVIETS CROWN AS STAFFORD DISPLAYS U.S. FLAG
... exchange of gifts, dinner highlighted first visit

'The \$500 Million Duplex'

GNP Holds Line

WASHINGTON (AP) — The government reported Thursday that the nation's total economic output virtually held steady over the last three months after more than a year of decline, reinforcing assessments that recession has given way to recovery.

"More and more economic statistics indicate that the recovery is now under way," said Commerce Secretary Rogers C.B. Morton.

The Commerce Department said the physical volume of all goods and services produced in the economy from April through June dropped at a rate which projected over a full year would have equalled three-tenths of 1 percent.

The figures, the broadest measure of the economy's health, showed that not only businessmen got back on their feet after the worst recession since World War II, but consumers did, too.

The inflation rate for all goods and services—industrial and commercial as well as consumer—receded to an advance of 3.1 percent at an annual rate. That was a drop from the 8.4 percent annual rate in the first quarter and 10.3 percent at the end of last year.

The lower inflation rate, combined with the government's anti-recession tax cuts, rebate and Social Security payments handed out in May and June, helped push average individual after-tax income up for the first time in nearly two years after adjustment for inflation.

The inflation-adjusted disposable income rose \$13 per capita in the latest quarter as an annual rate of \$2,850. The figure hadn't risen since July \$2,852 in the second quarter of 1973.

Consumers, who had been spending more and more throughout the recession but had been getting fewer goods for their money because of inflation, finally bought a larger actual volume of goods and services for the first time since mid-1973.

TODAY'S Chuckle

Bumper sticker to end all bumper stickers: "Don't You Feel Stupid Reading a Bumper Sticker That Carries No Message?"



PRESIDENT FORD CONGRATULATES CREWMEN OF APOLLO AND SOYUZ AFTER THE SPACE LINKUP
... spacemen can be seen on White House TV during live telecast as conversations take place

'... Everything Is Excellent'

By ROBERT ROBINSON

Today's two-way

JOHNSON SPACE CENTER, Tex. — A day of joy went up simultaneously from the Apollo and Soyuz crews, Houston mission control and Moscow control Thursday as the two spacecraft docked on the first try.

"We have succeeded. Everything is excellent," Apollo commander Tom Stafford cried out.

"Are you in Apollo shaking hands now," Soyuz commander Aleksey Leonov asked.

"Well done, Tom. It was a good show," Leonov said. "We are looking forward now to seeing you aboard the Soyuz."

After working almost two hours, Slayton and Stafford moved toward the Soyuz and as the last hatch swung open, the astronauts and cosmonauts simultaneously cheered again.

"Let's shake hands. Come here please," Stafford said.

As Slayton looked into the Soyuz orbiting module, the first thing he noticed was all the cords floating around the vehicle.

"Looks like they have a few snakes in there too," Slayton said.

When he finally did get to the Soyuz to shake hands, Stafford said, "Very happy to see you, Aleksey. How are things, Valery (Kubasov)."

As Slayton and Stafford climbed into the Soyuz, Soviet Party Chairman Leonid Brezhnev sent a congratulatory message to the spacemen.

"In the name of the Soviet people and myself personally, I am congratulating you."



Rendezvous in Space

- High-flying summit a picture of détente, 2A
- Spacemen enjoy first picnic in Soyuz module, 2A
- Prime-time enjoy television coverage biased, 3A
- Families of astronauts watch space linkup, 3A
- Controllers don't know what to call vessel, 4A
- Highlights of conversations during linkup, 10A

Brezhnev said, "The whole world, with great attention and delight, is observing your work."

"It could be said the Soyuz and Apollo are the prototype of future orbiting space stations," Brezhnev said. "I wish you a successful completion of the planned program with Soyuz and Apollo."

There is the Soyuz, the Soviet television cameras were turned on, but Houston quickly noticed a problem.

"We appear to be getting a pretty good picture from the Soyuz, but it's upside down," Capcom Communicator Karl Debus told the astronauts.

"Oh, Jesus," Stafford said as he went to work on the camera.

With the camera righted, Stafford and command module pilot Deke Slayton spent almost four hours in the Soyuz Thursday with Leonov and flight engineer Valery Kubasov, while command module pilot Vance Brand remained in the Apollo.

For 44 hours, the two spacecraft will stay locked together as the astronauts and cosmonauts move back and forth between ships, conducting joint experiments and eating together.

Stafford and command module pilot Deke Slayton spent almost four hours in the Soyuz Thursday with Leonov and flight engineer Valery Kubasov, while command module pilot Vance Brand remained in the Apollo.

At 11 a.m., the crewmen will share their second joint meal and Leonov and Brand will comment on the quality of the other nation's space food.

Leonov and Stafford will be melting materials to determine the effect of the lack of gravity on processing materials.

The historic docking came at 12:10 p.m., five minutes ahead of schedule. The two ships were 600 miles due west of Portugal as Apollo, gaining on Soyuz at a rate of four inches per second, latched onto the Soviet ship.

"It was a soft docking," Stafford told mission control.

"Well done, Tom. It was a good show," Leonov said.

Crews went up in Houston's mission control as the crewmen started checking the integrity of the docking module, which connects the two ships and compresses the differences in pressure.

Larocca said discussions began on when and exactly where the questioning will take place, but no decision have been made.

The request for Nixon's deposition in the civil case came from columnist Anderson's lawyer, William

Two of the three, U.S. District Judge Aubrey E. Robinson Jr. and U.S. Appeals Court Judge Carl McGowan, signed the order allowing for the Nixon deposition.

While that testimony involved criminal investigations by the Special Watergate Prosecutor's Office, Thursday's order involves a tangled court fight over millions of White House documents and thousands of hours from the Oval Office taping system.

A special three-judge court Nixon set at over his home in San Clemente, Calif., within the next 10 days.

"Such a deposition is appropriate and necessary in the circumstances of this case," the brief order said.

Nixon testified before two Watergate grand juries for 11 hours more than three weeks

after he was charged with covering up the burglary of the Democratic National Committee headquarters in 1972.

Stafford and command module pilot Deke Slayton spent almost four hours in the Soyuz Thursday with Leonov and flight engineer Valery Kubasov, while command module pilot Vance Brand remained in the Apollo.

Retired General Defends LSD Project

The former commander of the U. S. Army's chemical research and development laboratory yesterday defended the Army's experimentation with LSD in the late 1950s.

See Page 1-B.

Nixon Is Ordered To Give Testimony

A special three-judge federal court yesterday ordered Richard M. Nixon to give testimony before lawyers seeking access to White House papers and tapes accumulated while he was president.

See Page 1-A.

AT&T Reading Big Loan From Arabs

The American Telephone & Telegraph Co. is reportedly getting ready to borrow \$100 million from Saudi Arabia.

See Page 1-B.

Showers
Data on Page 2-A

81st YEAR — No. 171

FOUR SECTIONS — 72 PAGES

TAMPA, FLORIDA, FRIDAY, JULY 18, 1975

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THE TAMPA TRIBUNE

May Signal End Of Prolonged Slump

Nation's Economy Held Steady In 2nd Quarter

WASHINGTON (UPI) — The U.S. economy pulled out of its prolonged slump in the second quarter, the Commerce Department reported yesterday, signaling an end to the worst of the five recessions since World War II.

The growth rate of the

economy between April and June fell by a marginal 0.3 per cent at an annual rate, an amount that is roughly equal to zero.

THE LEVELING OFF of the economic growth rate followed a decline that began in No-

vember, 1973, and touched bottom between January and March this year when the Gross National Product, adjusted for inflation, plummeted at an 11.4 per cent rate, the steepest decline in three decades.

The abrupt turnaround in

the past three months, coupled with continued moderation in the inflation rate, foreshadowed a revival in business activity that could continue for years or fizzle in a few months.

The economy is now ready for takeoff," said Commerce Secretary Rogers C.B.

Morton. "Whether it flies smoothly and steadily upwards on a long stable path of economic growth or whether it shows up sharply and then comes crashing down again, will depend on the economic policies we choose in the next few months."

THE ADMINISTRATION has been urging budget, tax and monetary policies that would support a "moderate" recovery — one that would keep inflation under control but do little in the short run to ease unemployment.

In another economic report,

the Commerce Department said new housing starts declined 1.2 per cent in June. But the number of building permits issued — an indication of future activity — rose by 1.5 per cent.

James L. Pate, assistant

Please See Page 16, Col. 1



Cosmonauts And Astronauts Listen To Phone Call From President Ford

...left to right, cosmonauts Valeri Khabasov and Alexei Leonov and astronauts Tom Stafford and Donald Slayton—(AP)

Spacemen Hold 'Summit' While Orbiting Earth

SPACE CENTER, Houston (AP)—American and Soviet spacemen hurdled decades of bitter competition and cold war on earth to link up in space yesterday. They met with handshakes, bear hugs and big grins.

Astronaut Thomas P. Stafford and cosmonaut Alexei Leonov greeted each other with a warm embrace in a symbolic gesture of the unprecedented space cooperation between the two nations.

The greeting came at 3:19 p.m. EDT, almost precisely as scheduled, and was broadcast live on television.

"Glad to see you," said Stafford, an Air Force general from the plains of Oklahoma.

"Very, very happy to see

you," replied Leonov, a Soviet air force colonel and Communist party member from a small village in Russia.

STAFFORD and astronaut Donald K. Slayton then floated through a hatch and joined Leonov and cosmonaut Valeri Khabasov in the Soviet space cabin. The third astronaut, Vance D. Brand, remained aboard the Apollo ship.

In a statement relayed in the spacecraft, Soviet leader Leonid I. Brezhnev hailed the space achievement as creating hope "for fruitful development of scientific cooperation between countries and the people in the interest of peace and progress of all humanity."

He called Apollo-Soyuz "a prototype of future orbital space stations."

In a chilly exchange with the spacemen, President Ford called the mission a "momentous event and a very great achievement."

After the formal greetings, Ford questioned the spacemen about a space shuttle at a chance encounter with his heroes.

THE MEETING OF the spacemen was beamed to earth on television and the four men could be seen inside the Soyuz as they listened to the leaders of their countries.

Slayton and Stafford wore white space coveralls and the cosmonauts wore in green.

They formally exchanged flags, with Stafford giving Leonov five banners packaged in a cloth bag. The Soyuz handed over a United Nations flag which the Americans will return to earth.

The first handshake between astronauts and cos-

Please See Page 14, Col. 3



Apollo, Soyuz Meet In Space

... photo taken from U.S. spacecraft—(AP)

Strike Deadline Postponed

Rail Labor Talks Hit Stalemate

WASHINGTON (AP) — Railroad labor talks broke down yesterday on the verge of a settlement, but the Brotherhood of Railway Clerks agreed to postpone its strike deadline one week to July 23.

The union had threatened to walk out at 12:01 a.m. Monday but agreed to the postponement at the request of W.J. Usery Jr., President Ford's top

labor troubleshooter, who tried during a 19-hour bargaining session to bridge the relatively narrow differences separating union and industry negotiators from a contract agreement.

The union, which represents 117,000 railway workers or 25 per cent of the industry's work force, has tried for several months to negotiate a some-

what different settlement from that signed earlier by seven other rail unions.

INDUSTRY and union negotiators blamed each other for the impasse.

Usery said "only a couple of difficult issues"

Please See Page 14, Col. 5

New Mideast Crisis Grows

By THE ASSOCIATED PRESS
An Israeli official warned yesterday that withdrawal of the U.N. peace force in the Sinai could lead to another Mideast war.

Meanwhile, Egypt said it will continue its opposition to renewal of the troop mandate unless the U.N. Security Council adopts a resolution speeding up peace moves.

At United Nations headquarters in New York, new U.S. Ambassador Daniel P. Moynihan predicted Congress would reduce American support for the United Nations if the anti-Israeli mission ruling that has resulted in a new conference after presenting his diplomatic credentials. U.S. Secretary-General Kurt Waldheim.

THE COMMITMENT of the President to the United States is going to be under very strong challenge in the Congress," if the anti-Israeli mission ruling that has resulted in a new conference after presenting his diplomatic credentials. U.S. Secretary-General Kurt Waldheim.

By FITZ MCADEN

Tallahassee — The cities of Tampa, Plant City and Winter Haven yesterday asked the Supreme Court to reverse a Public Service Commission ruling that has resulted in the cities' residents paying "substantially higher" electric bills than county residents.



Joseph Brandt

... to appeal sentence

Haber Case Goes To Jury

By ROBERT JOHNSON
Tribune Staff Writer
Murder charges against Betty Lou Haber and her son, Arnold Jefferson McEver III, went to a 12-member Hillsborough County Grand Jury at 1:30 p.m. yesterday

and deliberations continued until 7:55 p.m.

The jury, sequestered since yesterday afternoon, is scheduled to continue deliberating today.

She (Mrs. Haber) got just what she bargained for, a sloppy job, but she got her results — a dead, mangled husband."

Assistant State Attorney Norman Cannella told the jury in his final statement.

Mrs. Haber, 36, and McEver, 22, her son by a previous marriage, are charged with hiring James Joseph Brandt to kill prominent businessman Albert Haber Jan. 23.

Cannella, in his final statement, told the jury that Brandt has bargained for nothing less than 25 years in custody before he could be considered for parole when he pleaded guilty and testified against Mrs. Haber and McEver.

At 1:35 p.m., just 30 minutes before Cannella began the final statement, Brandt, 34, pleaded guilty to the murder.

BUT IN granting the plea

Please See Page 26, Col. 1

Cities Fight Utility Franchise Fee Shift

The cities are seeking to have invalidated a provision of the commission's May 21 order granting Tampa Electric Co. a \$60.1 million rate increase. The provision of the order the cities are contesting concerns municipal franchise fees — fees the cities charge TECO for use of city right-of-way for power lines.

Russia Buys Canada Wheat

By THE ASSOCIATED PRESS
The Agriculture Department confirmed another U.S. Soviet wheat deal yesterday and there were rumors of additional sales of millions of tons of grain.

The transaction would involve only a small fraction of the expected 1975 American harvest and government officials say they would not cause any sharp increase in food prices. The sales drew support from farm groups and scattered opposition in Congress.

The USDA announcement of the completion of the sale of 1.2 million metric tons of wheat — about 44% million bushels — came as Canada announced its own deal with the Russians.

THE CANADIAN Wheat Board said the sale involved 2 million long tons — a little over 74% million bushels — of wheat. It said shipments would start in the fall.

(A long ton is slightly larger than a metric ton.)

Prices for grain futures — contracts for later delivery — went down on the Chicago Board of Trade. The prices soared last week after the first rumors of new U.S.-Soviet transactions and many traders decided to sell and take profits after the deals were formally announced.

The Agriculture Department has confirmed the sale of 3.2 million metric tons of wheat to Russia so far this year — 2 million metric tons by Cook Industries Inc. of Memphis, Tenn., and 1.2 million metric tons by Cargill Inc. of Minneapolis.

In Memphis, the Cook firm said not all of the 2 million tons

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Today's Features

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SUNNY

Today's high in upper 30s, low in low 40s. Light N. wind. Rain chance: 15%.



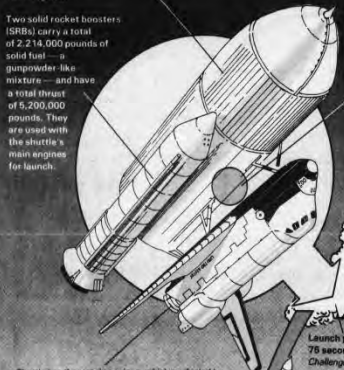
Shuttle explodes; crew of 7 killed

Fatal flight of 'Challenger'

How shuttle is powered

External Tank (ET), as large as body of 747 jumbo jet, carries 1,585,379 pounds of liquid fuel for the shuttle's main engines.

Two solid rocket boosters (SRBs) carry a total of 2,271,000 pounds of solid fuel — a gunpowder-like mixture — and have a total thrust of 5,200,000 pounds. They are used with the shuttle's main engines for launch.



Slow-speed replays of NASA television tapes of the launch did not pinpoint the source of the explosion, but from one angle it seemed the blast might have come at one of the solid rocket boosters.

Shuttle has three main engines, which are fueled by the External Tank during launch. The three shuttle engines have a combined thrust of 1,410,000 pounds and are used at launch.

Launch plus 40 seconds: Challenger reaches speed of 1,400 mph and altitude of 4.3 miles. Mission Control orders shuttle to search for full power.

11:08 a.m. Challenger 90s roll controls.

Launch plus 75 seconds: Challenger explodes at altitude of 10.35 miles while traveling at speed of 1,994 mph.

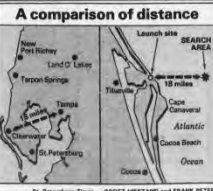
Debris from shuttle falls into Atlantic about 18 miles offshore.

Ships and helicopters were unable to immediately locate the area where the shuttle fell, but were able to search for debris.

The last words from 'Challenger'

Mission Control: 10-9-9-7-6, we have main engine start. 4-3-2-1, and that's lift-off of the 25th space shuttle mission. And it has cleared the tower. Pilot Michael Smith, Mission Control: Roger, roll, Challenger. Mission Control: Roll program confirmed. Challenger now heading down range. The engines are throttling down now at 34 percent. Normal throttle for most of the flight is 104 percent. We'll throttle down to 85 percent shortly. Engines at 65 percent. Three engines running normally. Three good fuel cells. Three good APUs (auxiliary power units). Velocity 22,007 feet per second (14,000 mph), altitude 4.3 nautical miles (4.9 statute miles), down-range distance 3 nautical miles (3.4 statute miles). Engines throttling up, three engines now 104 percent. Mission Control: Challenger, go at throttle up. Smith, Roger, go at throttle up. **Fireball occurs**

MICHAEL SMITH



The shuttle, loaded at launch with nearly a half-million gallons of explosive hydrogen and oxygen, carried no emergency escape system.

Compiled from Times wires.

CAPE CANAVERAL — Tuesday was to have been a day of triumph, the day the first American teacher went into space. But the triumph lasted just 75 seconds, then died in flames.

At 11:59 a.m., an explosion blew apart the space shuttle Challenger, killing teacher Christa McAuliffe and six NASA astronauts.

Excitement at viewing sites along the Florida coast, and in school rooms across the nation, turned to horror when the shuttle exploded just over a minute after liftoff, spewing burning pieces like a massive fireworks display.

"The effect of the explosion was shown first by the children who began crying. The adults looked stunned and then many of them began crying," said a photographer covering the launch.

A shocked nation spent the tragic afternoon watching television replays of the brief flight.

"We mourn seven heroes," said President Reagan.

The accident defied quick explanation. Speculation centered on a problem with the one of the rocket boosters or with the huge fuel tank. Whatever the problem, it was the million and a half pounds of fuel in that tank that turned Challenger into a fireball high above the Atlantic.

NASA officials began organizing an investigating board. Jesse Moore, top shuttle administrator, said it will take a "careful review" of all data "before we can reach any conclusions."

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Ships, planes and helicopters rushed to a vast area up to 50 miles off the Florida coast where flaming debris rained down for a half-hour after the explosion, but all they found were parts of Challenger's booster rockets.

The shuttle carried no emergency escape system.

On board were commander Francis "Dick" Scobee, 46; co-pilot Michael Smith, 40; Judith A. A. Resnik, 36; Ellison S. Onizuka, 38; Ronald McNair, 30; satellite engineer Gregory B. Jarvis, 41; and McAuliffe, the 37-year-old Concord, N.H., social studies teacher.

Please see SHUTTLE, 8-A



Christa McAuliffe's family pulls together as shuttle blows apart Tuesday.

What went wrong?

By THOMAS H. MAUGH II
Los Angeles Times

Most of the speculation centered on two possibilities:

One is that a defect in the solid rocket booster caused exhaust flames to spew from the side of the rocket, igniting the main fuel tank. A booster rocket problem may have come within seconds of destroying Challenger during a launch in 1985.

A second possibility is that a seam in the main fuel tank itself ruptured, releasing hydrogen that caught fire and ignited the explosion.

Cold weather was largely discounted as a factor in Tuesday's tragedy.

INVESTIGATORS PROBABLY will not be able to determine precisely what happened until the wreckage of the boosters and the fuel tank are recovered, a process that could take several weeks.

Launch is the most hazardous time for the shuttle, as well as other rockets. That is because they are carrying a full fuel load at liftoff and because they are subjected to maximum stresses during that period.

With all five rocket motors — three on the shuttle itself and one on each of the solid rocket boosters — firing, the vehicle has enough power to literally batter itself to pieces as it forces its way through the dense air near the ground.

Why the engines are throttled

For that reason, the three main motors on the orbiter are throttled back from maximum thrust to about 65 percent of that

Inside

An unwelcome Florida guest heads back for the North

Records fall all over the Southeast as cold weather blankets the area (Story, 2-A), but conditions are expected to begin returning to normal today. That will be none too soon for the Suncoast, zapped on two successive nights by the strongest storm of the winter (Story, 1-B).

