

Volume 21.0  
Spring 2011  
First Quarter

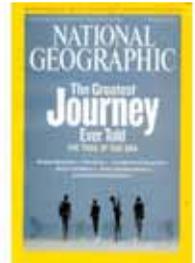
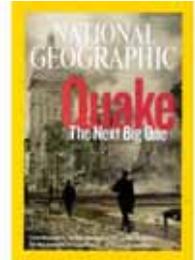
# PSF NEWS

Planetary Studies Foundation

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## CALL TO ALL PSF MEMBERS!

One very important aspect of the Planetary Studies Foundation is the continued maintenance of our scientific library. We have an extensive collection of scientific periodicals in astronomy, geology, and space science from the mid-1970's through the current issues. One of our more important journals is the *National Geographic Magazine*. We had a complete collection of issues and maps from 1978 to current. This past July our headquarters facility in Elizabeth, Illinois suffered flood damage from the heavy rains and we lost four years of *National Geographic*. Trying to find replacement issues has been difficult and we would now like to appeal to our membership. If you have any or all of the issues from 1984, 1985, 1987, & 1994 and would not mind parting with them, we would greatly appreciate if you would donate them to the PSF library. Please contact [dsipiera@planets.org](mailto:dsipiera@planets.org) if you can help.



## ASTRONOMICAL CALENDAR OF EVENTS

**March 20**—March Equinox occurs at 23:21 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world.

**April 3**—Saturn at Opposition. The ringed planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. This is the best time to view and photograph Saturn and its moons.

**April 18**—Full Moon

**April 21 & 22**—Lyrids Meteor Shower. The Lyrids are an average shower, usually producing about 20 meteors per hour at their peak. These meteors can produce bright dust trails that last for several seconds.

**May 5 & 6**—Eta Aquarids Meteor Shower. The Eta Aquarids are a light shower, usually producing about 10 meteors per hour at their peak. Best viewing is usually to the east after midnight, far from city lights.

**May 7**—Astronomy Day

**May 11**—Conjunction of Mercury, Venus and Jupiter. The three planets will form a 2-degree long vertical line in the early sky.

**May 17**—Full Moon

**June 1**—Partial Solar Eclipse. The partial eclipse will be visible in most parts of eastern Asia, Alaska and northern Canada.

**June 15**—Total Lunar Eclipse. The eclipse will be visible throughout most of South Africa, Europe, Africa, Asia and Australia.

**June 21**—June Solstice. The June solstice occurs at 17:16UTC. The North Pole of the earth will be tilted toward the Sun. This is the first day of summer in the northern hemisphere.

## **PRESIDENT'S MESSAGE**

I am very pleased to report that your Planetary Studies Foundation is off to a very good start for 2011. Our Saturday programs at the 1876 Banwarth House and Museum are continuing to increase in attendance and have resulted in several new memberships. The program committee has prepared an extremely interesting and diverse schedule of topics and the PSF will be participating in several high profile community events. The workshops dealing with Victorian fashions and crafts have been particularly successful and have attracted the most attention in both the press and the number of participants. It is also gratifying that people are constantly telling us how much they look forward to our astronomical observing sessions at the Apple River Fort and just can't wait for them to resume in April.

Our presence in the community continues to grow and the PSF has become a well-recognized regional organization. One aspect of our educational mission that I am particularly proud of is our return to conducting *STARLAB* planetarium programs. For the past two years we have advertised our educational programs to area schools, but receive little or no response from the various institutions. Now all that has changed. Our first 2011 response came from Lena-Winslow elementary school in Lena, Illinois and our staff provided *STARLAB* programs for over 600 students and parents. A second response came from the East Dubuque, Illinois Junior High School. It was their request to do each grade level separately and have us return each year on a grade level rotation schedule. In March, our staff presented to over 100 enthusiastic East Dubuque students, and then to another 150 students at River Ridge Consolidated School District 210 in Hanover, Illinois. What we have learned from this is that "word of mouth" turns out to be the best form of advertisement. As our reputation grows, so too will the demand for our services. It is particularly important to note that PSF provides these educational services "free of charge". The area school administrators have told us that there are no funds available for their schools to go on field trips to regional planetariums or pay to have these services brought in to them. They simply cannot thank us enough for bringing this important educational tool to their students. The expenses we incur for these services are covered through a generous educational grant provided by PSF Associate Board Member *James N. Pritzker*.

Our PSF membership in itself is a very diverse group of people ranging from *NASA* astronauts to high school students interested in learning about the history of their community and the sciences around them. Our members are certainly not limited to the immediate area surrounding our headquarters in Elizabeth, Illinois, but can be found internationally in Australia, Austria, France, and New Zealand. In the United States we have members living in Alabama, Alaska, Arizona, California, Colorado, Florida, Georgia, Illinois, Indiana, Iowa, Maryland, Massachusetts, Michigan, Missouri, Montana, New Jersey, New Mexico, New York, Ohio, Pennsylvania, Tennessee, Texas, Washington, and Wisconsin. It is true that our individual topical interests and levels of involvement in the PSF may differ, but we all share a common bond. It is our dedication to learning and our enchantment with the universe around us that keeps the PSF a vibrant and evolving organization. I encourage all our members both near and far, that when you make your vacation travel plans, consider coming out and visiting your headquarters in Elizabeth, Illinois. Northwestern Illinois and the upper Mississippi region is truly a beautiful part of the United States. Our staff can help you find accommodations and direct you to other regional attractions. No, we are not becoming a travel agency, but we do offer a wide range of services to our PSF membership. Please come out and join us at our published events during the coming year.

*Paul P. Szipiera*

## **DONOR'S SPOTLIGHT**

*\$999 - \$500*

Ryan Nolan

Jennifer Schwartz

YAHOO!

*\$200 & Below*

Janet M. Landato

Chamber of Commerce, Platteville, WI

Marilyn E. Quas

## **NEW MEMBERS**

*New Life Membership*

Ryan Nolan

*New Individual Memberships*

Martha Purchis

Warren Sansoucie, Jr.

