# STEWARDSHIP: RESPONDING DYNAMICALLY

# TO THE CONSEQUENCES OF HUMAN ACTION IN THE WORLD

**Calvin B. DeWitt**

*Calvin DeWitt is Professor of Environmental Science at the University of Wisconsin, Madison, and Founder and President of the Au Sable Institute of Environmental Studies which has pioneered and supplied courses and programmes in stewardship to Christian Colleges in the United States and elsewhere. He has written widely on Christian responsibilities toward the environment (DeWitt, 1994,1996, 1998) as well as organizing influential symposia through the Au Sable Institute (e.g. DeWitt & Prance, 1992, Granberg-Michaelson, 1987). He was one of the begetters of the "Evangelical Declaration on the Care of Creation" (qv Berry, 2000). He has been active in 'local' stewardship, including serving as Mayor of his home town.*

The living fabric that envelops our planet the Biosphere is the life-sustaining system upon which all living things depend. It is the integration of biotic and abiotic elements, structured and ordered in ways that maintain the conditions for its own systemic sustainability and for the ongoing lineages of its abundant and highly textured abundant life. Human beings, along with all other living creatures, are wholly dependent upon this system for their biological existence and support. Yet we are degrading and threatening its life-support processes, threatening not only the earth but also themselves.

How can we address this problem? Do we have the means available to deal with it effectively and successfully? More specifically, can the stewardship model that has been practiced from antiquity up to the industrial revolution be re-instated, refurbished, and returned to effective service? Can it be made sufficiently robust at a time when human beings have become a major biological and geological force?(1)

## Stewardship from Antiquity to the Present

From antiquity to the present there is a continuing stream of documentation of the dynamic interaction between people and the earth directed toward applying lessons learned from Creation toward
(1) improving the earth for human use and habitation and
(2) correcting adverse environmental consequences of human actions in the world (Thomas, 1956).

In his definitive treatise, Clarence Glacken (1967) described how ancient peoples observed the cosmos and respecting its order in their lives and landscapes, ordered the land for human habitation. He recalls how ...the writers of the Roman period, like Varro, Columella, and Pliny, were deeply interested in the improvement of soils, methods of plowing, irrigation, removal of stones, clearing away of thickets, winning of new lands for cultivation, manuring, and insect control... He shows how fusing these classical ideas with their later expression in Christian theology and the writings of the early Church Fathers produced concepts of the earth as a habitable planet concepts that served well into the nineteenth century. However, unmistakable evidences that undesirable changes in nature were made by man began to accumulate in great volume, reaching dramatic proportions in the eighteenth and nineteenth centuries (2). For if man cleared forests too rapidly, if he relentlessly killed off wildlife, if torrents and soil erosion followed his clearings, it seems as if the lord of creation was failing in his appointed task, that he was going a way of his own, capriciously and selfishly defiant of the will of God and of Nature s plan (Glacken, 1967: 149). The philosophical and theological underpinnings of stewardship a synthesis of classical thought, Christian theology, science, and the practice of stewardship as one of the key ideas in the religious and philosophical thought of Western civilization regarding man s place in nature were seriously shaken. (3)

William Blake observed and addressed this degradation in the early 19th Century. He described this transition from harmony to disharmony using the image of two wheels: a larger wheel representing Creation s economy and a smaller wheel representing the human economy. When the human economy operates *within* the greater economy of Creation, the wheels move harmoniously, in the same direction. However, when the human economy operates *outside* the greater economy of Creation, disharmony results from one grinding against the other as they move in opposite directions (Fig. 1).

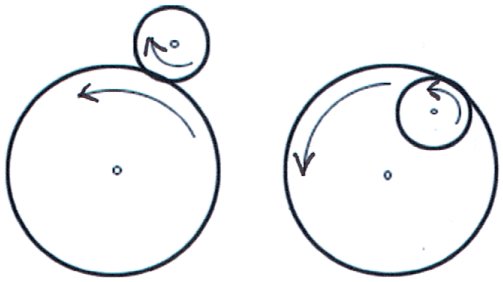


Fig. 1. Visual representation of William Blake s image of two wheels. The left illustration shows the human economy (the smaller wheel) operating outside Creation s economy (the larger wheel) and the right illustration shows the human economy operating within the larger economy of Creation.

