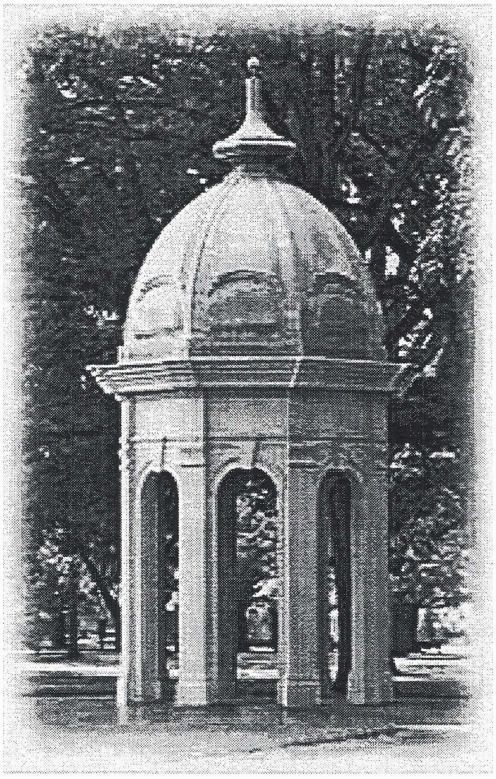
The North Carolina Geographer

Volume 6 Summer 1998

The North Carolina Geographer is published by the North Carolina Geographical Society and serves as a medium for the dissemination of research concerning geographic phenomena of local interest. Contributions are welcome and should conform to the Notes for Authors (available from the Editor). Articles should be submitted to the Editor

Authors alone are responsible for opinions voiced in this journal. Please direct inquiries concerning subscriptions and availability of past issues to the Editor.



We gratefully acknowledge the support of the College of Arts
and Sciences, East Carolina University, and the
Department of Geography, East Carolina University

Deborah P. Dixon
Editor

Emily F. Selby
Production Assistant

Dana F. Reeves
Technical Assistant

THE UNIVERSITY OF NORTH CAROLINA

AT

CHAPEL HILL

Department of Geography

Is proud and pleased to support the continued publication of

The North Carolina Geographer

The North Carolina Geographer

Volume 6 (Summer 1998)

Contents

Editor's Remarks: The Place of North Carolina

Before introducing the articles and reports in this year's issue of *The North Carolina Geographer* I would like to take this opportunity to thank the previous Editor, Ole Gade, of Appalachian State for his hard work and inspired leadership over the years. Ole not only published the first five issues of this journal, he also took care of the mundane tasks associated with keeping membership subscriptions up to date. In taking on the responsibilities of Editor of the journal I have come to appreciate just how much effort is involved in attracting submissions, organizing peer reviews, and, last but not least, formatting the articles. Consequently, I am staggered by the fact that Ole did undertake the job for so long; he deserves our most thunderous applause!

As can readily be seen from the form and content of this issue, *The North Carolina Geographer* has been repackaged. The journal is bigger and is now formatted into double columns. The cover has changed dramatically; my intent is that each subsequent issue will also be produced in black and white, but will detail a different part of the state. In terms of content, articles have been complemented by professional reports on a diversity of topics: in future issues I hope this involvement on behalf of professional geographers will continue. A "Statistical Review of the State" section has also been added as a means of showcasing current trends within North Carolina as well as the diversity of data sources available to geographers. I hope to add a second new section, the "Geographic Education Forum," next year.

This year's issue brings together a number of articles on the "place" of North Carolina, as it is perceived within the US, and also as it is impacted by global economic processes. Zonn provides us with a commentary on Charles Kuralt's "geography" of the state, and asks us to consider the negative, as well as the positive, aspects of this portrayal. Which places, and whose history, does Kuralt dwell on? For whom is North Carolina "home"? Downer, in turn, draws attention to how the mountain region of the state is presented to tourists of the Blueridge Parkway. This heavily used unit of the park system, he argues, was built according to the spectacular vision of its architect, Stanley Abbott, and portrays the region as both isolated and passive, cut off from the invigorating currents of modern life. Taken together, the articles by Zonn and Downer emphasize the dramatic impact of such men of vision on our conceptions of people and place, but also the fact that these men are very much a part of the society they live in, and draw upon prevailing ideologies for their own particular purposes. Morde provides an insight into such prevailing ideologies in her assessment of neo-traditionalism, as manifest in North Carolina. Does this type of planning allow for a return to "down home" values, or is it merely a means of homogenising our state?

Hapke et al focus on the place of North Carolina within the global economy, and recount the changes in the production process of tobacco, a crop which has a long and complex history in our state. This assessment is complemented by two review pieces, one by Hart, and one by Kelli. The subject of these reviews is the documentary, *Tobacco Blues*, one of several films made in recent years that draw attention to the very personal plight of tobacco farmers and their families in light of the restructuring noted by Hapke et al. Campbell and Stuart, in turn, point to the significance of foreign direct investment (FDI) in North Carolina, pinpointing not only the sites of investment, but also the types of businesses involved. In comparing the geography of tobacco, and that of FDI, the complex economic relations that link North Carolina to the rest of the world are illuminated. These articles are complemented by the professional reports of Padrick and Richter, and Stuart. The former focuses on the need for planners to take into account the geographies noted above, while the latter sums up the progress of the GlobalTransPark which, it is hoped, will place North Carolina in a favorable position in terms of global trade.

Charles Kuralt's North Carolina: Lessons from a Journalist Geographer

Leo Zonn
Department of Geography, University of North Carolina at Chapel Hill

The death of Charles Kuralt on Independence Day, 1997, marked the end of an era. The North Carolina native had long-charmed audiences with his home spun stories of places made real by the lives of ordinary folk. His images of individual simplicity, goodness, and hard work were interwoven with nostalgia and a strong sense of community, to produce images of place that clearly had mass appeal. And soKuralt, the master journalist, was a master geographer. This paper addresses a particular work byKuralt – the film *North Carolina is my Home* – as it reflects the intersection of his talents and perspectives, a real place, an intended audience, and a prevailing complex of social and cultural strictures. A detailed examination of this film reveals a unique representation of place that resonates with some Carolinians and not others. The film's population is concentrated in idyllic rural and small town settings, and is overwhelmingly white, with a smattering of black people and no Asians or Hispanics. An assessment of this failure to recognize black North Carolinians as part of our state's culture may tell us something about Kuralt, but it may offer yet more important lessons about the nature of places, the ability of media to construct them, and the power of the prevailing social order.

