

## **Hope and Despair**

*August 21, 2006*

Imagine the following scenario: The crew of a spaceship is forced to crash-land on an obscure planet. After the initial shock of the crash they evaluate their position. The chief engineer reports that the ship will never leave this planet; it is damaged beyond the possibility of repair. The ship's communication system is also damaged beyond repair. Calculations indicate that there is no hope for a rescue. However, there is plenty of food and water on the ship, enough to last for years depending on how it is rationed.

Once they accept the permanence of their situation the crew turns to evaluating their options. The atmospheric data is hopeful the planet's atmosphere will support human life. But, there are only trace amounts of water in the atmosphere and a low probability for plant or animal life. Next they turn to the ship's computers to see if any previous studies have been made of this out-of-the-way planet. They discover several articles. The articles are a series of exchanges between two scientists: Smith and Jones, who hold opposite hypotheses about this planet. Jones' hypothesis is potentially good news, a source for hope, but Smith's is depressing.

Jones argues there is strong evidence that the planet holds vast amounts of subterranean water in the Northern Hemisphere. Moreover, she provides images that seem to show numerous large surface openings which, she argues, lead to a system of underground lakes and rivers. Jones further hypothesizes that it is likely these lakes and rivers support aquatic life. The data Jones presents to support this position is encouraging, but far from certain. Smith mounts a convincing attack on Jones. He attempts to demonstrate point by point how Jones has misread the data and, therefore, drawn false conclusions. Smith scores some impressive points against Jones' hypothesis, but his conclusion also lacks the force of certainty. Both scientists are working from a finite set of data gathered by a single probe as it passed by this planet. After several exchanges Smith and Jones either lost interest in the issue or journals no longer thought the debate worth publishing, as the debate could not be advanced due to the limited amount of data.

The crew studies the articles and attempts to collect additional data. However, since they are in the Southern Hemisphere and the water is reported to be in the Northern Hemisphere, nothing conclusive can be learned. Moreover, once they calculate the possibility of putting an expedition together to collect evidence, they discover that their present position puts them well beyond a point of no return. An expedition to the North to search for water would be a one way affair. Thus the unfortunate dilemma: they can stay where they are and live out the remainder of their lives in relative safety or take the great risk that there is water in the North and once it is found they can make life worth living.

But why might people risk their security to search for uncertain waters? Their lives will be longer and it is likely that they will be shortened and more difficult. Even if they found water and a life could be made in the Northern Hemisphere, such a life may be full of risks and hardships.