Blake wrote:

> I turn my eyes to the schools and universities of Europe.
> And there behold the Loom of Locke, whose Woof rages dire,
> Wash'd by the Water-wheels of Newton: black the cloth
> In heavy wreaths folds over every nation: cruel works
> Of many Wheels I view, wheel without wheel, with cogs tyrannic
> Moving by compulsion each other, not as those in Eden, which,
> Wheel within wheel, in freedom revolve in harmony and peace.

With the industrial revolution, the human economy seemingly escaped from Creation s economy and ran contrary to it. Conversely, Creation once the model of order and harmony was transformed into a bundle of rude resources and crude resources stored in a mechanical earth awaiting refinement. The new economy, articulated by John Locke, Adam Smith, and others, became the new model for ordering society and God s Creation. Creation s status was transformed from exemplary teacher and book of learning to a vast store of natural and human resources waiting to be extracted. The great variety, texture, and abundance of Creation s creatures were reduced conceptually into land, labor, and capital. People changed from Creation-stewards to human resources; human beings as images of God (*imago Dei*) were re-envisioned as *consumer*s, *producers*, and *taxpayers*. And *Homo sapiens* the *Homo* with wisdom became *Homo economicus*. No longer would people acknowledge, with the distinguished Swedish taxonomist, Carolus Linnaeus, that we operate within an Oeconomy of nature, which he described as:

> the all-wise disposition of the Creator in relation to natural things, by which they are fitted to produce general ends, and reciprocal uses (3)

Donald Worster notes that the word oeconomy was often applied to divine government of Creation at the conclusion of the 17th Century: ÒGod s economy was His extraordinary talent for matching means to ends, for so managing the cosmos that each constituent part performed its work with stunning efficiencyÓ (Worster, 1979: 37).

The Third Edition of *Webster s Dictionary* defined Oeconomy as God's plan or system for the government of the world, but this meaning has largely been supplanted by its more recent definitions: the structure of economic life in a country or area : an economic system and a particular type of economic system or stage of economic development. Over the past two centuries there has been a conceptual transfer of the little wheel of Figure 1 from its position *within* Creation s economy to a position *without* Creation s economy.

With this conceptual relocation, stewardship particularly in its corrective and directing role in governing human action in Creation was made obsolete. Stewardship evaporated in the heat of the industrial revolution (4).

**Developing Stewardship for our Time**

A worldview that perceives human life and endeavor within the wide embrace of Creation s economy is a necessary component of every successful culture. If any culture or civilization is to survive, it must assess the effects of human actions its biosphere not just a much-reduced human economy conceptually excised from the biospheric economy. If it fails in this assessment or in its response to its assessment, it collapses. Jared Diamond (2005: 119) describes how the collapse of Easter Islanders can become a metaphor for our earth.: When the Easter Islanders got into difficulties, there was nowhere to which they could flee, nor to which they could turn for help; nor shall we modern Earthlings have recourse elsewhere if our troubles increase. Those are the reasons why people see the collapse of Easter Island society as a metaphor... for what may lie ahead of us in our own future.

In our day, Creation has been largely transformed conceptually from teacher to resourceful earth, and we are becoming reluctantly aware of large-scale and pervasive alteration and degradation of the biosphere and its life-sustaining processes. There are many who still deny both empirical data and the increasingly reliable biospheric, atmospheric, and climate models that became available toward the end of the 20th Century. Notwithstanding, the reality of biospheric transformation, of biogeographic restructuring of terrestrial ecosystems, and of the trophic restructuring and microbialization of the oceans is beginning to register, not only in our models but also in our experience (5). The time has come to take action that is appropriately sufficient and robust to engage the immensity of our problem

From personal experience and from history, we know that we continuously engage in an interactive process with the world around us. At a very local scale we often correct actions that have degraded our lawns and gardens ; at the community level we may interact with fellow citizens to shape and reshape our behavior in the direction of maintaining and improving individual and community health; and at the global level we try to pursue actions that counter unanticipated detrimental effects of human actions on the biosphere. Our responsive and corrective actions may be immediate self-interest which may extend to our children and grandchildren; or they may be altruistic ones, taken on behalf of the garden, community, biosphere, or God.

