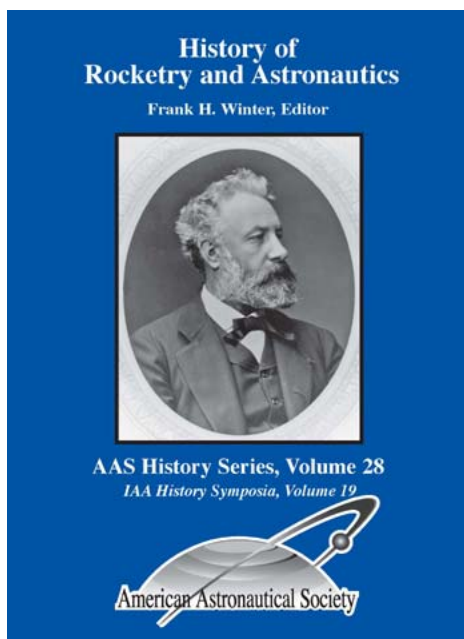




IAA Study Group 6.7 *50th Anniversary of the Space Era 2007*

Information Note No 11

1. Introduction



AAS History Series, Volume 28

A Supplement to Advances in the Astronautical Sciences

IAA History Symposia, Volume 19

History of Rocketry and Astronautics

Proceedings of the Thirty-Third History Symposium of
The International Academy of Astronautics (IAA)

Amsterdam, The Netherlands, 1999

First Printing 2007

560 Pages

Editor: Frank H. Winter

Hard Cover \$95.00, ISBN 978-0-87703-539-8

Soft Cover \$70.00, ISBN 978-0-87703-540-4

FIRST OF ALL A GENERAL PLEA FOR MORE INTEREST IN OUR IAA HISTORY SYMPOSIA PROCEEDINGS!!!!

The IAA History Symposia Proceedings Volume 19 from Amsterdam 1999 is now available from Univelt.

Please buy a copy if you have not already done so! As a member of our Study Group you get 25% of the list price (just state your membership), and if you are an author of a paper in any History volume you may take 50% of the list price. You can order via Internet from Univelt: <http://www.univelt.com>

And have other interested historians, friends and your company buying! It helps!

Last but not least great thanks to Frank Winter, Don Elder and Bob Jacobs for preparing this volume.

2. 42nd IAA History Symposium in Glasgow 2008

The submittal phase for abstracts is open, and as usual the final selection of papers will be done at the IPC on March 28, 2008.

Our colleagues in the UK are preparing one Highlight Lecture for Glasgow on history of space sciences in the UK.

The fourth history session, E.4.4 on UK History is also under preparation with presently 7 papers planned.

3. 43rd IAA History Symposium in Daejeon, South Korea, 2009

The chairs and rapporteurs for 4 sessions in Daejeon in 2009 have been named and the proposal has been submitted for approval by Commission VI in January 2008 before it goes to the IAA BOT for final approval in March.

Christophe Rothmund has volunteered to serve as the Editor for the 2009 proceedings!

4. Report on the IAF/IAA/IISL Advisory Committee on History Activities (ACHA)

The IAF/IAA/IISL ACHA has given a clear priority to the proposed study project:

The International Geophysical Year - Starter of International Scientific Space Cooperation.

For this study project a study lead a project team and most important a study plan is being prepared. Once this is completed the final proposal will be recommended to the IAF Bureau for review and endorsement.

Any one member of the IAA History Study Group, who would like to work in the future study team for this study project, please contact the Study Group co-chairs.

5. History Celebration of the IAA 50th Anniversary 2010

A set of ideas and proposals have been collected, and after proper editing sent out to all of you by separate mail for review, comments, amendments and priority setting.

It is planned to have a recommendation for the IAA Board of Trustees ready by end of February.

6. Promotion of the IAA History Proceedings

Means of how to promote the selling of our proceedings are presently under review (separate mail). Many ideas have been collected and after final membership review, a consolidated recommendation will be submitted to the IAA and the publisher Univelt.

7. IAF History on Web Site

Scott Hatton is responsible for most of the content of the IAF web site, and he has contacted us for ideas and possible support in preparing the IAF history section of the web site. At present this is a blank on the actual web site (except for the 2006 Valencia year) and Scott is asking for ideas on how to best structure these history pages and for definition of content for each of the IAF/IAC 60 years.

Each one of the members of the IAA History Study Group is asked to provide some ideas on how to best style these pages of history content, and last but not least WHO IS WILLING TO ACTIVELY SUPPORT THIS WORK WITH MATERIAL AND WRITING??

Any one interested to work on this project in some way please send a short message with information on possible contributions to the IAA History Study Group lead, in order that we can give a coordinated and broad platform for support.