Charles Kuralt died on July 4, 1997, at the age of 62 and was buried four days later on the campus of his beloved University of North Carolina at Chapel Hill. Millions mourned him. A master journalist, Kuralt was known for his ability to weave yarns, tell tales, and describe stories of everyday America and his home state of North Carolina that somehow touched individuals as if they were a part of some larger script. He rekindled a sense of nostalgia -- a longing for times that were good, people who were fair, and a world where one's word was valued. Simplicity, respect, and honesty were blended into images of hard work, family, and community. Kuralt's reflections stressed the ordinary and the goodness in us all. And yet, he was neither controversial nor judgmental. When the moment arose, Kuralt would deliver his soliloquies with the certain calm, deliberate, and folksy charm of the Southern orator, providing us images, thoughts, and reflections that we sensed were intentionally less complex than the man. His physical demeanor -- bald, slightly rotund, and less-than precise in dress and diction -- only added to the feeling that he was one of us. It was from the heart, and Americans tended to believe. And to the North Carolinian he was even more; to many he was reminiscent of the native sons Sam Ervin and Terry Sanford, and he was no less respected.

But Kuralt was also a master geographer. His portrayals reflected a careful weaving of physical settings, individual accounts, and larger histories into a fabric of place, while at the same time he understood that a careful arranging of the many symbols that are ingrained within these elements of place is the key to creating a particular image. He knew that each symbol had to be clearly identifiable for the audience so that the requisite emotions would be correctly evoked. Indeed, he was a craftsman of representing place. And nowhere is this more apparent than in his images of North Carolina.

The same skills Kuralt relied upon to charm a nation he used often to describe North Carolina to its own people. The same kinds of stories, people, and settings that elicited emotions about the home nation were replayed in the same cadence for the home state, or the Old North State as he called it, and with which we could so clearly identify. The symbols were different but the technique was the same. And so his representations of the state have been richly meaningful for many. There are a variety of examples within a number of different media that could be shown, but this essay now turns to one of his most recognizable and popular works, a documentary film

called, *North Carolina is My Home*. The specific purpose of this essay, then, is to explore this film within two somewhat neglected aspects of place while answering the question: What lessons can we learn from our fellow geographer, Charles Kuralt, in his representation of a place called North Carolina?

Clearly, the range, richness, and nature of meanings that comprise place make it a powerful force in our lives, while the symbols, values, and general discourses used to reinforce these meanings become part of a common lexicon. So, there is always a social group that understands these meanings and that understanding allows for a collective identity. This link between place and group often becomes powerful so much so, in fact, that place identity and self identity may become inseparable. It is the task of the individual who represents place to understand these connections, so when s/he presents an image, someone will identify with its nature.

Before we proceed to *North Carolina is My Home,* I would like to introduce two seemingly self-evident and yet often ignored axioms that will become apparent as we examine the film. First, *a portrayed place may resonate with one group of people and yet be meaningless to another.* We will find that the North Carolina of the film is a place with which some people identify but others have little or no affinity. The implication is that the commonly accepted "essence of place" concept is of quite limited value (for an interesting crtitique of this concept, particularly in terms of representation, see Selby and Dixon, 1998). The features of place chosen for portrayal recognize and reflect the nature of a select group of people who can identify with their meaning, while others who can't claim such identity are excluded. North Carolina is more than one place. This essay will focus, however briefly, upon a particularly neglected population, black North Carolinians, for whom there is no place in the portrayed North Carolina.

The second axiom is that *a place is a construction that can never mirror reality* (Barnes and Duncan 1992). Someone had to decide what information to include, ignore, emphasize, and distort, and someone had to state - no matter how implicit - an overriding theme and principle that helps to create the place's represented form. The intentions, inclinations, skills, and experiences of the portrayer, then, are quite important in understanding the nature of a constructed place. An important corollary that should be noted as counterpoint, however, is that the *construction of a place should always be viewed in terms of a complex range of prevailing social and cultural strictures* (Duncan and Ley, 1993). The essential point is that the nature of a portrayed place is never totally constructed by the conscious decision making of the individual, and so one can begin to understand an image only through an assessment of the underlying social and cultural forces of the moment. The North Carolina of this film is a place that has been constructed by one man within the context of these times.

These two axioms and the corollary are presented as background considerations for any representation of place, be it a novel, photograph, painting, textbook, or film. A detailed exploration of their relevance to understanding *North Carolina is My Home* is well beyond the scope of this essay, but their general value as context should not be forgotten. Most studies of the representation of place would benefit, then, from a careful consideration of these axioms *as well as* the nature of the individual who is directly responsible for creation of that representation. And so we turn to Kuralt's *Home.*

North Carolina Is My Home

North Carolina is My Home is an enormously popular one-hour film that weaves music, images of people and places, and narratives by Charles Kuralt into a, "lively, touching, and occasionally humorous portrait of the Old North State (Kuralt and McGlohon, backcover, 1991). Kuralt's friend, Loonis McGlohon, conducted the original music. The project began in the mid-1980s in response to a request by Governor Hunt to celebrate the 400th anniversary of the original settling of North Carolina. It first included a musical score, then a book, and then a film that was released in 1991. The Broyhill Foundation and the Public Broadcasting Corporation

supported the making of the film.

North Carolina is My Home is comprised of thirteen titled segments, each with a different context, flavor, and character, although ultimately they are tied together by a few common themes. The segments generally run from three to five minutes. The composite result is an hour-long music video comprised of fleeting images, home spun music, and folksy dialogue with an overall effect suggestive of an extended Lawrence Welk-like MTV video. A discussion of some of these major segments in the film follows.

Introduction

The opening segment is a 29-image three-minute music video. All but a handful of images are explicitly rural: a covered bridge, a tobacco barn framed by a corn field, old houses, ponds, creeks, and a variety of wild and domestic animals. Only six of the images include people: a little boy playing in the garden; two children on a swing; an adult walking through a garden; a child framed by an American flag and flowers; a child on a bike; and an old man being in a cart being pulled by a mule. All of the people are white. In essence, then, this introductory segment sets the tone for the next hour in terms of its nature as music video, its nostalgia, its emphasis on rural and small town settings, and its focus on white North Carolinians.

