

PLAIN WATER WILL TELL YOU THE STORY

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(This article is reproduced from a book *the Evidence of God in an Expanding Universe* edited by John Clover Monsma, published in 1958. This book is a collection of short articles by different scientists about their views about God. The pictures and the Periodic Table diagram have been added by the Al-Islam eGazette editor.)



Whittaker Chambers in his book *Witness* tells of a simple incident which was probably the turning point of his life (and perhaps of the affairs of mankind). He was watching his little daughter and unconsciously became aware of the shape of her ears. He thought to himself how impossible that such delicate convolutions could have come about by chance. They could have been created only by premeditated design. But he pushed this thought out of his agnostic mind because he realized that the next step in logical sequence would have to be: design presupposes God -- a thesis he was not yet ready to accept.

I have known many scientists among my professors and fellow research workers who have had similar thoughts about observed facts in chemistry and physics, even though they have not spoken from the depths of despair that Whittaker Chambers found himself in.

I see order and design all about me in the inorganic world. I cannot believe that they are there by the haphazard, fortunate coming together of atoms. For me this

design demands an intelligence, and this intelligence I call God.

Probably to a chemist the periodic arrangement of the elements is the most arresting. One of the first things a freshman chemistry student learns is the periodicity or order found in the elements. This order has been variously described and classified but we usually credit Mendeleev, the Russian chemist of the last century, with our periodic table. Not only did this arrangement provide a means of studying the known elements and their compounds but it also gave impetus to the search for those elements which had not yet been discovered. Their very existence was postulated by vacant spaces in the orderly arrangement of the table.

Chemists today still use the periodic table to aid them in their study of reactions and to predict properties of unknown or new compounds. That they have been successful is sound testimony to the fact that beautiful order exists in the inorganic world.

PERIODIC TABLE OF THE ELEMENTS
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1A 1																	2A 2	3A 13	4A 14	5A 15	6A 16	7A 17	8A 18		
1																	2	3	4	5	6	7	8	9	10
H Hydrogen 1.00794																	He Helium 4.002602								
3	4											5	6	7	8	9	10								
Li Lithium 6.941	Be Beryllium 9.012182											B Boron 10.811	C Carbon 12.011	N Nitrogen 14.0064	O Oxygen 15.999	F Fluorine 18.9984032	Ne Neon 20.1797								
11	12	3B	4B	5B	6B	7B	8	9	10	11	12	13	14	15	16	17	18								
Na Sodium 22.98976928	Mg Magnesium 24.304											Al Aluminum 26.9815385	Si Silicon 28.0855	P Phosphorus 30.973761998	S Sulfur 32.06	Cl Chlorine 35.453	Ar Argon 39.948								
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36								
K Potassium 39.0983	Ca Calcium 40.078	Sc Scandium 44.9559122	Ti Titanium 47.88	V Vanadium 50.9415	Cr Chromium 51.9961	Mn Manganese 54.938044	Fe Iron 55.845	Co Cobalt 58.933194	Ni Nickel 58.6934	Cu Copper 63.546	Zn Zinc 65.38	Ga Gallium 69.723	Ge Germanium 72.630	As Arsenic 74.921595	Se Selenium 78.96	Br Bromine 79.904	Kr Krypton 83.80								
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54								
Rb Rubidium 85.4678	Sr Strontium 87.62	Y Yttrium 88.90584	Zr Zirconium 91.224	Nb Niobium 92.90638	Mo Molybdenum 95.94	Tc Technetium [98]	Ru Ruthenium 101.07	Rh Rhodium 102.9055	Pd Palladium 106.42	Ag Silver 107.8682	Cd Cadmium 112.411	In Indium 114.818	Sn Tin 118.710	Sb Antimony 121.757	Te Tellurium 127.6	I Iodine 126.905	Xe Xenon 131.29								
55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86								
Cs Cesium 132.90545196	Ba Barium 137.327	*La Lanthanum 138.90547	Hf Hafnium 178.49	Ta Tantalum 180.94788	W Tungsten 183.84	Re Rhenium 186.207	Os Osmium 190.23	Ir Iridium 192.222	Pt Platinum 195.084	Au Gold 196.966569	Hg Mercury 200.59	Tl Thallium 204.3833	Pb Lead 207.2	Bi Bismuth 208.9804	Po Polonium [209]	At Astatine [210]	Rn Radon [222]								
87	88	89	104	105	106	107	108	109	110	111	112														
Fr Francium [223]	Ra Radium [226]	*Ac Actinium [227]	Db Dubnium [261]	Sg Seaborgium [266]	Bh Bohrium [264]	Hs Hassium [277]	Mt Meitnerium [268]	[109]	[110]	[111]	[112]														
*Lanthanide Series		58	59	60	61	62	63	64	65	66	67	68	69	70	71										
		Ce Cerium 140.127	Pr Praseodymium 140.90766	Nd Neodymium 144.242	Pm Promethium [145]	Sm Samarium 150.36	Eu Europium 151.964	Gd Gadolinium 157.25	Tb Terbium 158.92534	Dy Dysprosium 162.50052	Ho Holmium 164.930329	Er Erbium 167.259	Tm Thulium 168.93048	Yb Ytterbium 173.054688	Lu Lutetium 174.967										
† Actinide Series		90	91	92	93	94	95	96	97	98	99	100	101	102	103										
		Th Thorium 232.0377	Pa Protactinium 231.036888	U Uranium 238.02891	Np Neptunium [237]	Pu Plutonium [244]	Am Americium [243]	Cm Curium [247]	Bk Berkelium [247]	Cf Californium [251]	Es Einsteinium [252]	Fm Fermium [257]	Md Mendelevium [258]	No Nobelium [259]	Lr Lawrencium [260]										

