

He Leadeth Me Beside the Still Waters

Life on this planet began in the seas some three to four billion years ago. And despite the numberless life-forms that have since become irreversibly terrestrial, the bulk of the world's flora and fauna have remained resolutely marine.

Freedom from an aqueous environment, even for land-adapted creatures, however, is an illusion. In an operational sense, the land-based creatures never really abandoned the wine-dark, saline-tinged seas. Through evolutionary adaptation, our primordial ancestors carried a bit of the seas within themselves, internalizing the salt-flavored seas as their internal fluids circulated within ramifying conduits called blood vessels while bathing their internal organs in an ambience of water and salts astonishingly similar to the chemical composition of the seas.

It is an illusion, and a desperate one, to think therefore that man can overcome his remote marine heredity. As humans, we begin our land-based life bathed, protected and nurtured by our mother's amniotic fluids. Water sanctifies, or otherwise welcomes, the newborn into a world of increasing complexity and hazard; and we are then sustained throughout extra-uterine existence by an abundance of water at all stages of our lives. Indeed, humans cannot survive more than a handful of days without water. We recognize, subconsciously, the centrality of water in our lives as its mere presence calms us whether it be flowing, falling or springing forth as fountains. The primacy and essentiality of water has been recognized in all religions; and water, whether plain, fermented, holy or baptismal, has been incorporated into the crucial rituals and dogmas of most faiths.

Water, carbonated or tinged with alcohol, even christens our newly constructed ships before they are launched into the beckoning sea waters. Water graces the dinner table whether in Sante Fe, Santiago or the Sahara. Water sustains the vast agricultural enterprise on all of the continents, and ready access to water for irrigation, and through rainfall, is the principal determinant of whether a nation generates its own food supply or, alternatively, depends upon other countries to provide its nourishment.

Water cleans our environment as well as our bodies. Water therefore sustains us; and yet sadly, sometimes, betrays us. In its ubiquity, water also serves to convey pathogens from one person to another providing the conduit by which such devastating infections as typhoid fever, cholera, dysentery and the numberless diarrheas of infancy and childhood burden the lives of humans. Epidemiologists estimate that over one-third of all mortal infections are water-borne.

One of the great problems facing humanity is the increasing shortage of potable water for its six billion inhabitants. Certainly there is no dearth of water since the amount of water on or beneath the global surface, in contrast to our finite and diminishing sources of energy, has not varied in billions of years. But of this vast quantity, 97% is salt water; and 2% of the remaining 3% is bound in ice. Furthermore, the vast quantities of fresh water beneath the earth's surface are too deeply situated to make recovery economically feasible.

There is an enormous difference in the volume of water employed by citizens in different nations. Americans on average use 1,300 gallons of potable water per day. In Europe, the amount diminishes to about 400 gallons daily; and in rural Africa, the volume rarely exceeds 4 gallons per day per person. These huge differences demand an explanation: In the United States 98% of homes had readily available interior access to clean water, including the luxury of flush toilets (which use about 3.4 gallons per flush). But certainly, even with badly leaking plumbing, the use of 1,200 gallons per day seems obscenely excessive. The United States extracts 350 billion gallons of water per day, either through wells or from surface sources. This immense volume, when divided evenly amongst the nation's population of about 300 million thus allegedly yields 1,200 gallons for each person. But this is a deceptive figure since 78% of water goes solely for irrigation purposes, leaving only 22% to be divided between burgeoning industrial needs, personal hygienic wants, culinary requirements and certain uniquely American functions. Visitors from tropical lands are often rendered speechless when they see how Americans use vast quantities of water – potable water, no less – to water their lawns, wash their vehicles and wash their streets.

Water is life; solely by its grace do we live. Where there is no water, there is no life. And these verities are fully substantiated in any convenience store which sells both gasoline for our automobiles and essentials for our households. In the last year gasoline has varied from about \$2.00 to slightly over \$4.00 per gallon (hence about 38 cents per pint.) The same store will happily sell you a pint container of water, whatever brand, for about 90 cents per pint bottle. Basic marketplace arithmetic tells us, therefore, that water is twice as valuable as gasoline.

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Disclosure of Financial Interests

Stanley M. Aronson, MD, has no financial interests to disclose.

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