

**NEIL ARMSTRONG AMBASSADOR OF EXPLORATION  
AWARD CEREMONY**

**Cincinnati Museum Center**

**April 18, 2006**

**11:15 a.m.**

**Mr. George Vincent:** Good morning, everybody.

**Unidentified People:** Good morning.

**Mr. George Vincent:** I like that. Welcome. I'm George Vincent, Chairman of the Board of Trustees for Cincinnati Museum Center at Union Terminal. It's my privilege to welcome you to today's ceremony.

We're gathered here to recognize and honor one of history's greatest explorers, our own Neil Armstrong. The importance of this day is reflected in the fact that today's presentation is being shown live on NASA Television, the distinguished representatives we have on hand and also, in the unsolicited notes of congratulation we have received, including a note from Ambassador Rob Portman, a letter from Congressman Steve Chabot, a copy of special remarks, which Congresswoman Jean Schmidt will read into the Congressional Record next week, and special guests from world renowned authors, Ray Bradbury and Jonathan Winters.

On hand with us today, I'd like to acknowledge some of the very special guests we have present in the audience. First, Mrs. Carol Armstrong. We have one of Neil's sons, Rick Armstrong, is here. We have one of his daughters-in-law, Wendy Armstrong; and two granddaughters, Kaylie [sp] and Oxanna [sp] Armstrong. Good to see you guys. We have Mrs. John Glenn. We've got Ms. Michael Griffin, wife of NASA's

Administrator, and a number of elected officials, both statewide and here in Hamilton County.

I want to thank you again for coming and for supporting Museum Center. All of the many wonderful--of all the many wonderful museums that we have here in Cincinnati, only Cincinnati Museum Center at Union Terminal can truly inspire the next generation of astronauts and engineers to build on the successes realized by pioneers like Neil Armstrong and John Glenn. It is our hope at Museum Center that every child that visits here will be able to do exactly that.

At this time, I'd like to welcome to the podium Senator John Glenn, retired astronaut and recipient of the Ambassador of Exploration Award, whose NASA career spans several decades of space flight, from being the first American to orbit the earth in 1962 to his nine-day space shuttle flight in 1998. Ladies and gentlemen, Senator John Glenn.

**Senator John Glenn:** Thank you. Thank you all very, very much. I'm glad to be here. And this center has developed into quite a center here. And we were here back when they dedicated this many, many years ago and enjoyed that visit very much then, too.

But, it's always great to be here and get together with Neil and Carol again and to see them and to help with this honoring of Neil and the presentation of the piece of what he hauled back home here way back in 1969.

And what a great day that was. I'm sure many of you remember that day just as well as I do. But, if you can imagine Neil on that day, imagine yourself backing down onto the moon and you're slowing down, you're slowing down, you're backing down very

slowly, the fuel is running out, you're getting ready. You finally go vertical at the last minute. You finally let down.

And I think Neil had something like 15 seconds of fuel left at that time. In other words, it was almost to the point of abort and get out of here. And that would have-- wouldn't have been--that was after, of course, going some 250,000 miles across space to get to the moon. First time we'd ever tried a landing there. And there were just a few seconds between success and failure on that mission.

And the accuracy of the gauges in those tanks was not such that you could really gauge it down to the final second or two. So, it was getting very, very tight.

And remember what a trauma that was for everybody in this country. I would imagine most of you here, most adults here anyway, can tell you exactly where they were when that occurred. I see some heads nodding here now. I can sure tell you where I was at that time, too. But, everybody remembers that, these most memorable days like that.

And then, to step off, as Neil did, and that giant leap for mankind - well, I guess it really was. First time any human being had ever made a footprint anywhere other than on this earth right here. What a day that was. It was a great one.

And it ended the Soviet claims of technical superiority to this country that they'd been claiming and using in third world countries around the world and taking the students from those countries to Moscow and other places to be educated. And it sort of ended that thing that they'd been peddling for a long time.

I've been lucky enough to have a lot of opportunities in my own life, but--and so, I'm not usually given over too much to envy of other people. That just isn't part of my nature. But, for Neil, I make a big exception - envy and I make no bones about that.

Would I have liked to done that or gone to the moon? Yes, I certainly would. So, I envy Neil that wonderful, wonderful experience.

My purpose here today is not just to talk about that. My purpose was to introduce the Administrator of NASA, which I'm very honored to do. You know, Mike, I've been meaning to talk to you about one of these days, you'll be assigning some people to go back on a lunar mission. And if you just happen to have an extra seat over there in the corner someplace or two--Amy, would like to go along, too--why, we'd like to make that.

