

UNDERSTANDING COASTAL SEAS: LANGUAGE, ENVIRONMENTAL SCIENCE AND A SENSE OF PLACE

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The German philosopher Wittgenstein held that we often construct misguided models because we "misunderstand the nature of language." Although he was speaking of philosophic models, the same could be said of the environmental management models we construct to protect and restore coastal seas.

The truth is that language functions at a number of different levels, and a lack of understanding of these varying functions can produce confusion, both among the public and among those involved in coastal seas management. In the words of Peggy Rosenthal (*Words and Values*, 1984), "Those . . . who control the communication networks in the socio-economic sense don't, it turns out, necessarily have any more control over how they use and are used by their language than anyone else."

This paper will describe the different functions of language involved in coastal seas management, from (sometimes misleading) official policy statements to journalistic and literary language, and analyze how these language functions affect the way we relate to and ultimately manage coastal seas.

The Language of Policy

As we will see, understanding and appreciating language descriptive of coastal seas is easier when we are clear about the goals and nature of that language. In some cases uncertainty about the intended function of language leads to serious confusion. For example, scientific language, to the untrained, may seem confusing or too full of qualifications to be useful, e.g., for resource management. On the other hand, the language of management or restoration goals may approach the other extreme. The Executive Council of the Chesapeake Bay Program, for example, has signed a region-wide agreement calling for a Chesapeake Bay "free of toxics." This is a very significant agreement, signed by the governors of three states — Maryland, Virginia and Pennsylvania — as well as the mayor of the District of Columbia, the Chair of the Chesapeake Bay Commission, and the Administrator of the U.S. Environmental Protection Agency, representing the Federal government.

And yet, what does it mean? Is it possible to have an estuary which is "free" of "toxics"? Should this statement be qualified to say "toxic compounds anthropogenic in origin" (since there are many "toxics" that occur in the natural environment, such as toxins from dinoflagellates or other algae)? What precisely are "toxics"? Some toxic effects have been caused by the presence of certain heavy metals (zinc, for example), but such metals also occur naturally. At what point do they cease functioning as natural elements and begin functioning as "toxics"?

One might argue that the signers of the Bay Agreement were indulging in wishful thinking, falling into the language trap described by James Cantrill and Christine Oravec (*The Symbolic Earth*, 1996), who argue that modern discourse "too often promotes the use of emotion and castigation as the most effective means for promoting policy."

This paper will explain, however, why the Executive Council chose the language they did, in the face of a particular type of scientific uncertainty. Briefly, the Executive Council held to the language of "a Bay free of toxics" (rather than a Bay free of "toxic effects") because this official language had less to do with science than with policy. If the Council had chosen as its goal the limiting of "toxic effects," then the burden of proof (of those effects) would fall on scientists and others, who would be required to show toxic impacts on Bay biota before the overall policy could be mobilized. In environmental toxicology showing such direct cause and effect often proves extremely difficult and may take considerable time, thus robbing momentum from the restoration effort.

The language, then, of the Bay Agreement is in its essence intentional, political, even inspirational. Its primary function is to rally public support and set broad goals. For this reason, it can not be too qualified, tentative or complex. When the Bay Agreements do become specific, as when they called for a "forty percent reduction" in nutrients entering the Bay by the year 2000, they run the risk of not being fulfilled. At a recent meeting of the Executive Council, in fact, the governors and other leaders considered whether to step back from that position, changing either the targeted amount or the time table. They elected, however, to "stay the course." Again, this constancy has powerful political implications, and demonstrates that the Executive Council is not, as one governor said, "backsliding."

Conceptual Language

Analogical language plays an important role in scientific and legal concepts, as explained by the philosopher Hans Vaihinger (*The Philosophy of "As If,"* 1949) and others. Even in the case of the Bay Agreement referenced above, one could argue that the leaders of the Bay restoration effort are not calling for a perfectly clean Bay (a technical impossibility) but for a Bay that functions "as if" it were free of toxics, in short a Bay that *seems* toxic free.

Again, in the words of Rosenthal, "words . . . act as receptacles into which different disciplines and ideologies and traditions of thought pour their particular meanings, their favorite value-laden concepts."

This paper argues that there needs to be a more general understanding of the role language plays in shaping our intellectual enterprises. This goes beyond broad political statements and the "emotive" power of language (certainly important in itself, for consensus building, for example) to the conceptual function of language. Data, no matter how ingeniously collected, means little without the shape of a conceptual framework. Too often, funds, personnel and effort are invested in data collection and not in concept building. According to Grant Gross, director of the Chesapeake Research Consortium, scientists probably spend too much time gathering data, and not enough time thinking about what they mean. "The universities have failed us in this regard," he says. "We tend to fund 'exploration' rather than 'science.'"