Carolina History

The second segment, *Carolina History*, begins with Kuralt sitting in a 16th Century rowboat that's headed toward a sailing ship. He's informally dressed in civilian clothes while the others are in period garb. He looks to the camera and talks about the original settlers at Roanoke, the birth of Virginia Dare, and the eventual and mysterious disappearance of the community, which left behind the solitary and infamous "Croatan" inscribed on a tree trunk. "We know their names," saysKuralt a few moments later as he stands on the beach, "Christopher Cooper, John Bright...they are names like our names, Margaret Lawrence, Rose Payne..." He then concludes, "Settlers at Jamestown years later heard stories of English families living with Indians in the back country. I believe they lived on. I believe their blood lives in our veins."

While this introduction to North Carolina's past depicts an often-noted historical curiosity, it doesn't serve as a suggestion of, or introduction to, any subsequent migrations, be they free or slave, that gave North Carolina its current character. Further, "their blood" and "our veins" constitute a rather restrictive view of the current status of race and ethnicity in our state. Those of us with no British ancestry may feel a bit excluded from such a view, while those with Indian ancestors from the "back country" may wonder if British blood runs in their veins.

Carolina Country

Six of the thirteen segments can be placed in a category called *Carolina Country*, because they are almost exclusively rural in character. The first of these, "Tar Heel Places," is comprised of music, dialogue, and a sequence of shots that tend to focus on signs that identify small towns. The more unusual the name, the better, and so names like Lizard Lick, Lick Log, Pole Cat, and Possum Trot are offered the viewer. White faces are seen at several junctures, but blacks are seldom seen. Three of these six segments are strongly nostalgia based. "Down Home" offers a series of images of country life, including four black teenagers fishing along a creek bank. "My Home Town" focuses on small town and country settings, with twenty two of its twenty nine shots focusing on people, including eighteen of white people, one small town street scene with whites and blacks, two with unidentifiable race, and a three second shot of two black boys riding their bikes. Finally, "Nobody Home" is comprised of a song that follows the camera around an abandoned homestead. No people are shown.

The other two country segments promote a yet more unabashed white nostalgia framed within music and dialogue by Kuralt. "Mountain Sampler" includes a series of creeks, trees in fall splendor, craggy hill sides, log cabins, a country church, an abandoned still and several old white mountain men. Kuralt refers to the nature of

their local humor when he says, "Oh yes, I've got religion. I believe it's a sin to feed chickens on Sunday; I feed mine on corn." Finally, "The Farmer" is implicitly about his grandfather and includes a series of rural buildings (usually abandoned) and settings, a set of photographs from a white family, and concludes with an old white man walking slowly down the dirt road. Blacks are not seen in either of these segments.

Carolina People

The first of two segments in the *Carolina People* category is called "North Carolina Jazz." The segment opens with a black man playing a saxophone with white men on bass, piano, and drums. The camera then shifts back and forth from the combo, to a multi-racial nightclub audience, to photos of North Carolina's jazz alumni, such as John Coltrain, Roberta Flack, and Thelonius Monk, while the combo's music and Kuralt's dialogue provide background. This is the only segment of the film in which blacks play a major role, although in the case of the combo only the saxophonist is black. The second segment, "...and the Strong Grow Great," is a listing of famous North Carolinians, complete with photos and brief comments about their origins and lives. Such notables as Ava Gardner, Billy Graham, Daniel Boone, O' Henry, and Chief Manteo are noted, along with two black men, "Dr. Billy Taylor of Greenville," and Michael Jordan of basketball fame, who is shown dunking the ball as a Chicago Bull. In essence, then, this segment says that most of the black people of North Carolina who can qualify as being important contributors to our history are either jazz musicians or basketball players, which could readily be interpreted as unfortunate stereotyping at best.

Carolina Culture

The "Carolina Culture Category" is comprised of one segment on food and the other on religion. The first of these, "Barbeque Blues," is a silly little song that is a white man's lamentation that he can't get country food in New York, which alternates with a scene of a large white family gathered around the dinner table as it passes around and eats country food. Many of the mainstays of such food, from butter beans to biscuits to fried chicken, are shown on screen and in song. The omission of black North Carolinians, then, explicitly ignores a culture of food that has a unique and historically based character, and which can readily be tied to a distinctive culture. The second segment, "Dinner on the Grounds," is comprised of a song that refers to the meal that is taken on church grounds after Sunday services. Singing, dialogue, and a series of church services and "dinner on the grounds" are shown in a lighthearted tone. The heart of the piece refers to Baptists as the primary source of religious culture, although Moravians, "modest" Quakers, Anglicans, and Methodists are noted. But Catholics, Jews, and non-Christian groups are never suggested, and most important, there is not one sign of blacks, even though they constitute most of the *other* Baptists as well as a considerable number of other Southern and North Carolina-based Christian groups.

Kuralt has chosen food and religion as two obviously important aspects of North Carolina culture. The omission of black food and religion, then, could be considered as more than the neglect of discrete pieces of culture, but instead a rejection of something far more comprehensive: that is, the beliefs, family, traditions, and ways of life of others who call North Carolina home.

Carolina Memories

The concluding segment, "Carolina Memories," is the longest and mostcomplex of the thirteen. The 102-camera shot sequence opens with a pondering and philosophic Charles, replete with suspenders and rusted farm equipment on which he leans, and ends with a camera zooming over trees toward the Biltmore Mansion to the final refrains of the song, "North Carolina is my Home." In between, there are a range of conflicting visions of small town and country settings and, for the first time, images of the city. With only a few minutes left in the film, Kuralt briefly and reluctantly acknowledges negative aspects of the state's history, when he says, "The reality of any place is what it's people remember of it and there's much memory in these songs and stories. We've left a lot of things behind us and nobody misses some

of them, the ignorance, the pellagra and tar paper shacks that are also a part of our past," whereupon he immediately returns to the bright side with, "But I will always be glad I have seen the shrimp boats leaving Beaufort with the sun coming up and the night coming early...to the mountains, while the ridges above were still bright with day." The music and pace of the early part of this segment are slow and calm, but at the 18th shot everything intensifies dramatically. The camera shifts to the skylines of Charlotte and Raleigh, integrated pedestrian traffic, three policemen (two white one black) standing outside the mens' toilet, hospitals, imploding and exploding buildings, and a Charlotte Hornet dunking the ball. The pace then slows to a crawl as the camera shifts to Kuralt on pre-Fran Wrightsville Beach, which serves as an introduction to the final forty shots of a primarily rural vision of North Carolina. Clearly, anything associated with the city means a faster pace, integration, and the many negatives of the urban setting, while the good, calm, and sensible is associated with the (white) rural and small town setting.