8. IAA History Study Group Web Site

The IAA History Study Group web site is available under the section Study Groups of the IAA web site and contains all produced documents for your download.

9. Joint IAA – Russian Academy of Cosmonautics Conference

The Russian Academy of Cosmonautics by K.E. Tsiolkovsky (RACT) is together with the IAA organising a conference on “Space for Humanity” dedicated to the 50th Anniversary of the Space Era, on May 21-23, 2008 in Moscow.

For more information see Attachment 1.

10. Book Review

The review of a new book on Wernher von Braun, “Rocket Man” by Thomas Mallon, is given in Attachment 2.

11. Activities by Members of the IAA History Study Group

At the History Study Group meeting in Hyderabad all members were asked to provide inputs on their personal history work, which could be of interest for the other members to know about (Action Item No 7).

Inputs have been received from José Dorado (Attachment 3) and Kerrie Dougherty (Attachment 4).

A. Ingemar Skoog, Study Group co-chair
January 25, 2008

Attachment 1.

Тема: 1st IAA-RACTs Conference “Space for Humanity”

Dear Sirs!

International Academy of Astronautics (IAA) and Russian Academy of Cosmonautics by K.E. Tsiolkovsky (RACTs) are happy to invite you and your colleagues to participate in the 1st IAA-RACTs Conference “Space for Humanity” dedicated to the 50th Anniversary of Space Era, which will be held in Korolev, Moscow Region, Russia 21-23 May 2008.

Main subjects of conference are:

1. Space and Society

- Researches of space: political, economic and legal aspects.
- Space activity: influence on steady social and economic development both daily human life and societies.
- Electronic technologies of creation and operation of space systems with use of a global network the Internet.
- Future trends of space education and training of youth and adults.

2. Space engineering, systems and an infrastructure

- Rocket launchers, space vehicles and booster blocks.
- Engines and fuel.
- The cosmodroms and their infrastructure.
- Space vehicle flight control.
- Human Space Activities.
- Navigation and information-and-space service.

3. Basic researches of a space and the international cooperation

- Problems and prospects of research of a space and solar system planets, physics of space.
- Ecological monitoring of a space, failures and accidents.
- Geocosmic monitoring and the operative notification, the organization of counteraction to threats and calls to the person and mankind.

4. Space and power of mankind in the long term as harmony of a nature and mind

- The new power technologies alternative and renewed energy sources.
- Prognostic and analytical researches under scripts of steady social and economic development of mankind in view of development of power and global fuel balance.
- The organization and preparation of the space staff for new power and nanotechnology.
- The new normative-legal base connected with nanotechnology, resource caretaking, development of alternative renewed and nonconventional energy sources.

Full information concerning 1st IAA-RACTs Conference “Space for Humanity” you can find on web www.sfh2008.ru.

Best regards,

Organizing Committee of 1st IAA-RACTs Conference “Space for Humanity”

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Russian Academy of Cosmonautics by K.E. Tsiolkovsky,
27 Tikhonravov st., 141091, Jubileiny,
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E-mail: menshval@mail.ru, niiks@khrunichev.com

Order form

On participation in 1-st Joint Scientific Conference of International Academy of Astronautics (IAA) and Russian Academy of cosmonautics by K.E. Tsiolkovsky (RAKTs)

SPACE FOR THE HUMANITY

May, 21-23 2008.

The application is filled on EACH author/co-author and goes to organizing committee of conference on an E-Mail (menshval@mail.ru, niiks@Krunichev.com) together with theses.

1. A surname, the Name, the Patronymic (completely)
2. A scientific degree, the academic Status, the Post
3. Membership in RAKTs and MAA
4. The organization - the full name, the reduced name
5. Tax index of the organization
6. The head of the organization - the Post, the Surname, the Name, the Patronymic (completely).
7. The post address, the Phone, the Fax (service)
8. The post address, the Phone (house), the Phone (mobile)
9. An E-Mail
10. The form of participation (to choose necessary):
 - I wish to act with the report;
 - I wish to participate without the report;
 - I am the co-author and wish to participate
11. The name of a direction on which the report (see main subjects of conference in the first message) is submitted
12. The header of the report
13. A kind of the report (to choose desirable):
 - Plenary;
 - Section;
 - Bench.
14. The form of payment (to choose necessary):
 - Ask to expose the account for payment of a registration payment by the organization;
 - Ask to send payment essential elements for payment of a registration payment through bank.

Attachment 2.

