

sci.astro: Re: Apollo

Re: Apollo

Source: <http://sci.tech-archive.net/Archive/sci.astro/2004-07/2786.html>

From: Mark Dunn (markrhdudd_at_hotmail.com)

Date: 07/27/04

Date: Tue, 27 Jul 2004 14:42:36 +0100

Not wanted here. If believing in scientific and historical facts makes me an "Apollo fanatic", I proudly plead guilty as charged.

Buzz alDredge <arthritic@senior.com> wrote in message news:N8E8UAKY38195.3323958333@anonymous.poster...

> *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.*

>

> *(1) Forward and Intent*

> *(2) Table of Contents*

Re: Apollo

- > (3) *What does it take to prove we went to the Moon?*
- > (4) *The public are dumb, they'll buy into any idea say the Apollo fanatics.*
- > (5) *No stars are visible in the images, where are they?*
- > (6) *The flag waves.*
- > (7) *There's no dust on the lander footpads.*
- > (8) *Why is no engine noise audible in the LM radio broadcasts?*
- > (9) *Where are the flames from the landers engines?*
- > (10) *What about the shape of the exhaust and its effects?*
- > (11) *Was the Lunar Module (LM) tested on Earth?*
- > (12) *Where's the blast crater?*
- > (13) *Dust kicked up by the Rover wheels acts strange.*
- > (14) *Radio telemetry proves man went to the Moon say Apollo fanatics.*
- > (15) *Laser ranging reflectors on the Moon are proof right?*
- > (16) *Why don't they point the HST at the landing sites?*
- > (17) *The Russians had to be in on it right?*
- > (18) *What about Apollo 8, 9 and 10?*
- > (19) *The radiation hazards facing the missions.*
- > (20) *The Lunar surface brightness misconception.*
- > (21) *Photographic anomalies, heiligenschein, shadows and perspective.*
- > (22) *What still film was used?*
- > (23) *In a vacuum there is no heat?*
- > (24) *The noon day temperature misconception.*
- > (25) *How did the space suit cooling system work? (or not) (NEW)*
- > (26) *How much insulation does it take to keep an astronaut warm?*
- > (27) *Can the Moon rocks be faked?*
- > (28) *Is unmanned retrieval of Moon rocks possible?*
- > (29) *The Eagle landing site anomalies. (NEW)*
- > (30) *Some skeptics websites.*
- >
- > *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*
- > *circumstantial 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 detrimental*
- > *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 unmistakable 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 until*
- > *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
- > LRV'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 manouever 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 inherently 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
> mankind's 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 likelihood 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 likelihood would have been a fatal
> dose of radiation. There is no comparison with the international
> space station which does have shielding and which orbits inside the
> protection of the Earth's 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 astronaut's 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 astronaut's 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 astronaut's 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 astronaut's 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*
- > *camera's viewpoint 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 Sun's 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 Sun's 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*
- > *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 until 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)*

sci.astro: Re: Apollo

- > *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/](http://www.uwgb.edu/dutchs/PSEUDOSC/ConspiracyTheoryDidWeGototheMoon.htm)
- > *ConspiracyTheoryDidWeGototheMoon.htm*
- > *"You simply do not see unaltered olivine on earth. This could*
- > *not have been faked. These rocks have grains ea*