The relationship we have with our world is necessarily an interactive and dynamic one, and this is true for every human being. Every person on earth derives service from the world, every person does things that have consequences for the world, and every person relates to the consequences of their and others behavior with various degrees of action and inaction. The collective results of all these human actions join with day and night, seasons, currents of wind and water, and geological developments to produce a dynamic world. This in turn produces dynamic human beings and a dynamic human society. What makes for stewardship and right living, therefore, is also necessarily dynamic.

What all of this means is that what is appropriate for maintaining individuals, communities, and even things such as the biosphere, is ever changing, ever responding to new and changing environments and to our continuously developing knowledge and understanding of these changing environments. Felling a tree when forests are abundant may make a positive contribution to human comfort and security but when trees are scarce, it might damage local or regional microclimate and climate. In this case, people might engage in tree-planting or otherwise encourage regeneration. Similarly, growth in human numbers may make positive contributions when people are few and land is abundant but may bring degradation when population densities exceed the carrying capacity of their environments. Behaviors and practices continued from the past may no longer be conducive to sustainable life and environment.

The dynamic nature of human relationship to the world means that individuals and communities must repeatedly review and re-evaluate their actions and correct any that have ceased to be appropriate and at the same time implement refreshed or new actions that stay the course toward sustainability. Their stewardship must be highly interactive and dynamic.

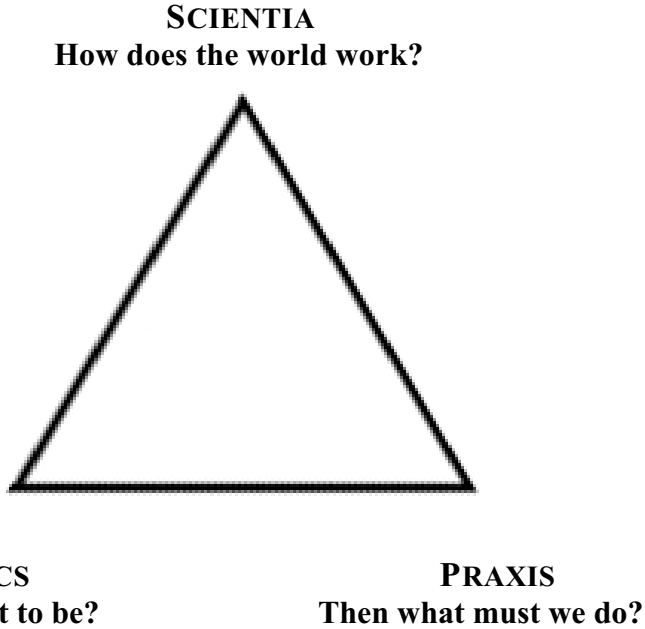
**The Essence of Stewardship**

Successful cultures and civilizations must shape and reshape human behavior in the direction of maintaining individual, community, and environmental sustainability. They have had to understand their world and its workings by direct experience and accumulated knowledge (*scientia*), had to gain from their experience and culture an understanding of what constituted right living in the world (*ethics*), and had to put an interactive and coherent understanding of the world and how rightly to live into practice (*praxis*). Their behavior has had to flow from the interactive and coherent engagement of scientia, ethics, and praxis, whether by authority and striving of the leadership or by individuals and communities learning to live with the way things are ordered in the world. Such striving has shaped and reshaped behavior in the direction of maintaining

individual, community, and biospheric sustainability; such interactive and coherent engagement leads to respect for the worth of a world which provides the conditions and processes whereby cultures and the full array of life on earth survive and flourish. This respect for the service of the biosphere to all life stimulates a response that reciprocates with human actions directed toward assuring its continued service. These actions are necessarily concordant; they necessarily affect and respond to the entire biosphere (*oikomene*). The result is reciprocating service the biosphere to its component people and cultures, and people and cultures to the biosphere, all in accord with the way things are ordered in a coherent biosphere and universe. This is the essence of stewardship. *Stewardship dynamically shapes and reshapes human behavior in the direction of maintaining individual, community, and biospheric sustainability in accord with the way the biosphere works.*

**Framework for Stewardship: Science, Ethics, and Praxis**

The interactive engagement of scientia, ethics, and praxis that is basic for shaping and reshaping human behavior in the direction of maintaining individual, community, and environmental sustainability can be depicted thus:



The questions at each corner of this triad framework must be addressed interactively and coherently to understand what sustains, degrades and restores a system. From this comes a growing and increasingly dynamic appreciation of what ought to be.

