

THE SUN

MYTH, SCIENCE, EFFECTS, CULTURE

Purpose: The purpose of this exhibit is to follow mankind's increasing awareness and understanding of the Sun and the Sun-Earth-humanity relationship.

That is, the golden thread that defines this exhibit's content and organization is the progressing comprehension of the Sun by humans that developed with time.

Background: At first, for millennia, people's perception of the Sun was a primitive one clouded in mythology. Even as the first solar observations were made, we'll see that this early understanding, with few exceptions, remained at this primitive level.

Next we note that only as the scientific method finally developed, from 1500 to 1700, did the first scientists begin to realize the true nature of the Sun and its relationship to the Earth. After this we see how the characteristics of the Sun were slowly discovered, allowing an understanding of the Sun's life cycle to develop.

Only then are we able to appreciate and understand the direct physical effects the Sun has on the Earth and

humanity. These effects are numerous and are noted.

Yet, even though humanity has developed this insight and knowledge, we next observe how the Sun remains at least somewhat an icon of culture. That is, the Sun, beyond its physical effects on us, so dominates us that it has become a major influence on nations, the arts, our prose, how we perceive nature, etc. The results of this influence are enumerated.

Finally, in 10 billion years or so, as the Sun becomes a red giant and a white dwarf, we find the Sun-humanity connection has ended, and humans have hopefully found another home.

Rarity/Difficulty of Acquisition: As I explain in detail in the synopsis, much of the material that makes up this exhibit is not ordinary. In particular, the items matted in blue are, in my experience, irreplaceable or even unique.

Items matted in blue
are irreplaceable

Remnants of the ancient mythologies of the Sun, myths once accepted by various cultures, remain evidenced in stamp emissions of some countries. Note, for instance the Peruvian god of the Sun stamp on this cover.



1893 surface letter from Peru to Germany. The indicium pays the 10 centimos UPU postage, and the one centimo Peruvian Inca god of the Sun stamp pays the cross-Isthmus of Panama postage

THE EXHIBIT PLAN

	TITLE AND PLAN	(2 pp)
	1 THE SUN SHROUDED IN MYTH (PRE-1500 AD)	(11 pp)
	1.1 Myths of Sun Worship	
	1.2 Myths and Solar Eclipses	
	2 EVEN AS MYTH DOMINATED, PRIMITIVE UNDERSTANDING DEVELOPED	(15 pp)
	2.1 Early Solar Observation, Deduction, and Astrology	
	2.2 Further Early Solar Observations and Deductions	
	3 PROVING THE SUN-CENTERED UNIVERSE	(11 pp)
	3.1 Science Awakens with Copernicus	
	3.2 Brahe and Kepler Promote this Awakening	
	3.3 Galileo Supports Copernicus' Theory	
	3.4 Newton offers Mathematical Proof	
	3.5 Solar Eclipses as Scientific Events	
	4 SOLAR PHYSICAL PROPERTIES	(16 pp)
	4.1 The Sun's Diameter and Mass	
	4.2 The Solar Day	
	4.3 The Elements that Compose the Sun	
	4.4 The Central Sun	
	4.5 The Solar Atmosphere's Three Layers	
	5 SOLAR LIFE FROM BIRTH TO DEATH	(7 pp)
	5.1 Birth - Condenses from Cloud of Dust and Gas	
	5.2 Adult Life as a Producer of Energy	
	5.3 A Red Giant Star - Old Age	
	5.4 Of Death and Dying	
	6 SOLAR EFFECTS ON THE EARTH AND HUMAN BEINGS	(16 pp)
	6.1 Photosynthesis and Rainbows	
	6.2 The Effects of Solar Radiation and Wind	
	6.1 Solar Cycles and Living with the Sun	
	6.3 The Earth's Seasons and Climates	
	7 SOLAR EFFECTS ON HUMAN BEINGS	(15 pp)
	7.1 How the Sun Affects Our Health	
	7.2 The Sun in Commerce	
	8 THE SUN - REFLECTED IN CULTURE IN MODERN TIMES	(16 pp)
	8.1 The Sun Enhancing National Symbols	
	8.2 The Sun as a Sign of Kingship and National Celebration	
	8.3 The Sun, an Alluring Element in Commerce	
	8.4 The Sun, used to Describe Elements of Nature	
	8.5 The Sun Brings Special Meaning to Art	
	8.6 The Sun Defines Ideas in Prose and Poetry	
	9 THE FUTURE	(3 pp)
	9.1 Life Continues on Earth	
	9.2 The Sun Destroys Human Life on Earth	

MYTH

Hindu Sun god Surya riding in a chariot across the sky.



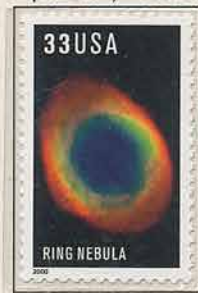
SCIENCE

The Sun...



Airmail issue

...eventually becomes a planetary nebula.



EFFECTS

Skin cancer from the Sun.



Semi-postal

CULTURE

Guatemalan coat of arms.



Small die proof

3.3 GALILEO SUPPORTS COPERNICUS' THEORY

In the early years of the 1600's, Galileo...



...advanced science further showing that the motion of solar system bodies was as readily explained by a Sun-centered universe.



He did this by improving upon the telescope and making remarkable observations.



For instance his observations of Venus were incompatible with the Earth-centered solar system model because...



...they showed that Venus passed through all phases, just like the Moon.

