Apollo

Source: http://sci.tech−archive.net/Archive/sci.astro/2004−07/2784.html

---

From: Buzz alDredge (*arthritic_at_senior.com*)
Date: 07/27/04

```
Date: 27 Jul 2004 12:58:39 −0000
```

THE APOLLO HOAX FAQ version 4.3 − July 2004
Written by Nathan Jones

Subject: (1) Forward and Intent

In recent years there have been many criticisms and
refutations made in various media of the Apollo record, the
so called proof of the Apollo space missions that allegedly
landed astronauts onto the surface of the Moon during the
period 1969 to 1972. The criticisms and refutations by authors
such as David Percy, Ralph Rene, the late James Collier, Bill
Kaysing and others take the form of analysis of the photographic
record and video footage shot by NASA astronauts and questions
about the viability of other aspects of the operation such as
the flight worthiness of the Lunar Module (LM) and the
radiation risk posed to astronauts who venture outside of the
Earths protective shield − the Van Allen belts.
Critiques of the Apollo record have sprung up all over the
internet in various websites and in the form of books,
television documentaries and video presentations such as James
Colliers "Was it only a Paper Moon?".
Counter claims (debunking arguments) made by so called "skepti−bunkies"
have also appeared in websites such as
http://www.badastronomy.com/bad/tv/foxapollo.html
http://www.uwgb.edu/dutchs/PSEUDOSC/ConspiracyTheoryDidWeGototheMoon.htm
and http://www.clavius.org/techengine.html

A rational and scientific analysis of many of the Apollo anomalies
is made here in the form of a FAQ.

Subject: (2) Table of Contents.

Subject: (3) What does it take to prove we went to the Moon?

I would remind the reader that It's up to scientists and claimants of this or that fact to provide proof of their claims. That's how it works in science and to do this scientists use something called "the scientific method". When they are done presenting their case anyone may examine it for errors and so forth. If we find flaws or errors in their method or in the results of their scientific work then we may call in to question the validity of their claims. It's just not up to us to prove that man did or did not walk on the Moon. We are only to show that the evidence as presented to us is faulty, contrived or in some way unrepresentative of what we know and we may then throw the evidence out. Claims based on discredited evidence have no scientific validity and may be ignored or discarded altogether. Sometimes people claim Apollo is a historical fact and that it is different from scientific fact. But Apollo was not so long ago that we must rely on peoples memories and just a few scraps of circumstancial evidence. No, the Moon landings were exceedingly well documented with photographic imagery and technical data pertaining to the missions and to the Lunar environment. It is those facts that we may scrutinize. The landing claims are just that, claims. It is the factual evidence upon which the balance of probability weighs.

Subject: (4) The public are dumb, they'll buy into any idea say
the Apollo fanatics.

Many of the NASA "believers" (aka debunkers some of them) that
swallow the NASA story hook line and sinker usually end up making
remarks of this kind or worse.
It has been said that up to 20% of the American public believes
we did not go to the Moon and that there is no idea so dumb that
they will not buy it. Or something of that sort.
This is a non−argument. It is neither supportive of nor detremental
of any scientific analysis of the Apollo record. It is merely an
attempt at ridicule and should be ignored.

Subject: (5) No stars are visible in the images, where are they?

In order to capture stars on film you need very long exposures
in comparison to "daylight" scenes even if the sky is pitch
black. Just try and take a photo of stars for yourself whilst
including some brightly lit scene (say a lighted car park at
night) and you should find that the car park images are
"burned out" when the stars begin to show in the pictures.
Though it's correct that stars will have been absent from the
Lunar photographic images it is strange that none of the
astronauts remarked on the stars in the sky. The stars really
will have been a magnificent sight at all times from the Moon

Subject: (6) The flag waves.

The only footage I have seen where the flag waves or flaps
about is when the astronaut is adjusting the flag pole.
Because he had his hand on the flag pole and was making
adjustments to it then I would expect the flag to wave
around for a time. Note also that the flag had a rigid
horizontal support along the top.

Subject: (7) There's no dust on the lander footpads

The Moon has no atmosphere in which eddies and such can cause
the dust to swirl and "float around". Dust is "shot" away when
there is no atmosphere. Therefore it is difficult to say
whether the foot pads would have been covered in dust with any
certainty. The chances are that some hollows and crevices will
contain trapped dust but all of the images I have seen look
remarkably clean. Nothing conclusive here in my opinion though.

Subject: (8) Why is no engine noise audible in the LM radio
broadcasts?