Graham makes it official

Gov. Bob Graham announces he'll run for the U.S. Senate, but cancels a campaign trip because of the shuttle tragedy. "Florida's future demands decisive choices..." — Graham said. Story, 6-B.

The death of L. Ron Hubbard

L. Ron Hubbard, founder of Scientology, has chosen to remove his "spiritual being" from his earthly body, say his supporters. Some church officials are skeptical, suggesting that more than Hubbard's spirit may still be alive. Hubbard had not been seen in public since 1980. Story, 1-B.

Taxes and fees at the county level

The Pinellas County Commission says it won't tax homeowners to rebuild Gulf beaches, but it might raise the hotel and motel room tax to help do the job. (Story, 3-B.) However, homeowners and renters alike may find themselves paying an additional 50 cents a month for phone service, with the commission leasing tower such a fee as a means of buying new equipment for what is described as the "archaic" 911 emergency phone system. Story, 1-B.

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SHUTTLE
REPORT

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The crew of the Challenger: The seven lives lost, 2S, 3S

Fair,
Warmer
Details on 2A

The Miami Herald

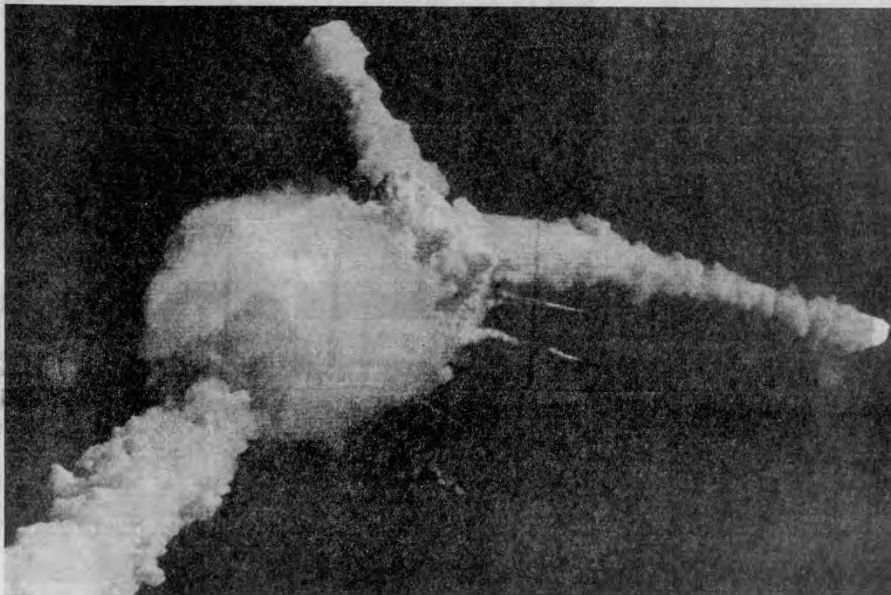
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#2

76 pages

Wednesday, January 29, 1986

25 cents

A NATION MOURNS



As the shuttle Challenger exploded, a spectacular trail of smoke was visible in the clear sky over the Atlantic. Debris fell into the sea, and no one was found.

Teacher, astronauts die off Cape

Experts sift evidence for cause

Booster, fuel tank are focus of probe

By MARTIN MERZER

Herald Senior Writer

Experts searching for the cause of Challenger's tragic demise concentrated late Tuesday on the two most volatile portions of the spacecraft, a reusable rocket booster and a huge external fuel tank.

But, while noting that a series of pictures appeared to show flames coming from the side of one of Challenger's two peep-away boosters. Each of those boosters contained tons of highly explosive solid fuel.

Subsequent frames of the film showed the flames spreading to the area between the passenger-carrying portion of the shuttle and the craft's giant external fuel tank — a 15-story structure loaded with more than 500,000 gallons of perilous liquid hydrogen and liquid



Please turn to 110W / 6S

Christa McAuliffe's parents, Grace and Ed Corrigan, sister Betsy embrace.

NASA can't explain why shuttle exploded

By MARC FISHER
And ELLEN LIVINGSTON
Herald Staff Writers

CAPE CANAVERAL — The space shuttle Challenger exploded 72 seconds after a spectacular launch Tuesday morning, disintegrating 10 miles above the Florida coast and killing a crew of seven, including Christa McAuliffe, America's first teacher in space.

Tuesday night, NASA scientists hadn't the slightest idea what happened in that single fiery instant, the first time in 56 U.S.-manned missions that anyone has died in space.

Early speculation, based on fuzzy television pictures, centered on the shuttle's giant fuel tank, loaded with 526,000 gallons of

highly explosive liquid hydrogen and oxygen.

But late Tuesday, NASA, normally a fountain of information, stopped talking about its worst disaster ever, denying requests for interviews with space experts and astronauts.

"We will not speculate as to the specific cause of the explosion based on that footage," said Jesse Moore, NASA's top shuttle administrator. A NASA investigating board will conduct a "careful review" of all data "before we can reach any conclusions," he said.

"It's never had a tragedy like this," said President Reagan, who postponed for a week Tuesday

Please turn to SHUTTLE / 3S

Space's age of innocence ends

By MARTIN MERZER

Herald Senior Writer

It was their moment of triumph, a moment any parent could understand. Ed and Grace Corrigan's daughter, teacher Christa McAuliffe, was on her way into space.

So they stood in the sunshine Tuesday, Ed and Grace Corrigan, arm in arm in the bleachers at Cape Canaveral, and they watched in triumph. And then it disintegrated. And then in horror.

Something terrible had hap-

pened. And now, a NASA official was making his way to them. He was walking up the bleachers, slowly, row by row. And with every step, he was sealing their fate.

Finally, he arrived, as they knew he must. "The vehicle has exploded," he said. Mrs. Corrigan looked back at him, and after a moment, she could find only these words, as echo really.

Please turn to 110W / 6S

Wednesday

THE TAMPA TRIBUNE

EARLY M
Metro

January 29, 1986 • 92nd Year — No. 25

Tampa, Florida

Seven Sections — 94 Pages

25 Cents

Shuttle explodes

Teacher, crew killed seconds into flight



Space shuttle Challenger explodes and disintegrates 74 seconds after liftoff at the Kennedy Space Center in Cape Canaveral.

AP photo

By ROBERT SAMEK
and BRUCE DUDLEY
Tribune Staff Writers

CAPE CANAVERAL — The space shuttle Challenger exploded into a fireball over the Atlantic Ocean during its ascent into space Tuesday, killing all seven people aboard, including teacher Christa McAuliffe.

It was the worst accident in the history of space exploration and the first fatal accident in 56 American manned space flights.

McAuliffe, 37, a high school social studies teacher in Concord, N.H., was the first private citizen to fly aboard the shuttle.

Her lawyer husband, Steven, and her two children, Scott, 9, and Caroline, 6, and her parents witnessed the horrifying explosion from the Kennedy Space Center in Cape Canaveral, where thousands of students and others had gathered to watch the start of what was to have been a showcase mission.

Among the students were a dozen third graders from Scott McAuliffe's Concord school.

The \$1.2 billion space shuttle rocketed off launch pad 38B at the space center at 11:38 a.m. with its trademark bright orange flame and plume of smoke billowing behind it.

But 14 seconds after liftoff, the seemingly picture-perfect launch suddenly went catastrophically awry.

From the ground, a huge fireball appeared to engulf the spacecraft. The twin, pencil-like, solid-fuel rocket boosters, which blast the shuttle from the launch pad, veered away erratically, still spewing flame and vapor.

Close-up videotape replays of the launch shot by the National Aeronautics and Space Administration revealed flames that appeared to burst from the base of the shuttle's 16-story-tall external tank, still nearly full of highly volatile liquid oxygen and hydrogen. Seconds later, the tank and orbiter erupted simultaneously.

The space agency refused to speculate on what caused the explosion. Officials impounded launch data from flight computers as part of the investigation.

"Launch controllers didn't see anything unusual," Jesse Moore, NASA's associate administrator for space flight, said during a terse, 18-minute news conference.

The fuel tank, built by Martin Marietta of Denver, Colo., carries the shuttle piggyback until the spacecraft reaches orbit.

See SHUTTLE, Page 8A

Inside

■ **CLOSE TO HOME:** A Tampa native was to go into space in March. 5A

■ **REVERBERATIONS:** Psychologists say that watching the tragedy was traumatic. 6A

■ **18 YEARS AGO:** Three astronauts died on the launch pad in 1967. 7A

■ **REAGAN REACTION:** The president vowed the program would continue. 8A

■ **TELEVISION COVERAGE:** The story of the explosion was best told in pictures. 9A

■ **SHUTTLE BUILDERS:** Employees at Rockwell were shocked by the catastrophe. 6B

Teacher felt like a pioneer

Christa McAuliffe wanted to share her space experiences with America's schoolchildren.

Tribune Wires

Social studies teacher Christa McAuliffe compared herself to the pioneering women of the West. The shuttle Challenger was to be her home-drawn Conestoga wagon, and outer space was her frontier.

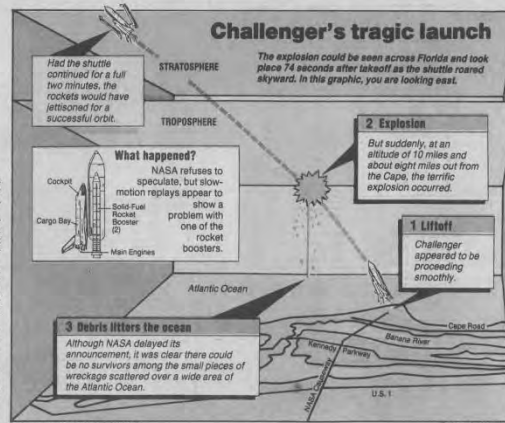
She acknowledged her role as the first regular citizen into space as the once-a-lifetime opportunity it was, but she saw her task as more important — sharing her experiences with America's schoolchildren in history's largest classroom.

"I see this as an extraordinary opportunity and a wonderful year out of what I would normally have been doing, but I think it's just going to enhance the teaching that I do, get the students more excited about their future, which is important," she said before Tuesday's blastoff.

McAuliffe, a high school social studies teacher from New Hampshire, was the winner of a nationwide competition to be the first private citizen to fly aboard a space shuttle. She was 37 years old.

Students always packed McAuliffe's classes at Concord High School because of her enthusiasm and ability to make dry subjects come alive. So last July, when she was selected as the primary candidate to be the first

See TEACHER, Page 8A



Tribune staff graphic

Spy charges

An Air Force enlisted man has been arrested and charged with trying to pass intelligence information to the Soviet.

Page 3A



Freeze reprieve

The Bay area should be through with record-breaking temperatures and frost for a while. Forecasters say a warming trend should start today.

Page 1B

Death reported

The Church of Scientology reported its founder, L. Ron Hubbard, died Friday in California and has been cremated.

Page 1B

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Florida's Best Newspaper

SATURDAY, JULY 5, 1997

25¢

THE TIMES
TODAY



**A real live
doodle dandy**

very day that many National Public Radio stations aired what may have been his final work — the narration of an hour-long program concerning the history of the Statue of Liberty.

With his trademark soothing voice and reassuring manner, Kuralt became a journalistic institution after he and a

Please see **KURALT 7A**

Entertainment 28
Letters 17A

SATURDAY, JULY 5, 1997

THE TAMPA TRIBUNE

A MEDIA GENERAL PUBLICATION http://www.tampatrib.com TAMPA, FLORIDA

FINAL EDITION

Joe Nemecek,



who has endured a year of triumph and tragedy, takes aim at his first NASCAR Winston Cup victory.

SPORTS

A hot Fourth



Fourth of July partygoers, such as Tom Killian of Tampa, tried to keep cool during a sweltering afternoon in Tampa Bay. Florida Metro, Page 1.

HAZY SHADE

Hazy sunshine with a 40 percent chance of late day thunderstorms. High in the low 90s and low in the upper 70s. Florida Metro, Page 8.

BUSINESS ON HOLIDAY
The nation's financial markets and institutions were closed Friday for Independence Day. Business & Finance news can be found inside this section, Pages 12-13.

A FAUX VAN GOGH?
More than 100 paintings and drawings by Vincent Van Gogh — art worth millions of dollars — may be fakes, reports a leading art journal. This section, Page 3.

GROOMED TO WIN
It'll be a dog-eat-dog world at Florida State Fairgrounds as thousands of canines compete in a cluster of dog shows. Baylife, Page 1.

SAVE THE 'GLADES
A promising Everglades funding plan is in the works. This section, Page 14.

COLLECTOR'S PARADISE
Decorative ironwork is in demand bringing new life to old metal. Home & Garden, Page 1.



ENTERTAINMENT BB
Is Men in Black as good as they say? See any other movies you'd recommend? Tell everyone on the Party Mix bulletin board at www.tampabay.com/entertainment/welcome.htm.

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1289 Year 1 No. 182
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Red planet looks marvelous

SUMMARY: The first pictures from the surface of Mars are not the grainy shots that scientists had warned people to expect.

By MATT CRENSHAW
of The Associated Press

PASADENA, Calif. — The first pictures back from the surface of Mars clearly showed a stark, Mojave Desert-like landscape of boulders, rocks and stones stretching clear to the daytime horizon of the red planet.

With crisp views of hulking, steeply as-

angled shales, they were hardly the grainy shots that scientists had warned people to expect as the Pathfinder began returning its first, low-resolution images less than 7 hours after a flawless Independence Day landing.

The black-and-white pictures began to pour into NASA's Jet Propulsion Laboratory about 4:40 p.m. Friday, beginning with shots showing Pathfinder's airbags tucked under its three side petals.

After a wild ride across a cold and barren landscape, NASA's Pathfinder came to rest on a flat Martian plain, inaugurating a

new era in the search for life on Mars.

The craft, swaddled in giant airbags, bounded 50 feet into the thin Martian atmosphere on the first of at least three bounces it took before settling onto the desolate plain.

Controllers at NASA's Jet Propulsion Laboratory compared the bull's-eye landing, less than 30 miles from the planned target, to a golf ball hit from Houston to Los Angeles, with both the tee and the green moving.

See MARS, Page 10 ▶



A memorial in the Northdale home of the parents of George Bakun, who died of a heroin overdose at age 24, displays some of his artwork.

Parallel lives, parallel deaths

SUMMARY: Two Bay area mothers who lost their sons to heroin overdoses on the same day this spring recount the fruitless struggle to save their sons' lives.

By VICKIE CHACHERE
of The Tampa Tribune

TAMPA — They died in their sleep, one sitting in a white, wicker rocking chair in a stranger's house, the other in bed in a well-worn motel room.

Had George Bakun and Justin Hayden been old men or stricken with illness, their quiet nighttime deaths might have been sad but peaceful passages.

But they were just 24. What killed them was heroin.

They were strangers who crossed paths in the hours before their deaths, drawn to the same south Tampa house by mutual friends and drugs.

Hayden was a gregarious young music producer, spinning frantically through life, ignoring his own mortality. Bakun was a quiet and shy young artist and musician, a geography student who lived in his parents' well-ordered home but led a secret life.

They were both only sons.



Justin Hayden stands with his mother, Cheryl Thomas.

In St. Petersburg, Justin Hayden's mother, Cheryl Thomas, recently put a marker on her son's grave and waded through the mess of his legal and financial affairs. She thumbed through old photographs of a smiling boy, and remembered the last time she saw him: He handed her a card, but told her to wait to read it. The card thanked her for all she'd done.

In Bakun's Northdale home, a small

eternal flame burns in front of his high school senior portrait. His mother, Mary Bakun, decorated a shelf with the last greeting cards he gave his parents, the last small gifts and drawings.

A cousin in Bakun's native Greece wrote a poem upon his death, likening Bakun to Icarus, the mythical Greek who fell to his death after he flew so high that the sun melted his waxen wings.

"This is what we live on now — poems and memories," his mother sobbed.

"OH MOM, I'm fine."

Mary Bakun and Cheryl Thomas wince when they repeat that phrase. Their minds flash back to all those times their sons would come home too late at night or looking too thin and weary for things to be fine.

They desperately wanted to believe their boys were OK. But mothers' intuition told them it wasn't so.

Imagine which would be worse: Knowing your son has overdosed twice and fearing the next one would be fatal. Or not knowing he was using drugs and suddenly getting a call that he is dead.

Imagine doing everything in your

See HEROIN, Page 6 ▶



Charles Kuralt was connected to the "essence of America."

Kuralt, 62, was king of 'Road'

SUMMARY: Charles Kuralt, 62, whose "On the Road" report celebrated offbeat America, dies of complications from lupus.

By LARRY MUSHANE
of The Associated Press

NEW YORK — He toured Latin America and Southeast Asia, a roving correspondent in the style of his hero, Edward R. Murrow. But it wasn't until he stopped on a tree-lined New England road that Charles Kuralt found his niche.

There, on Oct. 26, 1967, the CBS correspondent delivered his first "On the Road" report, a paean to glorious fall foliage.

It was totally unexpected. Totally groundbreaking. And totally Charles Kuralt.

The avuncular CBS newsmen whose "On the Road" reports celebrated offbeat America — from unicyclists to horse-traders to gas-line-pumping poets — died on the Fourth of July. He was 62.

Kuralt died at New York Hospital from complications from lupus, an inflammatory disease that can affect the skin, joints, kidneys and nervous system.

"He was the first on television to make pieces sing, and tell stories in that kind of effortless, charming, poetic, graceful way," former CBS president Howard Stringer remembered Friday.

"He connected to the essence of America better than any woman or man of his generation. It's a totally inappropriate death, but on a most appropriate day."

Kuralt made a career of searching for the insignificant and elevating it to prose and visual poetry. He kept pitching the idea of "On the Road" at CBS until the network agreed to a three-month trial in 1967.

The first stop was Vermont for a piece on

See KURALT, Page 10 ▶

Recycling hides hazardous wastes in some fertilizers

SUMMARY: Industries are disposing of hazardous wastes by using any material with fertilizing qualities and labeling it as a fertilizer.

By DUFF WILSON
of The Seattle Times

QUINCY, Wash. — Some blamed the weather for their lousy wheat crops, stunted corn and sick cows.

Some blamed themselves. But only after Patty Martin, mayor of this small town 100 miles east of Seattle, led them in weeks of investigation did they identify a possible new culprit: fertilizer.

They don't have proof the stuff they put on their land to feed it actually was killing it.

But they discovered something they think other farmers and consumers should know: Industries are disposing of hazardous wastes by turning them into fertilizer.

And they're doing it legally.

See FERTILIZER, Page 10 ▶

BRADENTON HERALD

WIMBLEDON FINALS
HINGIS VS NOVOTNA
TODAY: SAMPRAS VS.
PIOLINE ON SUNDAY.
SPORTS, PAGE 1



PREACHING UNITY
WOMEN TAKE
THEIR PLACE
AT THE PULPIT.
WELLBEING

TODAY'S WEATHER
Partly sunny,
40% chance of
afternoon
thunderstorms.
HI 90, LO 80
DETAILS
Front, Page 8
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VOL. 75 NO. 294

JULY 5, 1997 • BRADENTON, FLORIDA

35 CENTS \$2.60/WEEK

CHARLES KURALT
1934-1997



Roadmaster • Charles Kuralt chronicled the offbeat and endearing in his reports.

'On the Road' newsman dies at 62

RAYNER FINE

Associated Press Writer

NEW YORK — Charles Kuralt, the avuncular CBS newsman whose *On the Road* reports celebrated offbeat America — from unicorns to horse traders to gasoline-pumping poets — died on the Fourth of July. He was 62.

Kuralt died at New York Hospital from complications from lupus, an inflammatory disease that can affect the skin, joints, kidneys and nervous system.

"He connected to the essence of America better than any woman or man of his generation," former CBS News president Howard Stern said. "It's a totally inappropriate death, but on a most appropriate day."

Kuralt made a career of searching for the insignificant and elevating it to prose and visual poetry. He kept pitching the idea of *On the Road* at CBS until the network agreed to a three-month trial in 1987.

KURALT TO PAGE 6



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SEEING RED



Eye in the sky • This NASA TV image shows Pathfinder's view of the Martian surface.

'Way beyond our expectations'

With the exception of a ramp glitch, the Mars Pathfinder mission carried out its landing with amazing precision.

VINCENT J. SCHODOLSKI

English-Rubber Newspapers

PASADENA, Calif. — The first craft to land on Mars in nearly 21 years touched down with near-pinpoint precision Friday, deploying instruments including a tiny roving vehicle that will probe the Martian surface looking for clues to the possibility of life on the planet.

After traveling 599 million miles in seven months, NASA's Mars Pathfinder landed just 30 miles from the point in a broad Martian valley that had been selected as the ideal place for exploration three years ago when planning for the flight began.

As the first signals indicating that Pathfinder had arrived safely reached NASA's Jet Propulsion Laboratory, cheers erupted among the scientists who had developed one of the most innovative and least expensive space flights in U.S. history — and one timed to end on the Fourth of July.

"This is our first interplanetary celebration of the birth of the United States," said Brian Muirhead, mission deputy manager. "This is way beyond our expectations."

The final minutes of Pathfinder's seven-month voyage to Mars unfolded with such precision that NASA scientists found it hard to contain their enthusiasm.

