When people talk about the future of Appalachia, they typically mean economic futures: *What will happen to coal jobs? How will Appalachia diversify its economy? What about poverty?* Stereotypes about our region represent our people as disinterested in education, and hostile to innovation, technology, and sustainability. We see a different story. This part of the exhibit looks at ways that Appalachians are taking their strong sense of culture, their linguistic distinctiveness, and their relationship to the natural world to imagine new futures in diverse industries, sustainable practices, and stronger education systems.
Economics & Industry

On the Future of Appalachian Economy

The Appalachian economy contains tremendous diversity. Some regions within Appalachia have attained economic parity with the nation and other regions have tremendous growth potential. However, many other regions within Appalachia—especially those more rural and mountainous areas—continue to lag along a number of economic measures. Participation, and worse health and education outcomes. There is no silver bullet for fixing the economic challenges in these parts of Appalachia, but many areas should focus on economic development efforts surrounding economic diversification and improving human capital outcomes.

Rebuilding Affrilachia

The Community Accountability Plan (CAP) is a guidebook for communities in a recovery framework and empowerment model. People in my neighborhood and the surrounding communities (the Affrilachia region) work to promote community health and growth, and CAP helps them to hold themselves accountable in their communities.

We use a systems design to build, maintain, and present pillars of recovery in the historically African American neighborhood, supporting a culture of sustainability that is inclusive and environmentally just. We do this through community engagement, education, and advocacy projects. We work to implement these projects in neighborhoods and ensure services can be filled and existing services can be made stronger.

I am a photographer and educator, primarily interested in producing images that further the goals of Human Rights, Social Justice and Environmental Responsibility. A native West Virginian, I discovered photography at age 12 and through this discovery became the first male in my family to escape working as a coal miner. For over 30 years, I have pursued careers as a writer, photographer, and filmmaker. I strive to use photography as a tool to educate, illuminate and inspire. I have photographed many humanitarian issues throughout the U.S., Mexico, Kenya, Jamaica, Russia, Israel, Laos, Thailand, Haiti and Northern Ireland with exhibits in Washington, D.C.; Baltimore, Maryland; Columbus, Ohio; Minneapolis, Minnesota; and West Virginia.

Appalachia’s Post-Industrial Future

Throughout the region’s history, Appalachians have extracted resources and produced goods that supported economic development. During the peak period of industrialization from 1880-1930, workers have extracted salt, coal and timber, mined coal, and drilled for oil and gas. Unlike many of Appalachia’s former manufactured goods producers, such as glass factories, homestore, and beer and other distilled spirits.

However, industrialization often resulted in an uneven form of economic development. During the peak period of industrialization from 1880-1930, Appalachian has been understood as a resource colony to the rest of the urban core. Lower wages and poor working conditions, often fostered by immigrant and male and female workers. While depicted as a region of poverty and our connection points. We live in an atmosphere of historic rather than prescribing solutions or programs. As a community, we need to celebrate, sustain and evaluate our connective points. We live in an atmosphere of historic remembrance, so time and history do not diminish the depth of the horrific injustices; as a call to action for positive transformation. The work provokes responsibility. A native West Virginian, I discovered photography at age 12 and through this discovery became the first male in my family to escape working as a coal miner. For over 30 years, I have used my camera as a vehicle to give voice to many issues on the planet in order to mine coal. My projects serve as a further the goals of Human Rights, Social Justice and Environmental Responsibility. I strive to use photography as a tool to educate, illuminate and inspire. I have photographed many humanitarian issues throughout the U.S., Mexico, Kenya, Jamaica, Russia, Israel, Laos, Thailand, Haiti and Northern Ireland with exhibits in Washington, D.C.; Baltimore, Maryland; Columbus, Ohio; Minneapolis, Minnesota; and West Virginia.