Hmm... Your guess is as good as mine. At least we should hear the
sound of the attitude control thrusters right?
The LM was pressurized to about 5 psi (oxygen rich atmosphere)

during the landing and ascent phases of the missions so that the astronauts could breath the cabin atmosphere. The LM cabin will have been filled with the sound from the engine and control thrusters. The following website has an account from a book about the shuttle describing the noise from the engines on the space shuttle orbiter; http://internet.ocii.com/~dpwozney/apollo1.htm
Quote: "The forward primary thrusters sound like exploding cannons at thrust onset". Each primary thruster produces a thrust of only 870 pounds. The LM engine produced a 3000 pound thrust and would have made much more violent sounds and actions.
"jets of flame shoot out from the orbiter's nose. ...The orbiter reacts to the primaries' shove by shaking slightly and moving very noticeably. For the crew on board, a series of attitude changes using primaries resembles a World War I sea battle, with cannons and mortars firing, flashes of flame shooting in all directions, and the ship's shuddering and shaking in reaction to the salvos". How come the Lunar Modules attitude control thrusters were not heard as they were fired on and off during flight corrections? They were 110 lb thrusters each and there were 16 of them. Debunkers claim that once in constant burn that the LM motors were very quiet and they would not have been heard. Even if that were true and I'm not personally convinced that it is what happened to the noise from the attitude control thrusters which will have been firing intermitantly? The ascent engine was mounted inside the cabin only inches away from the astronauts and there was no noise pick up by the astronauts microphones, not even after they had been actuated by the astronauts own voice during comms. Remember that the Lunar Module was of a metal construction and any engine sounds or vibration will have easily been transmitted through the structure just like road noise from your car tyres is transmitted into the passenger compartment where the driver is seated.
Debunkers have made comparisons with engine noise levels inside commercial jets claiming that passengers cannot hear engine noise coming over loadspeakers when the pilot addresses them on the intercom so why should anyone expect to hear engine noise over the radio say by ground controllers? I say that the reason passengers may not hear engine noise via the loadspeaker is because the passenger compartment is already filled with engine noise so what comes over the speaker is overwhelmed by existing similar noise. As for not hearing engine noise via radio comms I'm 100% certain I heard just that many times over vhf radio myself!

Subject: (9) Where are the flames from the landers engines?

The Lunar Module engine and the Space Shuttle Orbiter both use hypergolic fuel engines of the same type and fuel and yet the Space Shuttle Orbiter does produce a visible exhaust flame but the Lunar Module never did.

The flame from the Orbiter is plainly visible in the image at this website: http://internet.ocii.com/~dpwozney/apollo1.htm. It is often claimed that a visible flame is produced during ignition transients only but images of the Titan2 rocket which used exactly the same fuel and oxidizer mix as the LM produced copious amount of visible exhaust flame but the LM never did. Comparisons of LM type engines and other types have been made but when considering them the reader must insure that they are fair comparisons. For example exhaust nozzles must not flare excessively thus diluting the exhaust and its luminosity. Flared exhausts result in wasted thrust and will not be part of a working system.

Subject: (10) What about the shape of the exhaust and its effects?

It is often claimed that in space the exhaust spreads out greatly immediately it exits the exhaust nozzle but that is wrong. Take a look at the photograph at the url http://internet.ocii.com/~dpwozney/apollo1.htm and see how much the flame spreads. It spreads only a little. Also the exhaust bell on the LM will have been only a couple of feet above ground as the LM touched down and given that the bell was five feet in diameter the ground just below will have felt the full effects of the engine as it set down. From a couple of feet away the LM motor should have left unmistakeable marks on the Lunar surface where it blasted the surface powder (which was inches thick) away. It is a matter of record that during the Eagles descent the motor was not turned off untill after the Eagle had set down.

Subject: (11) Was the Lunar Module (LM) tested on Earth?

Basically, no. The Lunar Module was the vehicle that was supposed to take the astronauts down to the Moons surface and allow them to take off again back up to rendezvous with the command Module. The LM just wasn't designed for reuse and for flight in Earths gravity where it's weight would have been six times what it would have been on the Moon. That's why they developed simulator vehicles for training. NASA had Lunar Module "simulators" built for astronaut training but four out of the five training/research vehicles crashed.
NASA experimented again with VTOL (vertical take off and landing) rockets during the 90's and had some successes but cancelled the program in 96 just after it's last test ended in a crashed landing. NASA claims that the LM underwent successfull "testing and manouvers" out in space and in orbit around the Moon. Given the record of the training vehicles that would have been risky. On Earth the pilot could (and did) eject in cases of failure but in space it would almost certainly mean curtains for the astronauts flying the LM.

The simulators or training vehicles were actually called LLRV's and LLTV's − Lunar landing research vehicles and Lunar landing training vehicles but they were nothing like the LM. See here: http://www.astronautix.com/craft/apoollrv.htm.
Jim Collier the late investigative reporter had some remarkable things to say about the interior conditions and dimensions of the Lunar Module based on measurements of the crew cabin simulator at Houston Space Center and the LM museum piece in Washington. In his video he is seen to measure various dimensions of the LM crew cabin simulator including the hatches through which the astronauts would have had to egress. He concluded that the astronauts suited up and with their back packs on would not have been able to get out of the LM. That there was not enough room for them to manouver in the cabin also. He discovered that the clearance between the the LM/command Module hatch and the top of the ascent engine housing was only three feet and yet in the Apollo 13 mission, NASA's own footage shows astronauts plunging through wide open space into the LM cabin when there should have been a rocket motor engine in the way but the footage clearly shows the astronaut diving through as if it was not there to obstruct him. How could that be unless the Apollo 13 footage was a fake, a set up, all a fraud, he asks?
While Collier was no physicist and that is obvious in his video I have no reason to doubt his sincerity, or his ability to use a tape measure.

