

Essays of a Peripheral Mind

Authentic Frontier Gibberish

By K. M. Havstad

At one point in the comedy cult film *Blazing Saddles* (Brooks et al., 1974) Gabby Johnson, a grizzled character of the 'Old American West' played by Jack Starrett, stands up during a town meeting and delves into a moronic speech that quickly degrades into an unintelligible rant. Gabby expresses himself about the need to defend their town from marauders with considerable enthusiasm and an expectation of being completely understood. By the end of this arm-waving soliloquy, though, his final words are nearly indecipherable. When he is finished and sits down the town mayor, Olson Johnson (played by David Huddleston), stands up and announces "Now who can argue with that? Not only was it **authentic frontier gibberish**, but it expressed a courage that is seldom seen in this day and age." In this digital day and age where seemingly every piece of information, no matter how trivial or useless, is now instantly available, you can actually view a film clip of this classic sound bite at www.killerclips.com/clip.php?id=137&qid=1869.

The fact that my Internet Explorer's history function tracks this site on my desktop PC can now be justified by inclusion in this essay. Fortunately, high-speed internet connections provide access to more useful and meaningful bytes of data. Not that any subsequent analyses of data, irrespective of their original quality, might not qualify as gibberish.

Which then leads me into a rant about what is gibberish and what isn't.

We are swamped with observations, or what may be considered data, of various qualities and quantities on

almost any subject. Data access within our professional field is no exception, and seems to expand almost daily. Some of the most recent examples include a relatively new collaborative web site at www.p2erls.net/ called 'Pole-to-Pole Ecological Lattice of Sites' (or P²ERLS). This site provides nearly instant access to dozens of sites across North America where long term data sets on various ecological topics are catalogued and accessible. Another fledgling effort to atlas long term data sets and their synthesis is "EcoTrends," viewable at www.ecotrends.info. Both of these new sites are providing access to high quality data that have the potential to generate new insights. Of course, there are many other local, regional, national, and global data sets available for analyses. Important examples are the more traditional and highly useful data sets concerning US rangelands that can be found through the Natural Resource Conservation Service at both www.ncgc.nrcs.usda.gov/products/nri/index.html and <http://esis.sc.egov.usda.gov/>.

Some of these data have tremendous utility, and some are of a very high quality. By and large, these data are the product of repeatable, standardized, logical, and reasonable methods of recording observations. Though any data set typically has limitations of various natures, we don't lack for access to data that have direct application to our interests.

Gibberish really does not result from a lack of data. There are always some sort of observations (real or imagined data, high quality or poor) that populate any gibberish rant. Authentic or otherwise, gibberish results primarily from one of two scenarios: an indecipherable analysis (it happens—see Gabby Johnson) or an unimaginative one.

Jacques Barzun, the noted historian, in his tome (meaning very difficult for me to read) *From Dawn to Decadence—500 Years of Western Cultural Life* (2000, Harper Collins Publishers) makes a strong argument in one very readable section of text that the advances of our civilization have relied heavily upon our imagination, and our many capacities to communicate that imagination. He wrote, “Imagination connects the remote, reinterprets the familiar, or discovers hidden realities. Being a means of discovery, it must be called ‘imagination of the real.’ Scientific hypotheses perform that same office; they are products of imagination.” This connection between imagination and hypothesis is central to this rant. Basically, gibberish lacks an imaginative hypothesis, or is an inarticulate expression of the same, or both. This is not to say gibberish cannot be entertaining or even authentic (again, see Gabby Johnson), but this is rare (how many really good Western-genre comedy films can you name?).

What are some of the most interesting and intriguing general hypotheses currently being tested within the rangeland science profession? I would offer that these are hypotheses related to 1) *threshold-resilience* (i.e., models that attempt to more explicitly characterize rangeland dynamics through detailing coupled impacts of disturbance to both vegetation and soils), 2) *scaling* (i.e., effects of disturbance that recognize that both time and space can have differential and confounding effects on system responses to those disturbances), and 3) *indicators* (i.e., the detection of components of ecological properties that are related to key community or landscape processes that can be used in assessment and monitoring).

Admittedly, the broad objectives of the three above-mentioned general hypotheses are actually not new. For example, for decades we have tried to explain the many vegetative state changes we observe on rangelands, and have tried to understand effects of livestock grazing at pasture, allotment, and ranch scales, and have worked to develop techniques to assess and monitor rangelands. These are all historical objectives common to our professional pursuits linked to these newer hypotheses in a broad sense. To illustrate, review research articles published in Volume 4 (1954) of the *Journal of Range Management* (see jrm.library.arizona.edu/jrm/volume.jsp?volume=http://jrm.library.arizona.edu/Volume4/). In that 1954 volume you will find studies on range inventory methods (i.e., monitoring, including the then novel use of helicopters), long-term vegetation dynamics (i.e., state changes), and relationships between vegetation states/conditions and grazing capacities (i.e., livestock grazing effects). What is important about the newer hypotheses is that they reflect efforts to reinterpret the familiar, to continue to discover the hidden realities of these systems, and to advance efforts to connect observations to explanations. They reflect our imagination.

Unimaginative analyses are often characteristically employed in defense of the familiar, or of the status quo. It would be gibberish to dismiss our newer hypotheses because we as yet lack supporting data. That is what makes them useful as hypotheses. It would be gibberish to suggest that we have learned everything we need to know at this point (one can only hope we have risen past the simplicity of “take half–leave half” as a guiding philosophy for the management of our natural resources). Not only is it necessary to continually reinterpret the familiar, as Barzun has reminded us, but the simple fact that we are still unraveling codes of our genetics would demand reinterpretations. It would even be gibberish to suggest these novel ideas represent some sort of junk science. They are hypotheses based on imaginative interpretations of hidden realities drawn from our repeated observations of the natural world. That is the scientific method.

It would, though, also be gibberish to suggest that these current hypotheses will fail to be rejected, that they will eventually become accepted as familiar and work their way into a comfortable status quo. As products of imaginative people, they deserve every right to be tested and rejected, with a minimal amount of gibberish.

Barzun included his passage on imagination and scientific hypotheses in the section of his treatise where he discusses the incredible age of inventiveness that occurred in the late 18th and early 19th centuries. It was during this period, which saw the invention of both the railroad locomotive and the cotton gin, where science, even the word “*science*,” emerged within our Western culture. Those two inventions alone changed the world and were built upon prior discoveries (e.g., steam as an energy source) and their reinterpretations. Two centuries later, where gibberish can label imaginative hypotheses about the specifics of global climate change as junk science, and gibberish is employed to discredit concepts of biological evolution, science persists and thrives because it is engrained in our culture and in our economy. The history of scientific discoveries is filled with examples of invention based on reinterpretation of prior observation. Our imaginative hypotheses that reinterpret our prior observations about state changes, and spatial scale effects, and indicators of ecological processes continue that tradition.

Oh, and one last thing, offered as if in a town hall meeting with enthusiasm and an expectation of being completely understood: “...an no sidewindin’, bushwackin’, horn-swagglin’ cracker croaker is gonna rouin me bishen cutter” (Johnson, 1974).

It is now time for the town mayor to stand and speak on my behalf.

Author is Supervisory Scientist, USDA/ARS Jornada Experimental Range, PO Box 30003, MSC 3JER, New Mexico State University, Las Cruces, NM 88003-8003, USA, kbarvstad@nmsu.edu.