Finally, as my VCR hits click number 1,916 of the film's 1,976, black religion is shown for the first time. Four black people, including a bride and groom, are shown leaving church, and on 1,943 we see an old black man riding a bicycle through an urban setting. He is the first and the last aged black person to make the screen.

North Carolina is Your Home

If someone unfamiliar with North Carolina were to view *North Carolina is my Home* and judge the state by the reality of the film, the following would quickly become apparent:

1. The population is concentrated in idyllic rural and small town settings, although there are a couple of cities that can be distinguished by being integrated and having standard urban problems;

2. Abandoned buildings and agricultural implements dot the landscape;

3. The people are almost exclusively white, with a smattering of black people and no Asians or Hispanics;

4. Aged white men and white children dominate the demographic profile, while there are younger white men and women. There are a few black men, although virtually no black women;

5. Religion, food, music, family, and a variety of other standards of culture and history are white-Anglo based and are likely preferred over others.

Returning for a moment to our axioms of place, it becomes apparent that, indeed, the place of this film resonates with some North Carolinians and not with others. Further, the film is clearly a construction that does not reflect any sense of *reality* regarding North Carolina, and obviously doesn't even attempt to do so. Finally, much of this film is intentionally self-reflective on the part of Kuralt himself, but it is also a statement about the nature of North Carolinian society in the 1990s. I shall let the reader fill in those details.

A representation must stand on its own merit. *North Carolina is my Home* must be judged on the basis of its portrayal independent of any intentionality that Kuralt or others responsible for its production may have had that were never reflected on the screen. It is important to say, however, that Charles Kuralt was not a racist and, in fact, has long been known as a champion of minority populations in this state. He has made many explicit statements decrying racism, those who preach it, and those conditions that foster it. His failure to include black North Carolinians under the umbrella of his home, therefore, is all the more confusing, and, perhaps, all the more disturbing.

References:

Barnes, T. and **Duncan, J.** eds. (1992) *Writing Worlds: Discourse, Text, and Metaphor in the Representation of Landscape.* London and New York: Routledge.

Duncan, J. and **Ley D.** eds. (1993) *Place/Culture/Representation.* London and New York: Routledge.

Kuralt, C. and **McGlohon, L.** (1991) *North Carolina is my Home* (video). Research Triangle Park: The North Carolina Public Television Foundation, Inc.

Selby, E. and **Dixon, D.** (1998) "Between Worlds: Considering Celtic Feminine Identities in *The Secret of Roan Inish*," *Gender, Place, and Culture*, 5.1: 5-24.

Constructing the Blue Ridge Parkway: Stages, Scenes, and Spectacles

David M. Downer
Department of Geography, East Carolina University

The purpose of this paper is to uncover and read the representational images found in one of the least studied and most utilized units of the National Park Service, the Blue Ridge Parkway. Using archival records, and landscape interpretation, my intent is to understand the meanings embodied in this "spectacular" built form – spectacular not only in regard to the extent of the transformation achieved by the Resident Architect on the project, Stanley Abbott, but also the priority given to the gaze of the automobile tourist. This is a landscape intended for visual consumption, and as such it presents itself as a series of scenes signifying "mountain culture." In order to "read" the Blue Ridge Parkway I examine first of all the construction process, and the ideals expressed by Abbott concerning the form and function of the parkway. Then, I categorize the types of landscapes produced, noting how each reflects and re-presents to the viewer a particular vision of people and place.

Begun in the 1930s as part of the effort to relieve the economic ills of the Great Depression, the design of the Blue Ridge Parkway was due in large part to the inspiration of one man, Stanley Abbott, the Resident Landscape Architect for the project. Abbott was the creative force behind many of the images that make the Parkway famous today. By placing carefully chosen cultural artifacts in carefully designed physical settings, Abbott sculpted a landscape that was to signify an insular, self-sufficient, pioneer, Appalachian culture. Designed as roadside scenery, such a landscape not only buttressed existing stereotypes concerning the "character" of the region and its inhabitants, it also reinforced certain ideals concerning the place of the American auto tourist (Figure 1).

In reading the cultural geography of the parkway, I begin by summarizing the primary physical and social characteristics of the Blue Ridge region prior to the construction of the parkway, noting the increasing dominance of tourism over the local economy. Next, I turn to the people and events leading to the construction of the Blue Ridge Parkway, with a particular emphasis upon the contentious debate concerning the actual route: Would the parkway pass through Asheville, North Carolina, or not? Then, I address the idealized landscapes that constitute the parkway; the hand of the landscape architect is evident, if not in scene, at least in the historical record of the alterations made to the "natural" view. Much of the empirical data used is derived from the correspondence and reports of Abbott and his staff, located at the National Park Service headquarters of the Blue Ridge Parkway in Asheville, North Carolina. Within this archive the various phases in which the Blue Ridge Parkway was conceptualized and constructed are detailed in narrative form. In studying these records, it is possible to uncover not only the reasoning behind the design of the parkway, but, more importantly, the *meanings* assigned to elements of the Parkway landscape. Moreover, my own reading of the landscape, carried out over a period of several months, will further draw out the ideological character of this built form.

The Blue Ridge Region

Bounded to the east by the Piedmont and to the west by the Ridge and Valley, the Blue Ridge extends some 550 miles from south central Pennsylvania to northeastern Georgia. The eastern boundary of the region is the Blue Ridge frontal scarp, which reaches its maximum elevation of approximately 4,000 feet near Blowing Rock, North Carolina. It is the sharp and rapid rise of the scarp from the adjacent Piedmont to the east and the valleys of the Ridge and Valley area to the west which provide the Blue Ridge with its breathtaking long-range, panoramic views.