"This was a textbook entry," said deputy mission manager Muirhead. "This was Nirvana for us space guys. This couldn't be a better experience for all of us."

All three stages of three sections of the craft



Success • The Mars Pathfinder mission control crew celebrates a successful landing of the spacecraft.

— the cruise stage, entry vehicle and lander — functioned perfectly.

Using dozens of new or re-engineered devices, including the first-time use of airbags to protect the landing vehicle as it bounced on the Martian surface after touchdown, the Pathfinder mission cost a relatively low \$119 million and was the first demonstration of a new NASA strategy to conduct less expensive but more frequent space voyages.

Pathfinder's trip was the first in a series of trips to Mars that NASA has scheduled through 2005. The agency plans to launch twin spacecraft every 26 months.

In the past, NASA has held out the possibility of a human landing on the planet, taxpayers willing, as early as 2011. NASA scientists cautioned that the success of the Pathfinder mission did not assure a manned flight to Mars.

"Going to other planets is a very hard thing to do," said Rob Manning, the project's chief flight

MARS TO PAGE 4

Researchers test vaccine for melanoma

ASSOCIATED PRESS

WASHINGTON — Among the thousands of Americans who get melanoma every year, only a few have a natural immune reaction that keeps this deadliest of skin cancers from coming back.

Now scientists are testing that protection, testing hundreds of melanoma patients with an experimental vaccine they hope will keep the killer at bay.

"When people recur from melanoma, they're extremely likely to die," explained Dr. Robert Iruela-Arispe of Progenics Pharmaceuticals, which manufactures the vaccine. "We're looking to keep them from recurring."

VACCINE TO PAGE 6

Tragedy

The mother (seated) of a 3-year-old girl lost in a fire on Friday is comforted by friends.

CHRIS MULLA

Bradenton Herald



Rain washes out fireworks show

Before the rain came, Palmetto got in plenty of celebration on its 100th anniversary.

BRIAN HOLL

Herald Staff Writer

Lightning was about the closest Manatee County residents got to a fireworks show Friday as heavy evening thunderstorms drifted into the area and let loose a deluge of rain.

The Palmetto fireworks display planned for Friday night was canceled and rescheduled for 8:45 tonight, weather permitting, at the south end of the Green Bridge Fishing Pier.

But anyone who was in Palmetto during the afternoon saw the holiday was not a total wash. Hundreds of people braved sweltering temperatures to Reese and his scaly friend, Natasha, enjoyed the holiday festivities in Palmetto.

Thomas Schroeder of Bradenton attended the event with her 3-year-old daughter, Victoria Bates, and her 7-week-old skunk, Pepe La Pen. "It has been really hot out, but other than that, it's been great," Schroeder said, with the skunk nuzzling up under her hair trying to keep cool. "We've had a crowd wanting to see 'Pepe.'"

Raincheck

The fireworks display has been rescheduled for tonight at 8:45, weather permitting.

Rachel Mullins, 12, cocked his head back and put his best spit forward, hurling a watermelon seed a whopping 14 feet in the watermelon-seed-spitting contest.

He was proud of the feat, but said he was more impressed with being able to ride a horse in the parade earlier in the day.

Festival-goers, many in red, white and blue attire, clutched Palmetto 100th Anniversary programs as they milled about through food booths, craft stands and kiddie rides.

A huge American flag was suspended over 10th Street West by a hook-and-ladder fire truck.

Youngsters were carted around the Station Park baseball diamond by a motorized choo-choo from the Danville Line Railroad.

while other children bounced inside the Moonwalk.

Bill Marshall, president-elect of the Kiwanis Club of Palmetto, was tending to the barbecue.

By 3 p.m., he already had gone through 60 pounds of hamburgers, 30 pounds of hot dogs and 10 pounds of barbecue ribs.

CELEBRATION TO PAGE 6



Flag cake • Floyd Radtke of Ellenton gets a double helping from Shirley Groover-Bryant, left, and Tamara Cornwell.

3-year-old girl dies in accidental fire

Children playing with matches started the blaze.

CHRIS TISCH

Herald Staff Writer

A 3-year-old girl burned to death in a sprawling duplex fire Friday afternoon that was ignited by a group of children playing with matches.

The girl was playing with three of her cousins in the front bedroom of the single-story duplex, 914 59th Ave. Drive E., when the fire started.

The children had built a makeshift fort out of mattresses and cushions and were flicking

matches inside the fort.

Flames caught on part of the fort. The children tried to extinguish the flames, but the fire spread. The three other children ran from the room, leaving their 3-year-old cousin behind. An adult who was in another room tried to return for her, but the flames were too intense, said David Quaderer, deputy chief of the Cedar Hammock-Southern Manatee fire district.

Heather Pagington, who lives across the street, called 911 when she saw the fire.

"I looked outside and I saw people running and I saw smoke out of the front bedroom," Pagington said.

FIRE TO PAGE 4

St. Petersburg Times

Florida's Best Newspaper

WEATHER: High 70, low 44
0% chance of rain. More, B8

SUNDAY, February 2, 2003

\$1



MIKE ANDERSON
Payload commander



DAVID BROWN
Mission specialist



KALPANA CHAWLA
Mission specialist



LAUREL CLARK
Mission specialist



RICK HUSBAND
Commander



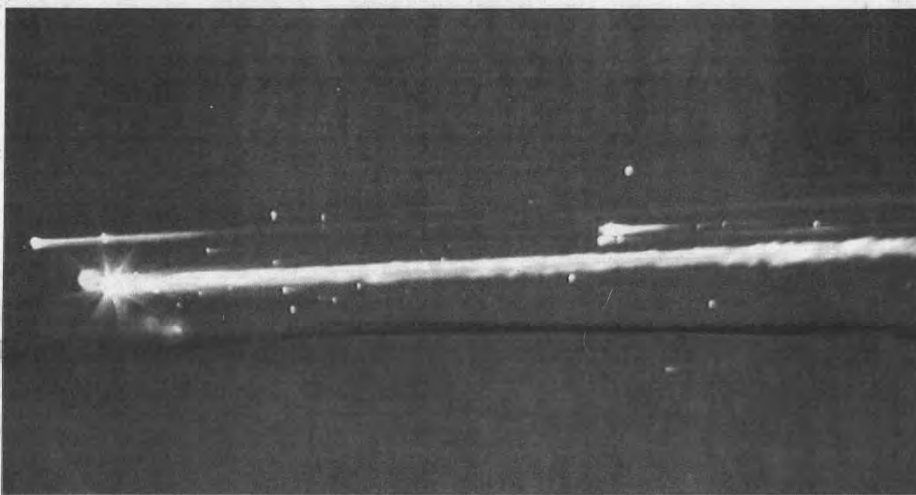
WILLIAM MCCOOL
Pilot



ILAN RAMON
Payload specialist

WHAT HAPPENED?

SHUTTLE COLUMBIA DISINTEGRATES; SEVEN ASTRONAUTS LOST



Pieces of the space shuttle *Columbia* streak across the sky 200,000 feet over Tyler, Texas, on Saturday. Astronauts were about 16 minutes from landing in Cape Canaveral when the shuttle broke apart in flames. AP / Tyler Morning Telegraph, Dr. Scott Liskerman

NASA left with tragic puzzle as nation mourns

By DAVID BALLINGRUD, KATHRYN WEXLER,
ALISA ULFERTS and ANITA KUMAR
Times Staff Writers

CAPE CANAVERAL — Seventeen years after a tragedy that shocked and humbled a nation, NASA again must divide its time between grieving and investigating a terrible failure.

The space shuttle *Columbia* disintegrated 39 miles over Texas on Saturday, raining debris over hundreds of miles of countryside. All seven astronauts were killed in a catastrophe that echoed the *Challenger* explosion of 1986.

"The *Columbia* is lost," a solemn President Bush said after telephoning the families of the astronauts. "The same creator who names the stars also knows the names of the seven souls we mourn today. The crew of the shuttle *Columbia* did not return safely to Earth, but we can pray they are safely home."

Television footage showed a bright light followed by white smoke plumes streaking across a brilliant, blue sky. Debris appeared to break off into separate balls of light as it continued downward.

The disaster jarred a nation still dealing with the scars of 9/11 and contemplating a possible war against Iraq. It also raised anew questions about a space program struggling to redress management and budget problems.

NASA had no immediate explanation for the tragedy, but said it was checking the possibility that a piece of insulation that broke loose had damaged *Columbia*'s left wing during liftoff Jan. 16.

NASA confirmed the loss just after noon. Flags at the agency's launch pad at the Kennedy Space Center were lowered to half-staff. The families of the astronauts were hurried away and later taken to Houston.

Please see COLUMBIA 18A



Land smolders where debris from *Columbia* was believed to have fallen north of Palestine, Texas. The National Guard deployed to protect charred machinery that rained over hundreds of square miles of Texas and Louisiana. Story, 21A

LANDINGS ARE PERILOUS

Between falling like a meteor and landing like a glider, every shuttle faces a dangerous return. **3A**

THE MEN AND WOMEN LOST

A look at the seven astronauts aboard *Columbia*, including quotes from each. **4A**

SHIP HAD FLAWED RECORD

Columbia had just five trouble-free flights in 22 years of service, but its history was storied. **8A**

GASPARILLA GOES AHEAD

Many showed up with heavy hearts, but the party went on, drawing about 550,000 people. **1B**



100-115 No. 183
11 sections
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SUNDAY, FEBRUARY 2, 2003 • TAMPA, FLORIDA • TBO.com

THE TAMPA TRIBUNE

and The Tampa Times



David Brown

Rick Husband

Laurel Clark

Kalpana Chawla

Michael Anderson

William McCool

Ilan Ramon

ALMOST HOME

Columbia's Astronauts Were 16 Minutes From A Perfect Mission

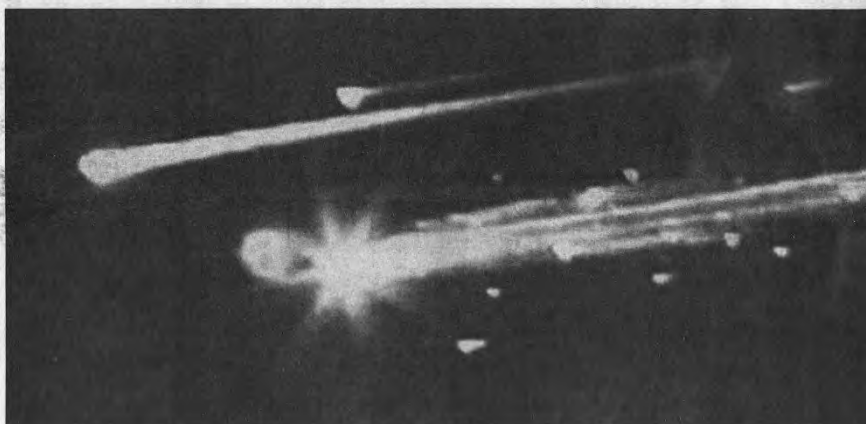


Photo by SCHIZZ LIEBENMAN

Debris from Columbia streaks across the sky Saturday over Tyler, Texas. The country will mourn the lost seven, who just Tuesday bowed their own heads in memory of Challenger's crew.

INSIDE



Tribune photo by KATHY MOORE-LENGEL

A Moment Of Silence

Primed for revelry, the gathering Gasparilla crowd was stunned as news of the disaster rippled through.

DETAILS, Metro, Page 1

Disaster Coverage

As the country mourns the loss of Columbia, investigators will try to piece together what went so terribly wrong.

DETAILS, Pages 9-16

By KEITH EPSTEIN
kepe@tampatrib.com

CAPE CANAVERAL — As it hurtled into the atmosphere at 18 times the speed of sound Saturday morning, space shuttle Columbia, the oldest in the nation's fleet, seemed destined for a routine landing at Kennedy Space Center. Ground controllers even marveled how unusually well the weather had cooperated.

In many ways, the flight of STS-107 seemed little different from more than 100 that preceded it, save for extra security measures because of an Israeli astronaut aboard.

Relatively few Americans even knew astronauts had gone up again Jan. 16, and Mission Control went about the usual business of monitoring the spacecraft's carefully orchestrated return to Earth. For all its turns and engine firings, Columbia was on track, on time and angled correctly for a safe return.

"Everything from a flight control perspective was perfect," said shuttle program director Ron Dittemore.

At 8:03 a.m. EST, the shuttle soared 176 miles above the Indian Ocean, properly upside down and backward. At 8:15 — precisely on time — the engines fired, lurching the seven astronauts back in their seats. Pilot William McCool then spun the craft around, nose first. He pulled it up on its tail, necessary preparation for skidding from 17,500 mph to an eventual 200 mph above Florida. Still business as usual.

By 8:45, high above the Pacific Ocean, the actual skidding began, like doing a wheelie on ever-thicker air. Intense friction heated the shuttle to

about 2,500 degrees Fahrenheit. Through the windows, the astronauts probably witnessed the usual flares of white, pink and red against the darkness of space.

Then, 16 minutes before scheduled touchdown, things quickly went awry.

Between 8:53 a.m. and 8:59 a.m., a succession of 12 temperature, tire pressure and structural sensors on the craft's left side went dead. NASA officials said it was as if wires had been cut. In the last transmission about 9 a.m., the crew seemed to be responding to an alert. The spacecraft was 207,000 feet above Earth.

"Columbia, Houston," said Mission Control. "We see your tire-pressure messages, and we did not copy your last."

"Roger, uh, huh..."

Then the radio fell silent.

Nobody at Mission Control pan-

See **ALMOST HOME**, Page 16

Silence followed: "Columbia's Houston."

See WFLA News Channel 8 for main coverage from Kennedy Space Center at 9 a.m., noon, 6 p.m. and 11 p.m.

Go to TBO.com for video of President Bush, NASA's reaction, photos and the history of Columbia.



The Associated Press

NASA Administrator Sean O'Keefe composes himself before a news conference Saturday at the Kennedy Space Center. Mission Control lost contact with the shuttle sometime after 9 a.m.



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SPECIAL 5-PAGE COVERAGE OF COLUMBIA DISASTER, 14 • 18A

- Many local residents feel impact of the catastrophe **15A**
- Local leaders affirm space exploration must continue **15A**
- Florida's Space Coast residents fear impact of disaster **16A**
- Witnesses report hearing explosions, see streaks across sky **17A**
- Texas, Louisiana residents find debris from Columbia **17A**
- Concern over shuttle landings decreased with each success **17A**



Bonita Daily News

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Sunday, February 2, 2003

\$1.00



David Brown, 46, a Navy captain, pilot and doctor



Pilot William McCool, 41, Navy commander



Ron Ramon, 48, a colonel in Israel's air force



Commander Rick Husband, 45, Air Force colonel



Laurel Clark, 41, a Navy diving medical officer



Payload commander Michael Anderson, 43



Kalpana Chawla, 41, mission specialist

'Columbia is lost'

Seven astronauts perish as space shuttle breaks apart in flames

Columbia's problems during re-entry began on the left wing, which was hit by debris during liftoff

By MARCIA DUNN
Associated Press

CAPE CANAVERAL — Investigators trying to figure out what destroyed space shuttle Columbia focused immediately on the possibility that its thermal tiles were damaged far more seriously than NASA realized by a piece of debris during liftoff.

Just a little over a minute into Columbia's launch on Jan. 16, a chunk of insulating foam peeled away from the external fuel tank and smashed into the left wing, which like the rest of the shuttle is covered with tiles to protect the ship from the extreme heat of re-entry into the atmosphere.

On Saturday, that same wing started exhibiting sensor failures and other problems 23 minutes before Columbia was scheduled to touch down. With just 16 minutes to go before landing, the shuttle disintegrated over Texas.

"As we look at that now in hindsight, we can't discount that there might be a connection," shuttle manager Ron Dittmore said on Saturday, hours after the tragedy. "But we have to caution you and ourselves that we can't rush to judgment on it because there are a lot of things in this business that look like the smoking gun but turn out not even to be close."

Just a day earlier, NASA had given assurances that the launch-day incident was absolutely no reason for concern. The space agency did an extensive engineering analysis that included a frame-by-frame examination of the launch video and concluded that any damage to Columbia's thermal tiles would be minor.

If the liftoff damage was to blame, the shuttle and its crew of seven may well have been doomed from the very start of the mission.

Dittmore said there was nothing that the astronauts could have done in orbit to fix damaged thermal tiles and nothing that flight controllers could have done to safely bring home a severely scarred shuttle.

"My thoughts are on seven families, children, spouses, extended family. My thoughts are on their grief," Dittmore said. And he added: "My thoughts are on what we missed, what I missed, to allow this to happen. It's going to be a difficult day. For all of us."

The shuttle has more than 20,000 black, white or gray thermal tiles that are made of a carbon composite or silica-glass fibers and are attached to the shuttle with silicone adhesive.

Loose, damaged or missing tiles can change the aerodynamics of the ship and allow



A flag at the Kennedy Space Center at Cape Canaveral is lowered to half staff by space center security guards Bruce Fortin, left, and Mike Orr, Saturday after the space shuttle Columbia broke apart in flames over Texas, killing all seven astronauts just 16 minutes before they were to glide to their landing strip in Florida. Associated Press

The catastrophe occurs in the last 16 minutes of a 16-day mission; the shuttle disintegrates 39 miles above Texas

By MARCIA DUNN
and PAM EASTON
Associated Press

High over Texas and just short of home, space shuttle Columbia fell to pieces Saturday, raining debris over hundreds of miles of countryside. Seven astronauts perished — a gutwrenching loss for a country and world already staggered by tragedy.

The catastrophe occurred 39 miles above the Earth, in the last 16 minutes of the 16-day mission as the spaceship re-entered the atmosphere and glided in for a landing in its home and in a backdrop of a crystal blue sky, the day echoed one almost exactly 17 years before, when Challenger exploded.

"The Columbia is lost," said President Bush, after he telephoned the families of the astronauts to console them.

"The same creator who names the stars also knows the names of the seven souls we mourn today," Bush said, his eyes glistening. "The crew of the shuttle Columbia did not return safely to Earth but we can pray they are safely home."

The search for the cause began immediately. One focus: possible damage to Columbia's protective thermal tiles on the left wing from a flying piece of debris during liftoff on Jan. 16.

The loss of seven explorers of space's dark

See COLUMBIA Page 18A

Americans woke Saturday to images of the space shuttle Columbia disintegrating as it returned to Earth, killing seven astronauts. Another reminder of vulnerability. Another sobering disaster with the nation still healing from the Sept. 11, 2001, terrorist attacks.

"With all that is happening these days, it's a very bad feeling," said Nancy Mitchell, a hardware store clerk in Confluence, Pa. "It's just one more thing — a tragedy."

Chika Umeh couldn't help but think the explosion happened at an especially bad moment for the nation.

"Coming after 9-11 it's very scary," said Umeh, 45, a Los Angeles taxi driver.

Fans struggled to explain to their children what had happened.

Mate Schembri said his 7-year-old daughter, Amy, will have little trouble coping with the news.

"Unfortunately, she's getting used to stuff like that," the Oak Park, Ill., resident said as he and his daughter toured the Museum of Science and

See REACTION Page 18A

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La oposición venezolana levanta el paro contra Chávez 18

el Nuevo Herald

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6A

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DOMINGO 2 DE FEBRERO DEL 2003

UNA MISIÓN A LA ETERNIDAD



LA DESAPARECIDA tripulación del transbordador Columbia saludó el pasado 16 de enero, antes de partir al espacio en la misión que terminó ayer trágicamente, al desintegrarse la nave sobre Texas.



PAT SULLIVAN / Associated Press



MARSHALL MILLER (foto de arriba), de 4 años, lleva una ofrenda floral en el Centro Espacial Johnson, de Houston. Joan Nassiri y Debbie Chaffman (foto de abajo) se consuelan mutuamente en una iglesia de Houston.

- La peor pesadilla de la NASA 2A
- Emocionado discurso de Bush 3A
- Dolor en la comunidad de Miami 3A
- Estupor y llanto en la India e Israel 4A



LA PEQUEÑA Allison Hernández llora recostada a su madre en el Centro Espacial Johnson, donde rindieron honores a los astronautas fallecidos.

"Sabemos que nuestros astronautas están con Dios"

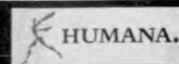
RUI FERREIRA
El Nuevo Herald

El Columbia no regresó a casa. Diecisiete minutos antes de su esperado aterrizaje ayer, en Cabo Cañaveral, el más viejo transbordador de la flota espacial estadounidense se desintegró sobre los cielos de Texas, provocando la muerte de sus siete tripulantes. "Hemos perdido el Columbia. No hay sobrevivientes", dijo el presidente George W. Bush en un emocionado mensaje a la nación y al mundo que no dejó márgenes para dudas. Era las 9 a.m. cuando el puesto de mando de la misión en el Centro Espacial Johnson, en Texas, perdió el contacto con el transbordador, que se aproximaba a la pista en Cabo Cañaveral, Florida —a 12,000 millas por hora, 16 veces la velocidad del sonido— desde unos 200,000 pies de altitud. Sus restos se precipitaron a tierra en un radio de 100 millas cuadradas. En esas condiciones, las posibilidades de supervivencia son nulas. En horas de la noche, algunos informes señalaron que restos humanos supuestamente pertenecientes a los tripulantes del transbordador habían

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THE SATURDAY TAMPA TRIBUNE and The Tampa Times



**A beacon
of hope,
Betty Ford
dies at 93**
Trib2, Page 1

July 9, 2011 **WEATHER** HIGH 89, LOW 76 The chance of rain is 50 percent. **TBO.COM** Search: Recipes, for some great weekend meal ideas.