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The Impact of Law & Perception

My book, *Appalachia Reconstructed* explores how the liberal environmental law paradigm has failed Appalachia ecologically, economically, and socially. Such devastation has primarily been wrought by the coal extraction industry’s century-long hegemony in Appalachia; environment law (e.g., the Clean Water Act and the Surface Mining Control and Reclamation Act) has proven an overwhelmingly ineffective bulwark against such Appalachian destruction—and indeed against ecological catastrophe worldwide. Consequently, *Appalachia Reconstructed* posits that radical socio-legal change is required to achieve an Appalachian future that is both ecologically viable and critically just. To achieve such change, we must transcend the existing environmental law paradigm—i.e., as undergirded by liberalism—and instead cultivate critically informed modes of “systemic re-formations.” In *Appalachia Reconstructed*, such modes of systemic re-formations are largely explored through certain strains of ecofeminism, which focus on the following: radical degrowth; local economic systems; local-global connections; strong ecological sustainability, and; critical intersectionality along lines of the environment, class, race, gender, indigenous status, etc. Through such ecofeminist-steeped systemic re-formations, the Appalachian region can emerge as more just and as better positioned to face the profound perils of our new ecological age.

These pictures were taken in the Harrison county area of workers in the International Union of Operating Engineers. They are building two different pipelines. Their skilled knowledge helps keep the environment and workers safe, while providing a future workforce for younger generations.

JILL MOLES MULLINS
Fine Art Photographer
Clendenin, West Virginia

*Appalachia Reconstructed: Law, the Environment, and Systemic Regional Reform*

NICHOLAS F. STUMP
Faculty Member of George F. Farmer Jr. Law Library, College of Law
West Virginia University
Morgantown, West Virginia
From Trees to Tech, WV’s Nanotechnology Future

Nanotechnology began late in the 20th century when microscopes became powerful enough to visualize molecules, DNA, and even nanoparticles. Primitive nanomaterials had been used for centuries (in Medieval stained-glass for example) but now the processes at work could be observed. Today, nanotechnology is used to make sporting goods lighter, clothing waterproof, and windows self-cleaning. Nanotechnology improves common materials.

Dr. Gloria Oporto at West Virginia University, using cellulose-rich sawdust from local Appalachian hardwoods, binds cellulose to copper to create carboxymethylcellulose-copper nanoparticles (CuNPs). Matthew Winans, a West Virginia University Ph.D. candidate, and Dr. Jennifer Gallagher use budding yeast cells to understand how CuNPs interact with living creatures. Winans has found that the CuNPs are antimicrobial, meaning they stop bacteria from growing in unwanted places. His goal is to understand how this Appalachian-nanotechnology works and further develop nanotechnology in Appalachia.

In recent years nanotechnology has been on the rise and because of West Virginia’s resources, infrastructure, and industrial past it is poised to elevate communities through nanotechnology production. Researchers in Appalachia are using natural resources to develop new nanotechnology in growing industries like medical plastics and food packaging. Scientists, industry leaders, and community leaders must continue to work together to invest in the future of Appalachia.

MATT WINANS
PhD Candidate, Biology
West Virginia University
Morgantown, West Virginia

The future Appalachian climate is here, and it is wet. Warm air can hold more water and as a result rising global temperatures are helping wet places get wetter. In the Appalachian Mountains, the regrowth of forests following widespread logging in the early 20th century is contributing to increasing precipitation. One tree species in particular, the sugar maple (West Virginia’s state tree), is key to making the Mountain State a “Wet Virginia”. Adapted to flourish in, and create wet climates, the sugar maple’s above and below-ground architecture pulls nourishing carbon dioxide from the atmosphere and trades it for water from the soil. Key to this water-pumping architecture is the “umbrella” shape of a sugar maple’s crown. With water-cooled leaves arrayed horizontally and clustered in a single layer at the top of its crown, the sugar maple casts deep shade that few other trees can survive. Sugar maple-dominated forests are cooling the planet in three ways. First, Appalachian forests rapidly trade water for carbon dioxide that would trap heat in the atmosphere. Second, the horizontal-leaved architecture reflects sunlight back to space (see map). Finally, just as you are cooled by evaporation as you sweat, the sugar maple’s water pumping cools our regional climate. The “Wet” Virginia state tree has a shiny future as a global warming umbrella for Appalachia.