**Scientia** Knowledge and understanding of how the world works requires a kind of reading of the text of the biosphere, or reading and reciting texts that are written or spoken about the biosphere. *Scientia* includes what we call *natural science* but goes beyond this to include what we learn in social sciences and humanities, and beyond this again to whatever other things human beings learn from living in the biosphere. *Scientia* is the body of knowledge whose elements we strive to make *coherent* within this body and with the ways things are in the operations of the biosphere.

**Ethics** Knowledge and understanding of what ought to be with respect to human actions in the biosphere requires reading of the text of the biosphere together and coherently with the written and oral texts that have stood the test of history. From this we may come to realize, for example, that human activity which poisons food supplies, render homes uninhabitable or destroy the regenerative capacity of forests ought not to be. The culture that incorporates into itself a system of beliefs about what ought to be and what ought not to be its *ethos* develops a corresponding body of ethical knowledge its *ethic*. This ethical knowledge is passed from generation to generation through oral traditions and written texts and it the gift derived from long-standing beholders and intentional and unintentional experimenters and participants in stewardship. The body of this knowledge is *ethics*.

**Praxis** The actions of human beings in the world, or *practice*, derive from a body of knowledge of how things can be accomplished and are being accomplished in the world. *Praxis* incorporates both this practice and the body of practical knowledge and understanding upon which it depends. *Praxis* is informed by tradition, *scientia*, and ethics. In turn, *praxis* informs science on what more we need to know about the world and ethics on what more we need to consider on what ought to be.

Stewardship requires that all three interact, each informing the others. For example, by-passing ethics to move quickly from scientific knowledge of rivers and electrical power generation to building hydroelectric dams may severely reduce soil fertility due to exclusion of riverine sedimentary deposits from river flood plains. By-passing *scientia* to move directly from ethical concerns for inadequate water supplies for nomads to the drilling of tube wells may result in converting nomadic practices into sedentary ones, with depletion grazing resources

and firewood supplies for large distances from the well head.

**The Contribution of Two Books Theology**

Well before the advent of modern science, people and cultures had developed ways of knowing and understanding the world. A common metaphor in the Western world was treating Creation as the book of nature. By the Middle Ages we find that the book of nature has become adopted universally as the image through which the environment is to be understood (Mills, 1982).

The metaphor of Creation as a book whose author is the Creator was significant for the practice of stewardship. This was the case not only for eliciting belief in the coherence of Creation, but also because of its coherence with God s other book, the Bible (6). The authority of the two books and their internal and inter-related coherence provided the basis for living rightly on earth. Right living was enabled through a coherent understanding of these two books read together and interactively thereby providing the foundation for coherent interacting *scientia,* ethics, and *praxis*. A particularly descriptive expression was in the Confession of Faith of 1561 from the Low Countries on the European continent (popularly know as the Belgic Confession):

> "We know [God] by two means:
>
> First, by the creation, preservation, and government of the universe, since that universe is before our eyes like a beautiful book in which all creatures, great and small, are as letters to make us ponder the invisible things of God: his eternal power and his divinity, as the apostle Paul says in Romans 1:20. All these things are enough to convince men and leave them without excuse.
>
> Second, he makes himself known to us more openly by his holy and divine Word, as much as we need in this life, for his glory and for the salvation of his own".

In Christendom, stewardship is informed and shaped by a two books theology. This theology recognizes God as the author of both books, the book of Creation and the book of the Scriptures. This contributes to a robust stewardship derived from the reading text of Creation along side of the text of the Bible and applying this to right living. Tearing out pages or degrading the text of either is unthinkable; their texts must be preserved on the printed page and on the landscape. If they are read together and interactively, they have concordance by virtue of their having the same author who is characterized by coherence, consistency, and rightness.

This is the rich base for the stewardship of Creation. The two-books theology of this rich tradition is a gift of the Judeo-Christian heritage to all cultures and civilizations.