Space Shuttle Atlantis

Beginning of the end



Space shuttle Atlantis rumbles off the pad at Kennedy Space Center, the 135th and final liftoff of the 30-year program. Four astronauts are aboard on the 12-day mission, which is headed to the International Space Station.

Dreary weather aside, final launch a bittersweet success

BY MARCIA DURN
The Associated Press
CAPE CANAVERAL — With a cry from its commander to "light this fire one more time," the last space shuttle thundered into orbit Friday on a cargo run that will close out three decades of both triumph and tragedy for NASA and usher in a period of uncertainty for America's space program.

Legacy of exploration
From Columbia to Atlantis, the shuttle program pushed the envelope. **Page 4**

launch director Mike Leinbach just before liftoff. Atlantis' crew will dock with the International Space Station on Sunday, deliver a year's worth of critical supplies to the orbiting outpost, and bring the trash home. The shuttle is scheduled to land back on Earth on July 20 after 12 days in orbit, though the flight likely will be extended to a 13th day.



As Atlantis' engines ignite, crowds cheer along a crowded roadway. On a day when the launch was questionable because of the weather, the total number of spectators was close to that of the Apollo 11 liftoff in July 1969.

Florida credit scores take hit

Recession, housing slump are the main reasons, credit bureau says

BY MICHAEL SASSO
The Tampa Tribune

TAMPA — If your credit score has sunk in the past few years, you're not alone. Millions of Floridians are in the same boat. The average credit score in Florida fell at triple the rate that the average U.S. credit score fell since before the recession, the Experian credit bureau says.

That might make it harder to find a loan, get insurance — even get a job. But on the upside, some businesses are lowering requirements to accommodate Floridians' lower credit.

Some people don't worry about credit scores at all.

"Putting food on the table, gas in the car, paying the electric bill, getting a job, all those things come first," said Charles Caro of Tampa, who is trying to rebuild his credit after extended unemployment.

Experian assigns consumers what is known as a VantageScore, based on payment history, how much they use credit and other factors. VantageScores range from a low of 301 to a high of 950.

CREDIT, Page 4

Casey Anthony trial

Innocent man pilloried as Anthony juror

BY STEPHEN THOMPSON
The Tampa Tribune

ST. PETERSBURG — There's something Doug Bliss wants you to know: He was not a juror in the Casey Anthony trial.

Repeat: He was not on the jury in the Casey Anthony trial.

It's hard to blame the 57-year-old retiree for being defensive — not after the phone calls, the interview requests and the online insults, all from people convinced he was juror No. 2 in the high-profile trial.

Many of those people don't like Bliss, or at least don't like juror No. 2. One website had a comment thread titled, "Doug Bliss Is One of the Twelve Stupidest People Walking in America Right Now."

By 11 a.m. Friday, 487 Facebook users had "liked" the post, and nearly 80 had commented. Bliss says he has no idea why some people think he was a juror. The first inkling he had of the mistake was Wednesday night, when a stranger called and started asking him about the trial.

Anthony had been acquitted the day before of



Doug Bliss says the phone calls started soon after the verdict.

States considering 'Caylee's laws'

Failure to report missing children would be felony. **Page 7**

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"Behind Atlantis and her crew of brave astronauts stand thousands of dedicated workers who have poured their hearts and souls into America's space-shuttle program over the past three decades. ... You helped our country lead the space age, and you continue to inspire us each day."
— President Barack Obama in a statement issued after Atlantis' final launch

SPECIAL COVERAGE, A2-A6, A18

GODSPEED, ATLANTIS



RED HURER/STAFF PHOTOGRAPHER

LOCAL

SeaWorld wants Tilikum's son back from Canadian park. **A1**

NATION

Deficit negotiators to work weekend on compromise. **A9**

BETTY FORD, 1918-2011

Former first lady inspired many with her personal battles. **A15**

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Beachside: Boil your water

'Sizable' line break raises alert for Satellite Beach, South Patrick Shores

Rick Neale | FLORIDA TODAY
USA TODAY NETWORK - FLORIDA

The city of Melbourne has declared a beachside boil water alert for residents and businesses from DeSoto Parkway in Satellite Beach northward to the Pineda Causeway in South Patrick Shores.

A "sizable" beachside water line break was reported Thursday morning. Utility workers later discovered water leaking into a storm drain near South Patrick Drive and Jackson Avenue in Satellite Beach, said Cheryl Mall, Melbourne city spokeswoman.

Crews confirmed that a 12-inch water main had broken. Crews isolated the broken pipe by 4 p.m., and repairs were expected to begin about 5, Mall said.

The boil water area encompasses the northern two-thirds of Satellite Beach, population 11,056. South Patrick Shores is an unincorporated community of nearly 6,000 people, extending roughly north of Satellite Beach's Shearwater Parkway neighborhoods to the Pineda Causeway.

The boil water notice is affecting 5,000 to 6,000 households and businesses, Mall said.

See **BOIL WATER**, Page 10A



A city of Melbourne compact excavator is parked at the suspected water main leak site at South Patrick Shores and Jackson Avenue in Satellite Beach.
RICK NEALE / FLORIDA TODAY

China lands spacecraft on far side of moon — a first

KEN MORITSUGU | The Associated Press

BELING — China's burgeoning space program achieved a first on Thursday: a landing on the so-called dark side of the moon that brings the country closer to its goal of becoming a space power.

Three nations — the United States, the former Soviet Union and, more recently, China — have sent spacecraft to the near side of the moon, which faces Earth, but this landing is the first-ever on the far side.

The China National Space Administration said the 10:26 a.m. touchdown of the Chang'e 4 craft has "opened up a new chapter in human lunar exploration."

A photo taken at 11:40 a.m. and sent back by Chang'e 4 shows a small crater and a barren surface that appears to be illuminated by a light from the lunar explorer. Its name comes from that of a Chinese goddess who, according to legend, has lived on the moon for millennia.

The landing highlights China's growing ambitions to rival the U.S., Russia and Europe in space and, more broadly, to cement the nation's position as a regional and global power.

"The space dream is part of the dream to make China stronger," President Xi Jinping said in 2013, shortly after becoming China's leader.

In year-end wrap-ups, Chinese media and officials hailed the Dec. 8 launch of Chang'e 4 as one of the nation's major achievements in 2018. The landing on Thursday was announced to the public by state broadcaster CCTV at the top of the noon news.

"On the whole, China's space technology still lags behind the West, but with the landing on the far side of the moon, we have raced to the front," said Hou Xiyi.

See **MOON**, Page 4A



Above: The Chang'e 4 lunar probe launches from the Xichang Satellite Launch Center in southwestern China's Sichuan province Dec. 8. The official China Central Television says Thursday that the lunar explorer Chang'e 4 had touched down at 10:26 a.m. to make the first-ever landing on the far side of the moon. **JIANHONGJING** / AP

Left: The first image of the moon's far side is taken by China's Chang'e-4 probe. The Chinese spacecraft made the historic landing on the far side of the moon Thursday. **AP**

New Year's shooting sparked chaos, terror

Satellite Beach man says infidelity led to backyard rampage in Melbourne

Lamaur Stancil
FLORIDA TODAY
USA TODAY NETWORK - FLORIDA

When William Brian Stillwell arrived uninvited with a 9 mm semi-automatic pistol to the Woodsmill Drive home in Melbourne the afternoon of New Year's Day, those who gathered in the fenced-in yard could not have imagined what police said happened next.

Stillwell is accused of shooting and wounding three adults while yelling obscenities as two confused 5-year-olds watched the bloody scene, according to police accounts in the arrest report.

"I don't want anyone to die," one of the children could be heard screaming during a call to 911. Stillwell tells the children he loves them, then two gunshots are heard and more screaming. Someone yells out for someone else to run. A child says, "Please don't shoot."

In the background, Stillwell tells someone to shoot him in the head.

After his arrest, Stillwell, 39, of the 400 block of Red Sail Way, Satellite Beach, told Melbourne police he was upset about infidelity, according to an affidavit released Thursday.

He said he watched a video on a phone of a woman, from whom he had separated Dec. 28, and his best friend having sex. Officers said the statement was part of several random utterances, including several calling the woman a derogatory name.

See **SHOOTING**, Page 10A

USA TODAY

New House Speaker Nancy Pelosi promises 'different world.' **1B**

Graduation rate at BPS at a high

Data shows students graduating at highest rate in five years. **3A**

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PELOSI RECLAIMS GAVEL



CAROLYN KASTER/AP

Nancy Pelosi, surrounded by her grandkids and kids related to lawmakers, raises her hand as Rep. Don Young, R-Alaska, administers the oath to become the speaker of the House.

House speaker welcomes diverse freshmen intent on battling Trump

By LISA MASCARO | Associated Press

WASHINGTON — Hearing Democrats returned Nancy Pelosi to the House speaker's post Thursday as the 116th Congress gathered in a historically diverse freshman class eager to confront President Donald Trump in a new era of divided government.

Pelosi, elected 220-192, took the gavel saying U.S. voters "demanded a new dawn" in the Nov. 8 election that swept the Democrats to a House majority and are looking to "the beauty of our Consti-

tuition" to provide checks and balances on power.

Pelosi faced 15 dissenting votes from fellow Democrats. But for a few hours, smiles and backslapping were the order of the day. The new speaker invited scores of lawmakers' kids to join her on the dais as she was sworn in, calling the House to order "on behalf of all of America's children."

Even Trump congratulated her during a rare appearance at the White House briefing room, saying her election by House colleagues was "a

Please turn to **HOUSE, A8**



CLIFF OWEN/AP

The sign at the office suite of House Speaker Nancy Pelosi of California is installed on Capitol Hill on Thursday.

For the first time in years, U.S. Senate will not have a local voice

By STEVEN LIMONGELLO
Orlando Sentinel

For the first time in years, Central Florida won't be the home base for a U.S. Senator.

Just a decade ago, Orlando was home to not one but two U.S. Senators, with Democrat Bill Nelson and Republican Mel Martinez living just a few blocks from each other in the neighborhood of Baldwin Park.

"The Public manager was always marveling that there were two Senators

Please turn to **SENATE, A8**

China sheds light on 'dark' side of moon

By ROBYN DIXON
Los Angeles Times

BEIJING — China's Chang'e-4 lunar lander touched down on the far side of the moon Thursday morning Beijing time, the latest milestone marking the nation's determination to become a global leader in space exploration.

Chinese scientists have already declared China's ambitions to es-

tablish a manned moon base and to send nuclear-powered rovers into space in future decades to colonize and exploit space.

No nation has ever landed a lunar lander on the far side of the moon, a mission complicated by the fact that the moon blocks direct communications with Earth. China used a relay satellite, Queqiao, to send transmissions to scientists.

Chang'e-4, carrying a 300-pound lunar rover with probes and spectrometers, touched down in the Von Karman Crater in the South Pole-Aitken Basin, according to the China National Space Administration, which published a color photograph of the moon's smooth surface, a crater and the dark hori-

Please turn to **MOON, A4**

Private school reinstated in state scholarships program

By ANNIE MARTIN
Orlando Sentinel

An Orange County private school will be allowed to continue receiving state-backed scholarships after terminating a man convicted of manslaughter it had hired to teach mixed martial arts fighting to students.

The state Department of Education booted Elite Preparatory Academy from the scholarship programs in November in response to a tip from a parent who questioned how Ruben Saldaña could work at the Oak Ridge Road campus without having passed a

Please turn to **ELITE, A4**

YOUR NATION, YOUR WORLD

Prosecutors seek execution

Saudi Arabia announced it will seek the death penalty against five suspects in the slaying of Khushoggi. A3

Age sometimes a factor in refugee

The U.S. government says some immigrant youth applications for green cards are rejected because of age. A4

American charged with espionage

Russia has formally charged an alleged American spy, possibly deepening diplomatic tensions with the U.S. A5

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Justices pass on cases for gun ownership bans

USA TODAY, 4A

TUESDAY, APRIL 20, 2021

FLORIDATODAY.COM

Ingenuity successfully achieves first flight on Mars

NASA official: 'This really is a Wright Brothers moment'

Rachael Joy
Florida Today
USA TODAY NETWORK - FLORIDA

Ingenuity is the little Martian helicopter that could and did.
On Monday, NASA's Ingenuity Mars Helicopter became the first aircraft in history to make a powered, controlled flight on another planet.

"This really is a Wright Brothers moment. It's the start of a whole new kind of planetary exploration," acting NASA Administrator Steve Jurczyk said during a press conference.

"We don't know exactly where Ingenuity will lead us, but today's results indicate the sky — at least on Mars — may not be the limit."

Because Mars has only 1% the atmosphere of Earth, flying there is very difficult.

"A rotorcraft pushes atmosphere to generate lift. When there is that little atmosphere the rotor system has to spin really fast. In fact it spins at over 2,500 revolutions per minute for the flight," Mimi Aung, Ingenuity's Project Manager Mimi Aung explained.

After an issue with its flight software delayed the historic mission last week, Ingenuity successfully spun up its high-speed blades and lifted about 10 feet off the ground, hovered for 30 seconds and landed.

Aung and her team have been working over six years to achieve this goal.

See **INGENUITY**, Page 11A

MORE INSIDE

Weather looks good for NASA and SpaceX's Crew-2 launch. **3A**



The Ingenuity helicopter team celebrates first flight at Jet Propulsion Laboratory on Monday.
NASA/JPL-CALTECH

PLANE PREPARED FOR TRANSPORT BACK HOME



This TBM Avenger was forced to land "due to engine failure," according to Valiant Air Command in a statement posted to Facebook on Sunday. Workers lifted the plane off the trailer Monday morning to try to fold the right wing, which was full of wet sand. — MALCOLM DENMARK/FLORIDA TODAY

No-appointment COVID vaccine effort draws fewer than expected

Supply of inoculations exceeds demand in first 4 days of program

Dave Berman
Florida Today
USA TODAY NETWORK - FLORIDA

The Florida Department of Health's first local effort at no-appointment, drive-thru COVID-19 vaccinations received a less-than-overwhelming response.

The Health Department had enough vaccines and staffing to administer as many as 7,300 doses in Viera during the first four days of the program — from Thursday through Sunday. But just 1,680 people took advantage of the opportunity and received the first of two required doses of the Moderna vaccine.

The number represents less than a quarter — only 23% — of the capacity of the sessions, which ran for three hours each day on Thursday and Friday, and for 11 hours each on Saturday and Sunday.

"We were surprised at the low number of shots distributed. We put shots into every arm that came by."

Don Walker
Brevard County Communications Director

"We were surprised at the low number of shots distributed," Brevard County Communications Director Don Walker said Monday. "We put shots into every arm that came by," but the supply exceeded demand.

Department of Health data indicates that most Brevard County residents have not yet received a vaccine. So the leveling of demand may be a red flag in efforts to

See **VACCINES**, Page 10A

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Prosecutor: FedEx shooter had no 'red flag' hearing. **4A**

Boom or bust?
Ten NFL Draft prospects boast volatile potential. **1B**

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Former Vice President Walter Mondale dies at 93

PAGE 2A

Dump trucks a dilemma
for Burnt Store Road residents PAGE 1B

EMS: Man injured, dog dies in Punta Gorda crash PAGE 2B

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Anti-riot bill signed into law

Law goes into effect immediately; DeSantis cites Chauvin trial

By BRENDAN FARRINGTON
ASSOCIATED PRESS

TALLAHASSEE — Florida's top Republicans cited events in cities around the country

—but not the Jan. 6 riots in Washington—as Gov. Ron DeSantis signed a bill Monday to create tougher penalties for people who participate in violent protests.

The so-called anti-riot bill was a response to protests around the country because of police violence against African-Americans. After the Jan. 6 insurrection at the U.S. Capitol by supporters of then-President Donald Trump, Republicans

pushing the legislation used it as an example to support the effort.

But the Capitol riots weren't mentioned as the bill was signed by DeSantis, who criticized the Minnesota attorney general at the same time closing arguments were taking place in the murder trial of former Minneapolis police Officer Derek Chauvin in the death of George Floyd, the Black man who died after

INSIDE

Murder case against ex-cop in Floyd's death goes to the jury. See page 5A

Chauvin put a knee on his neck for almost 10 minutes. "I don't know what's going to happen, but I can tell you that case was bungled by the attorney general there in Minnesota.

They didn't handle it properly, so there may be some people disappointed," DeSantis said. Opponents of the bill said it was a racist reaction to a problem that hasn't occurred in Florida. They saw it as an attempt to squelch the voices of groups like Black Lives Matter. "Not only is this racist at its core, but it's also a reaction to what occurred over the

SEE BILL, 5A

Sheriff: Eight tried to steal \$4M in CARES funds
Port Charlotte resident charged with attempting to defraud more than \$50K

By MORGAN SIMPSON
STAFF WRITER

SARASOTA — Eight area residents are facing a variety of charges after allegedly attempting to steal more than \$4 million by submitting fraudulent applications to the CARES Act funds, according to authorities.

The CARES Act is a federal program designed to help people and businesses get through the financial situations caused by the coronavirus pandemic.

The Sarasota County Sheriff's Office revealed the investigation Monday into SRQ Financial Solutions, LLC, based in Sarasota. People working for the company are accused of making up businesses and also creating fake profit and loss statements — so the business could get money from the CARES Act.

Sarasota County Sheriff Kurt Hoffman called it "pretty sophisticated document fraud."

SEE STEAL, 4A



Sheriff Kurt Hoffman announced an investigation Monday into SRQ Financial Solutions that authorities said stopped \$4.1 million in CARES Act fraud.

1st flight on another planet



IMAGES PROVIDED BY NASA

NASA's experimental Mars helicopter Ingenuity lands Monday on the surface of Mars.

NASA's Mars helicopter Ingenuity makes history

By MARCIA DUNN
AP AEROSPACE WRITER

CAPE CANAVERAL — NASA's experimental helicopter Ingenuity rose into the thin air above the dusty red surface of Mars on Monday, achieving the first powered flight by an aircraft on another planet.

The triumph was hailed as a Wright brothers moment. The mini 4-pound copter even carried a bit of wing fabric from the Wright Flyer that made similar history at Kitty Hawk, North Carolina, in 1903.

SEE PLANET, 4A



The experimental Mars helicopter Ingenuity casts a shadow Monday as it hovers above the surface of the planet.

Should masks be required in schools next year?

Sarasota will discuss it today

By SUE ERWIN
and OLIVIA CAMERON
STAFF WRITER

Will Sarasota and Charlotte county students and teachers be required to wear masks in the fall? Florida's education

commissioner asked superintendents across the state to update their policies to make facial coverings voluntary rather than mandatory for students, teachers and staff in upcoming school year. In a memo sent Thursday, Richard Corcoran said, "Florida has once again proven that one-size-fits-all policies do not meet the unique needs of individual students or their families."

Corcoran also claimed that data shows mask policies don't effect the spread of the virus and "serve no remaining good at this point in our schools." His memo didn't cite any particular data to back up the claim, which goes against guidance from the Centers for Disease Control and Prevention that mask-wearing in schools — along with social distancing and frequent hand-washing

— is essential to stopping the spread.

Corcoran, who was appointed on DeSantis's recommendation, said masks may "unintentionally create a barrier" for students and families who would otherwise choose in-person instruction if such a policy were not in place. And, in bold underlined wording, the memo said masks may impede instruction for students with disabilities and

those who speak English as a second language because they benefit from seeing a teacher's face and mouth.

"Right now, our schools are safer than the communities at large," Corcoran wrote. "This safety record should only increase next school year with the increased availability of vaccines."