Rocket Man: Books: The New Yorker

Page 1 sur 4

THE NEW YORKER

BOOKS

ROCKET MAN

The complex orbits of Wernher von Braun.

by Thomas Mallon

OCTOBER 22, 2007

America's long-ago trips to the moon are now remembered mostly amid the knickknackery of eBay, a nostalgia niche for space buffs who might otherwise engross themselves in the relics of radio serials and baseball dynasties. The handful of surviving septuagenarians who actually walked on the lunar surface have little hope of living to see humans land on Mars, even though, as decades pass, such an enterprise continues to be fitfully proclaimed and underfunded. For more than thirty years, manned space flight has been a matter not of exploration but of commuting, frequent-flier mileage interrupted by occasional disaster on the way to or from low earth orbit. Anyone who has pondered the lives of shuttle astronauts will not have been surprised by the recent rumor—denied by NASA—that they sometimes show up drunk to the launch pad.

Michael J. Neufeld, the author of "Von Braun: Dreamer of Space, Engineer of War" (Knopf, \$35), acknowledges that "hardly anyone under age forty" knows his subject's name, even though America's moon shots owed a large measure of their success to him. Wernher von Braun (1912-77) had a career that was itself a kind of two-stage rocket, his scientific dreams boosted toward their late American fulfillment by his youthful service to the military apparatus of Nazi Germany. Disgusted and forbearing by turns, Neufeld, the chair of the Space History Division at the Smithsonian's National Air and Space Museum, offers this patient new biography as a corrective to the scientific and moral shakiness of the more admiring writers who have come before him. Using archival information that they neglected, he has nonetheless faced the same "inaccessibility of [von Braun's] widow, his children, and his American relatives," who seem to regard all biographical study of von Braun as a kind of posthumous deportation hearing, one that always carries the possibility of his being ejected from the American Cold War pantheon and repatriated to the ruins of the Third Reich.

Magnus von Braun, the rocketeer's father, eventually compared his son to Columbus. A proud Prussian Junker, whose family had once been friendly with Kant, the elder von Braun was a dutiful civil servant who for a short period during the First World War acted as press secretary to the German chancellor. His inborn distrust of democracy was deepened by the postwar upheavals that finally sent him into banking. According to Neufeld, his middle son, Wernher, inherited from Magnus an "ability to land on his feet through multiple changes of fortune"; it was from his scientifically curious mother that the boy is thought to have acquired the gusto with which he used the telescope he received the year he turned thirteen.

Life at a boarding school just north of Weimar reinforced the anti-democratic sentiments he got from his father, but Wernher's exposure to Hermann Oberth's pamphlet "The Rocket Into Interplanetary Space" sparked a romantic obsession that was soon in full adolescent flower. At sixteen, home in Berlin on vacation from school, von Braun launched a wagon powered by a half-dozen toy rockets down the Tiergarten Allee. The fleeing pedestrians occasioned in him no Kantian consideration of means versus ends: "It never occurred to me," he later recalled, "that they were not prepared to share the sidewalk with my noble experiment."

A few years later, while studying at the Berlin-Charlottenburg Institute of Technology and participating in a space-flight society, von Braun joined some exuberant young colleagues in repeated tests of the unstable Repulsor rocket, which was based on Oberth's design and fuelled by a combination of gasoline and liquid oxygen. The launches were financed in part by tour groups that paid to watch, but the renascent German military soon became



http://www.newyorker.com/arts/critics/books/2007/10/22/071022crbo_books_mallon... 16/10/2007

the most intent observer of the excitement in Berlin's *Raketenflugplatz*. Captain Walter Dornberger, a leading figure in the Army's rocket-development program, took special notice of von Braun, and his "paternal advice, encouragement, and restraint" made him an ideal protector and boss for years to come. Von Braun, who once declared, "All I really want is a rich uncle," was eager to have the Army's money, even if that now meant substituting secrecy for publicity seeking. Neufeld offers "a qualified yes" to the question of whether von Braun could have been, at this youthful point, "as apolitical and naïve" as he later claimed. The rocket-builder turned twenty-one on March 23, 1933, the day the Reichstag gave Hitler dictatorial powers.

Von Braun saw the weaponizing of rockets as a kind of awkward adolescence for the vehicles, whose true destiny would arrive when they took men to other planets. In the meantime, he was content to let his military superiors imagine his creations carrying explosives or poison gas instead of passengers. In late 1934, successful testing of the Aggregat 2 (A-2) rocket prompted von Braun to take a Christmas vacation in London; after this quick respite, he returned to the rivalrous military culture in which both the Army and Hermann Göring's Luftwaffe were eager to hurl money at further missile development. In 1937, von Braun, only twenty-five, was put in charge of three hundred and fifty people, as his liquid-fuel-rocket group moved to a remote location on the Baltic coast near the fishing village of Peenemünde, a spot recommended by von Braun's mother. For the next several years, he integrated an enormous operation that sought to perfect, and then mass-produce, the A-4 rocket, which the Propaganda Ministry in Berlin soon preferred to call the Vengeance Weapon, or V-2.