Margaret Shanks

*New Family Memberships*

Joseph & Bonnie Garrity

Connie Pladson & Hanna Jackson

## **RENEWING MEMBERS**

*Renewal Contributing Memberships*

James, Beth & Alex Baranski

Sindy & Larry Main

*Renewal Individual Memberships*

Alaina Sisler

## **NEW VOLUNTEERS**

Hanna Jackson

Margaret Shanks

## MEMBERS' CORNER

- Congratulations to **Alaina Sisler** and **Andrew Klippert** on their recent marriage engagement. They have set a wedding date for September 10, 2011. All our best wishes go out to the happy couple.
- Congratulations to **Kyle Thorsen** and his fiancée who have become engaged to be married at a future date. Both are students at the University of Wisconsin – Platteville.
- A special acknowledgement to PSF staff member **Elizabeth Myelle**, for her participation in the *National Dairy Bowl*, a competition testing a competitor's knowledge of every aspect of the dairy industry from milking to marketing. The competition was held at the National Holstein Convention in Virginia.
- Congratulations to one of PSF's newest members, **Andrew Graves**, who earned the highest rank in Boy Scouts, an Eagle Scout. It's a truly wonderful accomplishment and an honor that is also held by two of our prestigious members and friends, **Jim Lovell**, best known for Apollo 8 and 13 along with **Charlie Duke**, from Apollo 16.



Andrew Graves

## PLANNING PSF EVENTS IN CHICAGO & NORTHWEST SUBURBS

## **SPRING LECTURE SERIES & SKY EVENTS**

**March 19**

*The Beginning of "Model Trains"*  
(1:00 - 2:30 p.m.)

**March 26 & April 2**

*Victorian Cloak Making 101 Workshop*  
(2:30 p.m.)

**April 9**

*Solar Observing & Skywatching*  
(1:00 - 3:00 p.m.)

**April 23**

*Preparing Your Summer Garden*  
- and -  
*Solar Astronomy*  
(1:00 - 3:00 p.m.)

**April 30**

*Spring Flower Workshop*  
(1:00 - 2:30 p.m.)

**May 6**

*Earth Day Celebration*  
*Apple River Fort*

**May 7**

*Daffodil Queen Competition*  
(10:00 a.m.)  
- and -  
*Solar Observing*  
(1:00 - 3:00 p.m.)

**May 14**

*Summer Constellations and Celestial Events*  
(1:00 - 2:00 p.m.)

**May 21**

*Ghosts and Paranormal Activity: Fact or Fiction*  
*A Discussion Group*  
(1:00 - 3:00 p.m.)  
- and -  
*Skywatching at the Apple River Fort*

**May 28**

*Edwardian Hat Making 101 Workshop*  
(10:00 a.m. - 2:30 p.m.)

## MEMBER SPOTLIGHT: Joseph Auer

Joe Auer has been a PSF member for 17 years. He has been influential in the most important decisions affecting the PSF and a key-contributing member to the continuing success of the organization. Joe was born and raised in Chicago, IL. After college, Joe was an active member of the Army for 6 ½ years (Texas, Germany and Alabama). During his 40 months in Germany, he returned to the U.S. only once, for a 10-day whirlwind to marry Teresa, the love of his life, and he took her back to Germany with him. He and Teresa met during high school, prior to his senior year, while taking driving lessons at their high school, Lane Tech. During a lesson her seatbelt buckle jammed and Joe was there to help her out. According to Joe, that single seatbelt incident led to a “fabulous joint adventure that continues to this day en route to our 38th honeymoon.



Joseph Auer, PSF Chairman of the Board

**Planetary Studies Foundation (PSF):** What college(s) did you attend and what was your primary area of study?

**Joe Auer (JA):** I was very fortunate to acquire a Bachelor of Science (S.B.) degree in Earth and Planetary Science from the Massachusetts Institute of Technology (with the financial assistance of the Army ROTC scholarship program), and a Master of Science degree in Physics (concentrating in astrophysics and signal processing) from the University of Alabama in Huntsville (“Rocket City, USA”).

**PSF:** What is your current profession and what inspired you into that career?

**JA:** The military and the defense and aerospace industries have been at the core of my working life. My intent from 4<sup>th</sup> grade through college was to be a research astronomer. Once in college, I realized that my principal research interest – visual binary star orbits – was no longer forefront research. The job outlook in astronomy was gravely uncertain and would not provide a secure financial future for a family, even a family of 2. As part of my military commitment, I then looked at combining science with a military career. That proceeded well for 6 ½ years with field and command assignments with the Army’s air defense missile systems followed by a wonderful tour as a physicist/programmer with the Army’s Missile Research and Development Laboratory. With the Army’s career plans for me taking a major detour from my own, I left active duty and embarked on a career with defense and aerospace industries. (Being an old-fashioned patriot, I wanted my work to be in an area that helped preserve the freedoms we in these United States have enjoyed for nearly 235 years). That direction has taken me into software management for electronic countermeasures systems, software program management, and the formation and leadership of a proposal development group for an engineering department at a major defense company. I started my own sole proprietor consulting business in 1999 in program management, engineering management and proposal development. That provided assignments in program management for aerospace electronic control and flight deck subsystems. I joined one of my aerospace clients in December 2006 as a senior program manager and put my consulting business in the background. When this privately traded company was acquired by a publicly traded corporation after the deaths of the private owners, I was transferred into and am currently working a new company business function: new product introduction (NPI) sourcing.

Prior service as an adjunct professor of Physics at Harper College, current service as a director and former chair of an IEEE consulting affinity group, volunteer MIT educational counselor, and a long term association with Planetary Studies Foundation have helped to “round me out” professionally.