But, it's a--just think about Amy. Don't ignore her too much. But, more seriously, Mike Griffin is the 11th Administrator of NASA. Been the Administrator since April 14th, just over a year ago, April 14th, 2005.

Before that, he headed the space department at Johns Hopkins Applied Physics Laboratory. Before that, he was President and CEO of InQTel, Orville Sciences Corporation, had previously been with NASA as Chief Engineer and Associate Administrator for Exploration, which puts him in good stead now, of course. Was Deputy for Technology with the old SDI, Strategic Defense Initiative, over in the Pentagon. He's been a professor at the University of Maryland, at Johns Hopkins, at George Washington.

He's taught spacecraft design, applied mathematics, guidance and navigation, the computational fluid dynamics, spacecraft attitude control, astrodynamics, aerospace engineering. That's quite a list in itself.

He's a member of I won't tell you how many organizations. Won't try and read those. But, this is the part that impresses me more than anything else. I don't know of anybody that has this kind of a pedigree. He got his Bachelors Degree from Johns Hopkins, his Ph.D. from the University of Maryland. Then, he did a Masters Degree in aerospace sciences at Catholic University, got his Masters, another Masters Degree in electrical engineering from Southern Cal, another Masters Degree in applied--this is getting old, isn't it--another Masters Degree in applied physics from Johns Hopkins, another Masters Degree in business administration from Loyola, another Masters Degree in civil engineering from George Washington University - five Masters Degrees.

So, whatever happens to him in his lifetime, it won't be because he was under-educated, that's for sure. So, it gives me a great pleasure to introduce to you the Administrator, Mike Griffin.

**Dr. Mike Griffin:** Thank you, Senator Glenn, for that nice introduction. Actually, there's a goodly number of people out there who think that despite how much time I've taken trying to get it right, that I still don't know enough. I hear from them regularly.

I'm a government bureaucrat and I am honored to be here today speaking between two of America's greatest heroes and greatest aviation and space pioneers. Though I am merely a government bureaucrat, I have been in love with aviation and space since before I can remember that I was. And so, it is an honor to have been appointed to this position and to be here today.

I'm--we are about to confer upon Neil Armstrong the same award given to numerous others of our pioneering astronauts and engineers in the early days of the US space program, the same award that was conferred upon John Glenn just a few weeks ago.

I know that I was on travel. I believe that I was out of the country when your award was conferred. And so, I wanted to take an opportunity to say how honored I am to have you here today with us helping with this ceremony. So, thank you.

But, today's award is about Neil Armstrong. And Neil, as I think all of you who are here probably know and probably have read and, if not, have probably heard - Neil is, if nothing else, an engineering test pilot and in that milieu, is a test pilot's test pilot.

He's wanted to fly. He wanted to fly and flew from before he was old enough to drive a car. He flew for the Navy in Korea. And then, as one of the few people still around who worked for the old NACA, the National Advisory Committee for Aeronautics, NASA's predecessor before the formation of NASA itself. He later--he participated in the X15 program, flying--I lose track of how many flights. What? Fifteen or sixteen flights in ... Okay. Seven, flights in the X-15 and then, transferred to astronaut status.

He flew in the Gemini program. Of course, flew in Apollo, bringing--executing the first landing on the moon, bringing back the first samples to earth. Went on to become a Deputy Associate Administrator for Aeronautics at NASA, returning to his test pilot roots. And later, a Professor of Aerospace Engineering at University of Cincinnati.

Today's award, therefore, commemorates not just his service as the command module--command pilot for Apollo 11 and the lunar module commander, but also his

service to NASA and to aviation and space in the United States, really for all of his life and for all of his many accomplishments.

I think Neil himself would say that--and I have heard some of his stories that flying the X15 was right up there with flying in space.

We also commemorate his skillful recovery of the Gemini 8 mission - by all accounts, the most harrowing space mission that the United States has yet executed and from which survival was possible. Neil brought that spacecraft under control and brought it home. I've heard Dave Scott's story on that. Some day, I'd like to sit with you and hear yours. But, not today.

So today, we commemorate all that he has done. And I will observe that we are, as a matter of national policy and as a matter of the law of the land, the United States space program is now headed out again beyond earth orbit. We're reconstructing the facilities and the equipment that we once had to enable us to do it again.

And I hope within the lifetime of all here present that we will again have the opportunity to supply names to fit with some seats to go to the moon. And Senator Glenn, you can have the seat right next to me.