Neufeld catches von Braun in one ethically supine moment after another, laying out the evidence of increasing complicity, which von Braun and his later American bosses, determined to protect a major Cold War asset, eventually had to cover up. When anything mitigating or exculpatory seems to surface, it gets put on the scales. The photograph that the author develops darkens only gradually. Von Braun displays "selective memory" and "moral obtuseness," flashes of guilt but nothing ever approaching an acceptance of responsibility for his part in the Reich's predations.

After joining the Nazi Party, in 1937, the result of a "campaign to recruit nonmembers in positions of authority and social influence," von Braun seems to have done little more "than send in his monthly dues." When, three years later, he was pressured to join the S.S., he didn't have the strength of character to risk his career by saying no, but he was reluctant to wear the uniform. He had five encounters with Hitler; at one of them, he had to force himself not to talk about space travel instead of ballistics. Initially cool to what Peenemünde was producing, the Führer, by the middle of 1943, began to see the prospect of salvation in the V-2 and ordered manufacture of the weapon on a scale wildly incongruent with its level of technical refinement. It was this strategic overreaching, more than any perception of the Reich's brutality, that seems to have set in motion von Braun's "alienation from the regime."

He may not have liked using slave labor to increase V-2 production, but he did not protest. During the last years of the war, thousands of rag-clad prisoners from the Dora concentration camp unloaded parts for the gleaming rockets and then returned to underground tunnels to sleep, and be beaten, in conditions of almost unimaginable filth and contagion. The death rates were astonishing (five thousand in the first three months of 1944), and, whether or not von Braun saw any of the beatings or hangings to which his fellow S.S. officers subjected the prisoners, Neufeld makes it meticulously clear that "he saw a lot." Ten years ago, in a passionate introduction to "Planet Dora," Yves Béon's memoir of life in the camp, Neufeld laid out the conditions in even more horrifying detail, while swatting away von Braun as "basically an apolitical opportunist." Here the biographer's effort "to be fair" to his subject seems hard won and credibly devastating. Neufeld argues that von Braun could have been charged with committing war crimes on at least two occasions, had he been judged by the same Nuremberg standard used for Albert Speer, who had looked out for Peenemünde in the German military's competition for funds.

The luckiest break of von Braun's life probably came in 1944, when he was arrested by the Gestapo for some loose, pessimistic talk at a party. Quickly sprung with the assistance of Dornberger and Speer, he now had a kind of anti-Nazi credential to sport in the postwar world that was fast arriving. For the rest of his life, von Braun's activities at Dora went mostly unmentioned in magazine profiles and interviews, but his arrest by Hitler's police tended to figure prominently, no matter that it occurred nine months before von Braun accepted a Knight's Cross from Speer at an eerie ceremony held inside a North Rhine castle. Von Braun and three other honorees received their medals, minutes apart, between launchings of the V-2 against Antwerp, "the room suddenly lit with the flickering light of the rocket's exhaust and slightly shaken by the reverberations of its engine," according to Dornberger, one of the medalists.

Nearly all who have recollected and written about von Braun attest to his generous endowments of charm, optimism, and physical energy. Sleekly handsome, blond and well built, he was in his youth nicknamed Sonny Boy, after the Al Jolson song, for his ability to make gray skies seem blue. Attractive to women, a hale hunting and drinking companion, he was an inspiring boss, loyal to individual associates and family. Even Neufeld, consistently

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serious in his enterprise, sometimes has to resist writing of von Braun as if he were the amiable protagonist of an adventure novel. As the Allies closed in during the spring of 1945, von Braun appears more mischievous than desperate. He doesn't just wait for the Americans; he goes looking for them, knowing they will want his expertise and betting that they can make his long-deferred dreams of space travel come true. On May 3, 1945, two days before the Russians overran Peenemünde, von Braun ends up dining on scrambled eggs and posing for pictures with the 44th U.S. Infantry Division, to whom he has just surrendered. He makes clear how much expertise he has to offer and shows remorse for nothing beyond the lost opportunity to have perfected the V-2 before the game was up.