Subject: (12) Where's the blast crater?

The Moon is covered in powdered rock and rubble. The dust has a consistency described as being like cornflour. The blast emitted by the descent engine 3000 or so pounds and averaged out over the exit area of the exhaust "bell" came to about 1.5 pounds per square inch. That's some draft. In some instances it is known that the rocket motor was still firing when the LM set down. There should have been a lot of evidence of disturbed surface soil. There should have been a "star burst" type of pattern on the ground made by the relocated powder but there was none. See this image: as11−40−5921.jpg. It's not a blast crater, it's more like someone swept up with a broom just underneath the bell. All the pictures I have seen showing the ground under the bell are like that.

Subject: (13) Dust kicked up by the Rover wheels acts strange.

A claim on the badastronomy dot com website said; "you will see dust thrown up by the wheels of the rover. The dust goes up in a perfect parabolic arc and falls back down to the surface. Again, the Moon isn't the Earth! If this were filmed on the Earth, which has air, the dust would have billowed up around the wheel and floated over the surface. This clearly does not happen in the

video clips; the dust goes up and right back down. It's actually
a beautiful demonstration of ballistic flight in a vacuum".
So, badastronomy dot com tells us how it is supposed to be,
what is supposed to happen on the Moon, however frames from NASA's
own footage of the Lunar rover show us a very different picture.
It reveals the presence of atmosphere. In parts of the rover
footage "vertical walls" or "curtain" formations of dust are seen
to form in the wake of the dust kicked up by the rear wheels.
Look at http://www.empusa.demon.net/Lunar/Lunar6.jpg and
notice that clouds of dust form behind the rover's wheels.
It looks just like there is an atmosphere!
It is easy to get the curved arc effect driving on sand for
example so a few ballistic looking dirt trails proves nothing here
but the impeding effect of an atmosphere is absolutely conclusive.

Subject: (14) Radio telemetry proves man went to the Moon
say Apollo fanatics.

Jodrell Bank and various scientists around the world might have
pointed their antennae at the Moon and received signals from
that direction in space but that does not prove that man set
foot on the Moon.

Subject: (15) Laser ranging reflectors on the Moon are proof
right?

No, they are not proof that astronauts put them there. NASA
and debunkers have claimed that astronauts placed reflectors
on the surface of the Moon so that astronomers may bounce laser
beams off of them in order to better determine various Lunar
parameters, distance from Earth, period and so on. That fact
is often incorrectly cited as a proof. There may well be
reflectors on the Lunar surface but that doesn't prove anyone
set foot on the Moon. The Russians deposited a reflector during
their Luna (Lunakhod) series of unmanned missions to the Moon
some time in the early nineteen seventies. In fact the Russians
were first with the ability to "soft land" instrument packages
on the Moon in February 1966 with the Luna 9 mission. The Soviet
success was closely followed by the American Surveyor missions
which also "soft landed" instrument packages.
No proof of a manned Moon landing there then.

Subject: (16) Why don't they point the HST at the landing sites?

Even today, the largest telescopes in the world and the Hubble
space telescope (HST) do not have the resolving power to identify
the LM or what would be left of it on the Moon's surface. The
smallest object they can discern is something about the size of a
football pitch at the distance of the Moon and even then it would
be hard to tell exactly what it was they were looking at.
In order to make a specific determination you will need more

information than size alone.

Subject: (17) The Russians had to be in on it right?

No, the Russians would have exposed the Missions if they could have. The 60's was the peak of the propaganda wars between the US and the USSR as it was known then. There was no known technology available that could detect the presence of humans aboard a capsule from a distance. The only means of detecting a hoax would have been from the "leakage" that may have resulted in relaying communications from the Earth to the capsule in order to make it appear to originate from the capsule or from the Lunar surface. That would not have proven a problem however as microwave links are highly directional and thus inherantly very "leak proof" and when that is coupled with secure communications methods such as frequency hopping, spread spectrum techniques, encryption and any other unusual modulation methods it's virtually certain that an outsider of that time would not have detected it.

Subject: (18) What about Apollo 8, 9 and 10?