I will say my absolute favorite job was during the summer after my college sophomore year. I served as one of two astronomy assistants at Adler Planetarium, doing research for upcoming Sky Shows, giving museum tours to the public, serving as an optical shop / telescope-making assistant instructor and helping to catalog the Planetarium’s antique instrument collection. I don’t think I ever had a summer vacation go by so fast!

I would also like to emphasize that Teresa has been a lifelong inspiration to me in my relatively focused career evolution. She has earned 3 degrees in different fields and has worked in government (military admin support), education (curriculum, instruction and

grants); and in a number of industry fields including support to engineering and test teams on the Space Shuttle development; corporate human resources; and a variety of healthcare disciplines ranging from renal systems product support to dermatology surgery to college health nursing to transfusion therapies nursing support. Wow! And now Teresa recently started volunteer reading support to the blind and for adults learning English as a second language. There is a common thread among that tremendous diversity: service support for the safety and improvement of the human condition. I really admire her for all that.

**PSF:** How did you become involved with the Planetary Studies Foundation?

**JA:** I can thank Teresa for that introduction. One December, I think in 1994, she saw an article on the front page of the Chicago Tribune about Paul, Harper College astronomy and the Planetary Studies Foundation. Having developed both a passion for intellectual excellence and a concern that this was diminishing in the United States, I wrote a letter to Paul asking if I could be of some support, either at Harper College or with PSF. Paul invited me to the next PSF meeting by reply letter, and I have been hooked ever since.

**PSF:** What is your favorite area of science why do you find it so interesting?

**JA:** Astronomy – both planetary and stellar studies – is by far my favorite, especially the more classical studies. I guess I have always been interested in “the big picture”. Astronomy is – in my opinion – the true “systems engineering” of sciences, in that it requires a multi-disciplined knowledge of science. A well rounded astronomer knows multiple aspects of physics, chemistry, geology and geophysics, quite possibly some biology and biochemistry, potentially some meteorology, and LOTS of advanced math. An astronomer or astrophysicist must know how to integrate these various scientific disciplines during his or her investigations in order to derive a truly coherent picture of the universe. We deal with the entire range of measured objects, using knowledge of the extremely small (subatomic particles) to help build a description of the extremely large (clusters of galaxies and, ultimately, the known universe). The building of the instruments we use and their actual use test the limits of our mechanical and human precision, an endeavor which has always fascinated me. Finally astronomers are unique in scientific endeavors in that – for the most part – they cannot “get their arms around” their objects of study.

**PSF:** What is one thing you like the most about being a member of the Planetary Studies Foundation?

**JA:** I think it is because there are so many people from such a wide variety of backgrounds, geographies and experiences that share a common concern about our science and math education and progress, and all of them want to contribute in some way to make that better.

**PSF:** As the Chairman of the PSF Board, what inspired you to make the leap and become more involved with the PSF?

**JA:** During my working career, I have been fortunate to gain substantial management experience and discipline working within the government and industry. Paul brings a wealth of scientific investigative and education experience to PSF, as well as a vision that has been the foundation of its growth. He has had the help of a number of science enthusiasts and educators throughout our 20+ years of existence. I thought that my management background along with a science familiarity would provide useful and complementary skills that would further support the Foundation’s growth. It appears that the PSF Board of Directors during my early membership years concurred with that belief, permitting me to join the Board about a year after I joined PSF, and then electing me to the post of Chairman a couple years later (I believe in 1999). My one regret is that over the past 5 years the dynamics of my work environment have prevented me from having as much “PSF time” as the foundation could really use.

**PSF:** What would you tell other PSF members who are thinking about becoming more active in the PSF?

**JA:** Two words: PLEASE DO! With our 2-pronged mission of promoting and enhancing science education for the general public, and for contributing to the study and research of meteorite science, we are in continual need of energetic and talented volunteers to support these missions. And, with the addition of the Banwarth House for our permanent headquarters and the historical and cultural activities we have added to our offerings, ANYONE who is interested in supporting our efforts can DEFINITELY contribute much

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needed value. I know that PSF's gradual migration away from its original roots, now being in extreme northwestern Illinois, will make active on-site support a real challenge for some of our longer term members in the greater metro Chicago area. However, you can still be ambassadors for the PSF mission wherever you live, volunteer and work. By identifying yourself with the Planetary Studies Foundation and discussing its mission with those you meet, you are helping to extend our opportunities to a wider audience. You may find people who are interested in our scientific and cultural tours, observing sessions, and Starlab portable planetarium education shows. A field trip to Banwarth House may be just what your contracts and their groups are looking for. Also, our founder, President and CEO, Dr. Paul Sipiera, serves as the adjunct curator of the combined James M. DuPont and Field Museum meteorite collections at the Field Museum outside downtown Chicago. If you are visiting the Field Museum, ask to see what meteorites are on display and identify yourself as a PSF member. This will help strengthen our relationship and partnership with the Field Museum and help further indicate to them that there is a public interest in meteorite science in general and the collection in particular.

**PSF:** The past year has been extremely successful for the Banwarth house, what do you think about the acquisition of the historical house?

**JA:** I think it has been both a rewarding and welcome outcome for the Foundation, and I sincerely and profusely thank all who have worked so hard to make it successful. And I thank those who have financially contributed to our operations and strategic direction, especially to the Pritzker family Tawani Foundation, whose grants have made this unique PSF headquarters possible. On behalf of the Foundation, I would like to thank the people of Elizabeth and Galena, Illinois for making our Foundation genuinely welcome in your communities and providing an atmosphere where we can continue our mission with renewed energy and dedication. Your support has truly been a blessing as we embark on our third momentous decade of operations.

**PSF:** Do you have any hobbies?

**JA:** Most of these are things that Teresa and I can do together, as we like to maximize our time together. They include traveling, day hiking (the canyons of the Southwest are our favorite spots), recreational bicycling, exercise walking, cross-country skiing, and reading. We tried snowshoeing once and liked it a lot. Once I retire, I hope to return to my long-dormant classical piano playing and to the game of chess.

