Kasey Asberry
Biogeography Synopsis 1: Biomes, Growth of the Idea of Biological Communities
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Before humans had the view of earth from space provided by Apollo 17 spacecraft in 1972[1] interdisciplinary work had already drafted a connected reality for earth. European travelers such as JR Forester & Alexander von Humboldt were struck by patterns of life in similar climate regimes in disparate locales. In the early 1800s C.H. Merriam made the connection between vegetation, climate and elevation. In early 1900's German climatologist Wladimir Köppen elaborated a climate classification system associated with terrain on a global scale.

NSSDC Photo Gallery:Earth

Timeline	Researcher	Big Ideas, Observations & Theories	Context
1778	J.R. Forester	Latitudinal belts of similar vegetation structure & climate	sailing voyages of Capt Cook
1799-1804	A von Humboldt	Ecological equivalence ~interest in elevation & climate	South American rivers & mountains
1800s	C.H. Merriam	Life zones: relate altitude to climate	Arizona desert mountains
1850	E. Forbes	Biological communities	marine animals: Britain/Mediterranean
1887	S.A. Forbes	Community as Superorganism	plant ecology
1916	F.E. Clemens	Climax Community: succession theory	plant ecology
1900s	H.A. Gleason	Individualistic Community	plant ecology
1936	V.E. Shelford / F.E. Clemens	Biome: dominant vegetation formation associated with specific climatic conditions	meteorology
1936	V. Köppen	global Climatic Classification system	meteorology
1947	L.R.Holdridge	The Holdridge System: relates vegetation structure to climate; humidity and temperature	Tropical forests
1975	R.H. Whitaker	Global classification of vegetation formation related to avg mean Temp & precipitation	Forest productivity

Unification of these ideas takes the shape of the community that works with it. In Stephen Jay Gould's sense of the tree of life as a bush, without a dominant main trunk that supports all the branches and can be traced back to a central root, the biome is a bushy idea.[2] In the natural selection of ideas it is widely related to, though not more important than, many beacon concepts in science such as the dynamism of climate or the hydrologic cycle or air currents. The power of the concept of biomes as a watchword of earth science is augmented by its historic and semantic significance. As vegetation maps climate, the image of the biome exemplifies connectivity and functions as an episteme that helps to structure investigation and knowledge of life on earth.[3]

A biome is a climatic and geographically defined area of ecologically similar communities of plants, animals, and soil organisms, often referred to as ecosystems. Biomes are defined based on factors such as plant structures, leaf, plant spacing, and other factors like climate. Unlike ecozones, biomes are not defined by genetic, taxonomic, or historical similarities. Biomes are often identified with particular patterns of ecological succession and climax vegetation.[4]

How is this idea distinct from world-structuring systems of thought that predated it?
Though awe-inspiring it is not magic, nor mystical. Through observation of the complex interrelationships that constitute a biome it is possible to glimpse what geologists call Deep Time. In the perception of time on the scale of millions of years its possible to appreciate how life elaborates itself so diversely especially along the edges of environments where the most dynamism occurs, like in marshes and tidepools. Contemplation and measurement of the fundamental roles of water in engendering, supporting and regulating biology allows powerful, far-reaching analogies. As water in its liquid state is self-leveling, life is self-complexifying and doesn't require an anthropomorphized hand to intervene but rather is diverse by nature. The vision of life on earth organized into biomes calls for evolution as the likeliest creative agent. Looking through the lens of the biome frees researchers from the effort of seeking in our experience a model that fits an ideal in a holy tradition and instead enables modeling based upon experience to understand what forces are at work to create the patterns we perceive.
The idea of biomes illustrates underlying structure by the way it functions in language. Linguistically, the concept of biome is a "block", that is it carries consolidated, "chunked" information, bits of vetted concepts that can be readily mobilized to understand and resolve questions.[5] Perception of connectivity has grown along with human experience.[6] The wider our tools and conceptual models stretch the more interconnected biological forces appear until its plain that keeping this idea central is an important component of biological survival.[7]

[1] View of Africa and Saudi Arabia from Apollo 17. Dec. 7, 1972 NSSDC Photo Gallery:Earth http://nssdc.gsfc.nasa.gov/photo_gallery/photogallery-earth.html
[2] "Full House", Stephen Jay Gould, 1996
[3] Foucault, Michel, The Order of Things (original title: Les Mots et les choses), 1966.
[4] Wikipedia, Feb 2008 http://en.wikipedia.org/wiki/Biomes
[5] So many questions suggest themselves to me that I don't have the geographical expertise to answer yet. What types of work are possible with biomes as foundation? What are the social implications of such an idea? Geographically, exactly how do biomes function? What does scale, niche have to do with it? How do we know where one biome stops and another starts? The ecotone- vegetation maps this boundary. Perhaps an example is along the Central Coast of California in Big Sur where oak woodlands meet sequoia forest.

[6] Personal anecdote: Fourteen year-old self hanging upside down in a tree in my parents' backyard – "Everything is connected!", I realized. From then to now this has made me try to understand how and this effort has given its shape to my choices and my life. Without that moment everything would be different for me.

[7] Earth's biomes in Fuller projection: http://en.wikipedia.org/wiki/Dymaxion_map