Apollo 8 orbited the Moon and returned to Earth. Apollo 9 never left Earth orbit. The astronauts allegedly practiced deploying and docking with the LM. Apollo 10 practiced everything but the landing itself. Lunar orbit, deployment and docking with the Lunar Module. If they were "real" then there's no technical reason we could not have gone on to land astronauts on the Moon is how the argument goes. The answer to that is, why should the deployment and docking trials of the LM be any more real than the Moon landings? If the LM wasn't fit to land on and takeoff from the Moon with then why would anyone risk any space manouvers with it? It would have been illogical to do so. Apollo 8, 9 and 10 don't prove astronauts landed on the Moon.

Subject: (19) The radiation hazards facing the missions.

− From http://www.aulis.com/nasa6.htm "According to an expert at DERA in the UK: Radiation is the biggest show stopper affecting mankinds exploration of the universe. As far as the probability of encountering SPEs or solar flares went, the thin−walled Apollo craft (from 8 through to 12) travelled during a solar maximum period, a time when there was a likelyhood of three or four severe flares per mission. The ability to predict solar flare activity was very poor indeed. The CSM did not have any shielding against such an event. Neither did the LMs, nor did the spacesuits". Even NASA admitted that should there have been a severe flare while astronauts were on the Moon the likelyhood would have been a fatal dose of radiation. There is no comparison with the international spacestation which does have shielding and which orbits inside the protection of the Earths Van Allen bands as well.
Now here's what is typically said in response to questions about the problem of radiation: from: http://www.clavius.org/envsun.html

"A major solar event doesn't just cut loose without warning. It is possible to observe the "weather" on the sun and predict when a major event will occur. And this is what was done on the Apollo missions. To be sure, the missions were planned months in advance and the forecasting was not that farsighted. But they would have had enough warning to call off the mission should a solar event have started boiling up from the depths of the sun". Except that's not quite right, It takes millions of years for anything to "boil up" from the depths of the Sun and It just wasn't possible to accurately predict when a solar flare would occur. About the best that could be done is say they correlate with high sunspot numbers but the Sun can have high sunspot numbers for months on end.

− From http://www.Lunaranomalies.com/fake−moon.htm

"As to the issue of solar flares and the danger they presented, there simply weren't any major ones during any of the Apollo missions. So the biggest reason that none of the astronauts died from their radiation exposure was that they simply did not get a bad dose to speak of".

That's right, they gambled with the astronauts lives. The chance of encountering a severe solar flare was 3 or 4 per mission, any single flare of which could have proven fatal to the crew. To tackle this problem NASA had a "Sun" watch going by the name of SPAN, the solar particle alert network. This was a network of telescopes that monitored the Sun day and night for flares. It was known that electromagnetic radiation, the gamma and radio bursts for example would reach the Moon (and Earth) well ahead of the solar particles that were thought to be more dangerous. This might have bought anywhere from 10 to 100 minutes time for the astronauts to find shielding from the deadly particle stream. NASA says the astronauts would have been ordered to leave the Moon and fly back up to the safety of the command Module. But the command Module didn't have the sheilding to protect against a severe flare. Oops! Another NASA clanger.

Another potentially serious radiation hazard are the Van Allen belts or zones. They are regions in space near the Earth where the Earth's own magnetic field traps and "concentrates" radiation from the Sun. The most damaging form of radiation that we need worry about are the solar wind particles that the Sun continuously emits and which is prevented from reaching the Earth's surface by the Earths magnetic field. Whilst we are protected from this radiation on the Earth just above us at a range of approximately 500 to 20 thousand miles the radiation is concentrated and transit times through these regions must be kept to a minimum. It is not thought that any of the Apollo mission astronauts will have spent sufficient time in the Van Allen belts for it to have been a worry. The International space station however must keep clear and thus orbits underneath the Van Allen zones and whilst keeping away (most of the time) from a

related problem known as the South Atlantic Anomaly.

Subject: (20) The Lunar surface brightness misconception.

It is sometimes argued by Apollo yes men that the surface
of the Moon is so bright that it accounts for all the so
called fill−in lighting that critics of the Apollo record
claim has been used. For example it has been argued that,
"One celebrated picture shows an astronaut with the sun
behind him, and the Lunar lander and American flag reflected
in his visor. According to critics, the astronaut should have
been merely a silhouette. And so he should, if he weren't
surrounded by brightly−lit ground. If the full Moon can
brightly illuminate the earth from 250,000 miles away, just
imagine what it can do to an astronaut standing on it".
That argument is about as wrong as it can get.
Here's what NASA had to say about the Moons surface brightness.
From: http://liftoff.msfc.nasa.gov/Academy/UNIVERSE/MOON.HTML
"Next to the sun, the full Moon is the brightest object in the
heavens. However, its surface is rough and brownish and
reflects light very poorly. In fact, the Moon is about the
poorest reflector in the solar system. The amount of light
reflected by a celestial object is called the albedo (Latin:
albus, white). The Moon relects only 7% of the sunlight that
falls upon it, so the albedo is 0.07."
The reflectance of grey paper is 18% and the Moon (close up)
is brown with a reflectance of only 7%. This means that
close up on the Moon the lanscape is going to look very
gloomy because the ground is brownish and the sky is black.
− From a distance the Moon might be a beacon of light
(comparatively) but it's not that way close up.
Now, concerning the photography, the Lunar soil has a
reflectance of 7% and the astronauts in their white suits
have a reflectance close on 100%. Slide film cannot cope
with a 10:1 highlight to shadow ratio and so it cannot be
reflected light from the ground that provided fill−in
lighting when the sunlit subject is correctly exposed
for highlights.