**PSF:** Where is your favorite place you have traveled and what makes it so memorable?

**JA:** Teresa and I really like the canyons of the southwest (and the observatories). Each of our trips to Arizona, Utah and/or New Mexico has given us a spiritual renewal though hiking the majesty and diversity of those canyons. Our travels through the countries of Europe, especially when we lived there, rewarded us with the richness of their history, the beauty of their architecture and the sincerity of their people. And we both have a special fond memory of our short college summer vacation visits together in Boston and our hometown Chicago, because they provided the environments and events that helped us grow our early friendship – slowly but certainly – into deep and permanent love.

**PSF:** What advice would you give to our younger readers and science enthusiasts?

**JA:** Be curious. Be imaginative. Put aside your electronic toys and devices for a while and explore what your mind asks you. Pretend. Do not hesitate to study arithmetic and other forms of math, as well as the various sciences. Use a pencil and paper to figure out problems. Study some science to learn how to reason a problem step-by-step to an answer. Do something that is hard, and stick with it until you master it. Don't be afraid to fail occasionally, but learn something from that failure to guide you to a future success. Know and accept your limits, but do not give up easily. Learn to focus on a question or problem for more than a minute. The inquiring mind is one of human kind's greatest gifts. Perseverance, focus and inquiry have been at the foundation of mankind's greatest achievements. Having these skills will be a great help to you throughout life. As the late President John F. Kennedy said in 1961, after the United States had only 15 minutes of spaceflight experience, "We choose to go to the moon in this decade and do the other things, not because they are easy but because they are hard." We met that challenge through lots of creative thinking and LOTS of hard work. And, who knows, when it comes to science and math, you may just find you really like it!

## REPORT FROM NEW ZEALAND

As many of you know, the PSF has members all over the world, as far reaching as New Zealand. Doug Hicks, who lives in Christchurch, NZ has written articles in the past sharing his sky observations from the southern hemisphere. When the 6.3 earthquake struck on February 22nd Doug was quick to report in via email that he was safe and through a series of 3 email updates he was able to share with all of us his first-hand take on what was going on with the second earthquake to hit Christchurch in less than 6 months.

**02/22/11 (02:17)** If you're watching the breakfast television news when you get up, you'll probably see some video coverage of yet another earthquake in Christchurch. Shall send a quick email to let you know that all's well here in Auckland - didn't even feel the quake - though clearly the centre of Christchurch is a mess. This one was smaller (Richter 6.3 cf. 7.1) but shallower (5 km cf. 30 km) and occurred at 12.51 p.m. cf. 4.18 a.m. So a lot of people were at work or shopping in the city centre. Like the last quake, most damage is to older brick or concrete commercial buildings, but this time people were inside them or on the street where they collapsed. 65 dead so far, and an unknown number still in the rubble. The Christchurch suburbs being timber-framed houses, they're still standing and people there are generally unharmed. Power, water supply, drainage and phone cables are out of action in the suburbs; and may be for some time. Will probably be another 24 hours before news channels can give a clear picture of what has happened.



**02/23/11 (02:51)** Hullo everybody—the 24-hour update is not good news, but I guess you know that already from your TV. The Christchurch suburbs are mostly o.k. because although they were badly shaken, houses are still standing so casualties there are minimal. In some areas, the ground around peoples' houses is coated with mud either because liquefaction occurred i.e. fine-grained sediment and water rose to the surface, or because water pipes & sewers burst; though that mess can at least be cleaned up in coming weeks. Unfortunately the city centre is a different story. Most TV footage has been taken in the central business area, so you'll have some idea already. 75 confirmed dead pulled from what remains of buildings. 300 missing, most of whom had the misfortune to be at places on the street where buildings collapsed outwards, and are still there beneath the rubble. While most of the collapsed and damaged buildings are old brick or stone structures, there have been some unexpected collapses of modern reinforced concrete office blocks supposedly designed to withstand earthquakes. Emergency services (police, fire, ambulance), have coped surprisingly well in the circumstances. Most of the injured were rescued from buildings or picked up off the street yesterday. Several dozen people have been extricated from buildings today, but at the second day's end few are emerging alive. Christchurch Hospital sustained minor structural damage, and is working at full capacity with power supply from emergency generators. Christchurch Airport has re-opened but the Lyttelton seaport is still closed. The NZ Defence Force is providing most of the transport for people leaving in Christchurch, and for supplies into the city. As yet I haven't managed to contact several friends.



**03/03/11 (11:51)** Ten days on the picture is much clearer. About 150 bodies have been recovered and about 50 people are missing, so the death toll while bad, has turned out to be less than first thought, as previously unidentified bodies have been matched with people on the missing list. Another 200 or so injured people are in hospitals. Looking on the bright side, there are about 320,000 people in Christchurch, so it is good that most of them are alive and uninjured. Most rescues of living people were undertaken within the first 24 hours by local police, fire brigade and ambulance workers, or even by ordinary citizens who were in vicinity of collapsed buildings. From 24 hours onwards, search and rescue teams arrived from other parts of New Zealand and also from overseas countries. Their arrival did not result in any successful rescues of living people, but has assisted location and recovery of dead bodies. Television coverage here and overseas has focussed on Christchurch's central business district, where the damage has been spectacular. The CBD remains cordoned off because damaged buildings are at risk of collapse, so it's too dangerous for people to make their way along the streets to resume work at the many other buildings which are slightly damaged or still intact. Electric power has been restored to over 90% of suburban homes, and water supply to over 80%. Sewers are functioning after a fashion, but raw sewage is leaking into the soil or into streams, from cracked or broken pipes. After-shocks continue. Several magnitude, 5 after-shocks occurred on the day of the quake and next day, though now they are down to magnitude 3 or 4.