BRENDEN E. MCNEIL
Associate Professor of Geography
West Virginia University
Morgantown, West Virginia

The “Wet” Virginia State Tree as a Global Warming Umbrella

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Image: A satellite map of forest albedo (reflected sunlight). West Virginia forests reflect more sunlight back to space than any other forest in North America. Adapted from Ollinger et al. 2008.
The purpose of this research is to examine rural outpatient healthcare facilities to better understand how characteristics of the physical facility impact the delivery of healthcare to different populations. Three populations of interest are: the elderly, individuals with special needs, and persons on the autism spectrum. The use of design to improve healthcare delivery and outcomes related to patient care, staff stress and turnover, and profitability is well-studied in large, urban healthcare center settings. This research looks at the potential to see similar impacts in rural outpatient care facilities. Studies on the aforementioned populations indicate that the physical facilities do often pose barriers to accessing healthcare. Common barriers include waiting room design (lack of appropriate seating, auditory/visual and physical aspects of check-in, and challenges moving around in the various spaces of the facility from waiting room to exam room). Additionally, study participants identified patient-staff communication challenges creating further barriers when seeking healthcare services.

Further research projects are underway that will explore in greater depth two of the scenarios described above: 1) the ADA accessibility of rural outpatient healthcare facilities in West Virginia; and 2) the unique challenges of healthcare delivery facing persons on the autism spectrum and their caregivers.

**The West Virginia Coronary Artery Risk Detection in Appalachian Communities (CARDIAC) Project: Its Impact and Importance to West Virginia**

The mission of the WV CARDIAC Project is to provide sustainable comprehensive risk factor identification, education, awareness and advocacy to engage and empower West Virginia children, families and communities to embrace a culture of wellness.

The WV CARDIAC Project is a school-based public health surveillance and intervention project that identifies health risk factors in children, educates families, informs primary care physicians, and provides resources to schools to help improve the health of West Virginia, beginning with our children.

Obesity prevention starting with children is a profound public health issue that impacts not only our health, but our economy. Our future adult population’s quality of life and morbidity and mortality rates depend on the habits our children learn and adopt today—from their home, their school, and their environment. West Virginia has invested in the CARDIAC Project for over a decade by supporting the most robust comprehensive public health program in West Virginia and across the nation. West Virginia is now the leader in the country in measuring progress on our state’s children’s health.

**ELOISE ELLIOTT**

Mrs. Distinguished Professor of Physical Activity and Sciences

West Virginia University

Morgantown, West Virginia

**Impacts of Health Facility Design on the Delivery of Healthcare in Rural Settings**

**CHRIS HADDOX, PHD, LEEP AP**

Assistant Professor, School of Design and Community Development

West Virginia University

Morgantown, West Virginia
Appalachians & Climate Change

We are actively changing the Earth’s climate. There is overwhelming scientific evidence that our release of heat-trapping gases for energy production, food production and transportation are increasing temperatures and altering rainfall patterns. Without government policies that curb the release of heat-trapping gases, we may no longer be able to rely on a habitable climate to sustain our society’s well-being and advancement.

West Virginia is not immune to climate change. By the end of the century, West Virginians will experience over three months of heat index values over 90°F, a dramatic increase from the 13 days we currently have each year. Yet, nearly 40% of adults in West Virginia do not believe climate change is happening—11% more than the national average. This climate change skepticism presents a critical roadblock to raising the public and political will needed to enact policies to ensure a stable climate for future generations.

It is only through effective communication of our sciences that we can raise climate change awareness. This doesn’t have to happen only at the national scale. Locally, we can make a difference. For example, my lab group and other WVU graduate students from departments across the university run an annual field trip to a West Virginia Land Trust site with the Fifth Grade from Eastwood Elementary in Morgantown, West Virginia (~100 students). This trip exposes students to the ways humans are altering the climate, raises awareness of how Appalachian Forests take up heat trapping gases from the atmosphere, and breaks down the barrier between scientists and the public. Through the cumulative action of grass roots efforts at the local scale, we can build the will necessary to transform Appalachia from its past reliance on extractive industries that harm the environment to a sustainable green future.