But a new game was very much on. If the Americans thought first of von Braun's potential usefulness to them in the protracted war that was still expected in the Pacific, they quickly redeployed him against the Soviet threat. By the fall of 1945, von Braun and dozens of ex-Peenemünders were beginning to arrive at Fort Bliss, near El Paso, from which some of them would commute by bus to White Sands, New Mexico, in order to launch, and continue perfecting, a cache of captured V-2s. Von Braun adjusted fast to his new employers, however strictly they supervised his comings and goings—especially a 1947 trip back to Germany in order to marry a much younger first cousin, during which there were fears of a possible kidnap attempt by the Soviets.

Von Braun also adapted to both the forward-looking conveniences and traditional pieties of American life. He marvelled at the comforts of Southern California and underwent an evangelical conversion inside a little white frame church in El Paso, an experience that Neufeld treats with respectful reserve, conceding that it may have originated in von Braun's anxiety about the nuclear weapons he expected to become involved with. Still, the biographer notes that within a few years von Braun, characteristically, traded up from that white frame congregation to a more socially prominent Episcopal one.

Von Braun spent most of his long American career in Huntsville, Alabama, first as the director of the Army's Ordnance Guided Missile Center, where he developed the Redstone rocket, a direct descendant of the V-2, and came to oversee a domain comparable to Peenemünde. In Neufeld's narrative of the nineteen-fifties, Soviet-American rivalry seems less prominent than the interservice missile competitions of the U.S. military: the Army's Jupiter program, the Air Force's Thor, and the Navy's Vanguard all wanted dibs on Armageddon. Von Braun knew that he was in the same means-and-ends predicament he'd been in since Walter Dornberger first walked into the *Raketenflugplatz*, two decades earlier: if he was ever to crown his missiles with men, he would first have to let them carry bombs.

But here in America, even while working for the Army, he was allowed, within limits, to pursue a parallel career as an advocate of space exploration. Von Braun started small, addressing the El Paso Rotary Club in 1947, then moving on to write a novel, which he managed to publish in Germany, about the human settlement of Mars. His wheel-shaped model for a space station—a military necessity, he argued—appeared in *Popular Science*, and three heavily promoted special issues of *Collier's*, each devoted to space flight, began making him famous. The second of these imagined a moon landing carried out by a fifty-man crew. (Von Braun never gave much thought to robot explorers, in part because, still in his early forties, he remained hopeful of going into space himself.) True celebrity arrived in 1955, the year he became an American citizen, with his participation in the Disney broadcast "Man in Space." He was now the face, and voice, of his millenarian cause; his German accent "fit an American cliché of scientific gravity."

It was, of course, the Soviets' surprise launch of Sputnik that turned space exploration, manned and unmanned, into the Cold War's second, celestial front, a peaceful competition more attractive than the ongoing ballistic one. In the catch-up rush to launch the first U.S. satellite—Explorer I reached space in January, 1958, four months after Sputnik—the Juno rocket that von Braun developed for the Army beat out all the other American military services. President Eisenhower didn't much like the designer, who was now pushing for too much money too quickly and too publicly, but Senate Majority Leader Lyndon Johnson and a cluster of Capitol Hill committees were won over. "Only J. Edgar Hoover has a comparably dissolving effect on congressmen," the columnist Mary McGrory wrote. "The hardest thing the German-born scientist has to do is to say 'down, boy' as [they] press additional millions on him and beg him to tell them if he isn't treated right." Cover stories in *Time* and *Der Spiegel* mentioned the Gestapo arrest but not von Braun's Party membership, let alone the S.S. and Dora; his lecture fees soared, and in 1960 he escorted Mamie Eisenhower to the première of "I Aim at the Stars," a movie based, with more than usual looseness, on his life story. Mort Sahl suggested a subtitle: "But Sometimes I Hit London."

Von Braun's enormous Huntsville operation was folded into NASA, the new space agency, and John F. Kennedy's 1961 pledge to reach the moon by decade's end turned that sphere into a glowering "deadline display device," as von Braun put it in a letter to his aging father. His job was to prepare the huge Saturn V rocket for the journey. The man he put in charge of its production was Arthur Rudolph, a Peenemünde colleague who, twenty years before, had shown special eagerness to use the slave laborers of Dora. Lyndon Johnson, after reaching the

http://www.newyorker.com/arts/critics/books/2007/10/22/071022crbo_books_mallon... 16/10/2007

White House, gave von Braun a cowboy hat and told him he wanted to see it on the moon. Once Armstrong, Aldrin, and Collins had got there and back—the Saturn V proved amazingly reliable—von Braun was paraded through Huntsville on the shoulders of its citizens.