Subject: (21) Photographic anomalies, heiligenschein, shadows
and perspective.

Note, all the images referred to here used the same file name
as that used in the NASA online archive and were easily located
with Google <filename> or alternatively at the following
websites:
http://Lunar.arc.nasa.gov/archives/images/USA/
Apollo_11/Spacecraft/medres/
http://Lunar.arc.nasa.gov/archives/images/USA/
http://www.hq.nasa.gov/office/pao/History/ap11ann/
kippsphotos/apollo.html

The following images all contained "photographic" anomalies or inconsistencies. In aS11−40−5903.jpg there is a strong lighting hot spot very near the subject and the brightness of the ground fades rapidly into the distance to nothing. The hot spot is indicative of spot lighting and may not have been caused by the Sun which illuminates all the ground equally and nor is it caused by reflections from Lunar Module panels or altered surface characteristics due to the ground being swept by the landing engine exhaust gases (see section 28 for more about this). Neither is the hotspot due to a curious phenomena that goes by the name of "heiligenschein" effect. Lighting has to originate from behind the observer in order for heiligenschein to be visible but in this case the Sun is almost 90 degrees to the right of the camera.
Some of the shaded areas of the astronauts suit is brighter than the Lunar ground which if it is the only source of fill in (light reflecting from the ground acting as fill in light) is not possible. Why is the brightness of the astronauts suit (his right ankle/calf) so bright near the ground? There should be much less reflected light reaching him down there and yet the brightness is the same as it is at the top of his suit.
Try looking at as11−40−5902.jpg for all the same anomalous features and inconsistencies. What about the following images, 10075741.jpg and 10075742.jpg. In these images Mt Hadley is the back drop but with a small change in veiwing position and a slight increase in camera height of a couple of feet the top of Mt Hadley has completely changed it's angle relative to the horizontal. Mt Hadley is 3 miles in back so a small shift of a few feet in camera position ought not to produce such a large shift of perspective at the top of Hadley.
Many images look like the background is dropped in to the foreground and some are obviously air brushed just like 10075841.jpg. There are many more examples of images that are not right and which may be described as fakes.
In some NASA film footage included in the late Jim Collier's video "Was it only a paper Moon?" Young and Duke of Apollo 16 can be seen against exactly the same backdrop on two different EVA's (EVA1 and EVA2) which were on different days at alleged different places and in different directions from the LM base camp. On EVA2 Young describes the scene as "absolutely unreal". On another EVA to and from a site near Hadley Young makes a similar remark about the scenery being unreal during the return journey when exactly the same backdrop (which should have been laterally reversed with respect to the origin but which was not) was displayed as that used in the forward (to) journey.
Of course the whole debacle is explained away as human error in the editing room by debunkers.
What can I say except, "It's absolutely unreal".
Next have a look at AS14−64−9089. Examine the astronauts shadow paying particular attention to the shadow of his legs. See anything funny about them? They are like matchstick leg shadows. Compare them with the astronauts legs which are wide due to the bulk of

the space suit. Both shadows also exhibit straight edges which do not correspond with the form of the astronauts legs and if there were to be a terrain feature such as two parallel trenches that modified the fall and representation of the shadow from the cameras veiwpoint I very much doubt it would happen twice and exactly in parallel like that. The ground looks reasonably flat there anyway. It's an obvious fake shot.

Subject: (22) What still film was used?

− From http://www.aulis.com/nasa6.htm
"It was actually ordinary Ektachrome film emulsion. However, it is now claimed by the Enterprise Mission (post justification) that there was a special transparency film created for these missions under a NASA contract. Called XRC,apparently this was a specially extended range color slide film that allowed the astronauts to take perfect National Geographic−quality pictures. So you might ask how does the agency justify the fact that according to Kodak in 1969 and confirmed again in 1997 the film was just ordinary 160 ASA high speed Ektachrome?"
Ordinary ektachrome slide film will shatter at −4F. The Lunar temperature will drop to as low as −200F in the shade and the cameras had silver cases presumably to reflect the solar heat so how did the film stay warm enough not to shatter?

Subject: (23) In a vacuum there is no heat?