**Reading the Books of Nature and of Scripture Coherently**

Does one necessarily have to adopt the kind of description of the two books as given in the Confession of Faith? Philosopher of science, Peter Kosso, believes not. In his textbook, *Reading the Book of Nature: An Introduction to the Philosophy of Science* (1992), he writes, The hermeneutic method of interpretation [of a book] is very similar to the scientific method of understanding the world... ; he builds a strong case for building a coherent understanding of the world by reading it as a text. He shows how, in translating a text, one must first speculate on the meanings of its letters, words and sentences. From these come hypotheses about the message of the text, and these can be tested against other texts in the book. The process of translation advances by a back-and-forth exchange of information between the developing understanding of the plot and the translation of individual passages. The global understanding, the message of the whole work, guides the local understanding of the parts... (Kosso, 1992: 150).

Surprisingly, however at least it would be for a medieval Christian he writes that there is no hint that nature must have an author as does a text. Which means of course, that for Kosso and perhaps other secular students of the natural world, there is no necessity of believing in a Creator. This helps in building a robust stewardship for our time because it allows for Creation to be read without having to acknowledge an author. People of faith, on the other hand, will conclude with William J. Mills that Viewing the earth as a book entails certain consequences one of which is that A book must have an author... and that therefore it is necessarily to view it theocentrically (Mills, 1982: 239).

From Kosso we discover that understanding a book (including the book of Creation) has an important constraint: The passages must be consistent and should hold together in a cogent message, at least in sizable sections of the text. As the reading continues, new passages are encountered and must be accommodated within the network of beliefs about the book and its message. Each new passage is like a new observation, of which the reader must make sense and which must be fit coherently within the theoretical system (Kosso, 1992: 151).

We must not forget that the book of scripture the Bible must also be constrained by the principle of coherence. The Westminster Confession of Faith

(1646) expressed this forcefully: The infallible rule of interpretation of Scripture, is the Scripture itself; and therefore, when there is a question about the true and full sense of any scripture (which is not manifold, but one), it may be searched and known by other places that speak more clearly.

Both books the book of Creation and the book of the Bible share the same author and must be read together and interactively, constrained by the principle of coherence. While this is implicit by both books having the same author, making this explicit provides a remarkably powerful basis for a robust stewardship.

**Context for Stewardship in Our Day**

Our civilization seems to be emerging from some two centuries of neglect of the stewardship tradition. This long lapse means that we cannot simply pick up the tradition where we left it at the beginning of the Industrial Revolution. Instead we need to size up where we are in the stream of time and identify the major happenings in our world and have this help to inform and shape our understanding and substance of stewardship for our time.

Among the most significant developments during these past two hundred years have been those of

(A) understanding the biosphere,

(B) understanding human impacts on the earth, and

(C) understanding of worldwide transitions in human communities.

**A. Understanding the Biosphere** Developments here include

(1) becoming able to view our planet from outer space, with the ability to measure and model major global processes;

(2) gaining knowledge and understanding of the biosphere as an integrated complex life-support system;

(3) a shift from conceiving our planet as a relatively fixed and static system to a remarkably vibrant and dynamic biophysical system we call the biosphere;

(4) recognition of the remarkably high degree of fitness of the biosphere for sustaining life;

(5) discovery of the intimate relationship and total biophysical dependency of human beings and other living things on the operation and health of the biosphere; and

(6) coming to know the variety, size, beliefs, and extent of the world s major religions.

*This understanding must inform our stewardship by compelling us to read the text of Creation, to read the book of nature as a coherent text in order to gain a proper understanding of the biosphere and our biotic and economic place in it.*

**B. Understanding Human Impacts on the Earth,** including

(1) realization that the human species has become a major geological force on earth, including its acquired capacity to destroy its own species;

(2) recognizing our ability to develop and deploy weapons of mass destruction, with a capacity to destroy the biosphere; and

(3) acknowledging the universality of human arrogance, ignorance, greed, and aggression that form much of the root of social and biospheric degradation.

*This understanding must inform our stewardship by compelling us to read the religious and ethical books we have available to us like the Bible as internally coherent and consistent with the book of nature order.*

**C. Understanding of Worldwide Transitions in Human Communities**

(1) a misplaced and lessened economy;
(2) fragmentation of knowledge about ourselves and the world;
(3) institution of global transport and communications; and
(4) creation of the conditions for global distribution of pollution and disease.