SEE MASKS, 5A

TODAY'S WEATHER
High 78, Low 70
75% chance of rain
SEE PAGE 2B

INSIDE TODAY
Bible verse 2A
Stocks 6A

SPORTS
Lottery 8B
Sports on TV 8B

LOCAL
Obituaries 6B
Opinion 4-5B
Police Beat 2B
Calendar 6B

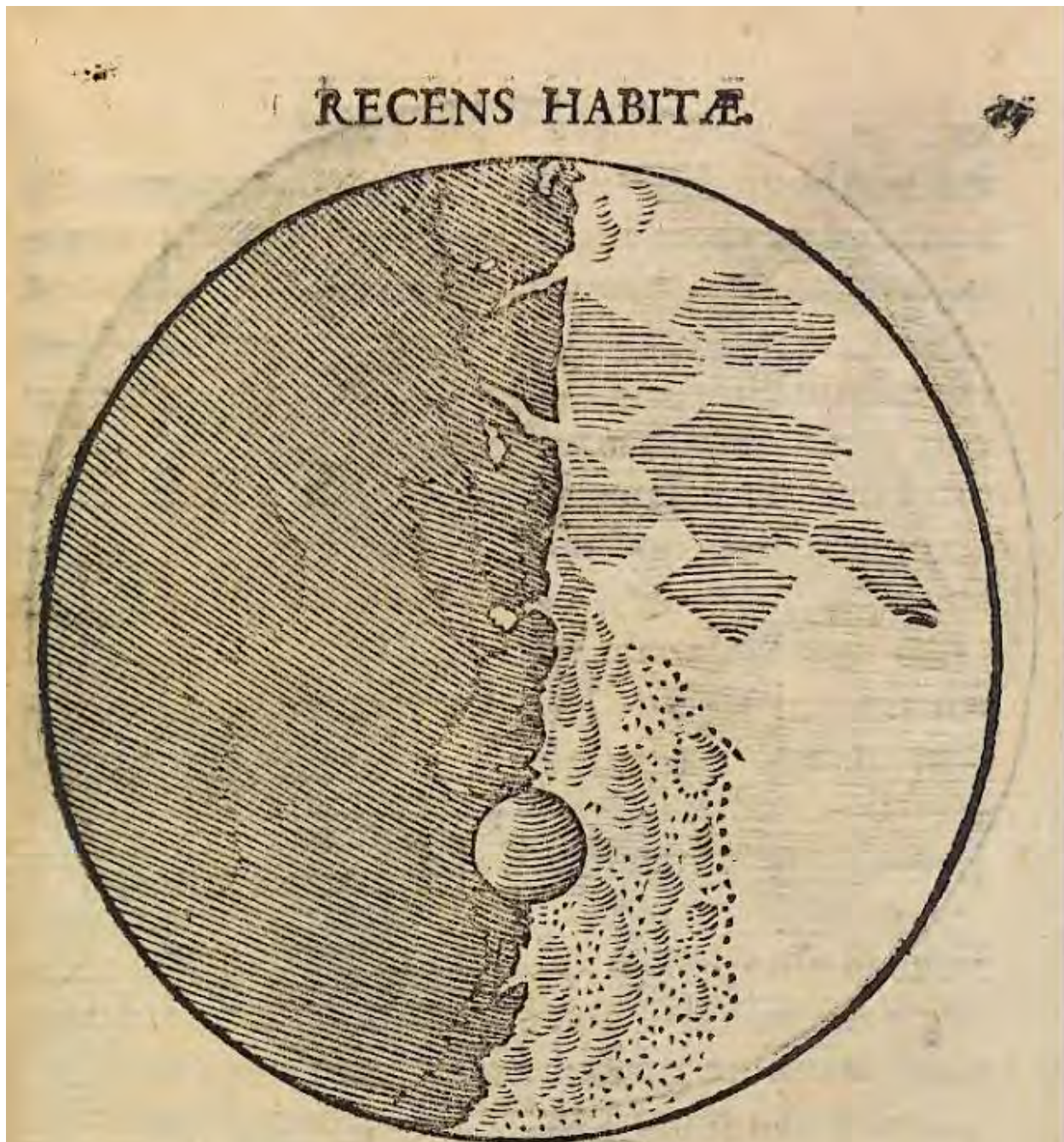
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Dear Abby 5D
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Horoscopes 3D



Charlie on Mars: You found the "Wright" chopper for the job.

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Appendix 4: Maps



Map of Moon's surface by Galileo (1564-1642), drawn using a telescope the astronomer had built himself. The uneven line of shadow aided Galileo in identifying the nature of the Moon's surface and the approximate size of its mountains. First published in Galileo's *Sidereus Nuncius* (The Starry Messenger) in 1610.

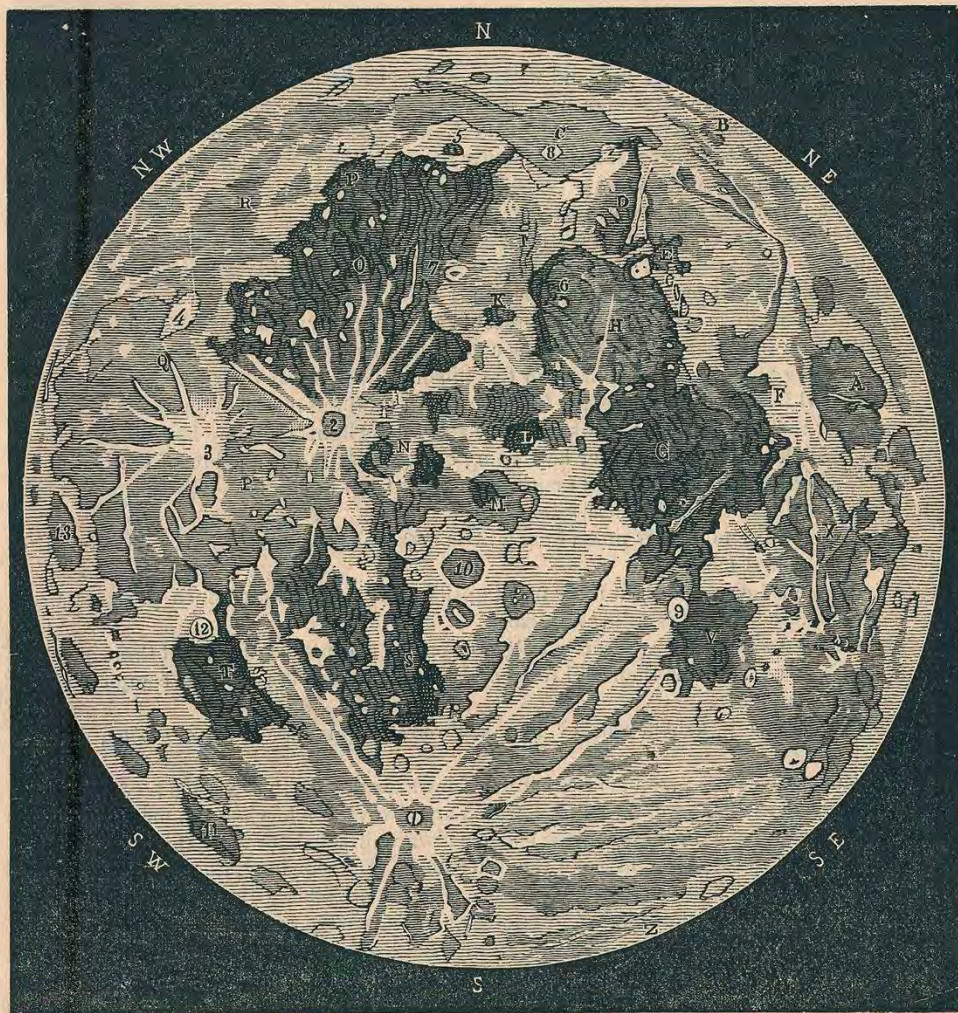


FIG. 4.—TELESCOPIC VIEW OF THE MOON.

LUNAR SEAS OR GRAY PLAINS.

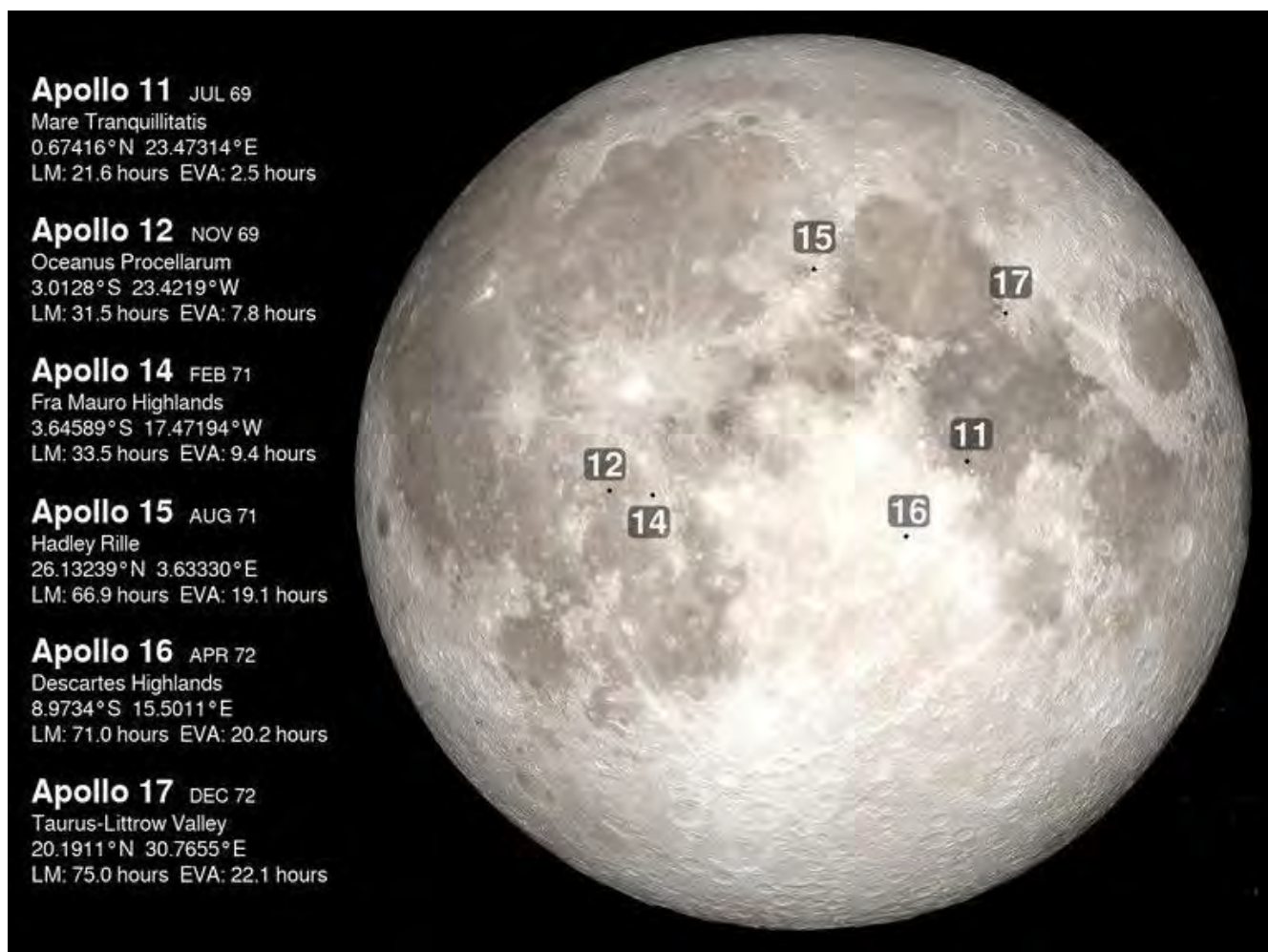
- A. The Sea of Crises (*Mare Crisium*).
- B. Humboldt's Sea (*Mare Humboldtianum*).
- C. The Sea of Cold (*Mare Frigoris*).
- D. The Lake of Death (*Lacus Mortis*).
- E. The Lake of Dreams (*Lacus Somnorum*).
- F. The Marsh of Sleep (*Lacus Somni*).
- G. The Sea of Tranquillity (*Mare Tranquillitatis*).
- H. The Sea of Serenity (*Mare Serenitatis*).
- I. The Marsh of Fogs (*Palus Nebularum*).
- K. The Marsh of Corruption (*Palus Putredinis*).
- L. The Sea of Vapors (*Mare Vaporum*).
- M. Mid-Moon Bay (*Sinus Medii*).
- N. The Bay of Tides (*Sinus Aestuum*).
- O. The Sea of Showers (*Mare Imbrium*).

- P. The Bay of Rainbows (*Sinus Iridum*).
- Q. The Ocean of Tempests (*Oceanus Procellarum*).
- R. The Bay of Dew (*Sinus Roris*).
- S. The Sea of Clouds (*Mare Nubium*).
- T. The Sea of Liquids (*Mare Humorum*).
- V. The Sea of Nectar (*Mare Nectaris*).
- X. The Sea of Fecundity (*Mare Fœcunditatis*).
- Z. The Southern Sea (*Mare Australe*).

LUNAR RING-MOUNTAINS AND CRATERS.

- | | |
|-----------------|-----------------|
| 1. Tycho. | 7. Archimedes. |
| 2. Copernicus. | 8. Aristotle. |
| 3. Kepler. | 9. Theophilus. |
| 4. Aristarchus. | 10. Ptolemaeus. |
| 5. Plato. | 11. Schickard. |
| 6. Linné. | 12. Gassendi. |
| | 13. Grimaldi. |

1886 Telescopic View and Map of the Moon (unknown). Wikimedia Commons/Geographicus Rare Antique Maps



Map of Apollo mission landing sites. NASA



Each point of light on this map represents 2,500 people or 427 family units per km², plus or minus 5%. Light from moving trains, planes, cars, boats, and water and full moon reflections were removed.

The satellite data used to make this image were collected by the Westinghouse broad-band visible to near infrared optical sensor. Between fall 1994 and spring 1995, the sensor collected data during 231 ascending polar orbital paths.

Night Lights of Urban City Development

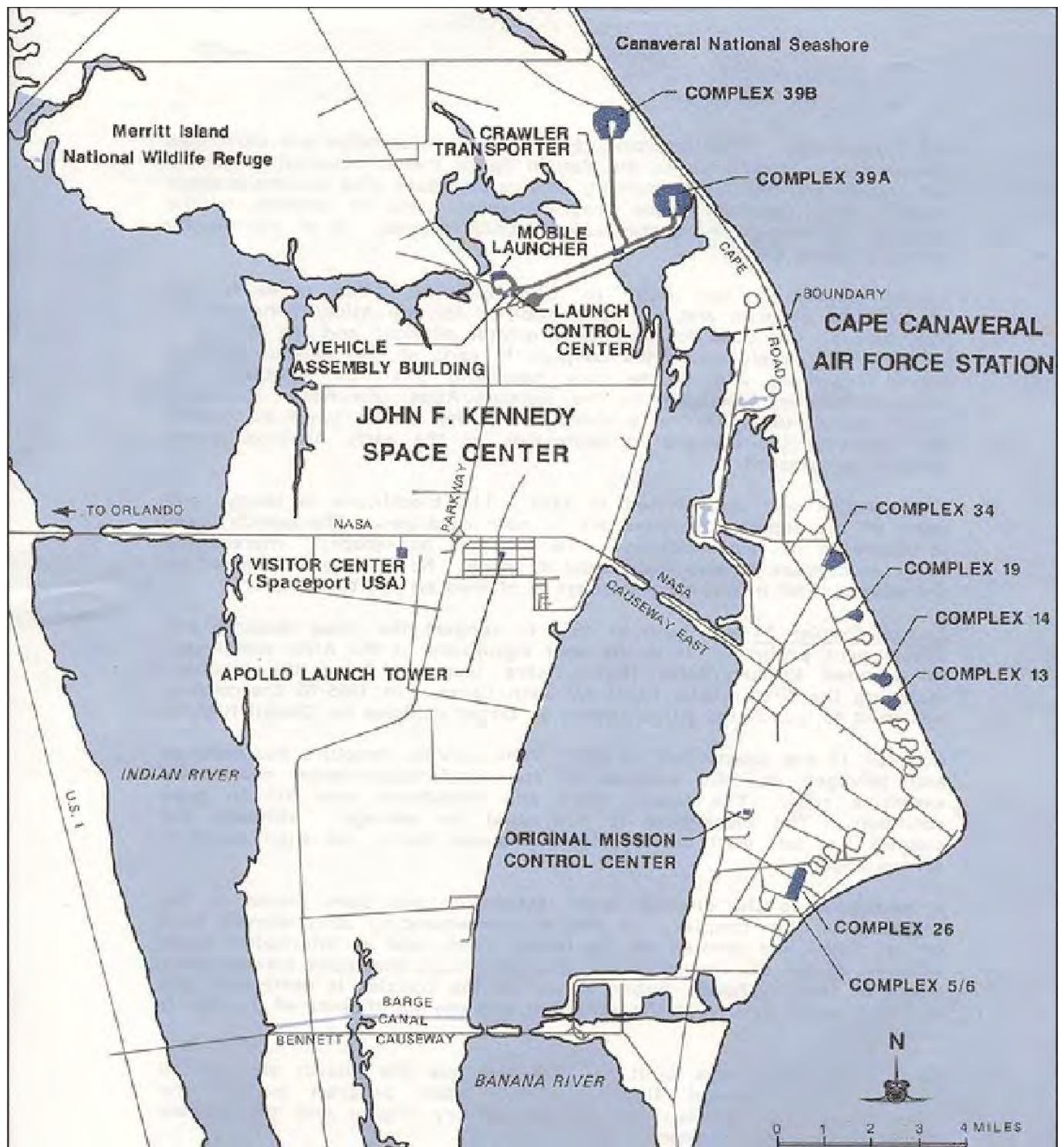


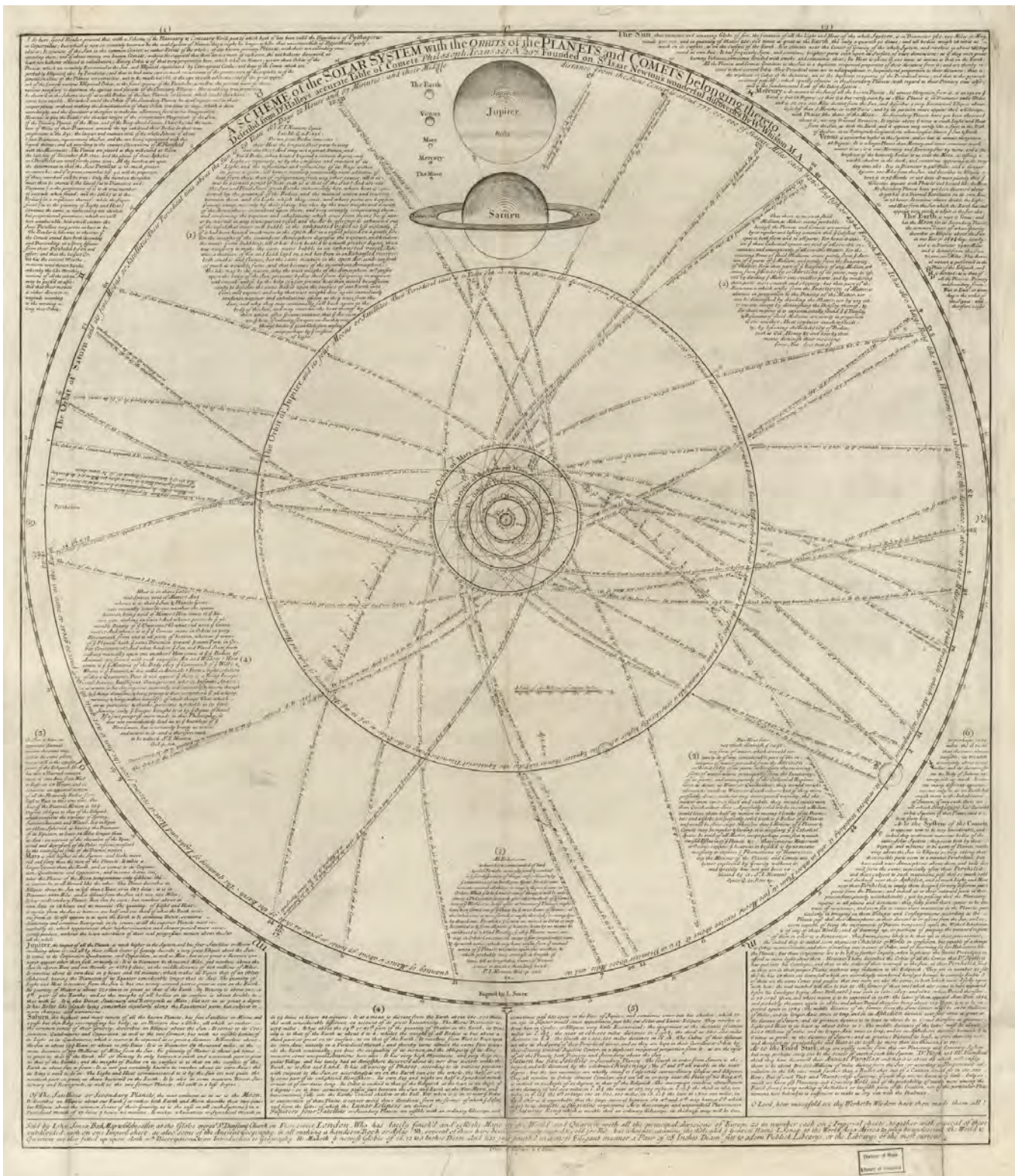
- | | | |
|----------------------------|--------------------------------|-----------------------------|
| 1. Washington, DC | 18. Buenos Aires, Argentina | 35. Seoul, South Korea |
| 2. Seattle, Washington | 19. Santiago, Chile | 36. Nikolayevsk, Russia |
| 3. Reno, Nevada | 20. Punta Arenas, Chile | 37. Taipei, Taiwan |
| 4. Denver, Colorado | 21. Montreal, Quebec | 38. Hong Kong, China |
| 5. Kansas City, Kansas | 22. Hammerfest, Norway | 39. Hanoi, Vietnam |
| 6. Detroit, Michigan | 23. Lisbon, Portugal | 40. Beijing, China |
| 7. San Antonio, Texas | 24. Freetown, Sierra Leone | 41. Ahmadabad, India |
| 8. Miami, Florida | 25. Molabo, Cameroon | 42. Almaty, Kazakhstan |
| 9. Fairbanks, Alaska | 26. Johannesburg, South Africa | 43. Singapore, Malaysia |
| 10. Anchorage, Alaska | 27. Harer, Ethiopia | 44. Papua New Guinea |
| 11. Mexico City, Mexico | 28. Warsaw, Poland | 45. Perth, Australia |
| 12. Panama City, Panama | 29. Cairo, Egypt | 46. Melbourne, Australia |
| 13. San Juan, Puerto Rico | 30. Helsinki, Finland | 47. Sydney, Australia |
| 14. Caracas, Venezuela | 31. Moscow, Russia | 48. Suva, Fiji |
| 15. Bogota, Colombia | 32. Novosibirsk, Russia | 49. Wellington, New Zealand |
| 16. Salvador, Brazil | 33. Vladivostok, Russia | 50. Honolulu, Hawaii |
| 17. Rio de Janeiro, Brazil | 34. Tokyo, Japan | |