"So it may be +200F in the Lunar sunlight and −200F in the shade, but in a vacuum there is no heat". Wrong!
There is plenty of heat in the vacuum and especially close in to a star. Heat is energy and there is plenty of it in the "vacuum" of space in the form of an energy flux. The sun pours out massive amounts of heat energy and other radiation. We can feel this heat energy often termed infra−red when we feel the Sun warming our skin. At the distance of the Earth (and this goes for the Moon too) the amount of heat energy in the "vacuum" of space amounts to 1.36Kw per square metre also known as the solar irradiance. Both the Earth and the Moon receive this amount of energy from the Sun but at the Earths surface you can sometimes subtract about 30% from the solar irradiance figure due to reflection by clouds in the atmosphere.
What people often confuse is temperature with energy. Things can have high temperatures but very little heat. Or even low temperatures but have large amounts of heat. That is because heat is energy and not temperature. Hot and cold are measures of temperature not heat. So, again things can be hot and have very little heat if they have small specific heat capacities. The amount of heat an object or material may hold varies with it's specific heat capacity and has nothing to do with its temperature or how hot it is.

Having said all that physicists do actually ascribe temperatures to energies too but that need not concern us here. There is also no such thing as a completely empty vacuum with no energy in it. There is a virtual partical flux throughout the whole of space and there is a base level of energy associated with that flux. It's called the zero point of energy. It's not zero energy but a baseline of energy below which we cannot work with.

Subject: (24) The noon day temperature misconception.

It is often said or implied that it takes 14 days for temperatures to reach +200F on the Lunar surface. That is plainly wrong. Claims that astronauts landed on the Moon during the "Lunar morning" in order to "avoid noon day heat" are ridiculous. They might say they landed at that time but it would not have helped them to avoid any heating problem that they will have faced.
Heating to +200F or more can happen in less than 24 hours of exposure to sunlight on the Moon's surface. Here's how; surface temperatures (not the regular air temperature measurements) may reach 200 degrees fahrenheit on Earth in places like deserts and so forth. If we consider that during the night the temperature may in all probability have dropped to freezing (−32F) or near freezing then we may note that the Sun's energy in a matter of only a few hours (less than 12 hours) will have brought about a temperature rise of around 200 degrees fahrenheit and that is after the additional cooling effects of atmospheric convection which are not found on the Moon have done their worst. If we remove atmospheric cooling then the ground will heat up much faster because there will be no convective heat losses caused by the presence of the atmosphere which are far more severe than the radiative losses and the final temperature may even be more than 200F.
Now that is a very important point to understand. The heat losses into the atmosphere are more severe than the radiative losses per unit time. On the Moon there is no atmosphere so this avenue (atmospheric losses of heat) does not exist and radiative cooling only will occur. Since radiative cooling is smaller than losses due to atmospheric effects then comparable surfaces on the Moon will experience a faster temperature rise than their Earthly equivalent.
Now, hypothesizing a world where the minimum starting temperature is −200F (that's what the surface temperatures on the Moon can cool off to during the night and in the shade) those same 12 hours of sunlight would also easily bring a rise in temperature of 200F. Cooling processes are faster at higher temperatures so it is easier to bring the temperature up from low values than it is to raise the temperature starting with high values. Thus there is no special difficulty here just because we are starting with a large night time low of −200F.
We can see now that it is easier for the Sun to raise the

temperature of a surface on the Moon starting from −200F. Now if in 12 hours the Sun can warm a desert surface to +200F from a night time low of −32F with the added severe heat losses caused by the atmosphere then on the Moon the same heating time will cause a larger and faster heating response. What this means is that we can expect a Lunar surface to go from −200F to +200F in less than 24 hours. Actually in significantly less time than 24 hours.
None of this takes into account that the Lunar day is 14 Earth days long. What that fact results in is even more extended periods of heating since the Sun's rays will be shining down on any particular surface at any given angle for 14 times as long as they do on Earth. Searing heat for 14 times as long!
An important factor in all this is the angle which the surface presents to the rays from the Sun. In the Lunar morning it will be hillsides and other vertically oriented things (like astronauts and their Lunar Modules) that will feel the full force of the Suns power. When the Sun is overhead at 7 days it will be surfaces like horizontal ground and the tops of things like the Lunar Module that will capture the full magnitude of the Suns heating power. Landing on the Moon in the "morning" just means that the insulation in the soles of the astronauts boots will not have to work so hard since the angle presented to the Sun rays by the surface of the ground is not optimal for maximum exposure and thus the current temperature of the surface will be lower as a result of that. If he picks up a boulder which had presented a surface facing toward the Sun then that surface will be searing hot and the insulation in the astronauts gloves will be working hard to protect him from the heat.

Subject: (25) How did the space suit cooling system work? (or not)

They had backpacks which dissipated heat via the sublimation of ice from a porous plate located inside their backpack which, presumably, because it would have been in the shade and out of the sunlight would have been very cold. The trouble with this is that we now know that ice deposits have been found on the Moon's surface on the permanently shady side of some polar craters.
So, water ice either "evaporates" away or it doesn't. Which is it? Actually if we study the phase diagram for water we discover that water does actually exist as both solid and vapour below it's freezing point. Not only that but that it (water ice) exerts a vapour pressure from its solid form (of which there are several) and it is this which carries away the heat load produced by the astronaut as he toils on the Lunar surface. Just like we lose heat by water evaporation from our bodies when we are hot the porous plate in the backpack dissipates heat generated by the astronaut which would make it unbearable inside the space suit otherwise. The trouble with this is that the vapour pressure of solid ice decreases rapidly with temperature and below zero degrees Celsius it is a small fraction of what it is at room temperature.