Throughout his book, Neufeld refuses to use the term “rocket scientist,” not because of its goofy cultural currency but because of its strict inapplicability to his subject. Despite a doctorate in physics, von Braun was, from Peenemünde to Huntsville, “an engineer and a manager of engineers,” an integrator of systems with a gift for selling them to whatever officials might continue their funding. Von Braun may have been a visionary with a penchant for the gigantic, but his engineering style tended toward the cautious, even during the deadline-driven days of the V-2 and Project Apollo. He was a late convert to the daring LOR (Lunar-Orbit Rendezvous) strategy, which speeded up the moon landings, and he was only accepting a strategy conceived by others when he implemented NASA’s policy of accelerated, “all-up” testing, which eliminated many flights of the Saturn’s individual stages and components in favor of a few that tested them all together. The V-2 may have been “a revolutionary breakthrough in rocket technology,” but by the early sixties, Neufeld writes, von Braun “had not had a really new idea in years.”

The period after Apollo 11 seems to have been the only depressing part of his life. Democracy being what it is, he could not overcome the public’s sudden indifference toward a mission to Mars, “the ultimate objective of his life’s work.” Von Braun grabbed a portion of the timid space-shuttle project for Huntsville, if only to keep the facility there flourishing and to sustain the dwindling chance that he himself might yet go into space. In the early nineteen-seventies, he served a brief Washington tour as NASA’s deputy associate administrator and discovered that he could no longer charm the congressional committees the way he used to. Carl Sagan, not an admirer, replaced him as the popular face of space, while journalists and even talk-show hosts began to ask discomfiting questions about his German past. In 1967, von Braun received the Smithsonian’s Langley Medal for aeronautical achievement; a decade later, the usually flexible David Gergen kept the Ford White House from giving him the Presidential Medal of Freedom. The most conspicuous landmark to bear von Braun’s name—presumably to the delight of Mort Sahl—is a crater, at the western rim of the moon’s Oceanus Procellarum.

From a career standpoint, von Braun’s death, in 1977, at the age of sixty-five, may have been as lucky as it was premature, since the worst disclosures about his past—his S.S. membership and complicity in slave labor—were soon to achieve general circulation. In 1984, facing even worse revelations, Arthur Rudolph chose to renounce his American citizenship and return, after nearly forty years, to Germany. It is difficult to visit the Saturn rocket displayed today in Houston, on its side, without hearing the ghosts in the machine.

Men no longer travel far from Earth, but a few of their mechanical creations continue to sail beyond the edges of the solar system. The Voyager 1 spacecraft, launched on a “grand tour” of the planets less than three months after von Braun’s death, is now about ten billion miles from us, carrying with it recorded “greetings on behalf of the people” of Earth. They are spoken by the fourth Secretary-General of the United Nations, Kurt Waldheim. ♦

PHOTOGRAPH: BOB GOMEL/TIME LIFE PICTURES/GETTY IMAGES

Attachment 3.

José Dorado: My personal recent and next activities are:

1. National Museum on Science and Technology. Madrid
Marathon on 50 years of astronautics in Spain
Date, October 25th, 2007-12-11
Director. Jose M Dorado
Program 6 conferences on different topics
2. Same
Conference on: Sputnik 1, 50th anniversary
José M. Dorado
3. Revista de Aeronáutica y Astronáutica (Spanish Air Force)
Number 767, octubre 2007
pp. 950-967
Article: The first satellite
José M Dorado
4. Historia Astronáutica del INTA
(INTA's Astronautical History)
Volume 1
Author Jose M Dorado
Manuscript delivered on November 23rd
About 400 pages.
Final revision this week
In press
To be distributed by year's end
5. Same.
Volumes 2 to 5
Editor José M Dorado
In progress
Volumes 2 and 3 planned for 2008
Volumes 4 and 5 planned for 2009.
6. Collaboration with INSA to expand its web page with selected articles on the Spanish Space Activities. See:
<http://insa.org/>
<http://insa.org/node/509>
<http://insa.org/node/599>
7. Collaboration with ESA to issue one book
Spain and the European space effort
Editor José M Dorado
Manuscript delivered early in 2007
About 560 pp.
ESA plans to distribute it by March 2008

Volume 5 of the collection: EXPLORATIONS
STUDIES IN MODERN SCIENCE AND TECHNOLOGY FROM
THE INTERNATIONAL ACADEMY OF THE HISTORY OF SCIENCE
Authors: J. M. Dorado, P. Sanz-Aránguez, J. Rivacoba, M. A. Sabadell, J.
M. Sánchez-Ron, M A. Llorca Palomera, P. Pintó and F. Artigas

8. Conversations with CDTI for a Spanish version of this same book.
9. Other activities under study (i.e. TV program on Spain and the Space, several conferences, etc.)
10. Proposal to become a member of the Editors Board of the "Servicio Histórico y Cultural del Ejército del Aire Español." (SHYCEA)
Objective: to expand *Aeroplano*, the magazine of the SHYCEA, to cover the Spanish astronautical history.

