

Comment on these columns, our editorials or your letters at newsobserver.com/opinion.

Precedent and a president's powers

By CLYDE RAY

The political fallout continues to grow from revelations that President Obama might have overstepped his constitutional powers as the nation's commander in chief in securing the release of Sgt. Bowe Bergdahl, the last known American prisoner of war in Afghanistan, in exchange for the freedom of five Taliban inmates held at Guantánamo Bay.

The administration has argued that the transfer of the detainees and the possibility of Bergdahl's rescue combined to form a "unique set of circumstances" that demanded quick action on the part of the president to bring Bergdahl home. Many Republicans, however, have criticized the Obama administration for breaking the law in failing to notify Congress before the detainees were moved.

Much of the debate involves longstanding questions concerning the uncertain powers of the nation's chief executive. President Obama, like many of his predecessors, has been charged with enlarging the powers of his office beyond the limits imposed by the Constitution.

In fact, the broader controversy concerning the administration's actions dates back to the earliest years of the republic. In a Supreme Court case familiar to many schoolchildren – *Marbury v. Madison* (1803) – Chief Justice John Marshall was confronted with a question similar to the one raised by political pundits today: How far does executive prerogative extend? The case involved the Jefferson administration's refusal to confirm the appointments of a number of judicial nominees whose signed commissions remained undelivered by new secretary-of-state James Madison after Thomas Jefferson took the oath of office. William Marbury was one of the dispossessed, and his attorneys persuasively argued that the commissions represented rights that the courts were obliged to protect. For his part, Jefferson believed that revising the commissions was a valid exercise of executive prerogative.

The court ultimately dismissed the case on jurisdictional grounds, but not before it recognized the legitimate wrong incurred by Marbury and lectured Jefferson on the rule of law. Writing on behalf of a unanimous court, Marshall stipulated that the president and his Cabinet possessed robust discretion with regard to "political questions," which included, notably, foreign affairs. However, the opinion continued, the chief executive and his officials were legally accountable for the performance of duties assigned by law that affected "the absolute rights of individuals," to wit, Marbury.

Thus, the court argued that executive officials were sometimes political agents whose actions were beyond the court's meddling, while in other instances public ministers who were accountable to the American people. Marshall added that it would be the Supreme Court's responsibility to determine the ambiguous line where the legitimate discretionary powers of the executive branch ended and the duty to obey the laws of the nation began. Over the course of subsequent presidencies – from the Watergate tapes to Guantánamo Bay tribunals – the Supreme Court has done just that.

While reading Marshall's opinion in Marbury is helpful for contextualizing the unfolding constitutional questions concerning the Bergdahl drama, Marshall's words also convey important reminders that should today chasten those on either side of the political aisle.

First, the case reminds us that the president is, according to the Supreme Court, granted extraordinary discretion with regard to his administration's decisions. Disagreements with the distinction drawn by the court must also take into account that many of the Constitution's framers supported a robust executive branch, particularly in light of the weaknesses of the Articles of Confederation. After all, as Alexander Hamilton notes in *The Federalist*, the exigencies of any nation's affairs cried out for an individual empowered to act with "energy" and "dispatch" on behalf of the republic.

Second, Marshall's words recall to our attention that the judiciary – the guardian of the Constitution, supposedly – is the proper arbiter of the boundaries of executive discretion, not the president and his own counsel. The legal legitimacy of the administration's actions rests with the judicial branch, not in comparisons made by Secretary Hillary Clinton and other administration supporters to similar prisoner-soldier exchanges carried out by other nations.

The final lesson we gather from Marshall's opinion is one of an enduring tension, encountered not just by elected officials, between obedience to the letter of the law and doing what is most expedient or pragmatic given the circumstances. Just as the Founders struggled in striking a balance between principle and flexibility, so too do we continue to debate their priority. To paraphrase Marshall's most celebrated line from the court's opinion in *Marbury*: Are we still a nation of laws and not men?



Fay-Wei Li - Duke University

A lowly fern's high likelihood of energy answers

By KATHLEEN PRYER

Fifty million years ago, the earth was so warm that turtles and alligators thrived in lush forests at the poles. Much of the North Pole was covered in a rather less-charismatic life form: the floating, duckweed-like fern, *Azolla*.

Recent geological evidence from Arctic Ocean seabeds reveals 50-million-year-old sediments that are composed almost entirely of *Azolla* fossils for an 800,000-year span. This interval, known as the "Arctic *Azolla* event," was a period when *Azolla* repeatedly blanketed the ocean surface, forming dense mats of vegetation.