*This understanding must inform our stewardship by compelling us to evaluate the consequences for us and Creation s economy of simultaneous globalization,*

*fragmentation, and breaking barriers to the flows of information, pollution, and disease.*

**Elements of a Refurbished Stewardship**

A refurbished and robust stewardship restores us to our proper place in Creation s economy; re-establishes the links between science, ethics, and praxis; re-equips stewardship with dynamic responsiveness for a dynamic world; re-forms human incentives toward the integrity of community and away from arrogance, ignorance, greed, and aggression; re-affirms and expresses in words and actions the passion for right living; re-educates people and communities for the spreading of right living; restores and re-creates ecosystems in accord with Creation s economy; re-shapes human behavior in the direction of biospheric sustainability; and recognizes that stewardship is accomplished in behalf of the biosphere and its component systems, in behalf of the processes and persons that sustain the biosphere, and in behalf of its Creator.

There are many other ways to envision stewardship for our day, and any one of them can be added to stewardship s core of shaping and reshaping human behavior toward sustainability of ourselves, our communities, and the biosphere.
as a relationship that responds to needs of the system with a deep interest and compassion.

- as a body of trust and oversight of people and processes that are sustaining and restoring of a community or ecosystem.

-as an expression of art, music, and literature concordant with Creation whilst developing value that was not there previously.

-as a set of rules and regulations that help sustain and restore a community or ecosystem.

-to guard, keep, and defend, so as to prevent damage, degradation, or destruction.

-as an alternative to being motivated by arrogance, ignorance, greed, and aggression.

-as giving to a future generation compensation for gifts received from earlier generations.

Stewardship can exemplify what some would call true religion:

> Religion is the passion or desire both to live *right* and to *spread* right living as desires *conceived as responses* to some sort of cosmic demand made to us by the *way things are,* by the nature of Nature, or by God who orders Creation and holds all things together with integrity (Wayne Booth s definition, as modified in DeWitt, 2002).

Living rightly in response to the way things are is to live in harmony with Creation s economy.

**What a Refurbished Stewardship Does in our Day**

*Stewardship dynamically shapes and reshapes human behavior in the direction of maintaining individual, community, and biospheric sustainability in accord with the way the biosphere works.*

## Notes

1. This was the conclusion of the John Ray Initiative meeting in February 1999 which led to the meeting at Windsor at which this paper was presented .

2. See also Passmore (1970): starting from Plato s statement in *Phaedrus* [ÒIt is everywhere the responsibility of the animate to look after the animateÓ], Passmore argues that there was a common view that human beings are sent to earth by God to administer earthly things in God s name. He cites Socrates in the *Republic* who, countering Thrasymachus who proclaimed as self-evident that a ruler acts entirely in his own interests, makes the case for a ruler s responsibility for the welfare of the governed. The post-Platonic philosophers of the Roman Empire (especially Iamblichus in the 3rd century) took Plato s *Phaedrus* as a point of departure.

3. Everything arranged by the omnipotent Creator on our globe is performed in such a wonderful order that there is not one thing that is not dependent for its existence on another. The globe itself with its stones, ore, and gravel is nourished and fed by the elements; plants, trees, herbs, grass and moss, grow out of the earth, and finally, the animals out of the plants. All of these are eventually transformed into their first elements. The earth becomes the food of the plant, the plant that of the worm, the worm that of the bird, and the bird often that of the beast of prey; again, in the end, the beast of prey is consumed by the bird of prey, the bird of prey by the worm, the worm by the herb, the herb by the earth; nay, man who turns everything to his needs, often becomes the food of the beast or bird or fish of prey

or of the worm and the earth. So all things go round" (Carl Linnaeus, quoted by Lepenies, 1982).

4. Reviewing the impact of the chemical industry in London, Colin Russell (1993) identified stewardship as providing the best prospects for addressing causes of the Creation's degradation - causes which he identifies as human arrogance, ignorance, greed and aggression. He concluded that stewardship leads people to value the Earth highly as a treasure held in trust, including development of empathy with nature and sympathy with those who work for environmental integrity, and elicits practical strategies for relating people to the earth as responsible members of Creation.

5. Climate change now pushes plant and animal ranges six kms pole-ward each decade; nearly one-third of Earth's arable land has been lost to erosion; biodiversity us seriously threatened by habitat destruction and toxification; and over-exploitation has brought collapse of the world's major fisheries and an adverse restructuring of ocean food webs. These effects are documented by DeWitt (2003).

6. This is predated by Paul's statement in the first century AD in Rom 1:20 on the testimony of Creation; the idea is "at least as old as the Babylonians" (Mills, 1982: 239).