Those who settled in the Blue Ridge were primarily of Scotch-Irish descent, and they utilized a synthesis of indigenous American, Scottish, and Irish agricultural

techniques (Raitz and Ulack, 1984). They: adopted the Indian technique of girdling and burning trees; planted maize, an Indian crop, using Indian planting techniques; and preferred to make fresh clearings in their forest land or move to new land when productivity fell. Open-range livestock grazing on free woodland pastures was a Celtic tradition that was carried, and adapted, to the Blue Ridge forests. In many areas of the Blue Ridge and Plateaus these slash-and-burn and brush-fallow farming techniques survived well into the twentieth century.

Historically, the major economic occupation in the region has been agriculture and much of the produce was sold and consumed locally. The poor soils and steep slopes of these mountainous regions were not conducive to the extensive and large-scale commercial agricultural production which characterized the piedmont region to the east. The only cash crop to be exported for profit from the North Carolina and Virginia Blue Ridge is Burley tobacco. Other primary activities have, however, been significant in the growth of the region. One of the first extractive industries to make inroads to the region was commercial cutting of timber for lumber and other wood products. The Scottish Carolina Land and Lumber Company began logging in 1885 in east Tennessee and western North Carolina (Raitz and Ulack, 1984). Production reached a peak in the region between 1900 and 1915, after which deforestation and erosion caused a significant decline in production. One of the major reasons for the rapid expansion of this industry around the turn of the century was the introduction of steam engines to the region. This brought railroads that carried stream-powered mills right to the raw materials and efficiently transported the product to markets outside the region. Today, mills in the piedmont region, such as High Point, North Carolina, are again producing wood products, in this case mainly furniture, from timber grown in the Blue Ridge, for export to national and international markets.

The one resource that the Blue Ridge region holds in abundance is scenery. As early as the 1790s residents of the coastal and piedmont regions were paying seasonal visits to the mountain highlands. The Carolina Blue Ridge's high elevations meant cooler temperatures in the sweltering summer months, and the early visitors to this region were the wealthy and elite of society who could afford to build second homes and retreats. Developers, quick to realize that accessibility to the mountains meant more potential visitors, promoted the construction of roads and trails in the region. They also began buying large tracts of land for the establishment of resort towns. One such pair were Samuel Kelsey and Charles Hutchinson who, in 1875, selected a 1,440 acre site for their resort to be called Highlands. They selected the site by drawing two straight lines on a map, one from Chicago to Savannah, Georgia, and one from New York to New Orleans. They reasoned that a resort placed at the intersection of the two lines would not only be in the heart of the Carolina Blue Ridge, but would be midway between north and south and would attract visitors from both regions (Raitz and Ulack, 1984).

From these early beginnings, recreational development and resort expansion continued throughout the region, extending along the Blue Ride to the north and south. Much of the contemporary potential for economic growth is still thought to rest squarely on the shoulders of the tourist industry. Thus, we return to the central argument that guides this paper. Within this historical context, the Blue Ridge Parkway was conceived of as a centerpiece for recreation in the area, and was constructed as a mosaic of mythologized images of local history and culture; these images have since become the touchstone for subsequent developments in the tourism industry. Abbott's mythologized roadside landscape has become perhaps the single most influential force in determining how tourists view highland people and culture.

Constructing the Blue Ridge Parkway

The actual construction of the 469-mile long Blue Ridge Parkway in North Carolina and Virginia took place in the early 1930s as a make-work project associated with depression-era New Deal relief programs. Initially conceived simply as a park-to-park

connector between the Shenandoah National Park and the Great Smoky Mountains National Park, the Blue Ridge Parkway became a national park in its own right and was placed under the protection of the National Park Service. While the historical record details that the Parkway itself was begun in the 1930s, the factors leading to its construction reach back to the early years of the twentieth century, beginning with state-level attempts at similar construction projects. Gradually, interest expanded to the point where federally funded programs such as the parkway came under consideration.

Long before any federal parkway programs were implemented, someone dreamed of a scenic road project in the mountains of North Carolina and began the work of making it a reality. Called the Crest of the Blue Ridge Highway, its developer was Colonel Joseph Hyde Pratt, the head of the North Carolina Geological and Economic Survey. He understood the impact the new automobile would have on travel: "If properly catered to, the new machine could do much to promote tourism and the economic growth of North Carolina." (cited in Jolley, 1969, p.12) With this in mind he drew up plans for, and began promoting, the construction of a 350 mile-long scenic highway along the summit of the Ridge. His plans also called for a series of hotels extending from Marion, Virginia, to Tallulah Falls, Georgia. At a meeting of the North Carolina Good Roads Association on August 1, 1912, Pratt reported that the route had been surveyed and that construction on one section had begun a month previously in July, 1912. A portion of the highway between Altapass and Pineola, less than 50 miles long, was actually completed before the project was abandoned with the onset of World War I. A large part of the Blue Ridge Parkway, as it stands today through that region, closely follows the route of this first effort.

Meanwhile, at the federal level, it was not until the late 1920s that legislation was enacted that would facilitate the funding of similar road projects. Although the Blue Ridge Parkway is now seen as a benchmark for rural, recreational, commercial free travel, it was not the first attempt at "parkway" style construction by the federal government. The first legislation to provide precedent for such an entity was enacted May 23, 1928, providing for the establishment of the Mount Vernon Memorial Highway. In response to increasing amounts of recreational travel further federal parkway legislation, enacted in 1930, provided for the acquisition, establishment and development of the George Washington Memorial Parkway, and the Colonial National Parkway. The latter parkway was to connect Jamestown, Williamsburg and Yorktown, Virginia, with a right-of-way not exceeding five hundred feet in width.