But, we are headed out again beyond earth orbit. This is the proper function of the space program and it is this nation's destiny to lead because I don't think that we, as Americans, want to follow anyone.

So, it's my job as NASA Administrator to make these things like this small moon rock imbedded in Lucite here, it's my job to make these things commonplace. And I look forward to that job with relish.

So, Neil, we commemorate you and we celebrate your accomplishments and thank you for being here with us today.

**Mr. Neil Armstrong:** Thank you so much. Thank you. Dr. Griffin, Senator Glenn, Chairman and President of this illustrious institution, family, friends, friends of the Cincinnati Museum Center, ladies and gentlemen, receiving this honor is very impressive. But, an even bigger honor to me is your presence here. Thank you for being here.

You've heard the background of the Ambassador of Exploration Award. And each of the recipients has the privilege of choosing a public repository for the award, which, as you now know, is really just on loan from the United States government.

I get to keep it myself only so long as I speak today. So, I'm going to be talking longer than I otherwise would.

I'd like to explain why I thought the Cincinnati Museum Center was a qualified and particularly suitable institution for displaying this award. The Museum Center was born of the initiatives of the Cincinnati Historical Society and the Cincinnati Museum of Natural History.

And many here would know that natural history is the history of things in nature - animal, vegetable or mineral - and excludes humans and their activities. So, we might conclude that the recounting of human activities is, therefore, by the process of elimination, unnatural history.

Geologists have a saying - rocks remember. They mean that some of natural history is recorded in the minerals and the structure of each boulder and pebble. And with the development of radioactive dating and the other techniques of rock and mineral



analysis developed in the 20th century, geologists now have the tools to decipher the history of a rock reasonably accurately and without the human errors that often exist in the writings of human history.

So today, I'd like to recount some of the things we have learned and talk just a bit about a specific, but very thin slice of natural history.

Many eons ago, perhaps half a star lifetime, planets begin to form around a star near the edge of the galaxy in--of which we are a part. The star's name was sun. Ever a time, earth and its moon, Luna, became distinguishable and accepted members of the family.

Determining whether they formed separately or together has been the objective of astronomers and cosmologists for centuries. As a result of the exploration and analysis of the past four decades, today's preferred hypothesis is that about 4-1/2 billion years ago, earth collided with a somewhat smaller planet, probably about the size of Mars and it was kind of a celestial fender bender.

And much of the resulted detritus consolidated into an earth orbiting amalgam, the beginning of our moon. As Luna coalesced into a sphere, the material in the center of the sphere felt the crushing weight of 1,000 miles of rock on top of it.

The intense gravitational pressures, coupled perhaps with some radioactive decay, caused very high temperatures in the interior of this young planet. In addition to being four times smaller than earth in diameter, its viscera was not molten iron like earth, but rather a molten mixture of oxides of silicon and some assorted other minerals.

There were still many other smaller bodies revolving around the sun, itinerant wayfarers whose future was just a matter of chance. From time to time, these miniature

planets would collide with Luna. The impact created by their tremendous velocity would vaporize them and large probably Luna, creating enormous craters.

These were explosions larger than any nuclear bomb. The craters were sometimes hundreds of miles across. It was a turbulent and terrifying time, with no protection from the chaos created by the unbridled elements.

Occasionally, a line would appear across a part of a crater. With the creaking, grinding and groaning, the line became a crack and the crack became a rupture. Through the rupture flooded a sea of lava, molten rock, incandescent and so fluid that it filled the crater like hot soup in a bowl.

The raging pressures below the surface searched for weaknesses in the walls containing it. An occasional vent would yield a geyser of erupting gas, ash and globules of liquid rock.

The drops of liquid rock would radiate away the heat quickly during their flight over the craters below. They would solidify into marbles of black glass and shatter into a million fragments when they smashed into the surface below.

A half billion years of this chaos passed. And finally, everything began to quiet down. That is prolog. Now, the story - a thin sliver of natural history.

We begin - a sea of molten basalt is slowly solidifying. As the crust cools, it cracks. Currents of hot lava press upward, fracturing and sculpting the fresh rock above it. A piece of this young basalt is completely separated from its mother. His brothers and sisters lie nearby. Let's call him Bock.

Bock opened his view to the clear black sky above him. All was not completely quiet. Occasionally, the ground would tremble from a nearby impact of an isolated

meteor. The ejector from a new crater would pass high over Bock, crashing into the rocks miles away and making new, but smaller craters.