## A NOTE FROM THE EDITOR

Each alternating issue of *PSF News* featured a travelogue by one of our most dedicated members, Herb Windolf. And when he approached me last September about a travelogue featuring his travels from over 50 years ago, I was intrigued he still found it to be so relevant and was equally hesitant when I found out it would need over 5 pages to run in a single issue! I asked him to reduce the word count and promised it would run in the first issue of 2011. Fast forward to less than 30 days ago, only to find out that the timing we agreed on to run the article would turn out to be amazingly relevant to the current events of today.

With the recent upheaval in the Middle East—the uprisings in Tunisia, then in Egypt and now Libya—much of it seems so unfamiliar to the more established parts of the world, especially here in the U.S. It seems very foreign to violently fight for what we want, even though it was not even 200 years that we fought our own Civil War which made our country into what it is today. But Herb's African travels 56 years ago bridge an astonishing gap and tell a story that shows no matter the amount of time that passes, current events tend to make one large circle and, often times, loop back around. The travelogue featured below is filled with an adventure of six countries that I hope you will find interesting and entertaining.

## THE LURE OF AFRICA

by Herb Windolf

As of today, I have made seven trips to Africa and written travelogues on several. It being unlikely that I will be off to an eight's venture, allow me to travel back in time, more than five decades, to write about my first trip to the 'Dark Continent.' Since childhood I was fascinated by the German colonial exploits in east and southwest Africa, the initial lure of this continent.

At 19, having traveled in Germany and to Sweden, I hit on the idea of bicycling solo around the globe. My parents vetoed it. Then I came up with buying a motorcycle, attach a side car, find a companion, and travel by north and east Africa to Cape Town, there to hire on a steamer to return home. I eagerly saved my salary, eventually acquiring 3,000 deutschmarks. I found an age-mate to join me and purchased that motorcycle rig. A solid, hinged steel lid with a padlock covered the opening of the sidecar to protect our gear, with us riding on the cycle. A 20 liter gasoline tank was strapped to the side car.

A few days after my 20th birthday, the beginning of October 1956, we set off. We did not carry cold-weather clothing and on our drive through the Alps, even through northern Italy, we came close to freezing our derrières off. Oh, what a relief it was when we exited a road tunnel, opening to the warm breezes

of the Mediterranean Sea. Down the 'boot' we drove, along the Amalfi coast to Naples, where we boarded a steamer bound for Tripoli in Libya. This was when King Idris still governed there, before Colonel Gaddafi upstaged the kingdom.

On the ship, we became friends with a group of four Germans, a 30 year old with his French wife, and their two, 22 year old traveling companions, all riding in a small Fiat car. The couple was, as they told, on the way to accept the inheritance of a Kenyan farm. Arriving in Tripoli, we made every effort to get out of the city into open country to camp. Alas, the date palm groves stretched for miles, and we had to camp off the road in a grove. Shacks nearby caused us five males to share guard duty through the night. One of the two younger fellows ate some of the dropping dates – and suffered from – you know what – all the way to Cairo.

The road along north Africa to Cairo was paved, often stretching straight to the horizon. Eventually, we reached the desert – not a sand dune desert – but one that, at least where it approached the coast, was covered by low shrubby growth. Sometimes we cut brush as padding for our tent, as we did not carry air mattresses. Nevertheless, by trip's end the bottom of my tent was a rock-



Herb, at age 20, and his traveling companion aboard their motorcycle in the desert between Luxor and Aswan (above) and Herb being taken for a ride (below).



punctured sieve. Small stores along the road's 1,500 miles enabled us to replenish food supplies, also gasoline and water. We quickly took to an air-dried, salt and paprika-covered lean beef, called *pastorma*, to fry up. When, one day, we felt like scrambled eggs with fried *pastorma*, we came – joy over joy – across some kids beside the road, selling small eggs from their baskets. We bought

them all. At camp that night, after frying some *pastorma*, I cracked the first egg – and half of it plopped into the frying pan. They had all been cooked for preservation!

In many places along the road the earth was covered by reflecting splinters – glass – a remainder of the north African war. And it rained in northern Africa, at least in the fall. On a couple of days we got soaked in the morning, only to have air-dried again by afternoon. Camel herds crossing the desert, had to be watched, since these creatures often stopped short of the road, only to step onto it, prior to our arrival at that spot. When we entered Egypt, located somewhat farther south, we enjoyed the missed warmth. With no sun screen available at the time, just plain Nivea cream, the skin of our noses came off in sheets.

Eventually, we entered the chaos that was Cairo and learned of a lodging place, run by German Lutheran Sisters! We found acceptance there and, through the following days explored the city, where we got to know an elderly Jewish couple at a market place – yes, there were still Jews living in Egypt at the time – who invited us for dinner. But we never made it into the Egyptian Museum, since, a few days after our arrival, Britain, France and Israel attacked Egypt because of Nasser's expropriation of the Suez Canal. For ten days we were now stuck in Cairo. It had become too dangerous for foreigners to venture into the city. We occupied a small room on the roof of the multistory building and from there were able to watch the air raids of the attackers outside the city.

Prior to the attack, new people had arrived at our place, among them a German girl in her early twenties, who appeared quite naive to us even younger, but by several days more experienced travelers. We cautioned her to wash all fruit with potassium-permanganate, our only means available to sterilize fresh produce. She proudly told us the next day that she had washed also some sesame seed-covered bread sticks in such a solution. A young German fellow showed

up with red pustules all over his body. He had been an overnight guest in a bedouin's tent and had become the victim of bed bugs.

The food at our lodging place consisted mostly of rice, of which we tired, longing for fried potatoes. One day I splurged and sneaked to a German restaurant, where I delighted in a square meal of sausages with sauerkraut and mashed potatoes. It was interesting to watch delivery boys in the morning, transporting huge trays of flat bread, which, fresh from the oven hadn't flattened yet, but were round, almost like balloons. We also fixed ourselves between meals a helping of fried *pastorma* with scrambled eggs, and – shame on us – followed local custom, tossing the egg shells from our rooftop abode onto the street. Yes, there was some danger walking the streets. People sitting evenings on their balconies, chewing sugar cane, spit the leached remains onto the street. Thus, woe to the passersby, who, at times, might also be threatened by a pail of dumped wash water.