Much of the impetus for the federal funding of such large-scale projects, however, came as a by-product of the New Deal. In June of 1933, as an anti-depression measure, the National Industrial Recovery Act was passed, empowering the Public Works Administrator to prepare a comprehensive program of works that would include construction, repair and improvement of public highways and parkways (*US Statutes at Large*). The Blue Ridge Parkway was a product of that program.[1]

With funding for the project secured, work began on laying the route of the proposed scenic highway. This was easier said than done, however, as each community lying between the Shenandoah and Great Smoky Mountains National Parks wanted to

[1] When interest in these federal park-to-park memorial highways arose in the 1920s and 30s, the most ostentatious and grand construction plan suggested was introduced by a Congressman from Kentucky, Maurice H. Thatcher. He proposed a system of highways that would connect several federal parks beginning in Washington, DC, and forming a great loop through important sites in Virginia, North Carolina, Kentucky, and West Virginia. While this project never gained the endorsements it needed to succeed because of its massive scale and prohibitive costs, this initial push toward supporting a proposal of this nature, as well as the smaller projects that were accepted, was instrumental in laying the groundwork for the future effort to build the Blue Ridge Parkway.

secure a portion of the Parkway for itself. When word reached the governors of North Carolina and Tennessee that the project had been approved, lobbying began in earnest. Each state brought all its political weight to bear on the Secretary of the Interior, Harold Ickes. Secretary Ickes, aided by a commission assigned to inspect the various proposed routes, was responsible for making the final decision regarding the placement of the parkway. Very early in the process Secretary Ickes established that the northern section of the route would pass through Virginia and into North Carolina. The route south from Skyline Drive, Virginia, to Blowing Rock, North Carolina, was nearly set by the summer of 1934 (Swaim, 1986). The point of contention, however, became the placement of the road after it had traversed the northern section of the Tar Heel State. The North Carolinians, and especially the civic and political leaders in Asheville, North Carolina, proposed placing the southern portion of the road entirely in western North Carolina. Those in Tennessee, however, proposed that the road take a turn to the west at Linville, North Carolina, and proceed from there through eastern Tennessee to the western entrance of the Great Smoky Mountains National Park at Gatlinburg, Tennessee. As can be seen from Map 1, this route would ensure about half of the southern section of the parkway to both Tennessee and North Carolina, arguably an equitable decision. The delegation from Tennessee argued that all they were seeking was half of the proposed southern mileage.

The merits of both plans were debated in two formal meetings before Secretary Ickes by the state delegations in Baltimore, Maryland, on February 5-7, 1934, and in Washington, DC, on September 18, 1934. The commission, in a June 8th report to Secretary Ickes, subsequently recommended that the Tennessee route be adopted. Then, in August of 1934, the Forestry Director, at the request of Secretary Ickes, conducted a second survey of both proposed routes and submitted his findings. The Forestry Director recommended that the Secretary should lean in the direction of the Asheville, North Carolina, route. Secretary Ickes delayed his decision until November 10, 1934, at which time he sent identical letters to the Governors of North Carolina and Tennessee informing them of the following: the parkway would pass south from Linville, through Asheville, North Carolina, and into the eastern boundary of the Great Smoky Mountains National Park. In his letter he gave a number of reasons for his decision, including the fact that: the North Carolina route would only have to bridge three streams, whereas the Tennessee route had to cross seven rivers; National Forests in North Carolina along the proposed path eliminated some of the problems of acquiring rights of way; and running the road through Tennessee would divert ninety percent of the tourist traffic out of North Carolina, ruining the long established tourist trade in the Asheville, North Carolina area. Last but not least, Tennessee was already receiving millions of dollars of federal money in the form of the Tennessee Valley Authority. Ickes concluded that, "... it is so clear that the equities in this controversy are with North Carolina that my findings must be to that effect..." (Ickes to Ehringhaus, 1934).

With the routing finalized and the survey work completed, construction began on the first sections of the Parkway in North Carolina on August 24, 1935 and in Virginia on February 29, 1936. Construction was continuous, except for a break during the war years (1942-1944), until the project was completed in the 1980s. Today, well over twenty million people a year drive the Blue Ridge Parkway.

The creation and management of this massive project was the job of Resident Landscape Architect Stanley Abbott and his army of 2,500 Civilian Conservation Corps (CCC) workers. In order to achieve the desired landscape, Abbott implemented innovative programs that were designed to improve the overall condition of the environment. Abbott was appointed to the position of Resident Landscape Architect on December 27, 1933, just a week after the Public Works Administration had appropriated the first four million dollars for construction. He was further promoted in 1937, and named acting superintendent of the Parkway. By all accounts, Stanley Abbott was given a virtual blank check and clean slate with which to design and construct the Parkway. To some it appears that, "Abbott

was basically handed the general route and told, "There - design and build a parkway"." (Swaim, 1986, p.41). Thus, the principles guiding his design are of paramount importance in any attempt to study the representations found in the landscape of the Parkway, for it was his guiding vision that formed, propagated, and legitimized the images we see today.

Apprenticed in the Westchester County, New York, Parks Department, Stanley Abbott was one of the first generation to learn and benefit from the substantial successes made in urban park design by the Olmsteads in Boston, and administrators such as Robert Moses in New York (Gignoux, 1986). The idea of bounded linear parks within cities, called greenways, were the precursors to the Westchester County parkways that Abbott helped to design. Two of the most fundamental differences between the parkways of Westchester and the Blue Ridge were the specific nature of the setting, and its intended function. The Blue Ridge Parkway was to be located in the mountains, and designed for recreation (Sunday drivers, if you will). Creating this idyllic rural landscape, therefore, was not as simple as merely taking the ideas from Westchester and transferring them south to the mountains of Virginia and North Carolina. No project of this magnitude had ever been attempted before, through this type of rugged terrain, and for this specific purpose. Thus, from the beginning, Abbott's job was largely one of spectacular vision as well as trial and error.

Blue Ridge Landscapes

Abbott's task was to interpret what he saw in the existing landscape and design the Parkway in such as way as to preserve what he felt were the best elements of that landscape. With that purpose in mind he proposed six functions of the Blue Ridge Parkway (Abbott, 1936, p.3):

1. To provide a through scenic and recreational route between the Shenandoah and Great Smoky Mountains National Parks, a distance of approximately 500 miles, or perhaps equally important destinations such as Roanoke or Asheville, or in connection with major state highways, distant points North and South, such as New York or Pennsylvania to Southern States;

2. To make available scenic beauty and recreational facilities for those who live near enough to make single day or week-end trips along the Parkway or to its parks;

3. To present a cross section of the development of the Blue Ridge Parkway and some insight into the problems of the pioneers with their "long rifles" who first penetrated this area, as well as the problems and life of their descendants;

4. To reveal to all the scenic grandeur of the "Eastern Divide," with the highest mountains east of the Rockies;

5. To preserve scenic and historic features of the area through which the Parkway passes;

6. To provide a sanctuary for wildlife, and by restoration of proper environment, protection, education, and stocking in cooperation with State and Federal agencies, to bring back some of the wildlife that has long since disappeared from much of this area.