Then something really interesting happened. As these *Azolla* plants died and became part of the sediment, they took atmospheric carbon down with them. Global atmospheric levels of CO₂ fell significantly, precipitating Earth's initial shift from a greenhouse world toward the current icehouse climate that we're now worried will melt.

Azolla is still with us, floating on the surface of ponds, lakes and rice paddies. Though tiny – one *Azolla* plant could comfortably sit on top of your smallest fingernail – it can double its entire body mass in less than two days. Some researchers think this makes it a promising alternative for biofuel production and carbon-capture efforts.

But *Azolla* does yet another interesting trick – it captures all the nitrogen fertilizer it needs from the atmosphere around it. Since the dawn of agriculture, Asia's farmers have known about, and deliberately exploited, the benefits of growing *Azolla* as a companion plant with rice. The floating fern thrives in rice paddies, fixing nitrogen and other nutrients, constantly improving the soil composition and providing a natural, green fertilizer that significantly bolsters rice productivity.

The secret here is that *Azolla* isn't just a plant; it's a "superorganism," a symbiotic collaboration of a plant and a microbe. In a special protective cavity inside each leaf, *Azolla* hosts a microbe called *Nostoc* that spends its entire life converting atmospheric nitrogen into food for its host.

***Azolla* and *Nostoc* have clearly demonstrated a prodigious ability to combat global warming** and to produce precious nitrogen that could help feed the world in a more sustainable way. Even though they have been co-evolving for nearly 100 million years, we know very little about them

and how they communicate. Wouldn't it be great to understand this symbiotic relationship better and to be able to understand the biological "conversation" between the host and the microbe?

Because it is classified as a "lowly fern," *Azolla* has been sidelined in plant genome studies. Repeated appeals to granting agencies for funding to unlock the know-how embodied by this superorganism have been met with responses like "too unconventional" or "too risky."

But to sustainably produce food for a world population of more than 7 billion people – all while reducing pollution and greenhouse gases – we need to do some risky research. Novel ideas and innovative approaches that could reveal just how nature "does what it does" naturally might help to revolutionize current farming practices. The cost of continuing to do the same old, same old makes little economic sense.

Specifically, we need a more sustainable source of nitrogen. By 2015, roughly 200 million tons of industrially produced, nitrogen-rich fertilizer will be needed to grow the world's food, a process that will consume vast amounts of fossil fuel and exacerbate our CO₂ problems.

Azolla and *Nostoc* have great potential to reduce the world's reliance on fossil fuels, while scrubbing a bunch of CO₂ out of the atmosphere in the bargain.

We're not talking about a lot of money. Genomic sequencing of this unique *Azolla-Nostoc* system would cost well under \$1 million. That's far less than the \$8 billion each year that U.S. farmers pay for nitrogen fertilizer – much of which finds its way into rivers and streams, damaging delicate water systems. This small step toward potentially helping crops use less synthetic nitrogen could benefit farmers' bottom lines, the environment and the prices we pay for food.

I'd like to see the genome of the *Azolla* superorganism sequenced so that we can understand the language that codes for the molecular machinery underlying this symbiotic partnership and possibly tailor it to suit our needs. Knowing how this works might even enable us to engineer crops to fix their own nitrogen – an achievement that could truly revolutionize modern agriculture.

Not often does such a small price promise a big gain.

Kathleen Pryer, a professor of biology at Duke University, is president of the American Fern Society.

Where ethics, services fit in housing plans

By THOMAS BARRIE

As we continue to plan the future of Raleigh, we must look at providing affordable housing as an ethical imperative and a multi-faceted design problem.

At a recent panel discussion involving affordable housing architects, providers and advocates, a full spectrum of design and planning issues that affect affordable housing in Raleigh was discussed, but one stood out as predominant – the value of multifamily housing built in central city locations near public transportation and services.

Affordable housing is generally defined as homes for individuals and families who cannot afford market rate in their communities and, specifically, as housing that costs less than 30 percent of a household's gross income (including utilities and, for homeowners, taxes and insurance). Well-designed affordable housing is a perennial local and state need, with growing shortages of availability due to persistent income disparity and cuts in funding and subsidy programs, which dramatically worsened during the recent recession.