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But the order we see around us is not a relentless omnipotence. It is tempered with beneficence -- a testimony to the fact that good and pleasure are as much a concern of Divine Intelligence as the immutable laws of Nature. Look around you at the exceptions and deviations that do, in fact, defy the laws of cold rationality.

Take, for example, water. From its formula weight --18-- one would predict it would be a gas at ordinary temperatures and pressures. Ammonia -- with a formula weight of --17-- is a gas at temperatures as low as minus 33° C. at atmospheric pressure. Hydrogen sulfide, closely related to water by position in the periodic table and with a formula weight of 34, is a gas at temperatures down to minus 59° C. The fact that water exists as a liquid at all, at ordinary temperatures, is something to make one stop and think.

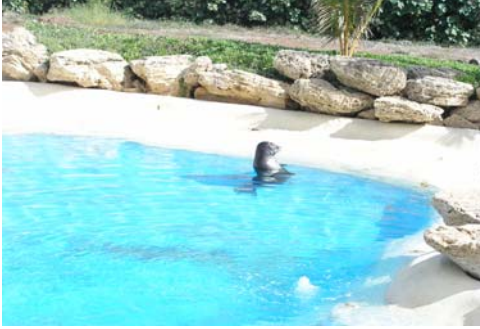
Water has many other properties, however, which are interesting and which taken together are to me strong evidence of design. On a gross scale it should be pointed out that water covers about three-quarters of our planet, Earth, and as such exerts a tremendous influence on the temperatures and weather conditions which prevail. One can imagine catastrophic variations in temperature if water did not have a unique combination of properties. Water has a high heat of melting, a long period of liquidity, and a very high heat of vaporization. As such, it is a wonderful shock absorber to changes in temperature. In other words, without the built-in resistance to temperature which water exhibits, this earth would be much less suitable for life and much less pleasant for human activity.

There are other unique properties of water which appeal to me as having been designed by a Creator who has concern for His creatures. Water is the only known substance which becomes lighter as it freezes. This is tremendously important to life. Because of it, ice floats instead of sinking to the bottom of lakes and rivers and gradually forming a solid mass. On the top of the water it forms a layer of insulation to maintain the water below at a temperature above freezing. Fish and other marine life are preserved and the ice melts rapidly in the spring.



Other very interesting properties of this common substance, water, could be pointed out. For example, it has a high surface tension which aids in plant growth by transporting nutrients through the soil. It has a high dielectric constant which makes it the best solvent known and as such plays a vital role in the life processes of our bodies as a principal constituent of our blood. It has a high vapor pressure over a very wide range of temperature and still remains liquid throughout the whole range needed for life.

Many scientists have studied these amazing properties of water and have developed theories to account for the phenomena observed. But even if we learn to understand the "How" of the whole subject, we still must search for an answer to the "Why." And water is not the only marvelous substance! There are any number of other substances with properties so nearly sensational that our finite human mind cannot but halt -- and quietly genuflect in wonderment.



Personally, I have found my explanation of these marvels -- a satisfying explanation -- in relating Nature's order to a Supreme Intelligence and its design to a Supreme Designer, and in it all I see more than cold, rational planning -- I see the concern and love of a Creator for His creatures.

[Who created the heavens and the earth, and sent down water from the clouds with which We raise beautiful orchards? You could not raise the trees thereof. Then, is there a God besides Allah? Yet, they are a people who set up equals with Allah. (Al Quran 27:61)]