God in the Compost Pile

By Dr. Phil Domenico

Though thou loved her as thyself
A self of purer clay
Though her parting dims the day
Stealing grace from all alive

Heartily know
When half-gods go
The gods arrive
R.W. Emerson

Philosophers throughout history have sought out grand theories to define Nature, as if there were a unifying feature. Such obsessions say a lot more about human limitation than it does about Nature. Of course, Nature is too vast and varied to fit conveniently into a box. It will retain its mystery, despite our lame efforts to name it, or tame it. To explain Nature, one must account for its many unique particles and their myriad associations that contribute to its majesty. From simple atoms vibrating in solution to multicellular life, an endless array of structures defines the Earth and its movement. Living and non-living matter are constantly in flux, and overlapping in ordered patterns. Earth's secrets lie in the interplay of its multifaceted, opportunistic elements.

It is the grandest of experiments. Life springs forth powerfully, dynamically, abundantly, with ever more clay. Over billions of years, every imaginable creature inhabited this planet, filling every conceivable niche. Cataclysmic disaster created new habitats and destroyed others, and life adapted. Countless, nameless species learned to thrive at extremes, in freezing or boiling, oxidative or anaerobic, high or low-pressure conditions. Any source of energy has life attached to it. Relentlessly, life's manifestations arise from clay like mushrooms, defy death momentarily, and are recycled anew.

There are about 82 earth elements detectable in the mineral solids of seawater from whence life originated. Each mineral and trace element is endowed with a special utility that defines its role in the big picture. Life has exploited a few dozen of these elements, and the special features inherent in them. A prime example is the attraction of sulfur for minerals. Iron and zinc combine with sulfur in hundreds of different enzymes in our cells. Enzymes containing iron-sulfur clusters are key to energy production. Enzymes with

protruding “zinc fingers” walk along our DNA and fix damaged genes. Delicate zinc-sulfur sensors can trigger major inflammatory responses in response to chemical changes in blood. Metal-sulfur interactions drive chemical reactions, regulate enzyme activity, participate in energy transfer and cell signaling, and form durable structures like skin, cartilage and bone. Life has exploited mineral-sulfur interactions to the max. Yet, that’s only one of many types of interaction found between the organic and inorganic worlds.

This interplay between organic and inorganic gets to the heart of Nature’s essence. Life owes its plasticity to these interactions. Minerals (i.e., dirt, rock) represent the inorganic phase and carbon-based molecules (protein, carbohydrates, fats) define the organic phase. Each essential mineral—calcium, magnesium, potassium, iron, zinc, manganese, copper, cobalt, chromium, selenium, molybdenum, etc—has a unique gift that makes life possible. Magnesium drives activity in over 325 enzymes involved in an assortment of functions. The hormone insulin functions poorly in the absence of chromium. The body’s antioxidant system cannot protect us from toxic metals, viruses and cancer when selenium is low. In their organic forms, minerals are linked to proteins (e.g., metallo-enzymes), carbohydrates (e.g., fiber), nucleic acids (e.g., DNA, RNA), or fats (e.g., membrane lipids) in coordinated fashion. Organic-mineral complexes dominate nature. In compost, these interactions are broken down to their component parts. The cycle goes from complex to simple and back again.

The quality of compost depends greatly on its mineral content. It starts in the soil, where bacteria cling to solid rock and eat away at its surface. Every bout of rain promotes mineral release from rock into the soil. Thus, rain provides more than water; it also helps generate new minerals for plant growth. Rain also gets things going in the compost pile, where minerals are recycled from crop refuse (green) and manure (brown). Rich and full-spectrum mineral content in the refuse makes for high-quality compost. If you really want to jump start your compost pile add a handful or two of sea mineral solids from dehydrated sea water to activate the pile. Being water soluble these sea minerals convert overnight to their elemental form. Plants and microbes take up these inorganic minerals, and convert them into enzymes, chemical signals, antioxidants, pigments and structural integument. The minerals are now in organic form, which animals can digest and assimilate. What comes out the other end is thrown back into the compost pile, and

converts to dirt all over again. Optimal mineral nutrition comes primarily from plants grown in good mineralized soil.

Conversely, humans can't get much directly from dirt. Unfortunately, most of the minerals in drugstore supplements are in the form found in dirt, and do not contribute much to health. That's probably why they're dirt-cheap, so to speak. Organic mineral supplements cost more, but are much more likely to confer health benefits than are inorganic forms, as demonstrated in numerous clinical trials. As the following table shows, almost everything that ends in chloride, oxide, or sulfate does not get absorbed well. Quality is on the organic side. The question is, why then do most multivitamins contain magnesium oxide and chromium chloride? Answer: Follow the money. As always, you get what you pay for.

Table. Differentiating Quality Forms of Mineral Supplements

Well absorbed (organic)	**Not well absorbed** (mostly inorganic)
Calcium citrate, ascorbate	Calcium carbonate
Magnesium citrate, taurate, or malate	Magnesium oxide, sulfate, chloride
Zinc gluconate or picolinate	Zinc sulfate, chloride, oxide
Iron (ferrous fumarate or gluconate)	Ferrous sulfate
Manganese ascorbate, picolinate	Manganese sulfate, chloride
Chromium picolinate, histidinate	Chromium chloride, polynicotinate
Vanadium amino acid chelate	Vanadyl sulfate, orthovanadate
Boron glycinate	Sodium borate
Selenomethionine, high-selenium yeast	Sodium selenite

The compost pile is a paragon of death and renewal. Mixing organic waste and manure (part green, part brown) in a mound large enough to retain heat promotes decomposition and disinfection. The pile is turned early and often for uniformity and to avoid malodorous fermentation. In aerated piles, good organisms dominate and smelly ones die. An assortment of microbes—bacteria, fungi, protozoa, worms and arthropods—contribute successively to the complete breakdown of matter. The heated pile becomes inhospitable for Salmonella, *E. coli* and other pathogens from manure. Filthy runoff from industrial farms or sewer sludge is what infests spinach, onions peanut butter and hamburger, not good compost. Rather, good compost serves to promote the growth and

quality of foods. In a well-made compost pile, good bacteria defeat the bad ones, just like it should be. An abundance of friendly microbes defines the quality of finished compost and, in particular, the teas made from it. And the power of those microbes depends on the mineral content.

Compost is not just the key to sustainable agriculture, but also God's will. It is the renewal of things, and the only tangible form of reincarnation. It is life's will and death's acceptance. What takes place in a compost pile is as awesome and miraculous as those of religions past, and these miracles are happening in and around us at all times. The God in the compost pile is accessible and worth dirtying your fingernails for. The fruit of faith is in the fertility of the land, the healthfulness and appeal of its produce, and ultimately in the balance of things. Eating fresh, hardy, local organic produce is spiritually gratifying, like returning to Eden. Understanding the wisdom of nature and respecting its mystery, through compost, brings us closer to the Oneness: Nature's unifying principle. The organic and mineral elements are driven to assemble and dissolve, with each particle carrying a quantum of soul with it. Soul can be potentiated in ever more complex life forms. However, like the atoms that carry it, soul cannot be destroyed. Disassembled, yes, but not destroyed. Therefore, God never really abandons us, for we are its crowned jewels. This comforts me, and moves me closer to the task ahead, to live in health and harmony with this planet.