And at very low temperatures like −200F it is quite negligible.
In basic terms what this means is that there is not enough water
vapour emitted (sublimated) by the solid ice on the plate to cool
the astronaut fast enough. Not unless he has a porous plate with
maybe 4 times or more the surface area of the human body. And that
is at the melting point not −200F where something the size of a
football field will be required. So, the temperature of the plate
if it is a small one will have to rise significantly in order to
increase vapour pressure as it inadequately tries to dissipate the
heat generated by the astronauts metabolism and in a short time it
will have melted all the ice on the plate. Thereafter huge coolant
water losses ensue as the liquid water practically explodes out
of the plate and into the vaccuum but the plate cannot cool down
with this expansion because the astronaut is heating it to this point.
Liquid coolant water loss ensues. How much and at what rate depends
on the size and properties of the porous plate of course.
The astronauts backpack would have to have housed many porous plates
in order to have provided sufficient vapour pressure in order to
provide sufficient cooling of the astronaut but there is no mention
of multiple plates just "a porous plate". Not only that but the
backpack would have to have been continuously vented to prevent heat
build up and "melt−down" but the backpacks appeared to be closed.
Postulating that they had a small aparture for water vapour to escape
from would still cause heat build up in the interior of the backpack
as the warm vapour touched the insides of the backpack. Any usefullness
provided by insulating the insides of the backpack from solar
radiation would have rapidly been lost and the temperature inside the
backpack where the plates were would have risen untill it reached
"melt−down" and liquid water loss ensued. The porous plates should
have been located outside in free space and shaded from direct
sunlight in order for the system to work correctly.

Subject: (26) How much insulation does it take to keep an
astronaut warm?

Not much. The biggest problem is in keeping him cool. However,..
In order to maintain a normal temperature (37C) the human body
(naked) would have to radiate about 800 watts of heat to the cold
sky of space. With an average layer of clothing the losses can be
considerably reduced to around 200 watts but the average daily
calorific intake is only sufficient to support losses of around
100 watts. Therefore a little more clothing on top will suffice
to stay warm under a cold sky and losses would then be at the
normal 80 to 100 watt level which is easily sustained given
proper calorific input.

The reader should not allow himself to be confused here because
of the fact that a cooling system was also required for the
astronauts. You see a spacesuit is a tightly closed environment,
it is highly insulated from losses to the outside as well as
affording strong insulating properties from the searing inward

heat of the Sun. Basically, it shuts out the external thermal environment and the astronaut must be kept in an artificially created atmosphere within the suit. Without built in thermo−regulation an astronaut performing heavy aerobic work or exercise in a closed environment permitting no heat dissipation could as a worse case scenario find his body temperature trying to go from 98F to a theoretical 140F but of course nature butts in at 111F and the astronaut dies.

Subject: (27) Can the Moon rocks be faked?

They don't need to be faked − see section (27)
While I do not offer an opinion on the authenticity of the samples I think it is important to "tidy up" a couple of related issues.

− From http://www.uwgb.edu/dutchs/PSEUDOSC/ConspiracyTheoryDidWeGototheMoon.htm
"You simply do not see unaltered olivine on earth. This could not have been faked. These rocks have grains easily visible to the unaided eye, which means they cooled slowly. To have made these materials synthetically would have required keeping the rocks at 1100 C for years, cooling them slowly at thousands of pounds per square inch pressure. It would have taken years to create the apparatus, years more to get the hang of making the materials, and then years more to create the final result. Starting from Sputnik I in 1957, there would not have been enough time to do it. And, you'd have to synthesize several different types of rock in hundred−pound lots".

The curator at JSC claims that sample sizes are of the order of a few tens of milligrams. That's sugar lump size. There's no need to manufacture "hundred pound lots at once or in single pieces. I'd think the manufacture of small sample sizes is easier and faster than large ones.

"All I did to get the Moon rock specimens (on loan) was write in and sign an agreement to keep the materials secure when not in use. NASA had no control over any non−destructive tests I might do when I had the specimens. I could have, for example, zapped the rock with X−rays to get its chemical composition. So the faked specimens would have to stand up to any kind of scrutiny that researchers might give them".

Researchers had to supply a protocol to the curator at JSC that described exactly their intentions. If anything "funny" happened or showed in undisclosed testing then they broke protocol.

"Whoever came up with the faked specimens would have to have devised a story of Lunar evolution to fit the samples".

