

## WHY WE EXPLORE SPACE

by Charles D. Walker, President N.S.S.

Why? is the question children ask most often. As that child matures he/she may verbalize the question less but continues to inquire into the mysteries that surround us all in life. To quote historian Daniel Boorstin, we humans are Discoverers, with a "need to know - to know what is *out there*." But just what makes up that need to explore space?

To me there's not just one, but three categorical needs; each one holding sway over each of us to different degrees. There are the psychological, the material, and survival.

What I call the psychological need begins with our individual craving for new experiences, for achievement, and for power. These needs manifest themselves up the scale from individuals, through corporations to nation-states. Consider what an experience it is to leave your home -- planet! How great a recognized achievement it is to have flown *out there*, into space! How much power and leadership is demonstrated in overcoming the natural restraint of the Earth's gravity! And perhaps too, in exploring space, each of us knows that a part of us has reached the heavens, the spiritual home of good and wonderful things. No wonder Buzz Aldrin (pilot of Apollo 11) has said that "spaceflight lifts the human spirit."

Then, to me, there is the material need to explore space. This, as a rationale, is certainly not as intuitively obvious as the psychological need. It is on a "real" level though, and makes for the kind of compelling justification that politicians and managers must have to get resources. "Ah", as the Bard wrote, "there's the rub!" It's necessary but not obvious. But wait, one might say, communications satellites and environmental sensing space platforms are obviously necessary. I will agree. But I will also quickly point out that those are not space *exploration*; they are, historically, exploration but currently they are exploitation. They are taken for granted and will continue as such. I am pointing here to the further, as yet largely unrecognized and certainly unfulfilled, exploration of space and the other worlds there for useable natural and technical resources. The Moon may be the site for truly cheap, inexhaustible energy for the growing human civilization here on Earth. But, just the act of returning to the Moon to find out will develop new technological resources as "spin-offs" for that civilization to use immediately. The act of exploration has always yielded technical benefits to human societies. That fact, and the need to continue exploring, have not changed.

But I know that we do explore outer space - every technically capable country has conducted some form of space exploration, directly or indirectly. The public and its elected officials agree, in a majority, that reaching to know what is out there is a good thing; the matter of significant exploration really turns on when? Space, of course, is only one of many realms of inquiry. So, the point comes down to seeing why we explore **space now**.

I see the reason as survival. Political and economic survival in technical competition within the global economy, sure. But more than that. All human creation, all life as we know it, is here on the Earth. All our eggs are in one basket. Our embryonic resources are diminishing, our nest is becoming fouled and -- that basket is a target.

Our technological nature has just given us the means to remove that risk. We can use resources elsewhere and bring the products home. We can look for and actively guard against Earth-pummeling asteroids and comets. We can also place some eggs elsewhere, to reduce the risk of complete disaster further.

There are the reasons why, now all that is needed is the courage to admit that the time is now.