

# ***Adaptive Construct: The Grundy Youth Center***

**ARCH 3020/4020**

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## **Adaptive Appalachia**

In 1767 Daniel Boone walked the range of Appalachian Mountains that undulate through Buchanan County in Southwestern Virginia and declared the terrain un-suitable for habitation. German immigrant Charles Frederick Stigle ignored Boone's recommendation and in 1787 migrated into the area - living in a hollow poplar log with his hunting dogs before building a small log cabin at the site that has become known as Grundy, Virginia.

Farming proved to be difficult for the early settlers of Buchanan County due to the lack of level land, but the mountains were lined with virgin hardwood forests and the timber industry came calling. At the turn of the twentieth century Grundy, Virginia became a boom town for timber. "Vast areas of virgin timber were cut from the steep hillsides and lumber camps dotted the landscape." The extracted resource was then rafted down the Levisa River to build towns in Ohio and Kentucky. For nearly 30 years logging was king.

By 1930, Buchanan County was "logged out" and a new extraction industry asserted itself: coal became king. The Norfolk and Western Railroad laid track through the county and in 1932 the first car of coal left Grundy. Coal has since dominated the economy and politics of Buchanan County. Modern coke ovens were constructed in 1960s and the coal from the region has fed the steel industry.

In 2001, 80% of Grundy's historic downtown was demolished when the U.S. Army Corps of Engineers and the Virginia Department of Transportation teamed up to develop a \$280.8 million flood proofing plan that called for the creation of a 13-acre flood-safe redevelopment site. This project removed a fabric of locally owned buildings and businesses only to be replaced with a multi-level Wal-mart shopping center.

Grundy has survived flooding, resource extraction, the coal rise and fall, deforestation, government initiated demolition, Wal-Mart, political scandal, a disability epidemic, methamphetamine, moonshine, education cutbacks and of course that severe landscape Boone mentioned. There is nostalgia in this place - a romantic longing for what has been lost. There is also a fear of what will be lost once the extraction is complete.



Logs waiting to be processed at sawmill. Grundy, VA



Coal being graded at the Red Jacket Tipple

What is next for Buchanan County and the town of Grundy? How will the community adapt when the coal industry fully retreats? How will the land and the people recover from the history of extraction that has driven the economy of Appalachia? In a moment when the majority of architectural discourse is focused on the metropolis and its growing problems, we must also look at the small communities whose resources have enabled the growth of the modern city. This studio will analyze, imagine and script a future for this rural, Appalachian community.

### **Adaptive Space**

An important community asset was demolished in the 2001 re-development project in Grundy: the Grundy Youth Center. This center was a flexible, collective space that provided a social, educational, and recreational forum for the youth of Buchanan County. The objective of this studio is to reimagine and rebuild this space for the community of Grundy.

The Grundy Youth Center will facilitate support for at-risk teens. The youth in rural Appalachia are highly susceptible to drug use, crime, and high rates of high school dropout. This bleak condition is reinforced by a declining economy that is largely dependent upon the coal industry. The primary objective with the Grundy Youth Center is to build a facility that will operate as an economic and social catalyst for the community by providing a flexible space for training teens in fields that are currently absent in public education such as digital technology, health science, and Appalachian musical traditions. The program aims to provide training and support to promote local, creative entrepreneurship in areas that directly relate to the local resources, such as wildlife management and ecotourism, allowing the youth of Buchanan County to discover new, sustainable career trajectories.

With complex, layered ambitions for this facility the space must be conceived with great adaptability. We will seek inspiration from the vernacular of Appalachia. The shed, the barn, the one room school house, the cabin, the sawmill, the train depot, and the chapel are modest precedents of adaptive space. The Youth Center is a bridge, a prospect, a table for community action, a hearth sustained by the brightness of youth and the wisdom and pragmatic energies of ever-present ancestors.

### **Adaptive Material**

The studio will focus on the transformation of waste, excess and the ordinary into new spatial and material realities. The goal is to discover and explain how technology offers new possibilities for material precision, specificity and recycling. This research will define new methods for making that expand upon Modernism's doctrine of standardization. The studio will examine procedures for reusing/repurposing material and devise construction systems that allow for time based expansion.



Student work from Trash Tectonics Studio - Spring 2013.

What is the architectural potential of kudzu, tires, coke ovens, train cars, shipping containers, plastic bottles, newspaper, sludge, cardboard packaging, Styrofoam packing, aluminum cans, plastic bags, wood chips, coal dust or automobile parts? This study of adaptive materiality is motivated by pragmatics and poetics. The agenda is to discover material effects that are both provocative and economical.

### **Adaptive Components**

This design studio will enable investigations into the role of Building Information Modeling (BIM) in an academic environment. BIM has emerged as the preeminent digital design approach for the architectural practice but it is rarely examined critically in an academic setting. The Grundy Youth Center will be designed using BIM, allowing for a workflow that promotes a collaborative, parametric process focused on building systems and performance. No prior experience with BIM or Revit is required but students will be encouraged to enroll in ARCH 7270 and ARCH 7272.

### **Studio Format**

This studio will be building upon a Fall 2013 Seminar that has taken a preliminary inventory of Grundy, meet with community stakeholders, interviewed high school students, and developed a series of schematic building strategies. The studio will take this work as a beginning point and develop a series of building schemes to the level of a professional Design Development Drawing Set. All work will be highly collaborative and will include participation and feedback from community stakeholders.

This studio is embedded in a real, public project that challenges participants to develop a civic agenda for architecture. The project will allow participants to work outside of abstraction and develop architectural proposals that simultaneously achieve design excellence while adhering to budget constraints, code requirements and constructability. The lessons will emphasize deploying materials and resources that are locally abundant and significant.

### **Studio Assessment**

Each participant will be assessed based on the Studio Assessment Rubrics found on the following page. The instructor will discuss the student's progress and a mid point in the semester as well as in a post Final Review exit meeting. Due to the collaborative nature of the studio, the final grade will also take into consideration a peer evaluation that will measure the student's contribution efforts to group work.