Eddie Brzostek
Assistant Professor, Biology
West Virginia University
Morgantown, West Virginia

Adolescent Identity and Speech in Appalachia

“As soon as you’re old enough to talk and know stuff, there’s just the basic: it’s like you’re born with it; you’re born with people stereotyping against you. So, it’s not like you’re just walking into this kind of hatred, it’s been there your whole life... We’re going to be the next to make this region. Hopefully, we’re going to make something of it.”

Chayla*, the 17-year old high school senior from eastern Kentucky speaking in the quote above, claims love for herself and place, even as she describes the way stereotypes of the Appalachian region shape existence for residents from birth.

One common stereotype is about “country” speech signaling a lack of education and “backwoodsness.” Research that I have done, and further study by the West Virginia Dialect Project, tell a different story. This research demonstrates how some young people take up “proper” and “country” speech in ways that both reflect and create community expectations for speech and identity. Reflecting the community patterns, many teenagers continue to use words and pronunciations that mark them as “country” in solidarity with their community, despite the social costs when they leave their community. Other teens use some but not other stigmatized speech features, as they move in and out of different communities. As they make choices about how to speak, they make choices about who they are, where they are from, and who they are going. Teenagers in Appalachia live in an and create complex worlds not represented in the stereotypes of the region, and show us that we need to listen, learn, and support them as they create their Appalachian futures.

Audra Slocum
Assistant Professor of English Education,
Dept. of Curriculum & Instruction/Literacy Studies
West Virginia University
Morgantown, West Virginia

Cratis Williams, Appalachian Linguist

“When I was coming along, it was a shame to be an Appalachian person, and the teachers let us know right away that our first job was to hide everything in us that suggested that we were Appalachian. We’ve changed now. We have more to be proud of than most people, really, especially our teachers generally. But they didn’t know it, and we’ve just now discovering it.”

—Cratis Williams in a speech on Appalachian dialect at the University of South Carolina, October 1981.

For Caines Creek, Kentucky, native Cratis Dearl Williams (1911-1985), a lifelong pursuit of education went hand-in-hand with a journey of self-discovery that circled back to his Appalachian roots. Williams’ career as an educator took him from the rural schoolhouses of eastern Kentucky to the Chancellor’s Office of Appalachian State University. Widely regarded as the “Father of Appalachian Studies,” Williams not only studied the history and mythology of his home, he advocated for the cultural significance and intrinsic value of the region and its people. Building a respect for the intelligence and beauty of Appalachian dialect was a central part of Williams’ career as an educator. “I’ve tried to hold that dialect,” Williams acknowledged, “all the while I was getting a Ph.D. degree in English and studying speech and learning how to enunciate so that no one would observe or discover my origin.” In a series of articles for Mountain Life and Work (later reprinted in Southern Mountain Speech), Williams called the Appalachian dialect “a strong language, credited with proverbial wisdom, sparkling with pleonasm, powerful metaphors, and vivid similes.” Throughout his life, Williams was an outspoken advocate and speaker of Appalachian dialect. His work challenged historical prejudices against mountain speech as an indicator of ignorance or backwardness and revealed its worth as a living and evolving language that continues to link the past and future of Appalachia.

Travis Minden
Special Collections, Appalachian State University
Appalachian Collection, Appalachian State University
Boone, North Carolina
The topic of Appalachian futures can help us explore a shared vision for our region. I strive to make work that supports conversations about good jobs, clean air, clean water, and a safe working environment. My recent project, titled *After Coal*, examines the region's transition from coal. This documentary film and book highlights coalfield residents who are building on the past to create a new future. Many young people I interviewed for *After Coal* felt limited by how strongly the Appalachian region is still identified with the coal industry. "Is that all we are?" Lauren Adams from Harlan County, Kentucky asked. "I appreciate every miner that has ever lived, but we are more than just a rock in the ground—and so is this place."

It is clear that young people have a strong desire to create a new identity for the region and new opportunities for their future. Science, technology, and the arts can inspire us to imagine a future beyond coal and fossil fuels. However, we need to ensure that young people get the support they need to create their own Appalachian futures. I am amazed by how many innovative ideas for community regeneration exist in the Appalachian coalfields. If we are able to increase investment and develop policies that support a diverse economy, we can provide our youth a foundation to build a new future.