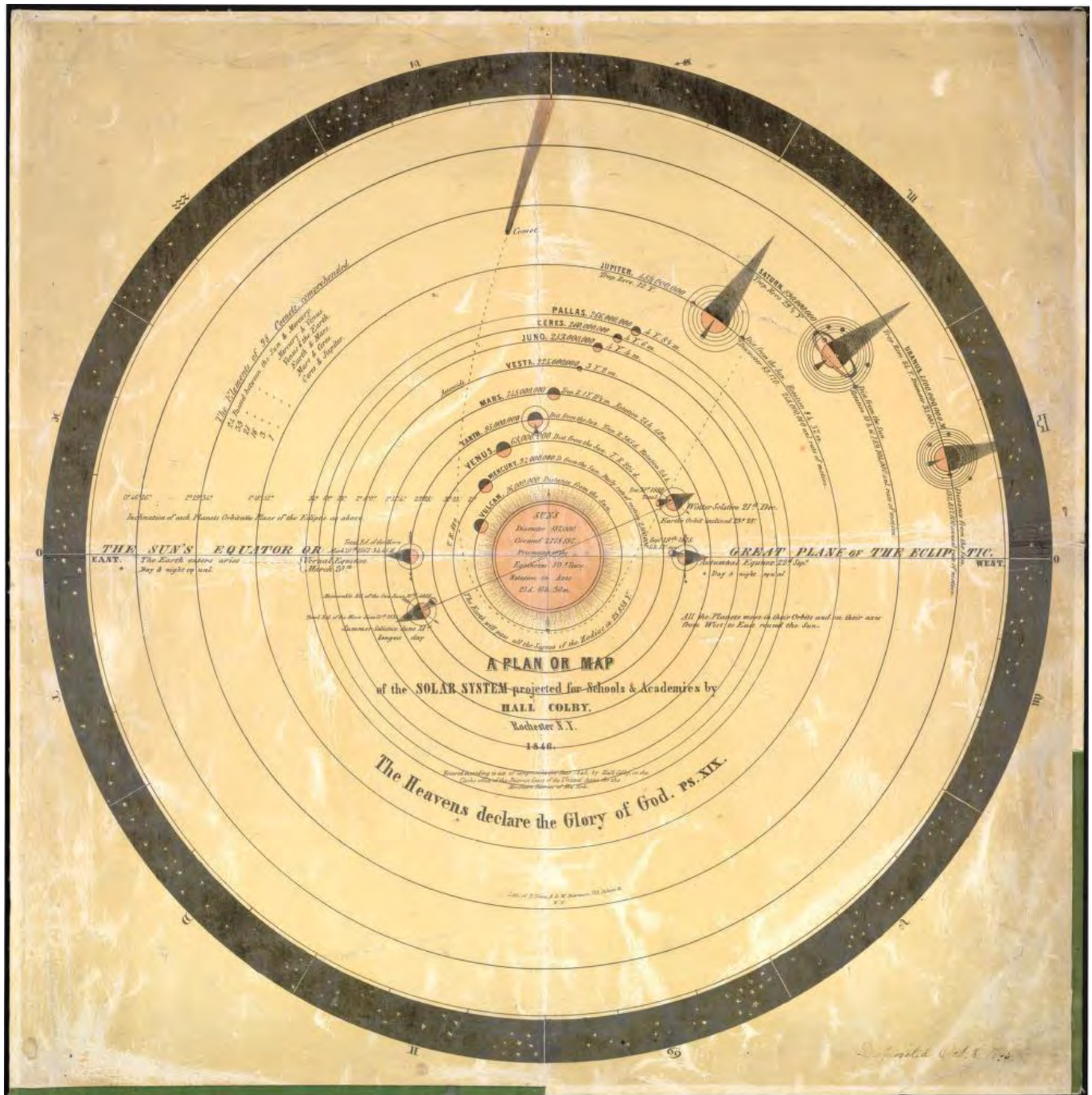
This map is a compilation of satellite images from the National Oceanic and Atmospheric Administration (NOAA), the National Geographical Data Center (NGDC) and the Defense Meteorological Satellite Program (DMSP) that show the continental United States at night. The image of the U.S. nighttime lights was derived from cloud-free portions of 231 orbits (October 1994 - March 1995) of DMSP Operational Linescan System (OLS) data.







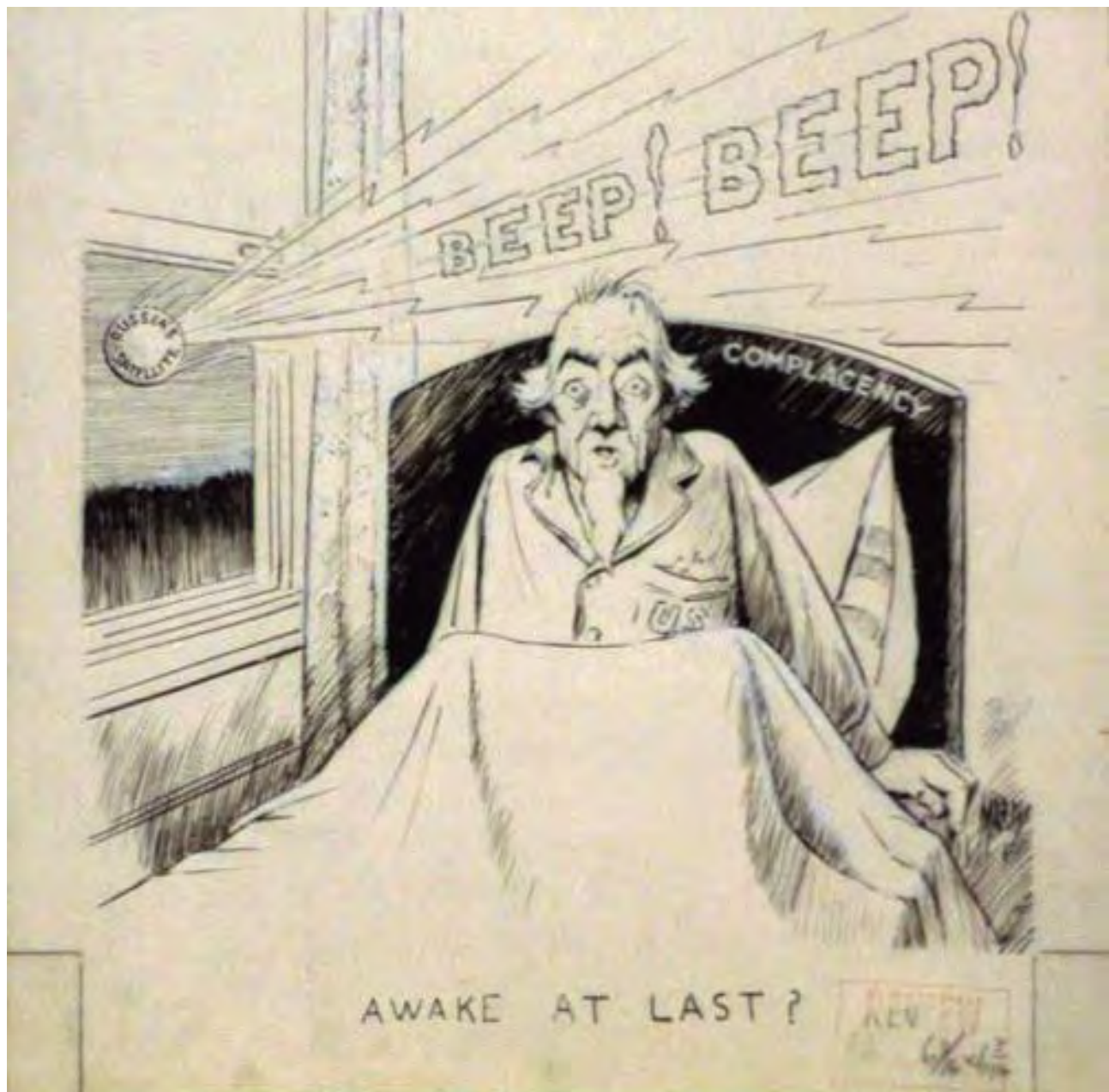
A scheme of the Solar system with the orbits of the planets and comets belonging thereto.
 William Whiston and John Senex, 1720. Library of Congress



A plan or map of the Solar System projected for schools & academies, Colby, Hall, and Jones & Newman, 1846. Library of Congress

Appendix 5: Editorial cartoons

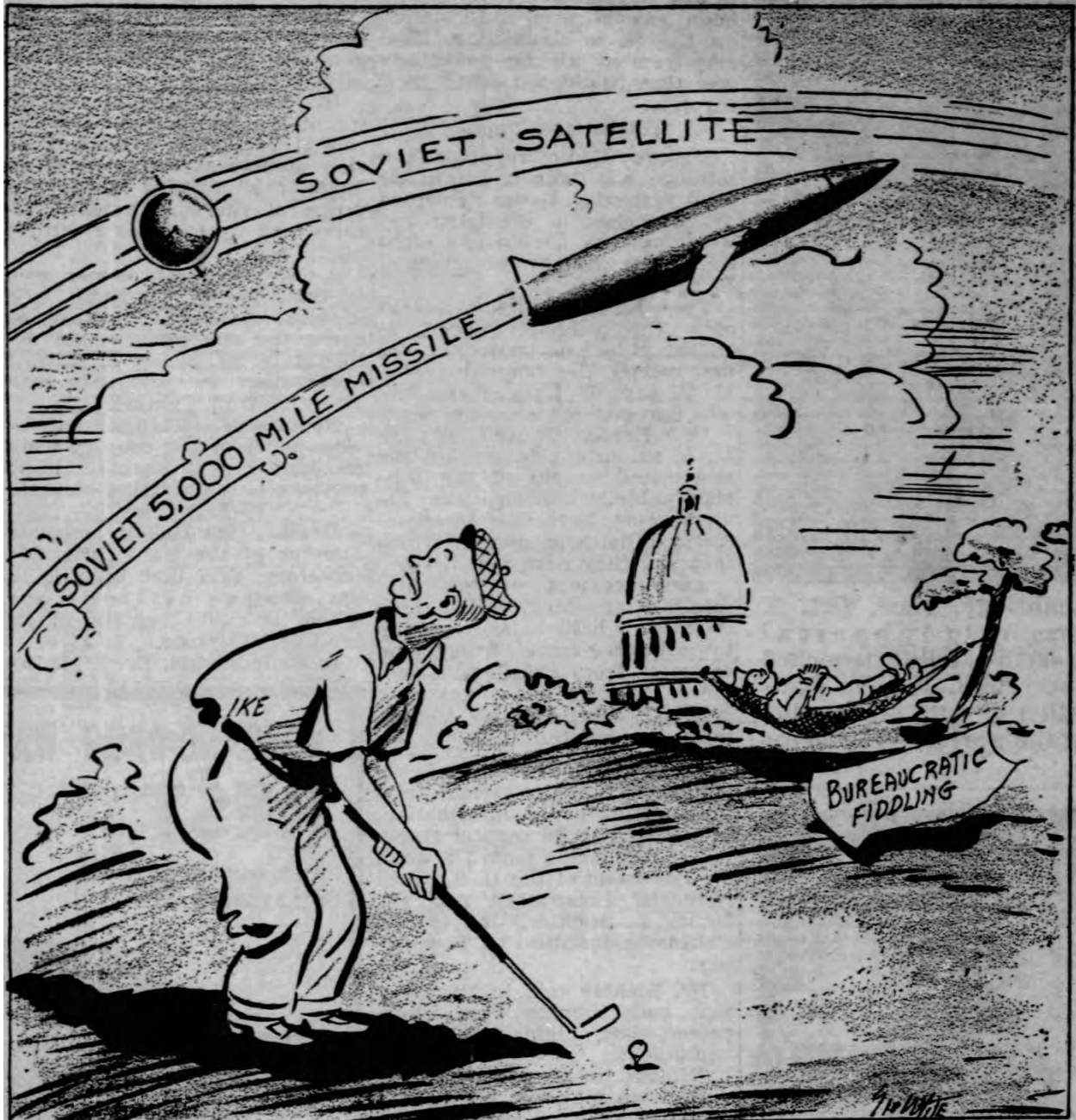
Sputnik



'Well, That's The First Russian Satellite Set Free!'



While Rome Burns



WHAT THE MOONLIGHT REVEALS



Next!