Lunar evolution is still undecided. We still aren't sure exactly how the Moon formed. Whether it is a piece of the Earth broken away after a collision with a small Mars sized planet or whether the Moon evolved on its own in an orbit near ours and was captured. The former hypothesis was not even publicly proposed until the Kona conference in 1984!

"And you'd have to put in exactly the right amounts of radioactive elements and daughter products to get the rocks to date radiometrically at 4 billion years old − older than any terrestrial rocks. And you'd have to anticipate the development of new dating methods not in use in 1969 and make sure those elements are present in the correct abundance. And it's not like adding carrots to a stew, either. To mimic the results of potassium−argon dating, you'd have to add inert argon gas and trap it just in the potassium−bearing minerals, and in exact proportion to the amount of potassium".

K−Ar dating is often unreliable. Volcanoes that errupted only a few hundred years ago yeild dates of millions of years! And another thing, K−Ar dating is patched with fixes up to its neck and some. Depending on what you think happened to the rock sample you apply factors because of the mobility of the argon. I'm not saying K−Ar dating is total hogwash you understand but....

More info on moon rocks can be found at:
http://www−curator.jsc.nasa.gov/curator/Lunar/Lunar10.htm
http://www.space.com/news/spaceagencies/
apollo_moon_rocks_010326.html
http://www.space.com/scienceastronomy/solarsystem/moon_
rock_analysis_000522_MB_.html

Subject: (28) Unmanned retrieval of Moon rocks possible?

Lets not forget that the Russian unmanned mission actually brought back about 100 grams or so of Lunar rock so it wont have been beyond the wit or wisdom of NASA to do it bigger and better will it? In the light of the above and when you take into account all the anomalies and flaws in the Apollo record that have been demonstrated to exist why should we believe that the samples were retreived manually just because they say so?
All claims require evidence and extraordinary claims require extraordinary evidence (favourite skeptic/debunker terms of evidential proof). So where is it?
According to Jim Collier "30 billion dollars were spent in sending man to the moon but all the paper work has been flushed down the toilet. All we have is a bunch of faked photos".

Subject: (29) The Eagle landing site anomalies.

Serious discrepancies in the photographic evidence still remain to be explained by the "pro Apollo" fanatics. All images may be viewed or located by google at the NASA archive as described in section 21.
In attempts to explain away the lighting hotspot visible in images AS11−40−5902 and AS11−49−5903 it may be 1) postulated that it was as a result of Solar reflection off of an instrument housing panel or 2) postulated that it may have been due to changed optical characteristics of the Lunar surface after it had been swept over by the engine as the Eagle landed.
The first postulate is easily falsified with examination of image AS11−40−5915 where it becomes apparent that the reflective panel is facing almost directly at the Sun and not angled anywhere near sufficiently to cause the reflection in question. The second postulate is also falsified when consideration is given to the trench dug in the ground by the footpad probe (contact probe) as the Eagle landed. The footpad is about 3 feet in diameter and the contact probe is about 6 feet in length. The boot impressions in the ground must be at least 12 inches in length. The footpad and contact probe concerned are in the lower right corner of AS11−40−5915 and it is clear that the last 3 metres if not more of flight of the Eagle was in a straight line and came in from the right side as viewed in the image. This is clearly evident from the gouge in the ground made by the surface probe which was attached to the foot pad. The lighting hotspot in the ground is to the left in the picture and if it were caused by the ground being swept by the engine exhaust gasses then that would indicate that the engine (and the Eagle) followed a last few metres trajectory different to that indicated by the gouge in the ground made by the contact probe. The swept area indicates a possible landing trajectory originating from the left side in the picture but the evidence left in the ground by the contact probe indicates a landing from the right.
The only way the exhaust gasses could have swept the ground in the left of the picture and at the same time the Eagle come down to land from the right as evidenced by the trench is if the Eagle had landed with a severe list to the right. If that had happened then the probeless leg on the Eagle, the one on the right side in back of the picture would have dug into the ground first and caused the LM to spin clockwise when veiwed from above in AS11−40−5915. That would have meant that the footpad and the trapped contact probe would no longer have aligned with the trench in the ground so neatly and all in one straight line. Had the Eagle listed so during the last few metres of travel then the contact probe would have made an arc shaped trench. Thus the "swept area" is not consistent with a landing from the right as is implied by the trench made in the Lunar ground by the contact probe. This leaves the lighting hotspot anomaly intact and without reasonable explanation so far.

Subject: (30) Some skeptics websites.

While I cannot vouch for the scientific accuracy of the content in any of the following websites they may be interesting to read

all the same:
http://www.empusa.demon.net/lunar/lunar1.htm
http://internet.ocii.com/~dpwozney/apollo1.htm
http://www.aulis.com/nasa.htm
http://www.apollohoax.com/
http://www.grade−a.com/moon/
http://www.moonmovie.com/
http://www.geocities.com/Pentagon/2666/MoonHoax2.html
http://www.geocities.com/nasascam/