Crescent phase



Gibbous phase - almost full

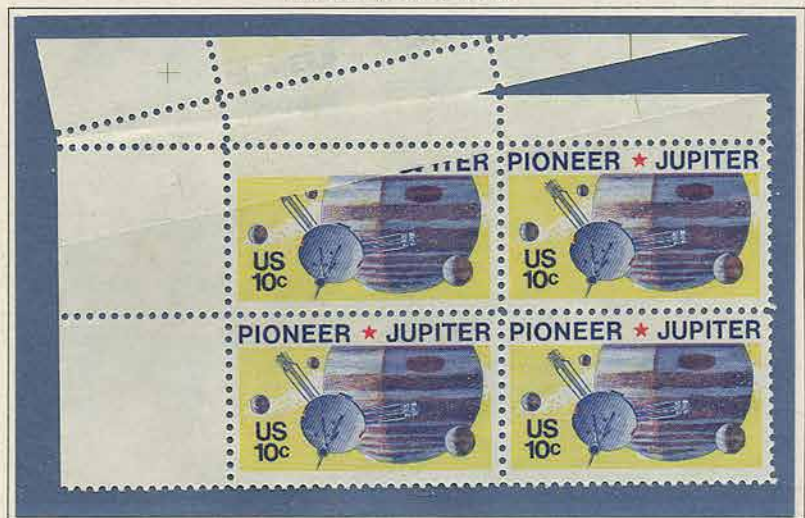


Booklet single

More startling, when Galileo...



...looked at Jupiter...



Foldover freak

...he saw another center of revolution in the universe besides the Earth...



...because he saw Jupiter...



...with moons surrounding it.



6.1 PHOTOSYNTHESIS AND RAINBOWS

6.1.1 PHOTOSYNTHESIS

Photosynthesis in agriculture also...
The Sun in agriculture



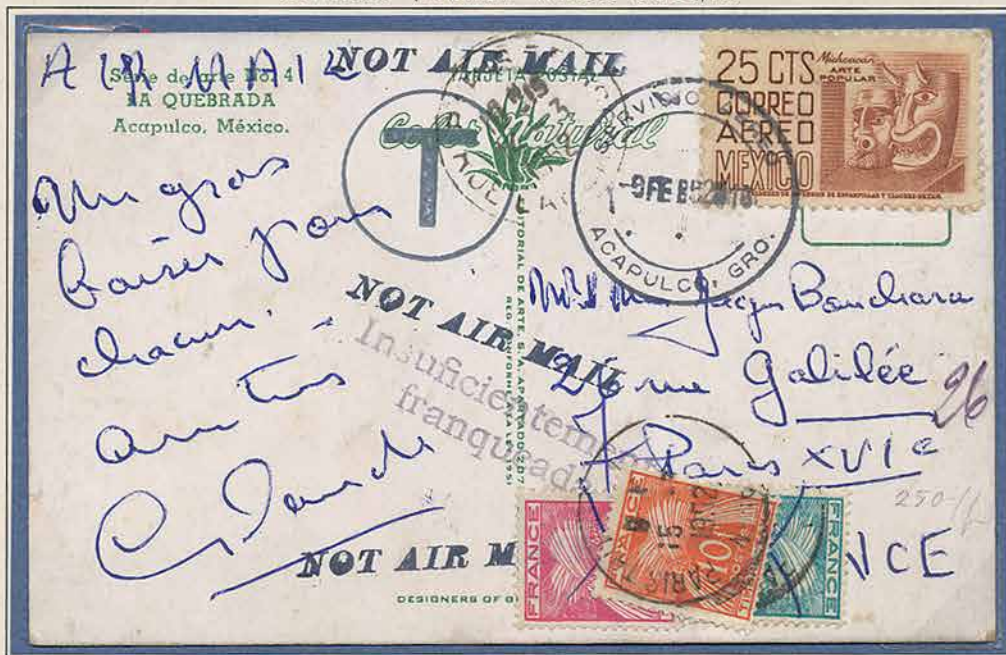
Telegraph stamp large color die proof

...results in end-products such as rice (rice sheath stamp),...



1955 surface letter, Kedah, Malaya to Singapore, 10cents/20grams

...wheat (French wheat dues)...



1952, airmail card, Mexico to France. 25 cts Mayan artifact stamp insufficient for airmail and surface. Thus 'NOT AIR MAIL' and 40 centimes wheat dues.

...and myriad other edibles.

	07200 AUBENAS	<table border="1"> <tr> <td>AUBENAS CDIS ARDECHE</td> <td rowspan="3"> </td> </tr> <tr> <td>43300 LANGEAC</td> </tr> <tr> <td>48000 MENDE</td> </tr> </table>	AUBENAS CDIS ARDECHE		43300 LANGEAC	48000 MENDE
	AUBENAS CDIS ARDECHE					
	43300 LANGEAC					
48000 MENDE						
	13-07-05					
	7310 00 009024 CB9D68 070030					

8.1 THE SUN ENHANCING NATIONAL SYMBOLS - 8.1.2 ADDS MEANING TO COAT OF ARMS OF ARGENTINA

The Sun in Argentina's Coat of Arms represents the rising of the country. It is seen as an integral part of the design in many of Argentina's postal emissions, including...

...original artist's design in pencil of an 1862 issue,...



Original design in pencil by Roberto Lange of the 1862 issue 15-centavo stamp - ex-Hubbard

...small die proofs of 1899 issue,...



Small color die proof 10 centavos value



Small die proof 10 centavos value



...part of watermark design of 1975 issue,...



...and an integral part of the design of a meter, and newspaper wrapper indicium, of Argentina.



1945, Argentina to Costa Rica non-US, non-British censored airmail letter



1930, domestic Argentinian newspaper wrapper, 1/2 centavo rate