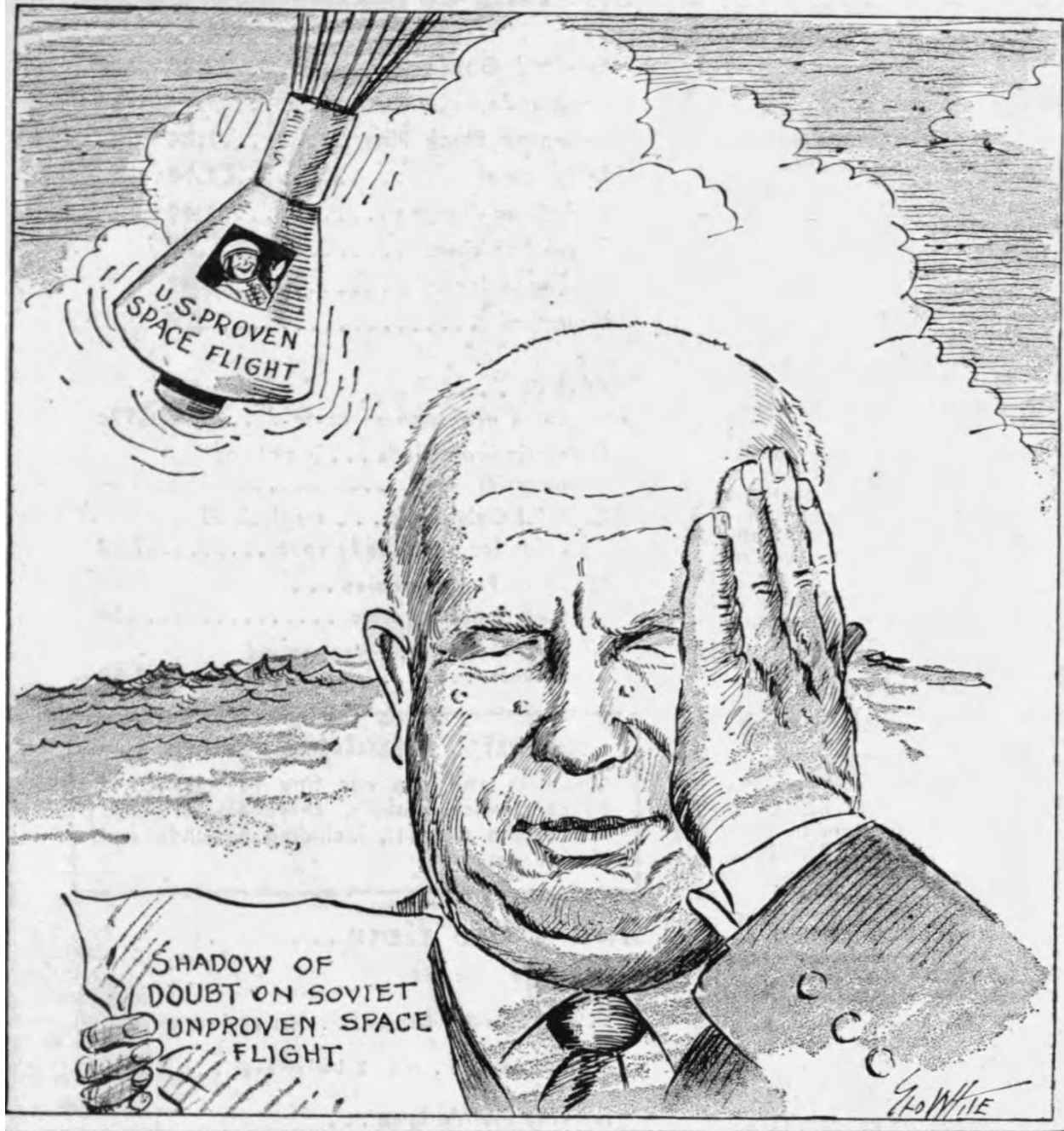
Yuri Gagarin



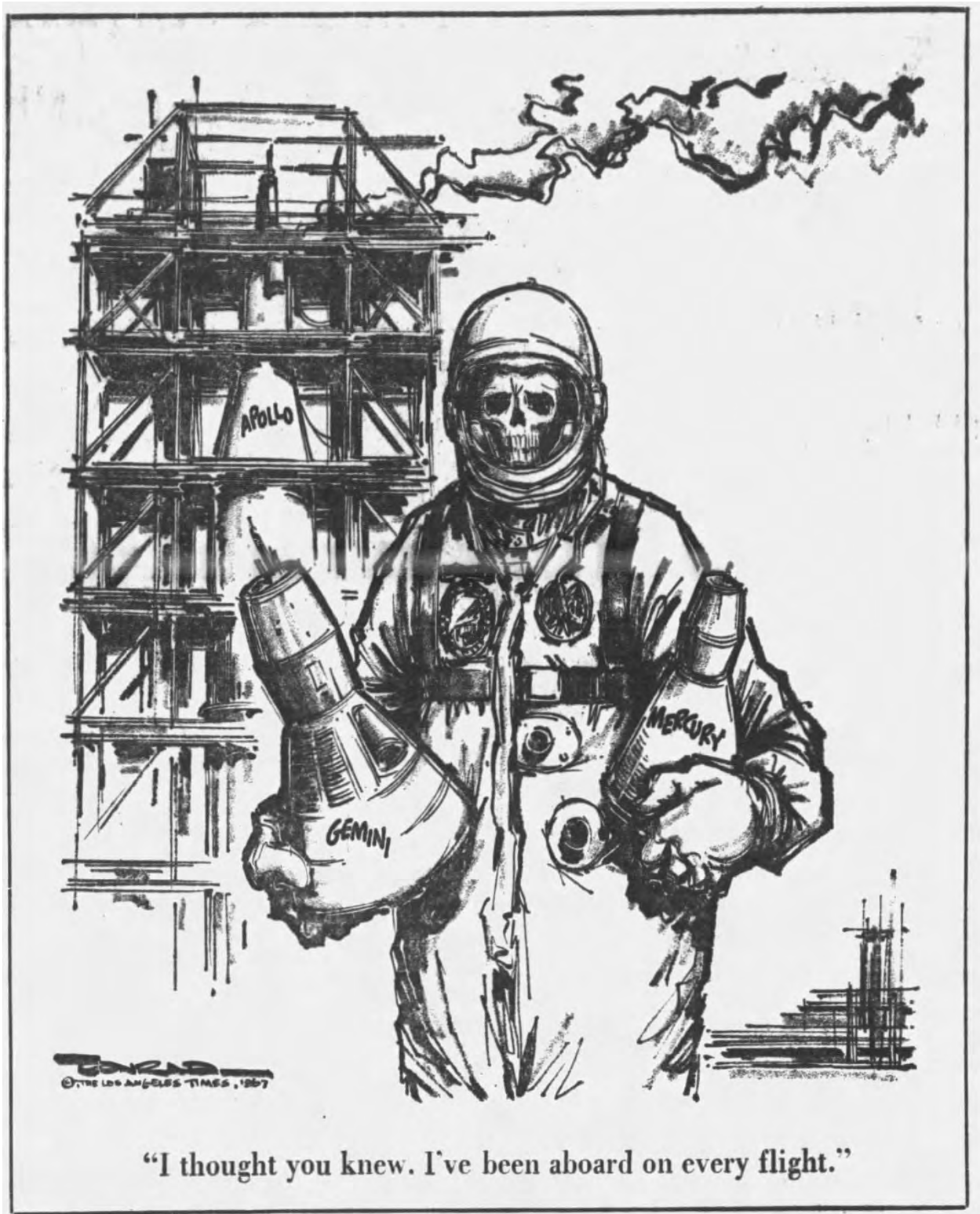
Red Rocket, Red Face



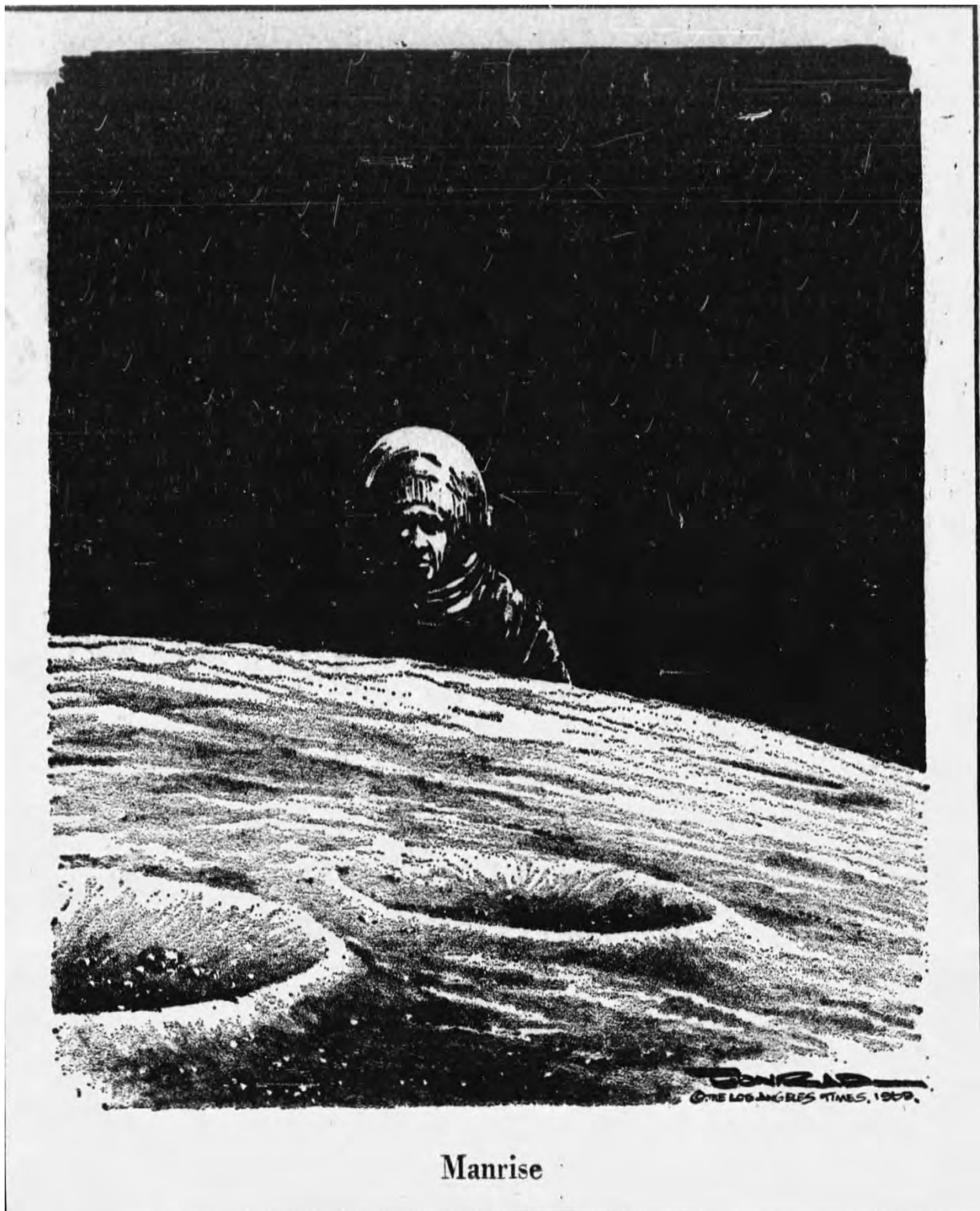
Oh Well, You Can't Win 'Em All



Apollo 1



Apollo 11



Manrise



IRELAND 1969, LOS ANGELES TIMES

**"Do you realize you and Apollo 11 may have set nationalism
back a few thousand years?"**

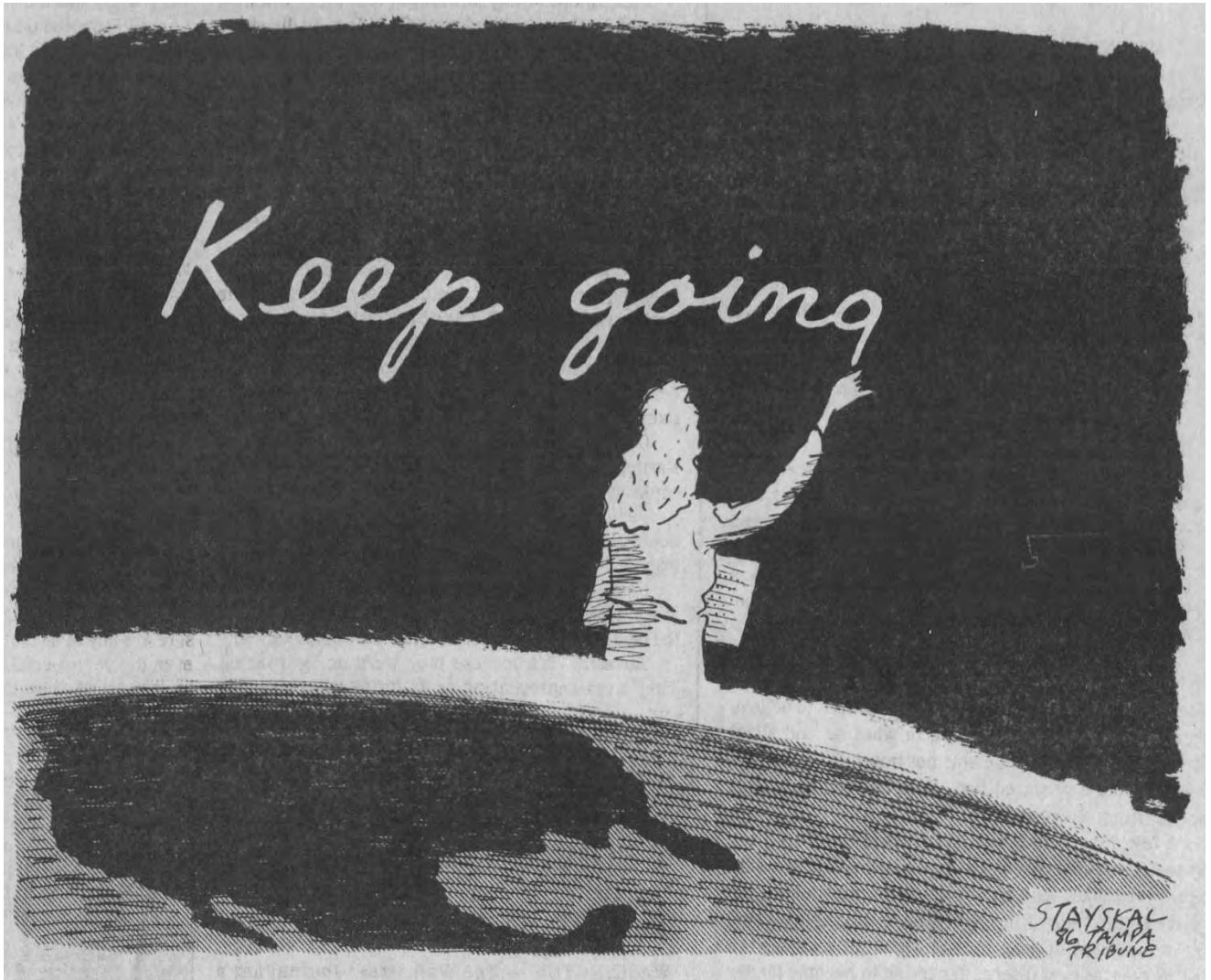




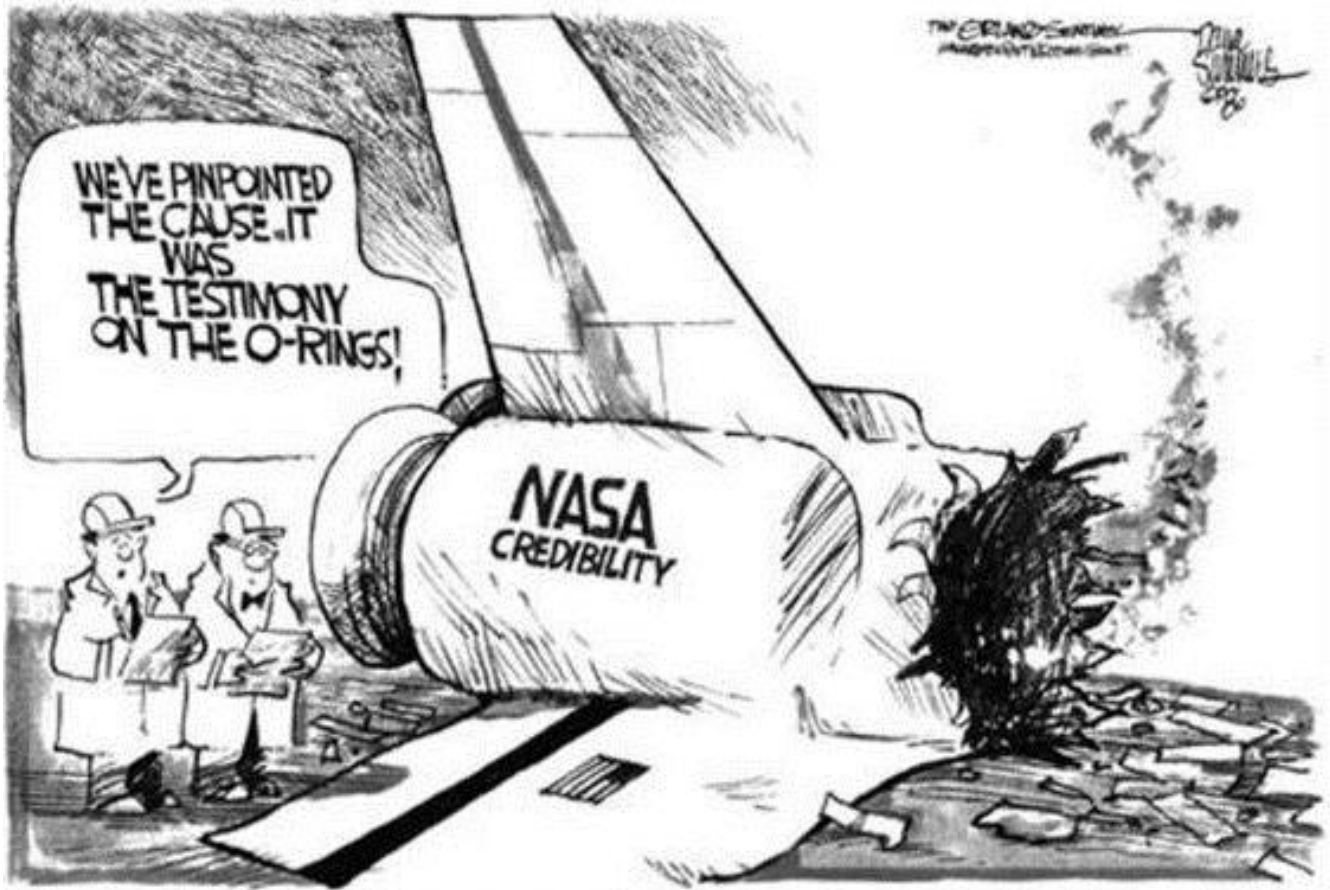
Challenger

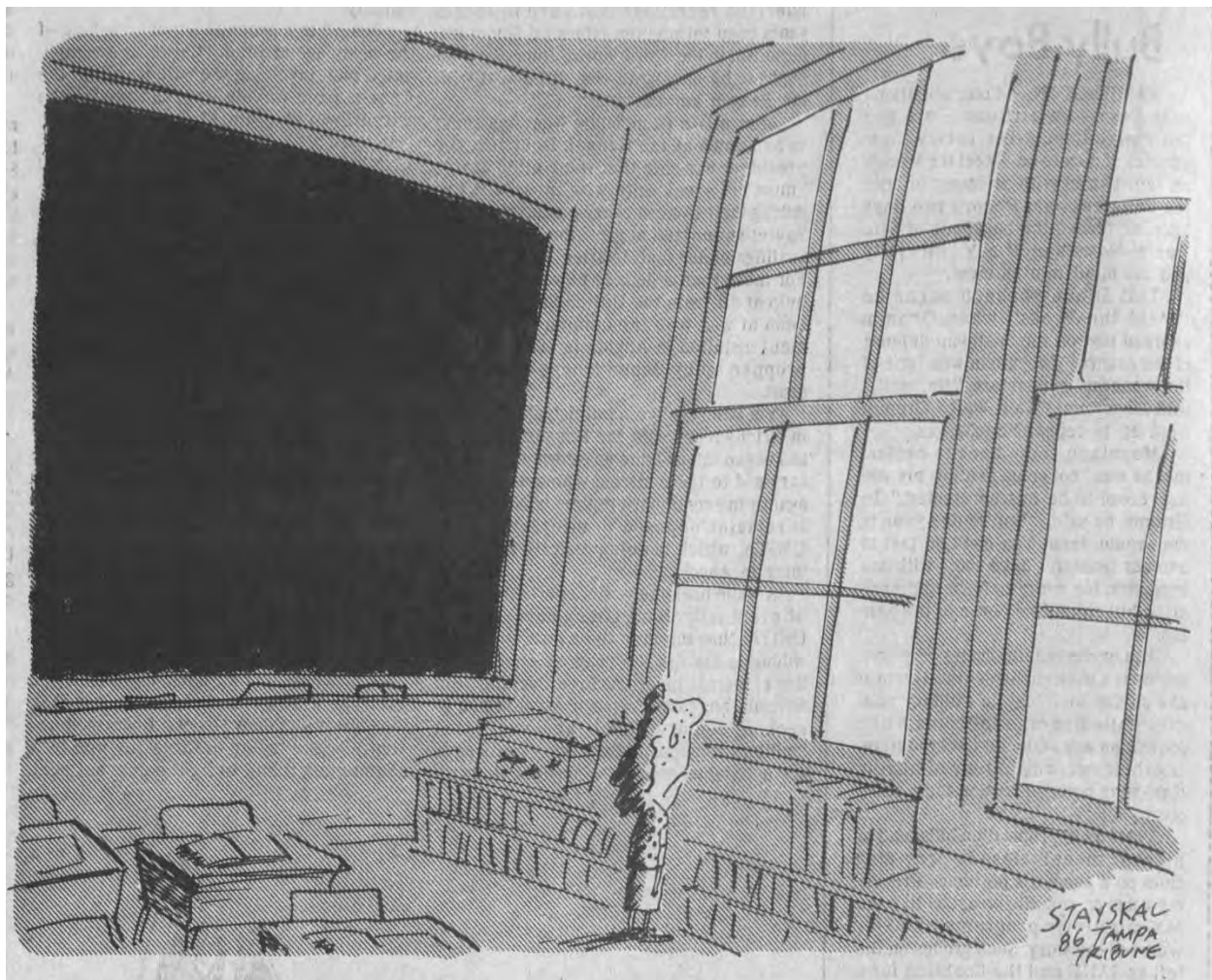










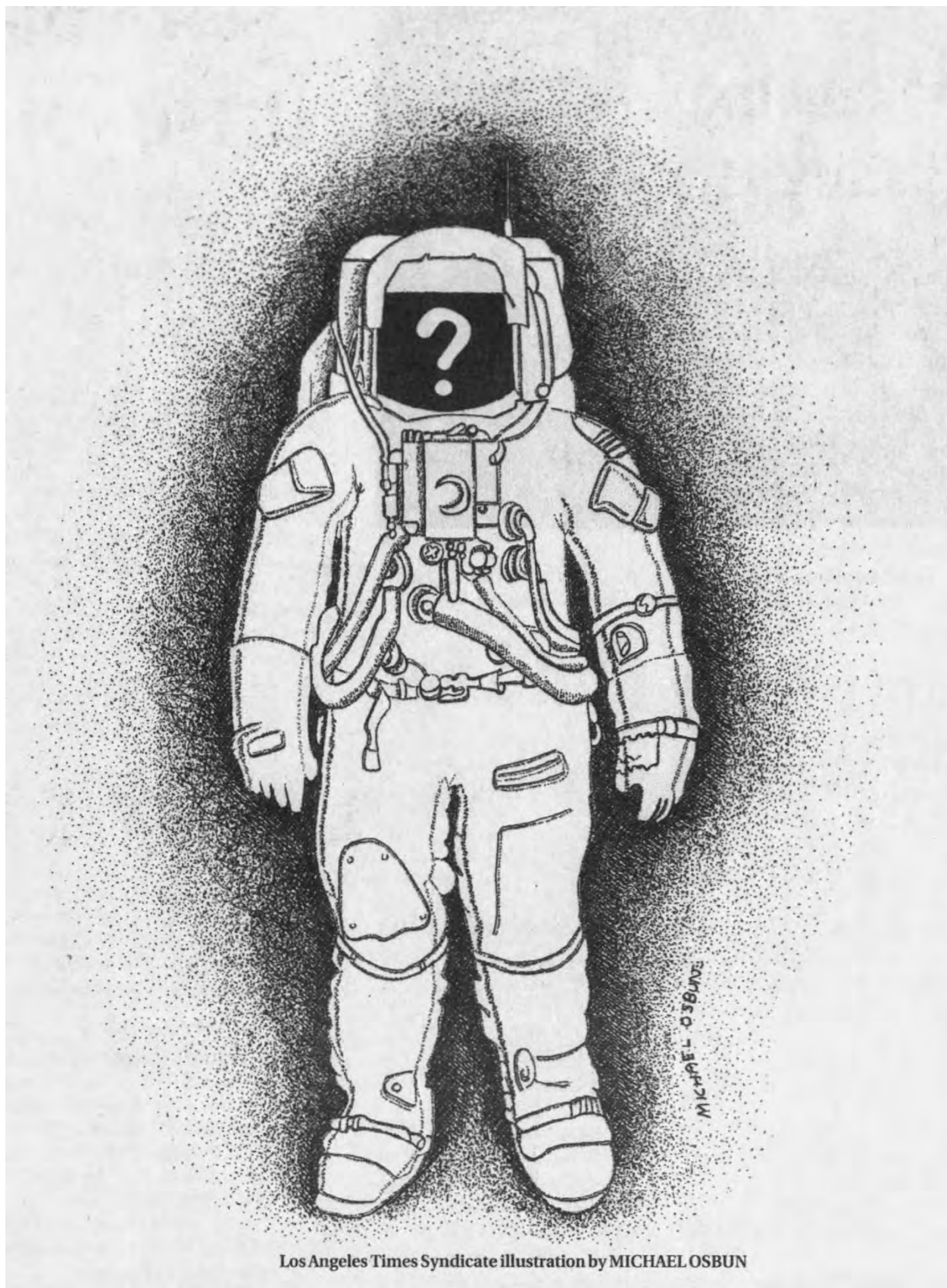


Columbia





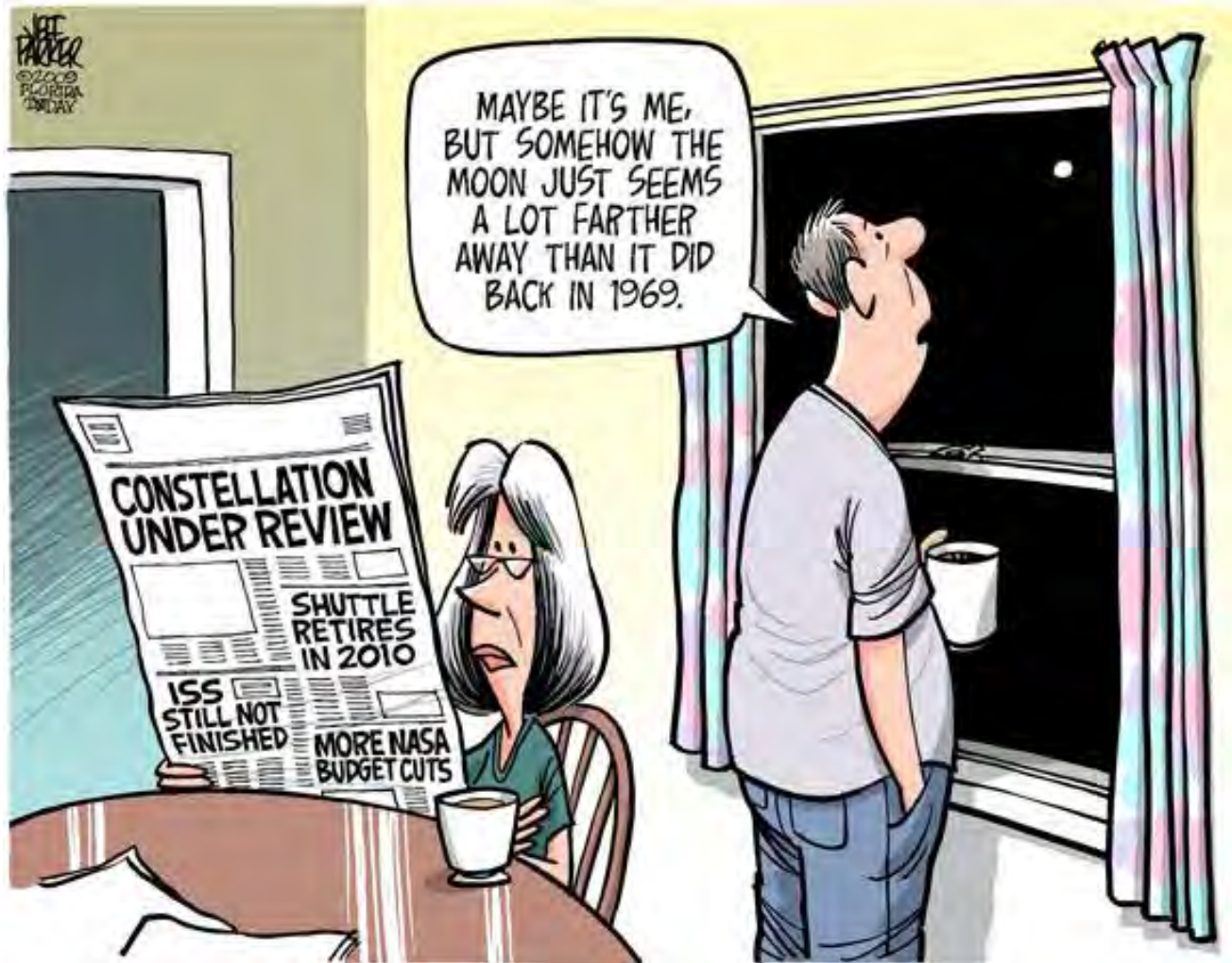




Los Angeles Times Syndicate illustration by MICHAEL OSBUN



Economics of space









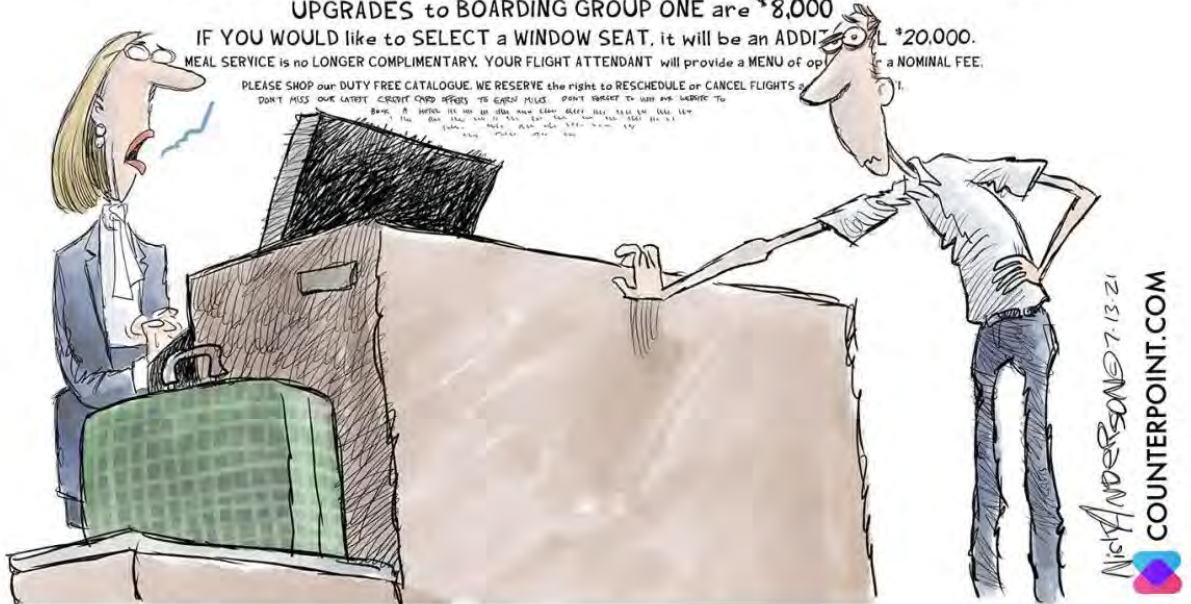
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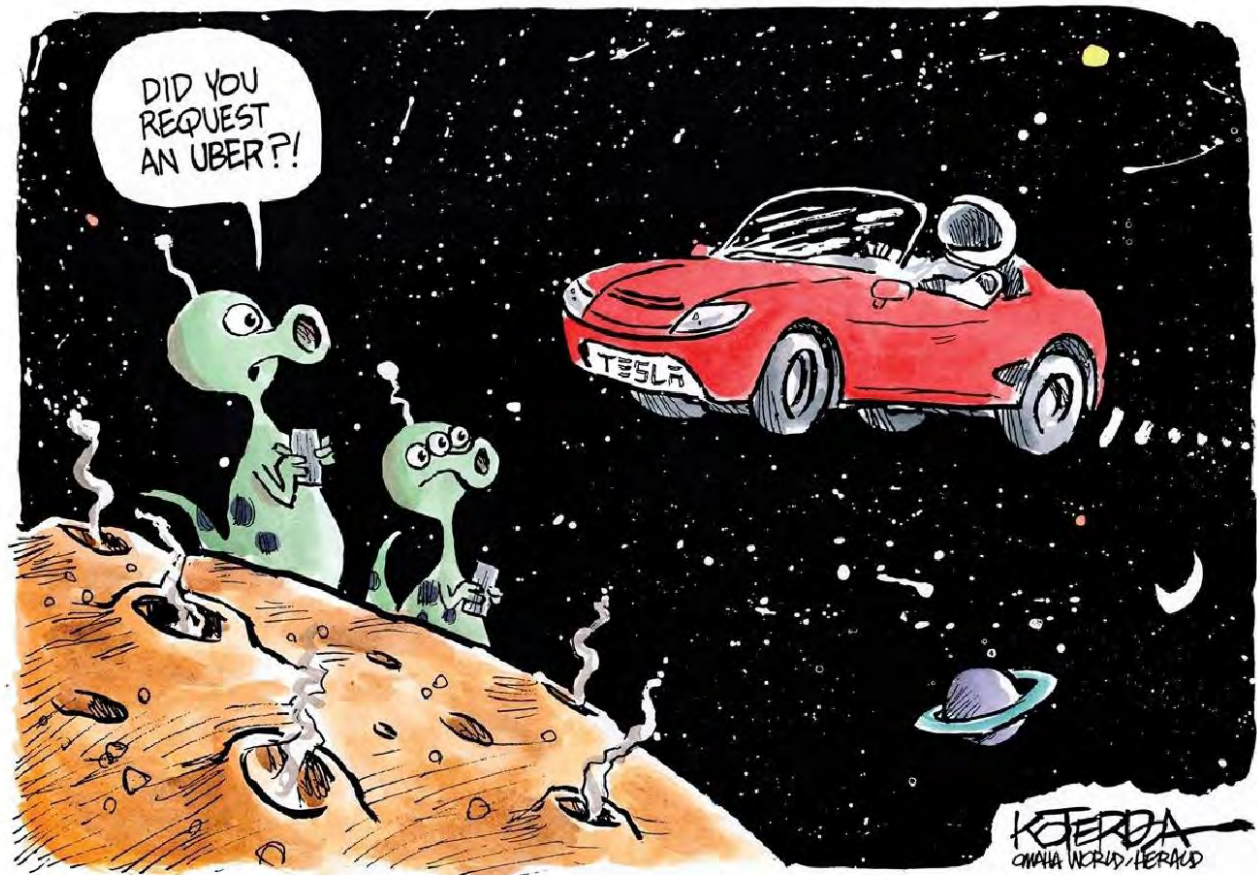
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Privatization of space

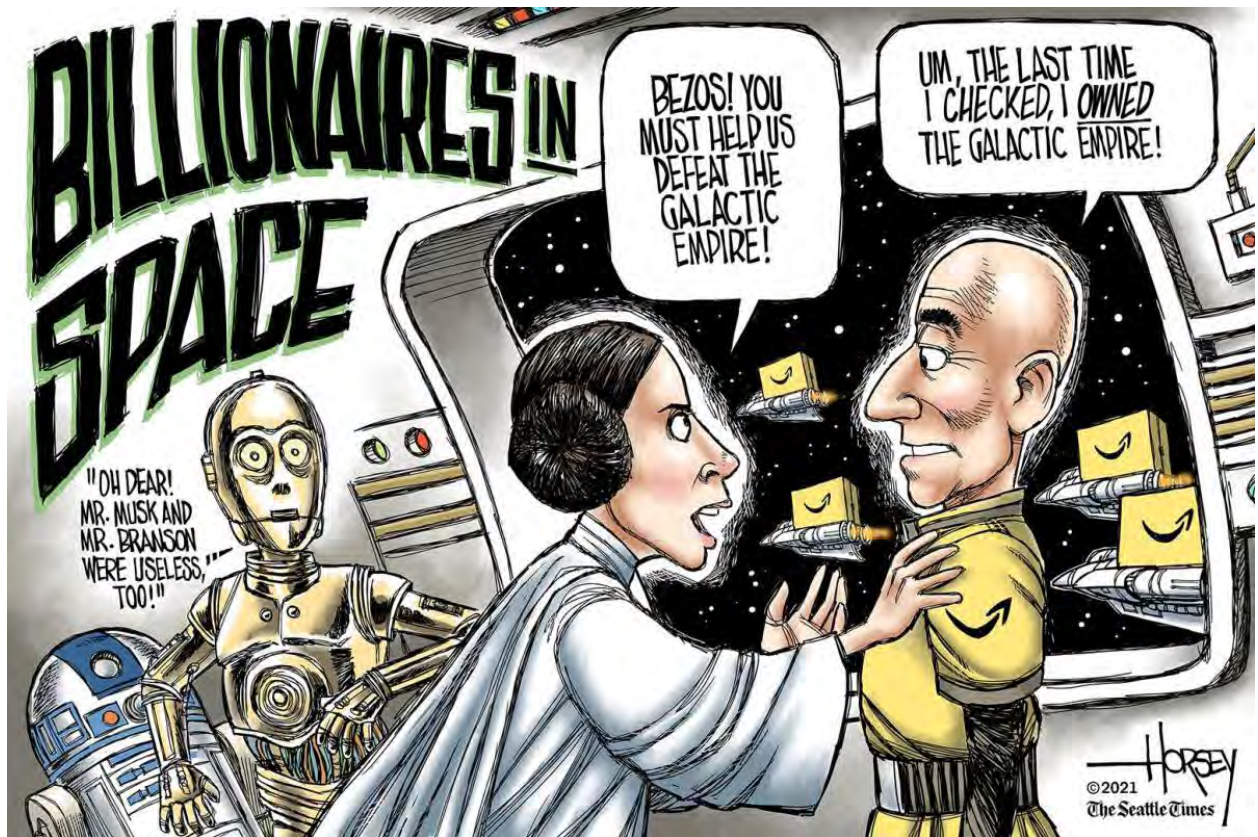


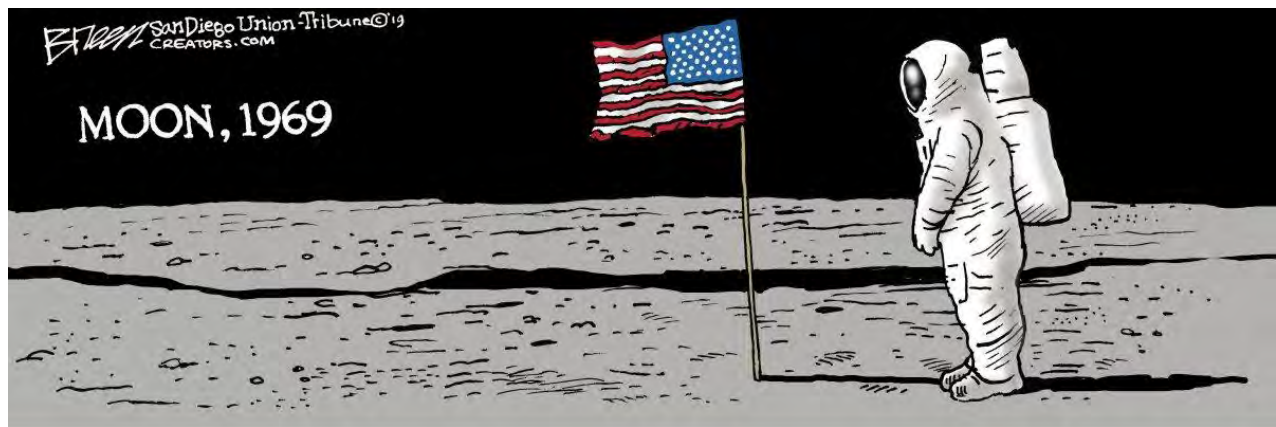
Jeffrey Koterba, Omaha World-Herald / Courtesy of Cagle.com



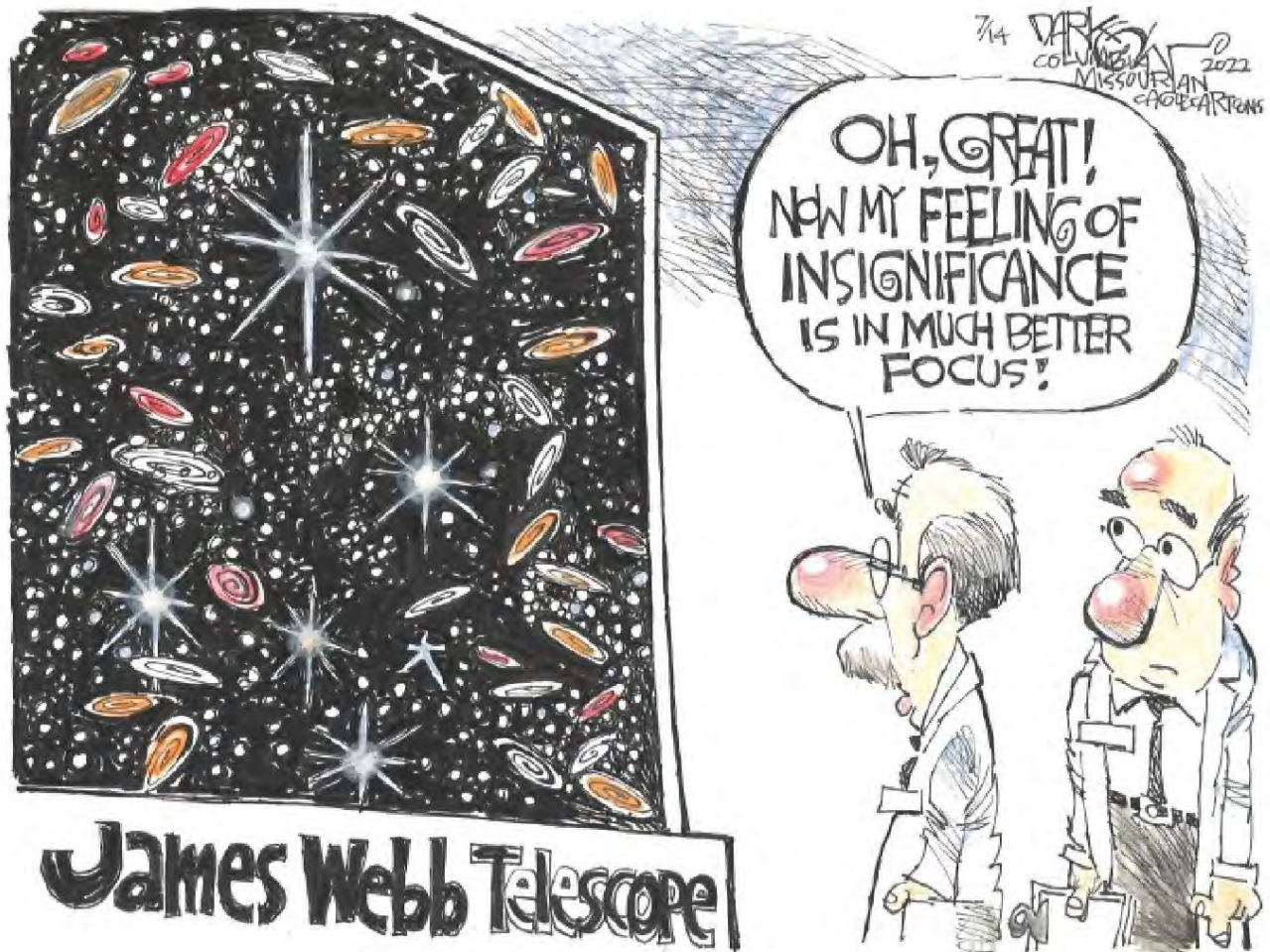
David Horsey, Los Angeles Times / Courtesy of AAEC







Other space-related




John Darkow, Columbia Missourian / Courtesy of Cagle.com

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HOUSTON, WE HAVE A PROBLEM...

michaelpmirez.com



Florida Standards related to space

Benchmark	Description	Idea/Standard	Subject	Grade	Body Of Knowledge/ Strand
SS.4.A.8.3	Describe the effect of the United States space program on Florida's economy and growth.	Contemporary Florida into the 21st Century	Social Studies	4	American History
SC.4.E.5.5	Investigate and report the effects of space research and exploration on the economy and culture of Florida.	Earth in Space and Time	Science	4	Earth and Space Science
SC.8.E.5.1	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.	Earth in Space and Time	Science	8	Earth and Space Science
SC.8.E.5.9	Explain the impact of objects in space on each other including: 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.	Earth in Space and Time	Science	8	Earth and Space Science
SC.8.E.5.10	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.	Earth in Space and Time	Science	8	Earth and Space Science
SC.8.E.5.12	Summarize the effects of space exploration on the economy and culture of Florida.	Earth in Space and Time	Science	8	Earth and Space Science
SC.912.E.5.7	Relate the history of and explain the justification for future space exploration and continuing technology development.	Earth in Space and Time	Science	9-12	Earth and Space Science