Sand particles from these craters peppered Bock, his siblings and his neighbors. In the sky above, the sun would rise in the east and parade majestically across the sky set in the west. The earth also set and rose with regularity.

Occasionally, new stars would burn with fiery brilliance against the velvet blackness, then settle down into a constant gleam. Bock never saw a star twinkle, save when it passed through the thin band of atmosphere around earth. Constellations changed their shape and their appearance as stars appeared, moved and disappeared.

During the next half billion years, Bock changed as he grew into adulthood. The crystals of plagioclase, which had somehow formed during his solidification, added a few plates of molecules.

He felt this gnawing in his viscera like a cancer. Occasionally, he thought he felt the itch of change in olivine in his vesicles. He was--it was not organic life, but in his universe and by his standards, it was life.

Twenty grams of Bock was severed one day when a light colored visitor from a crater far to the north fell on him. Bock's statistics were weight - 2.24 kilograms, age - 600 million years. Now, he went through one of the first of some traumatic experiences throughout his lifetime.

He didn't know what hit him. He was catapulted into the sky, flying toward the crater Mescaline at a prodigious height and speed. Now, he was falling faster and faster. He didn't know what he hit, but it was hard and a significant part of him--his right side broke away on the first impact.

He skipped a time or two, came to rest on the rim of a small crater, perhaps 10 meters across and a couple meters deep. He took stock of himself. He had left all of his relatives and neighbors far behind. Who knows whether they were vaporized, melted or carried off to the far northeast past the seas of Crises.

Bock was alone. He'd lost a good bit of weight, but he was still healthy, he was still young, he could survive. It took about a half a billion years to get over the experience and settle down.

But now, he could take some time and observe what was happening in the sky. The sun looked about the same - a bit further away, perhaps. The earth was still in terrible upheaval.

Cataclysmic change in the appearance of that planet was an every day occurrence. Torrential forces seethed below the surface of earth and when that surface ruptured, the film of atmosphere turned opaque. Ash, ash from volcanism.

When the film cleared, the blue of the oceans dominated the color of the planet. That time would later be called the Archeozoic Era, one of the earliest of the great geological ages of earth.

If there was any organic life on earth, it was only limey sea plants. A peculiar thing happened. Earth started to slow down in her path across the sky. Finally, earth reversed direction, then another reverse and another. The arcs were getting smaller.

Finally, earth stopped, permanently installed 23 degrees west of the Zenith. Bock could always find it there, changing from new earth to half earth to full earth or back to half or--cycle over and over again, an endless repetition, a dependable and permanent clock in the sky.

Another billion years went by, a thousand millennia. Bock never tired of watching the changing earth. Continents would creep out of the sea, at first vertically, then defiantly. An enormous mountain range was squeezed out of the shield now called Canada, only to give up after a time and subside back under the sea.

Another billion years went by. Luna was quiet. Nothing ever happened, not so much as a crater - well, maybe a little one now and then, but it wasn't like the old days.

Bock could feel an occasional tremble from somewhere deep within the planet, perhaps an occasional geyser of gas, nothing more. Bock was three billion years old now, 3B. Earth was coming out of the Proterozoic Era, a time of the first algae and perhaps the first animate cells.

Over the years, the sting of an occasional micrometeorite bombardment or particles in the wind coming from the sun was a little wearing on Bock. He was probably a few grams lighter in his middle age.

Earth still couldn't make up its mind what it wanted to be. Continents bobbed up and down below the sea like Halloween apples. Plants started appearing on the land. Amphibians developed, ventured out into the sea and eventually, learned to stay on the land.

And during the seemingly infinite time it took to build the great mountain ranges of North America, Europe and Asia, Bock reached the age of 3.5. Luna remained quiet.

Volcanoes were active in North America and dinosaurs roamed the earth. They had disappeared almost before Bock noticed them - an entire chapter in organic history.

When Bock was 3.65, the first of the Rockies were being formed. Bock took a nap. He missed the evolution of the mammal, the rise of the Sierra Nevada, the

beginnings of man, the Ice Ages. He missed play dough and Genghis Kahn and Darwin and Tsiolkovsky.

He couldn't have guessed his nap would end with another traumatic experience, in some ways similar to the one three billion years before. It started with a rude awakening one morning, one lunar morning.

A peculiar white creature was lifting him with an unusual metal device. He was roughly thrown into a box with some acquaintances he knew only slightly. And then, the lid was closed and it was dark.