I had become friends with a 30 year old Austrian, who had lived for years in various north African states and spoke fluent Arabic. With all his experience, he was much more worldly than I. When a hefty, 50 year old German woman nurse, bicycling from Germany via Spain, along the north African coast, to inherit a farm in Kenya – another one – offered to darn my socks, my Austrian friend cautioned me, saying, "Herb, she's after more than your socks!" I followed his advice. One evening, after we were able to walk the streets again, he also introduced me in a social setting to a couple of young Egyptian women. One was married to a German, stuck in Germany, since all air traffic was suspended due to the war. Her pretty cousin, about my age, had just been divorced by her Egyptian husband. What left an indelible impression on me, was how these ladies tore into the fabric of their Muslim culture and religion!

Our ventures onto the streets resulted twice in a crowd gathering around us,

shouting, "Anglesi, Francaui," "Englishmen, Frenchmen," thinking we were downed pilots – of all things! Both times we were taken to a police station for identification. I recall, that on one of these times, the commanding officer was all a gush, seeing that my companion was Austrian, Hitler's origin. At the time, the Arabs were fond of Germans and Austrians, although, they preferred East Germans to West Germans. Ah, well, I can't please everyone.

With the outbreak of war, with no flight able to leave Cairo, foreigners were evacuated by ship up the Nile to be flown out from Khartoum in the Sudan. At the time, the Aswan Dam had not been built yet. We hardy souls opted not to be evacuated. The disadvantage was that our meager travel money, Egyptian pounds, dwindled quickly. Visiting the British Consulate, I was able to obtain visas for Kenya, by showing the official my British pound traveler checks. At least, we had made it to the Pyramids and the Sphinx, but before we set off for Aswan, the German bicycling nurse returned, having peddled 500 miles to Aswan, where the Sudanese immigration officer – never mind that he did not look very officer-like – as we, too, found out, had asked her to see him after five P.M. over there-and-there to stamp her visa. She went, only to slap his face – and to peddle back 500 miles to Cairo – where we actually met her for the first time, at the Sudanese consulate, where she was complaining.

When the war hubbub had died down, and we were told that banks honored British pound traveler checks again, we thought it time to head south. I had "Germans" painted in large, yellow Arabic letters on the the lid of the sidecar, and off we went. We had been warned not to camp just anyplace, but to check evenings at police stations for a safe camp site. This we did. An officer asked us to wait until 5 P.M., and when the time came, invited us to follow him, together with a colleague. We were taken to a former British guest house and the two men treated us to

Continued on next page

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a complete dinner and fed us, a first, pomegranate. We were offered beds in one of the rooms, unfortunately, we had to leave the windows open for coolness, and I spent the night with only a small air hole to breathe from under my sheet, trying to ward off the mosquitos.

Arab people are very hospitable! We were always received courteously and the first offer was usually for either Turkish coffee, black tea, or – Coke. I took to Turkish coffee with a vengeance and, every time got a bit too deeply into the suds. The following evening we arrived at another police station, way in the country. We became the ‘event of the day’ to these men who, far from ‘civilization,’ maintained security. Five or six gathered in the yard of the station, and it became a lively evening. Traveling along the Nile, it’s vividly green valley bordered on both sides by the beige desert, we observed Archimedes Screws and other man and donkey-powered water lifting devices for irrigation. At one time, driving through a small village, the locals minded our passing and pelted us with stones. I gunned up the engine, and we quickly escaped over a levee.

We reached Luxor the following day, and after visiting the Ramsesum, crossed the Nile to view the Colossi of Memnon, and rode on donkeys to the Valley of the Kings. Entering Ramseses and King Tut’s grave chambers was very impressive! And, would you believe it – we were the only two tourists there – because the ‘regulars’ had all been evacuated. On the way back we walked Queen Hatshepsut’s Temple, again the sole visitors. From a lone peddler, I purchased a pharaonic image, chiseled from a wall – or, most likely, a replica.

Now we faced a washboard dirt road. Still following the Nile Valley, it lead through the adjacent desert. Then Aswan lay ahead. Our Egyptian currency had been totally depleted by now, and we figured on cashing in a British pound traveler check in the city. Alas, we had been misinformed, and checks were still not accepted. Broke, we were! We drove



The Colossi of Memnon



The Pyramids & Sphinx



Valley of Kings



Temple of Queen Hatshepsut

to the Sudanese immigration office and presented our visas. The ‘officer’ in his jellaba frock stepped outside, looked at our vehicle, shook his head, and said: “No entry.” He didn’t even ask us to meet him after hours at his home. . . Well, many years later I realized that the man

had possibly saved my life. My underpowered motorcycle would most likely have given out in the Highlands of Ethiopia, needing to rely on whatever local transportation available, and facing who-knows-what consequences.

But there we stood, our last hope gone for cashing checks in the Sudan. We drove back and forth through Aswan – not that there was much to travel through – until we saw the German license plate on a Mercedes car. We tracked its owner down in the dingy room of a ‘hotel,’ where he lounged with two rather attractive German women, but of unknown persuasion. The trio was also on the way to Kenya, but I do not recall whether they, too, looked to inherit a farm there. When I told him of our calamity, he suggested that he knew of a local merchant, who closed his shop late in the evening, and a little ‘tap’ on the head might net us some cash. Hearing this, I slowly backed out of the room. And, once more, we cruised Aswan. Then, lo and behold, I spotted the sign of a Protestant Mission, highly unusual in a Muslim country, where convert Muslims is forbidden, but not Coptic Christians. I drove up to the building and met the missionary, telling him of our predicament. Surely, he had met plenty of run-down characters asking for a handout, but after I showed him my travelers checks, he relented and lent me ten Egyptian pounds. Hurray, we were liquid again! I left him my light meter as security, and once back in Cairo, repaid him through the Sisters of our lodgment. Believe it or not – a year later I received it back. A Sister from the Mission had vacationed in Germany, where she had met my Godmother, also a Sister. And so I got my light meter back.