SC.912.E.5.9	Analyze the broad effects of space exploration on the economy and culture of Florida.	Earth in Space and Time	Science	9-12	Earth and Space Science

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New era in space: Flying to the moon is a business for private companies now (Feb. 26, 2024) - <https://nieonline.com/tbtimes/frontpage.cfm?lessondate=20240226>

Meet our newest space travelers, training for a 2024 adventure around the moon (May 15, 2023) - <https://nieonline.com/tbtimes/frontpage.cfm?lessondate=20230515>

What's ahead in 2023: space activities aimed at landing on the moon and studying Mars (Jan. 23, 2023) - <https://nieonline.com/tbtimes/frontpage.cfm?lessondate=20230123>

NASA revives U.S. moon launches with the first of three Artemis missions (Nov. 21, 2022) - <https://nieonline.com/tbtimes/frontpage.cfm?lessondate=20221121>

NASA shows it can bump an asteroid in space in case one ever heads at us (Oct. 03, 2022) - <https://nieonline.com/tbtimes/frontpage.cfm?lessondate=20221003>

Space-related News Videos

Test of giant rocketship goes better, but blows up again (11/20/2023)
<https://nieonline.com/tbtimes/videooftheweek.cfm?id=688>

Space capsule brings NASA's first asteroid samples to Earth (09/25/2023)
<https://nieonline.com/tbtimes/videooftheweek.cfm?id=677>

New technology aims to put a whole new spin on space travel (09/18/2023)
<https://nieonline.com/tbtimes/videooftheweek.cfm?id=676>

Russia's unmanned Luna-25 spacecraft smashes into the moon (08/21/2023)
<https://nieonline.com/tbtimes/videooftheweek.cfm?id=672>

Other resources

My NASA Data

mynasadata.larc.nasa.gov

NASA Jet Propulsion Laboratory K-12 Resources

jpl.nasa.gov/edu/resources

NASA Learning Resources

nasa.gov/learning-resources

NASA Surprisingly STEM video series

plus.nasa.gov/series/surprisingly-stem

National Air and Space Museum Learning Resources

airandspace.si.edu/learn/learning-resources

National Inventors Hall of Fame® Learning Resources

invent.org/at-home-learning-resources

National Space Biomedical Research Institute K-12 Educator Resources

nsbri.org/for-students/for-students

Natural Inquirer K-12 Science Education Materials

naturalinquirer.org

PBS Daily News Lessons: STEM

pbs.org/newshour/classroom/daily-news-lessons?subject=stem

PBS News Hour Classroom: Science Collection

florida.pbslearningmedia.org/collection/newshour-classroom/t/science

The Planetary Society Space for Kids

planetary.org/kids

Science Friday Educate

sciencefriday.com/educate

Teach Engineering Hands-On Space Activities

teachengineering.org/curriculum/browse?q=space

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