There was a brief force, then a sense of lightness for a time, then another brief force. Then, his weight somehow returned and changed. He felt at least six times heavier than the 190 grams he had weighed back in the Sea of Tranquility on Luna.

Suddenly, the lid opened. There was light and more of those strange creatures, somehow different. They had peculiar mechanisms and there was a strange pressure of an atmosphere and there was a number beside him - 10071. Clearly, they didn't know his name.

More trouble - he was being dismembered. First, a small slice, then another, then a big hunk, couple of large pieces. He felt like he was getting back down to his normal weight, but at a terrible penalty in size.

Bock was now on earth. Statistics - color - light gray, earth weight - 117 grams, age - 3.7 billion.

Now, I have an admission to make. I was not completely truthful about Bock. He could not have seen earth as clearly and as often as I indicated because during much of his middle aged years, he was buried under the lunar surface. But, thanks probably to a

nearby meteor strike, he was returned to the surface where he rested and enjoyed the scenery for the next 300,000 years.

So, I lied. It's what authors call literary license. I embellished the story. But, I wanted you to know the changes on earth that Bock would have seen had he been in the proper position.

So now, we know most of Bock's history. And if you want to see Bock and have him clarify any points that may have been obscure, you may do so. He is, or at least part of him is right there.

The sample on the award is a chip of 2.039 grams - a chip off the old Bock, you might say.

And now you know the reason for my being here, for I was the strange creature that kidnapped Bock from his homeland and brought him to this strange new and still changing planet. And I can't help feeling that I owe him an apology or at least an explanation.

But, is it possible? Would I be able to convince him that we were only trying to understand a miniscule fraction of what he has seen to try to understand where we have been in order to know better where we are going.

Today, Bock looks up quizzically at these mysterious creatures that look down on him trapped inside his transparent prism. Does he see us as something new and different on the earth that he has watched so long? Or could we be creatures that might just be able to affect our own destiny?

Or would he see us just as another transient specie, like the dinosaur - existing for only a few minutes of geologic time and leaving no trace after the next cycle of

continents dipping below the sea, except, per chance, the occasional fossil of homo sapiens? You may ask, but don't ask him about the earth's early Proterozoic because he missed all that.

So, thank you, Mr. Administrator, for giving me this opportunity to receive and have possession, so ever briefly, of Bock. And I now am delighted to present him to this Museum Center. And I hope that I've persuaded you that a place of natural history is a great place for Bock to be.

So, I'll ask the President of the Museum Center, Doug McDonald, to accept on behalf of the Museum Center. Thank you.

**Mr. Douglass McDonald:** Thank you, Neil. We know that with the many associations you have in the world, that it's a real honor to--that you have chosen Cincinnati Museum Center to be the recipient of--I guess we have to re-label the exhibit the Bock.

Last evening, Neil told us that one of the advice he had received early in his NASA career was--in his astronaut career was from a public relations professional from Philadelphia. And this public relations professional who came and they hadn't thought about all the public interest that might happen with space exploration. And so, they called on this person to come and to give them expert advice.

And one piece of that advice was to never become a great speaker. And I think, Neil, I think you've kind of ruined that because what you've become is a wonderful storyteller. And for that, we thank you today.



At this time, we'd like for everybody on the stage to come up here and we'll officially commemorate the passing of this lunar sample. And if you'd come up here and--.

At the conclusion of this program, we would encourage each of you to visit the Museum of Natural History of Science. And we're going to incorporate in that, you know, human endeavor into that, as well. And if you did not get a ticket on the way in, please pick one up on the way out.

We'd like for you to very much see part of our--of a new, although modest, exhibit for astronomy and space exploration. And this exhibit will feature the moon rock, Apollo artifacts on loan from the Smithsonian Institution, a detailed replica of Neil's space suit that he wore on the moon, a display of meteorites, rocks from space that have been found here on earth and a beautifully produced and updated video presentation, which is updated daily and produced by NASA, which informs the public of the latest discoveries in astronomy and updates to NASA missions.

I'd also like to thank George and Ellen Reveshel [sp], whose generous support made this new exhibit possible. Thank you to John Glenn, Dr. Griffin and all the NASA officials who are gathered with the touring exhibit and the IMAX film last year and all of the ongoing educational opportunities that our organizations collaborate on throughout the year. NASA and Cincinnati Museum Center make great partners and we appreciate that.

I would like to thank all of you for coming to this ceremony and welcome you to see this new exhibit in the Museum of Natural History. On behalf of Cincinnati Museum Center, thank you and enjoy the rest of your day.

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