ON NATURAL SYSTEMS AS SACRED SPACES

Some thoughts on a visit to the Armstrong Redwood Grove (11/03/87)

[Editor's Note: Please see the photos of this grove as part of the visitation described in [[Personality/Conversations/Special Visit to Sebastopol/Photo Album]] and also the post-mortem story of Luke Friendshuh in [[Personality/Anecdotes/Luke's Story]] of this website. This is the same Redwood Park that Al Wilson describes here. He often brought his friends with him to visit the Grove, which was nearby his home in Sebastopol, and we see here partly why he did.]

Upon entering the grove, one is very aware of entering a different space. The vibes suddenly change. It is difficult to articulate the message one receives. First, one gets the feeling that one is an intruder, not exactly welome but of necessity tolerated. Then there is the feeling of being regarded somewhat contemptuously, of being judged, or rather prejudged. The mood is most solemn and there seems to be a soporific spell cast on everything. The primary message of the grove is DO NOT DISTURB, a message also passed on by the forestry people who undoubtedly have come under the spell of the grove and serve unconsciously as agents of the giants, independent of any of our national conservation values. My reaction is to try to avoid coming under the spell and maintain "scientific objectivity" which is to say to keep inviolate my own subjective prejudices. Certainly I would not rock their boat if I wanted to.

[Editor's note: Strolling through the grove with Al became a near spiritual experience. Everyone probably feels the majesty of the giants he describes here – they engender a feeling, an emotion of reverence. Perhaps it is the play of shadows and light; perhaps it is the immense silence and quiet; perhaps it is the sheer timelessness of the trees; perhaps it is the simplicity of the community he describes here; perhaps it is the sheer distance from human planning and concerns. Al would somehow disappear for a time and be found meditating in his favorite cluster of trees. It was his sacred space in nature.]

These giants have created an environment in which they can indefinitely survive. Ring counts reveal many to be over 1,300 years old. But the number of species in their ecological complex is surprisingly limited. They are almost a self-sufficient species depending only on each other for the preservation of their own environment which sustains them. Some mosses and ferns together with their own droppings seem sufficient to maintain the moisture and soil conditions necessary in this type of "rain forest" creating a muted absence of light. In fact, the giants have removed practically all competition by appropriating all the sunlight and monopolizing the source of energy.

But they have also cut off light from their own offspring. Only here and there a very limited number of young redwoods survive. And what is most significant, there is no "middle class." There are only the giants and very young, only those centuries old and those a decade or two or less. *[only grand-grandparents and young children]*. Evidently aspirations of the young to become part of the grove are illusory. Upon

reaching a certain size their energy requirements can no longer be met and they fail to survive. I am sure that the remains of smaller trees have been removed by man. Only here and there on the forest floor are the remains of giants, who have succumbed to fire, wind, or the vandalism of man.

How did such a configuration come about? More typical ecological complexes are dynamic. There is birth, aging, death, and recycling. Young trees sprout, grow up, and eventually, if all goes well, reach a maximum size, then in time succumb. The key that differentiates a dynamic ecology from that of the redwood grove seems to be the limit to maximum size.

Variety is also an important parameter in every complex. The grove ecology appears to function with very restricted variety, but also there are only a limited number of giants. More dynamic ecologies have both a greater variety of species and greater numbers of members within each species. There seems to be some sort of "equipartition" relation between numbers and variety. The number allowed within each species depends on the breath of the variety of species. The greater the variety, the larger the permitted population of each species.

[Editor's Note: And then, scientist that he was, he moves from a pure appreciation of the sacredness of the space to his typical scientific analysis …]

From one afternoon's observation, I have generalized to the extent of surmising that number with a species $n(s_1)$, $n(s_2)$,... the variety of species i.e. the number of different species, $v(s)$, the maximum sizes (masses, heights,..), $m(s_1)$, $m(s_2)$,…and the dynamism or maximum ages $a(s_1)$, $a(s_2)$,…are all parameters of basic ecological significance. Some functional guesswork:

  I.   The equipartition relation:
  II.   The maximum size to maximum age relation:
  III. The maximum size to variety relation:
  IV. We finally suspect some bound on the entire mass of the complex:

For I.
- $n(s_1) = n(s_2) = n(s_3) = v(s)$
- Which is to say the greater the variety, the greater the numbers within each species

For II.
- $m(s)$ varies directly with $a(s)$
- What is revealed here is that there are two basic types of organism. 1) Those that follow sigmoidal growth curves, reaching maxima, and 2) those whose size appears unbounded. The above relation is for genre 2).

For III.
- $v(s)$ varies inversely with $m(s)$
- It follows from the first relation that $n(s)$ also varies inversely with $m(s)$

Do Natural Scientists have Sacred Spaces?

The Space of the Physicist
      Newton; Minkowski; Einstein
            For example, Minkowski Space or SpaceTime is a 4D manifold, a
            mathematical space setting which eases explanations of special relativity
The Spaces of the Mathematician
The Spaces of the Astronaut
The Space of the Architect
The Spaces of Technology
      Hamming
Sacred Space
      Sacred Geometry