But we did not have enough cash to journey on. There was only a miserable 30 mile long roadway from Aswan, in Egypt, to the Sudanese border, from where we could have picked up a train to carry us to the Ethiopian border, but with the Sudanese immigration man having said “no,” this was no longer an option.

So we decided to drive back to Cairo, and out of Aswan we went to pitch our tent in the desert. By 11 P.M., both unable to sleep, we decided “enough.” We packed up, and through the night into the following day, drove the 500 miles back to Cairo.

It was a bad time! The attack on Egypt was past, but the uprising in Hungary against the Soviets was in full swing. What to do? My relationship with my traveling companion had not been the best. He smoked and had contributed much less to our travel kitty. I felt like going home. My Austrian buddy was also ready to head for Austria and would join me on the trip. I was able to obtain some cash from a business friend of my father’s in Cairo, which enabled me to drive back. I paid off my companion, who wanted to go on – and I later learned – he made it to Addis Ababa, in Ethiopia – with the 50 year old nurse! He must’ve had some socks to darn. Having come into money, I purchased some Egyptian mementos, which, later, at home, let me create a traveler’s ambiance in my room.

Then it was time to pack, and the Austrian and I drove along the north African coast, this time westward. At el Alamein we walked the sea of white crosses of fallen German soldiers, where Rommel’s dash for the Suez Canal and the Middle Eastern Oil in Iraq had come to a halt. Near Tobruk, we spent the night with two German workmen, in the process of re-interring the bones of German soldiers into small fiberglass coffins, which, in turn, were stored in a tower-like masonry building. One evening, already in Libya, we came in the midst of nowhere across a stalled British military vehicle with its driver, a red-faced young recruit, and a chaplain. Their radiator had run dry. We stopped, but since we happened to have little water left for ourselves, just enough for the night, we had to leave them to their fate. Our only suggestion was to pee in the radiator.

Camping in the desert along the way, we ‘dined’ on onions, which we ate like apples, being short of other vegetable matter. But, one evening, we also savored

a supply of canned Bismarck Herring, rolled up filets with a pickle inside, a German delicacy, which I had – wonder over wonder – discovered in a Cairo store. One night, we heard noises in the distance, causing us to sleep lightly. In the morning, a shepherd with his flock of goats and camels had come close to our tent, and soon came ambling to us. Just preparing breakfast, my Arabic-speaking friend invited him to join us in our repast of scrambled eggs, fried *pastorma*, flatbread, and black tea. It was interesting to observe how the man accepted our invitation, not partaking in the *pastorma*, which could have been pork, and making my friend first taste everything, even the tea, before he partook.

In Benghazi we boarded a ship to Sicily. But before we left, we had been flagged down on the road near Benghazi by some Germans. Former P.O.Ws of the British, they had, after their release, stayed in their service at the local British air base. They invited us to their own recreational facilities on the base, where I was introduced to plenty of Scotch, neat. It became a miserable night sleeping on matting in their gym! Mind you, it wasn’t the matting.

Meals on board the ship were limited. Next day’s lunch was a plate of boiled potatoes, a bit of salad and – an entire, 7” long boiled octopus. I didn’t touch the critter; my worldlier Austrian consumed also mine. A steady oncoming swell got our ship to rock, but lying on my bed caused sea sickness not to become too bad.

We landed in Messina, crossed the Strait of Messina and drove northward. However, my cycle had had it, and wouldn’t pull the two of us up bigger hills. So, my buddy had to walk part of Italy, until I/we decided it was enough and we took a train, cum cycle, to Rome. I had it fixed there and off we went to the Italian-Swiss border at Chiasso. It was now the latter part of December and too cold to cross the Alps with our insufficient clothing. Another train was boarded. In our compartment we met an Israeli military officer. When we

mentioned to him where we came from, and that we had never seen Egyptian fighter planes in the skies during the attack, he dryly commented: “Egyptian pilots are excellent flyers and top gunners, but they can’t do both together.” A trip to the train’s diner – there was no need to skimp anymore – introduced me to Gorgonzola cheese, and I never fell out of love with it again.

Then, on December 24 – my Austrian buddy had left the train somewhere – I arrived in Mainz and in early morning drove across the Rhine River. Then I rang the bell at our house. I believe it was the nicest Christmas present I ever made my mother!

So, I had not accomplished what I had set out for, but . . . a trip like this, even if it was only for barely three months, was something unusual for the time, shortly after W.W.II. I had plenty to talk about and quickly made all kinds of friends. While it then took 25 years for me to see Africa again, this time in style, on a Kenya and Tanzania safari, my North African stint nevertheless had opened the world for me, never to close again.♦

*Herbert Windolf was born in Wiesbaden, Germany, in 1936. In 1964 he emigrated with his family to Canada to provide his German employer with technical services for North America. In 1970, he transferred to the U.S. and eventually became Managing Director, the Vice President, of the US affiliate.*

*Retired, he now presides in Prescott, Arizona, where he has taught courses on scientific subjects at an adult education center, wrote science essays and, widely traveled, miscellaneous travelogues. He is Vice President Emeritus of the Planetary Studies Foundation, even having an astronomer friend name an asteroid after him.*

*Questions and comments for Herb Windolf are welcome. Herb can be reached at [windolf@cablone.net](mailto:windolf@cablone.net).*

## A FIRST LOOK AT FLIGHT IN 2025

In late 2010, NASA awarded contracts to three industry teams — Lockheed Martin, Northrop Grumman and The Boeing Company — along with the Massachusetts Institute of Technology, to study advanced concept designs for aircraft that could take to the skies as early as 2025. Look more closely at these concepts for airplanes that may enter service 20 to 25 years from now and you'll see things that are quite different from the aircraft of today. Just beneath the skin of these concepts lie breakthrough airframe and propulsion technologies designed to help the commercial aircraft of tomorrow fly significantly quieter, cleaner, and more fuel-efficiently, with more passenger comfort, and to more of America's airports. You may see ultramodern shape memory alloys, ceramic or fiber composites, carbon nanotube or fiber optic cabling, self-healing skin, hybrid electric engines, folding wings, double fuselages and virtual reality windows.