In this sense, "science" signifies not only data collection and experimentation but intensive conceptual (one might say "symbolic") thinking. (We recall that Albert Einstein achieved many of his breakthrough discoveries by performing "thought experiments" — experiments so far ahead of the period's technology that they couldn't be tested for half a century.) As philosophers such as Ernst Cassirer (e.g., in his *Philosophy of Symbolic Forms*, or *Logic of the Humanities*) remind us, all logical constructs, whether the sciences, language and literature, or music, etc., represent symbolic systems created by the human mind to make comprehension — especially the comprehension and manipulation of complex ideas or patterns — possible.

Critics of modern language such as David Lodge have attempted to make more clear the various levels and functions of language. In his *Modes of Modern Writing*, Lodge distinguishes between the intent and form of simple descriptive prose and more complex discursive forms, and finally metaphoric and metonymic language. Clearly, coastal seas have been a rich area for the widest possible range of language, from scientific (biological, chemical, physical) to journalistic to literary.

Language and a Sense of Place

"Rivers offer the perfect framework for a storyteller," says Susan Stranahan, author of *Susquehanna, River of Dreams*, and reporter for the *Philadelphia Inquirer*. The Susquehanna provides an excellent canvas for understanding the Chesapeake Bay, since it is the primary river system delivering freshwater — and pollutants — to the Chesapeake; in fact the Bay is actually the drowned river valley of the Susquehanna.

But in addition to "storytelling," there are other fundamental functions of language critical to understanding coastal seas. William Warner, in the preface to *Beautiful Swimmers*, his Pulitzer Prize-winning book about the Chesapeake Bay crab fishery, comments that it was the language of the fishermen (called "watermen" in the Bay, or "waterwomen"), that led him into an investigation of this coastal sea. He quotes the speech he heard in rural general stores: "Crabs are out there, but they ain't for everyone to catch. All those stumps, that's where the doublers are at, hiding in the stumps. . . . Some is still working the bald spots, I hear, throwing the bare pot. Way I figure it, though, you got to go way down the banks. Get the Jimmy, but not the sook."

Warner concludes: "One cannot sit around very long and listen passively to this kind of talk. I have not been able to, at least. Inevitably, there comes the effort to find out what it all means. Thus this book."

One imagines that Wittgenstein would agree with Warner that local language as the way in to understanding the sense of a place, of a way of life. To "imagine a language," Wittgenstein said, "is to imagine a form of life." As philosophy scholar W. T. Jones has said, "In talking about forms of life Wittgenstein was doubtless thinking primarily about everyday practices like buying apples, constructing bridges and weighing cheese . . ." One might add: and catching fish and crabs.

Language at this level — at the most local and everyday level — provides the most direct insight into those who live and work in a particular place, in a particular context. Wittgenstein argued that "Every language . . . condenses and expresses some social group's characteristic way of doing things, of accomplishing its aims. From the group's language it is possible to 'read back' to this mode of life." He further argued that at times that we "must do away with all explanation, and description alone must take its place . . ."

In this way, those who chronicle (and "describe") the Chesapeake Bay and the language of its watermen and their families are providing an especially valuable insight into not only a way of living, but a way of being. The most notable recent example of this type of effort is Tom Horton's 1996 book on the fishing villages of Smith Island, entitled *An Island Out of Time*. In addition to his own instructive insights and intensely descriptive writing, Horton adds copious quotes from the islanders themselves, sometimes dedicating entire sections to taped transcripts of their speech. He understands that it is not only what they are saying, but the way they are saying it that communicates a world view that is in danger of rapidly disappearing.

This local approach represents more than an interesting travelogue. According to Horton, a local perspective is extremely important for environmental policy makers, since "solutions may seem reasonable in the abstract," on large temporal or spatial scales, but in the "here and now" the degradation of the places we love takes on much more immediate meaning. Thus language plays a key role in our "sense of place."

As Cantrill and Oravec observe in *The Symbolic Earth*, "The environment that we experience and affect is largely a product of how we have come to talk about the world." In the words of the poet Wallace Stevens ("The Idea of Order at Key West"), our language in some way creates that world: "She sang beyond the genius of the sea./ . . . And when she sang, the sea,/Whatever self it had, became the self/That was her song, for she was the maker."

In short, to understand not only the regional policies that are attempting to manage and restore coastal seas but also the nature of the cultures there, one must first understand the modes of language enlisted to frame those policies or to describe those cultures. Language should not be considered simply as a vehicle for conveying information, but rather as part of the conceptualizing function itself. Only a holistic approach that incorporates the varying modes of language will assure the "deep understanding" that results from including the full range of the human intellect. This understanding must benefit from the diverse disciplines we use to express ourselves as preeminent symbol makers — from scientific conceptualizing to literary evocation — if we are to use language to its best effect in managing coastal seas.