In these six "ideals" we see the underlying assumptions concerning people and place that Abbott proceeded to build into the parkway landscape. First, there is the idea that everything needs to be "open to view" from the car, which is thus defined as the center of everything. The car provides action and movement while the landscape remains the passive, static focus of attention. Second, "man" and "nature" must remain separate, each within their own space. Furthermore, the spaces of "nature" and "culture" within the Parkway boundaries must both be conserved, albeit separately. Third, the state and its representatives are presumed to be natural architects, planners and keepers of these spaces. This view of the state as the obvious choice for this task provides the needed justification for the control of people and place, residents and drivers alike.

In landscaping each mile of the Blue Ridge Parkway, Abbott embodied these

discourses in built form; constructing, in the process, a myth. As a framework for the following analysis, I have categorized the landscapes that constitute the Blue Ridge Parkway into three types: "treescapes," "agriscapes," and "culturescapes." I argue that within Abbott's scheme, these ideal types were to display distinct meanings regarding people and place. Treescapes include those areas in which no human habitation or interference can be observed. Agriscapes are those areas in which humans have adapted the land for their use, either as farmland or pasture. Similarly, culturescapes are areas of human influence in which the site has been inhabited and, as such, has gained cultural significance through the changes that were made. In addition to this classification, one cannot escape the fact that this project was built specifically for one type of user, the automobile tourist. This analysis, therefore, must include an assessment of how the Parkway landscapes were built with this purpose in mind, as well as how the car impacts the view being seen by the tourist. This view, or "carscape," combines the three "-scapes" noted above into a montage of images, seen from the road and understood by the tourist only as a continual series of scenes. In sum, I read the Parkway to be a place of contrast between the insular, self-sufficient inhabitants and the mobile tourists. It serves, therefore, to facilitate and sustain two fundamental myths, that of Appalachia as "past," and that of the car as "present."

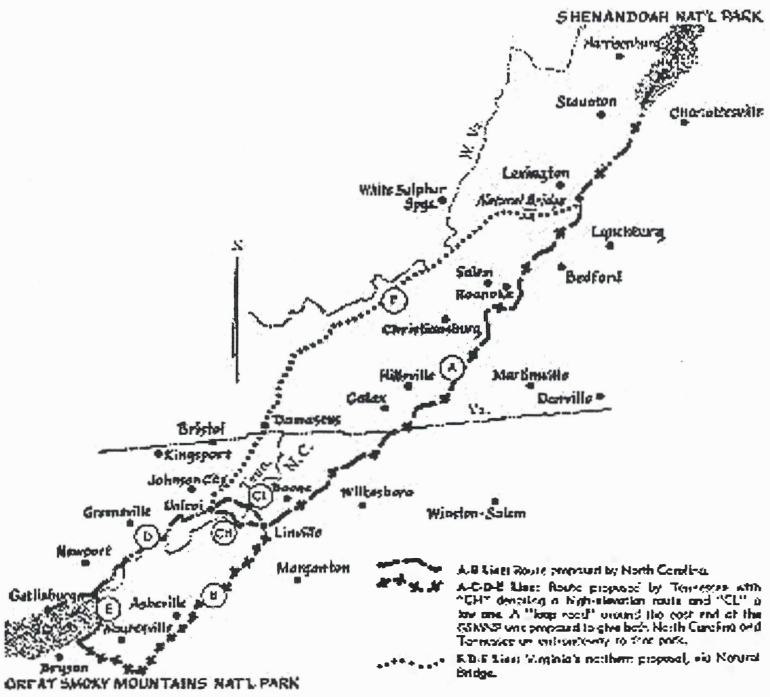
Treescapes

The deliberate and extensive construction of the parkway was such that to define it as "nature" is highly questionable: a more accurate definition may be that of "contrived wilderness vistas." In order to present a picture that adequately represented wild, unrestrained, vibrant, "nature," careful sculpting of the environment was required. Live trees were replanted, dead trees were removed, and brush cleared (see Figures 2 and 3). for a before and after shot of part of the new parkway). Along the immediate borders of the route, Abbott ordered the clearing of this debris such that the "natural beauty" of the woods that had been previously hidden could become visible from the road. Abbott (1938, p.5) also noticed that, "beautiful vistas to the distance, glimpses into the woods ... are often revealed by a slight cutting under judicious supervision." Thus, we see that areas were not only to be restored to their former, natural beauty by the removal of "unsightly debris," but in certain areas, nature also required a helping hand via replanting to allow for a more penetrating view from the road. In a 1936 report, *Planning the Complete Landscape Development*, Abbott formulated minutely detailed instructions for work crews as to which trees, shrubs and pastures were to be altered and which were to be left alone. In one chapter on plant spacing, he advised the workers to,

> ...notice how unkempt laurel and rhododendron ... appear where they have developed naturally in too close relation to each other ... by Selective Cutting we have reduced the struggle for survival by eliminating weak and diseased trees, and by the process of thinning the remaining plants, the desired composition has been developed (1936, p.5).

Thus, nature itself was not considered sufficiently capable of creating an aesthetically pleasing display through natural selection, or "survival of the fittest;" it was left to the Parkway workers to create the desired composition.

Significantly, Abbott specified that, despite the necessity for cleanup of the route, after the work was completed there should not be the *appearance* of cleanup. Crews were thus advised to leave, "three or four dead or den trees per acre [that] will give a normal character to the woods, and when they fall at a later date, will provide wildlife shelter and food, as well as the decaying vegetation necessary for continuance of normal woods growth" (Abbott, 1936. p.4). Additionally, instructions permitted the uprooting or cutting off of stumps left from previous lumber activities. However, "interesting" stumps that were weathered, rotting, moss-covered or hollow were not to be removed or in any way damaged, as they provided natural character. Abbott did not want to produce a visibly sterilized area:



Map 1. Alternative Routes of The Blue Ridge Parkway (Source: Jolley, 1969, p. 14).

Figure 1(Source: Jolley, 1969, p. 35).