Pozuelo de Alarcón, December 11th, 2007

Contents of INTA's Astronautical History

VOLUMEN 1. INTA Y EL ESPACIO

TITULO 1. INTA ABRE A ESPAÑA LAS PUERTAS DEL ESPACIO

VOLUMEN 2. TECNOLOGÍA Y CIENCIA ESPACIALES

TITULO 2. TECNOLOGÍA ESPACIAL

TÍTULO 3. CIENCIA EN EL ESPACIO. GRUPOS CONIE, LAEFF y CAB

VOLUMEN 3. INSTALACIONES ESPACIALES EN TIERRA

TITULO 4. ESTACIONES NASA EN MADRID

TITULO 5. ESTACIÓN ESA EN MADRID

TITULO 6. ESTACIÓN INTA EN CANARIAS

TITULO 7. DE ARENOSILLO A CEDEA

VOLUMEN 4. SISTEMAS ESPACIALES EN VUELO

TITULO 8. PRIMEROS COHETES Y ESTUDIOS DE COMBUSTIÓN

TITULO 9. COHETES DE SONDEO

TITULO 10. COHETES LANZADORES. CAPRICORNIO Y ARIANE

TITULO 11. DE INTASAT A MICROSAT

VOLUMEN 5. SERVICIOS A LA SOCIEDAD.

TITULO 12. UNA INICIATIVA INTA. SATÉLITES ESPAÑOLES DE COMUNICACIONES. HISPASAT. HISDESAT

TITULO 13. LA INVESTIGACIÓN DE LA ATMÓSFERA.

TITULO 14. LA TELEDETECCIÓN DESDE EL AVIÓN AL SATÉLITE.

TITULO 15. LA OBSERVACIÓN DE LA TIERRA EN DEFENSA

TITULO 16. SERVICIOS INTA: INSA Y OTROS.

Attachment 4

Kerrie Dougherty

History-related Activities in 2007

January:

Dougherty, Kerrie Lecture, "A Short History of Space Exploration" NSW Space School (University of Newcastle, NSW) (students aged between 15-18)

February:

Dougherty, Kerrie Talk, "Walt Disney's Tomorrowland *Space* television series, part 2", Sydney Space Association,

Dougherty, Kerrie (ed) "History of Rocketry and Astronautics: Proceedings of the 32nd History of Astronautics Symposium, Melbourne 1998", AAS history Series Volume 27, American Astronautical Society/Univelt Publishers

Dougherty, Kerrie Commenced project providing advice and reference information to Australia Post on proposed designs for stamps to commemorate the 50th anniversary of spaceflight for National Stamp Week, 2007

Dougherty, Kerrie Commenced an ongoing project as a consultant to the Carnarvon (Western Australia) City Council on the redevelopment of the former OTC Carnarvon Satellite Tracking Station as a space museum and education centre

March:

Dougherty, Kerrie, two-part lecture series, "Space and Society" (presented from a historical perspective), Northern Sydney University of the Third Age

Dougherty, Kerrie, talk, "Walt Disney's Tomorrowland *Space* television series, part 3", Sydney Space Association

Dougherty, Kerrie Provided advice and reference information to Channel 7, Sydney, for a forthcoming "Where Are They Now" program on the Apollo 11 landing

April:

Dougherty, Kerrie Tour leader, "Back to Woomera", 60th anniversary of Woomera Rocket Range tour. In addition to leading tour also wrote historical briefing notes for tour, participants and two follow up magazine articles on the tour and the history of Woomera.

Dougherty, Kerrie Commenced assisting the Melville City Council (Perth, Western Australia) in identifying the original of a "NASA trailer" in the Council's heritage collection. It was eventually determined to be a tracking radar van used in connection with the Moblas 5 mobile laser tracking station at Yarragadee, Western Australia from the early 1970s.

May:

Dougherty, Kerrie Lecture "A Quick History of Space", AIAA Lunchtime Lecture Series for Students, Department of Aerospace Engineering, University of Sydney

Dougherty, Kerrie, Lecture "Spadeadam Rocket Establishment: Woomera's British Counterpart", Sydney Space Frontier Society

June:

Dougherty, Kerrie Lecture, "Origins of the Space Age", International Space University, Summer session program, 2007, Beihang University, Beijing

Dougherty, Kerrie Lecture, "The Cultural Rationale for Space Activities", International Space University, Summer session program, 2007, Beihang University, Beijing (lecture included historical content)

July:

Dougherty, Kerrie Lecture, "Space, Culture and Pop Culture", International Space University, Summer Session Program, 2007, Beihang University, Beijing (included historical content)

Dougherty, Kerrie "Satellites: Resource and Revolution", International Space University, Summer Session Program, 2007, Beihang University, Beijing (included historical content)

August

Dougherty, Kerrie Commenced redevelopment work on Space Exhibition at Powerhouse Museum, Sydney. Exhibition has significant historical content.