The GE Aviation team conceptualizes a 20-passenger aircraft that could reduce congestion at major metropolitan hubs by using community airports for point-to-point travel. The aircraft has an oval-shaped fuselage that seats four across in full-sized seats. Other features include an aircraft shape that smoothes the flow of air over all surfaces, and electricity-generating fuel cells to power advanced electrical systems.



The Northrop Grumman team foresees the greatest need for a smaller 120-passenger aircraft that is tailored for shorter runways in order to help expand capacity and reduce delays. The team describes its Silent Efficient Low Emissions Commercial Transport concept as "revolutionary in its performance, if not in its appearance." Ceramic composites, nanotechnology and shape memory alloys figure prominently in the airframe.

"Standing next to the airplane, you may not be able to tell the immediate difference, but the improvements will be revolutionary," said Richard Wahls, project scientist for the Fundamental Aeronautics Program's Subsonic Fixed Wing Project at NASA's Langley Research Center in Hampton, Va. "Technological beauty is more than skin deep."

In October 2008, NASA asked industry professionals and academia to imagine what the future might bring and develop advanced concepts for aircraft that can satisfy anticipated commercial air transportation needs while meeting specific energy efficiency, environmental and operational goals in 2030 and beyond. The studies were intended to identify key technology development needs to enable the envisioned advanced airframes and propulsion systems.

NASA's goals for a 2030-era aircraft, compared with an aircraft entering service today, are:

- A 71-decibel reduction below current Federal Aviation Administration noise standards, which aim to contain objectionable noise within airport boundaries.
- A greater than 75 percent reduction on the International Civil Aviation Organization's Committee on Aviation Environmental Protection Sixth Meeting, or CAEP/6, standard for nitrogen oxide emissions, which aims to improve air quality around airports.
- A greater than 70 percent reduction in fuel burn performance, which could reduce greenhouse gas emissions and the cost of air travel.
- The ability to exploit metroplex concepts that enable optimal use of runways at multiple airports within metropolitan areas, as a means of reducing air traffic congestion and delays.

NASA did not specify future commercial air transportation needs as domestic or global. All four teams focused on aircraft sized for travel within a single continent because their business cases showed that small- and medium-sized planes will continue to account for the largest percentage of the overall fleet in the future. One team, however, did present a large hybrid wing concept for intercontinental transport.

All of the teams provided "clear paths" for future technology research and development, said Ruben Del Rosario, principal investigator for the Subsonic Fixed Wing Project at NASA's Glenn Research Center in Cleveland. "Their reports will make a difference in planning our research portfolio. We will identify the common

themes in these studies and use them to build a more effective strategy for the future," Del Rosario said.



With its 180-passenger D8 “double bubble” configuration, the MIT team strays farthest from the familiar, fusing two aircraft bodies together lengthwise and mounting three turbofan jet engines on the tail. In a reversal of current design trends the MIT concept increases the bypass ratio by minimizing expansion of the overall diameter of the engine and shrinking the diameter of the jet exhaust instead. The team said it designed the D8 to do the same work as a Boeing 737-800. The D8’s unusual shape gives it a roomier coach cabin.

The Boeing Company’s Subsonic Ultra Green Aircraft Research team examined five concepts. The team’s preferred concept, the SUGAR volt, is a twin-engine aircraft with hybrid propulsion technology, a tube-shaped body and truss-braced wing mounted to the top. Compared to the wing used today, the SUGAR volt wing is longer from tip to tip, shorter from leading edge to trailing edge and has less sweep. It may also include hinges to fold the wings while parked. Projected advances in battery technology enable a unique, hybrid turbo-electric propulsion system.

These are some of the common themes from the four reports:

- Slower cruising -- at about Mach 0.7, or seven-tenths the speed of sound, which is 5 percent to 10 percent slower than today’s aircraft -- and at higher altitudes, to save fuel.
- Engines that require less power on takeoff, for quieter flight.
- Shorter runways -- about 5,000 feet long, on average - - to increase operating capacity and efficiency.
- Smaller aircraft – in the medium-size class of a Boeing 737, with cabin accommodations for no more than 180 passengers – flying shorter and more direct routes, for cost-efficiency.

Reliance on promised advancements in air traffic management such as the use of automated decision-making tools for merging and spacing enroute and during departure climbs and arrival descents.

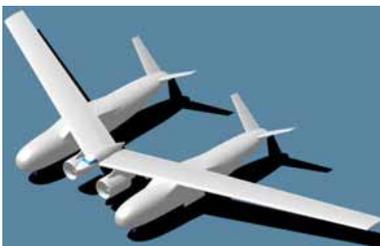
The teams recommended a variety of improvements in lightweight composite structures, heat- and stress-tolerant engine materials, and aerodynamic modeling that can help bring their ideas to reality. NASA is weighing the recommendations against its objective of developing aeronautics technologies that can be applied to a broad range of aircraft and operating scenarios for the greatest public benefit.



The Hybrid Wing Body H-Series future aircraft design comes from the research team at MIT.



This future aircraft design concept for supersonic flight over land comes from the Lockheed Martin Corporation.



This concept for a twin-fuselage comes from the team led by Northrop Grumman.



This “Icon-II” future aircraft design concept for supersonic flight over land comes from the Boeing Company.

Source: [www.nasa.gov](http://www.nasa.gov)

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