The Department of Housing and Urban Development's "Housing Choice Voucher Program" has seen modest increases but at a time when rental rates have reached unprecedented highs. It is well-known that the availability of quality housing is out of reach for many North Carolinians. Equitable pay for folks who work on our behalf – teachers, nurses, policemen, firemen and service workers – is an essential issue, but housing that is economically accessible to them, as well as those affected by low or unemployment, is another.

In Wake County, there is a shortfall of over 25,000 affordable units. Over 45 percent of renter households are housing cost-burdened and consequently have less to spend on medical care, food and transportation. Most affordable housing in Wake County, including concentrations in Raleigh, is in locations inadequately served by public transportation and lack the density to support it. This results in increased transportation costs, which can constitute 25 percent of household expenses in Wake County.

The City of Raleigh's "Scattered Site Policy" calls for dispersing affordable housing to mitigate concentrations of poverty and locating it close to public transportation. It is unclear how it can accomplish both. Alternately, mixed-income housing incorporated into the Central Business District or transit hubs promises a diversity of housing that serves more of the economic spectrum.

Strategically solving our affordable housing problem is an interrelated design challenge that includes land-use planning and transportation. At the conference, Michael Pyatok, one of the leading affordable housing architects in the country, outlined the benefits of higher density, what he terms "coziness," including decreases in land and development costs and auto-dependence, and increases in the viability of public transit, local services and walkability. At approximately 3,000 people per acre, Raleigh is a relatively low-density city. But it will not be if the CBD continues to develop housing at the densities it is currently building.

If you total the housing built in the past five years and developments planned or under construction, the number of units in the Central Business District will double, but most are market rate. When Union Station is completed, it will be an important piece of increased public transportation. Consequently, there are substantial opportunities for including affordable housing that satisfies a full-range of affordability metrics.

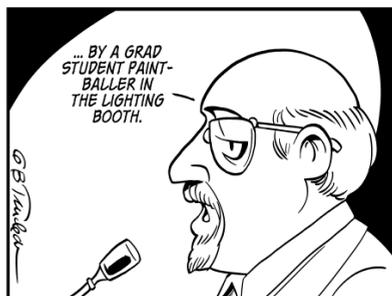
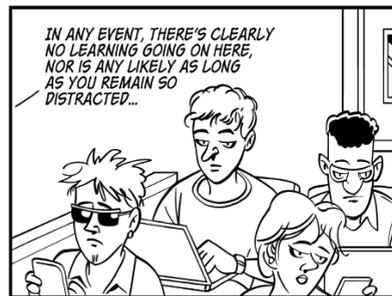
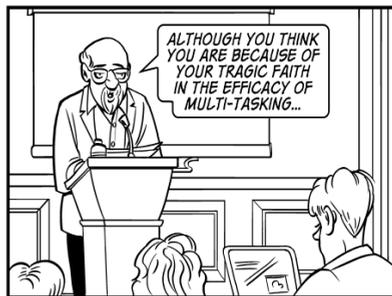
There is clearly a strong market for affordable housing, and Raleigh's 2030 Comprehensive Plan outlines some effective methods to fill it. We now need to comprehensively articulate, develop and apply them with an eye toward "cozy" housing patterns in the CBD and at transit hubs. Municipal land banking, including tax-delinquent properties, should be part of a focused plan for the CBD. Waiving impact fees and using tax-exempt bonds should be similarly tied to CBD and transit-based housing development. And, as expanded transit is planned, transit-oriented development should incorporate incentives provided by the U.S. Transportation Department, as part of a coordinated strategy to pair housing and transportation.

Raleigh's "Scattered Site Policy" should be reviewed to remove impediments to locating affordable housing near what its residents need most: public transportation and services. Similarly, the N.C. Housing Finance Agency's "Qualified Allocation Plan" should be reviewed to assess any unintended consequences of its provisions for awarding federal Low Income Housing Tax Credits. For example, one suitability metric is that affordable housing projects be in close proximity to a grocery store or pharmacy, a well-intended requirement but one that effectively eliminates many central city locations.

Any measure of a culture depends on how well it supports the full spectrum of its members. In this context, the provision of affordable housing is an ethical issue. It is also a design and planning one. As we continue to plan the future of Raleigh, let's include housing for those who need it the most in locations where they need the most.

Thomas Barrie, AIA, is a professor of architecture at N.C. State University and director of the Affordable Housing and Sustainable Communities Initiative at the College of Design.

DOONESBURY



Clyde Ray is a doctoral candidate in the Department of Political Science at UNC-Chapel Hill.