Dougherty, Kerrie Commenced writing an essay on the rocket as a design icon in Australian Modernism during the 1950s and 60s, *Rocketing into a New Era: the rocket as a symbol of "Modernity"*. This essay will be published in the Powerhouse Museum book "Modern Times: Modernism in Australia", due for publication in early 2008.

September

Dougherty, Kerrie, Paper, "WRESAT: Australia's First Science Satellite", 7th Australian Space Development Conference, Sydney,

Dougherty, Kerrie "50 Years of Spaceflight", interview for article in City Extra magazine

October

Dougherty, Kerrie, Materials for Australian National Stamp Month, which saw the release of a set of 6 stamps commemorating 50 years of spaceflight, illustrating historical and contemporary programs. In addition to providing input on the stamp designs, I contributed to a DVD with history content distributed to schools throughout Australia, wrote the accompanying teacher's notes for this DVD and also an information booklet with the history of each program illustrated on the stamps, to accompany the 'premium package' of the stamps for philatelic collectors.

Dougherty, Kerrie "Woomera Rocket Range Turns 60", Explorer (newsletter of the AAS History Committee), American Astronautical Society, issue 4, Oct 2007

Dougherty, Kerrie Organised a series of public lectures at the Powerhouse Museum, offered as part of World Space Week, to celebrate the 50th Anniversary of Spaceflight. On October 6, two lectures were presented: *Australia In Space*, by Dr. Iver Cairns and *The Drake Equation: A modern review*, by Wilson da Silva. On Sunday Oct 7, Dr. Ken McCracken presented the lecture *Blast Off: adventures from the dawn of the Space Age to the present*, focussing on his extraordinary career in space science. Kerrie Dougherty presented the lecture on October 10, *50 Years of Spaceflight: the highlights*. The final talk in the series was on October 14 with a lecture by visiting NASA scientists on the Spitzer Space Telescope project.

Dougherty, Kerrie Lecture, "The Long March to Orbit: China in Space", co presented with Dr. Morris Jones, Australian Institute of International Affairs, Sydney (I presented the section with historical content on the origins of the Chinese space program)

Dougherty, Kerrie, 2 media interviews on community radio stations the 50th anniversary of launch of Sputnik 1

November

Dougherty, Kerrie Contributor to the book *Astronomica* (Millennium House, Sydney), for which I wrote the first part of the chapters on space exploration, covering the period from ancient times until ASTP.

Dougherty, Kerrie Talk, "Wresat, Australia's First Satellite", Newcastle Space Frontier Society (for the 40th anniversary of Wresat)

Dougherty, Kerrie Talk, "Wresat, Australia's First satellite", Powerhouse Museum

Anticipated history-related activities in 2008

January:

Lecture, "A New Solar System: 50 years of exploring our Solar System", NSW Space School (University of Newcastle, NSW)

February:

Paper, "Spaceport Woomera" Imagining Outer Space Conference, Bielefeld, Germany. This paper will examine the depiction of Woomera Rocket Range as a "spaceport" in science fiction in the 1950s and 60s.

March:

Re-opening of refurbished Powerhouse Museum Space exhibition with reworked history content. This will include provision of new teacher's notes and student worksheets covering the both the historical and contemporary content.

April:

Yuri's Night public lecture: "The Space Program You Thought You Knew", which will examine the difference between what was publicly known in the West about the Soviet space program in the 1960s and what we now know about it, following the fall of the Soviet Union and the release of many files.

2 history-related talks booked for local space groups

May:

Possibly history-based talk for the Newcastle Space Frontier Society

June:

Possible paper on space archaeology for the World Archaeological Congress, Ireland

July:

Up to 4 lectures for the International Space University Summer School in Naples, all of which will have some level of history-related content.

August:

Anticipated one month working in Carnarvon, Western Australia on intensive development of the plans for the proposed space museum at the OTC satellite tracking station.

Opening of the Modern Times exhibition at the Powerhouse Museum, to which I will contribute content on the rocket as a design icon (stemming from the essay prepared for the associated book) and how this related to space activities in Australia in the 1950s and 60s.

September/Oct

Anticipated attendance at IAC and presentation of at least one History paper.