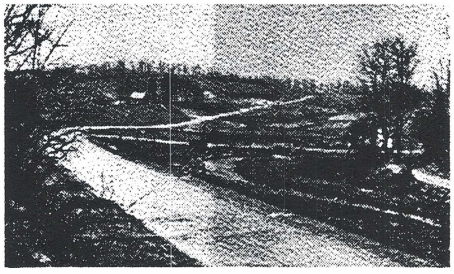


Figure 2. Before (Source: Abbott, 1987, p. 14).

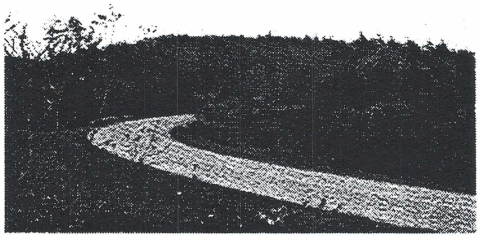


Figure 3. After (Source: Abbott, 1987, p. 14)

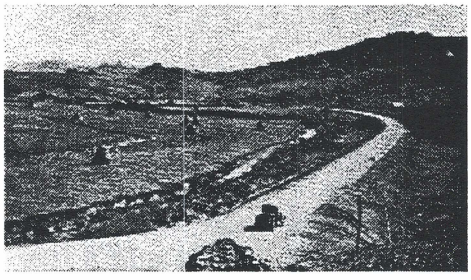


Figure 4. Ideal Agriscape (Source: Abbott, 1987, p. 14)

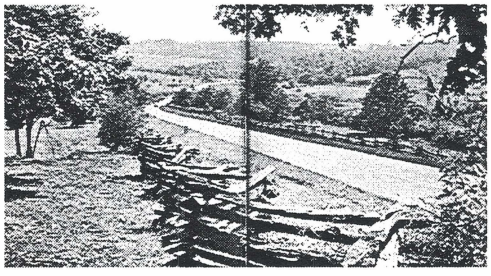


Figure 5. Ideal Agriscape (Source: Abbott, 1987, p. 14).

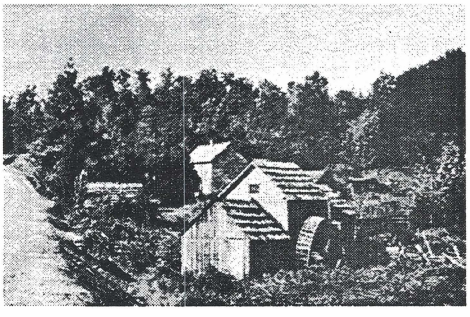


Figure 6. Mabry Mill "before" (Source: Noblitt, 1994, p.397).

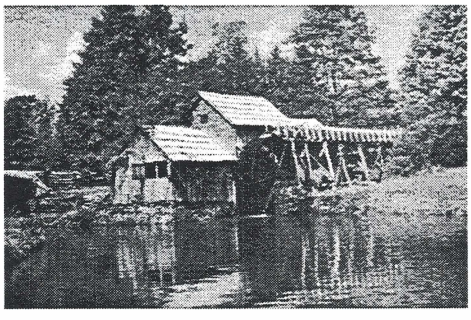


Figure 7. Mabry Mill "after" (Source: Noblitt, 1994, p.397).

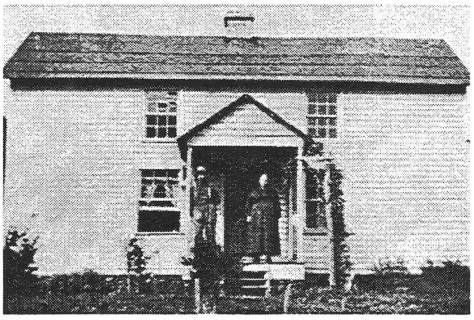


Figure 8. Ed Mabry and Wife – Original House (Source: Noblitt, 1994, p.399).

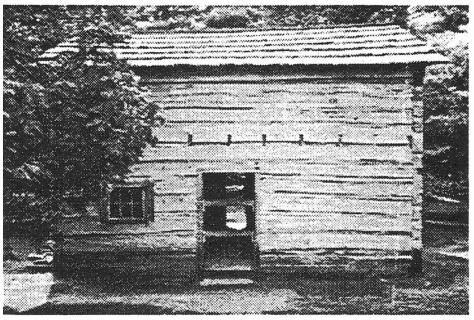


Figure 9. The "Authentic" Substitute (Source: Noblitt, 1994, p.401).

Figure 10. Waystation with Picnic Tables (Source: Jolley, 1969, p.11).

Figure 11. Blacksmithing at Mabry Mill, and Figure 12. Weaving at Brinegar Cabin (Source: Jolley, 1969, p.125).

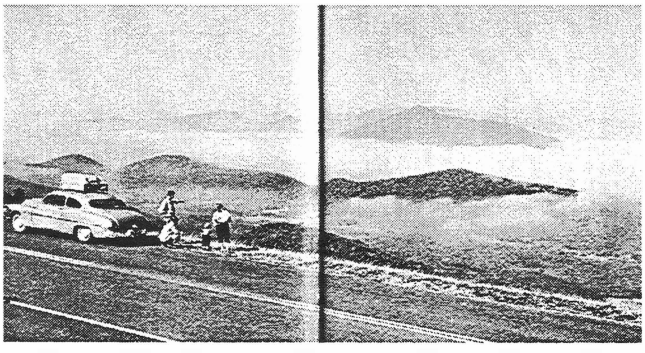


Figure 13. A Carscape (Source: Jolley, 1969, p. 12)

> The general thought was to clean up these areas, and unfortunately the term, 'Cleanup of Woods and Fields,' was adopted to describe the work done. The intent of these specifications was apparently misunderstoodthrough the use of the word 'Cleanup'... Henceforth, the title, 'Preliminary Improvement of Woods,' shall be used in describing the work (Abbott, 1936, p.2).

In making this change, Abbott hoped to avoid confusing the work crews. For Abbott, whilst the landscape required organization the visible separation of "man" and "nature" must be maintained, else the myth of pristine wilderness would be destroyed.

Agriscapes

Pastures and agricultural lands were also assessed as to their restorative potential and proposed use following rejuvenation. Abbott implemented a project whereby lands that were owned by the Park Service along the borders of the road that had previously been used for agriculture or as pastures were restored and then leased back to residents in the area. The lease rate was set a $1 per acre per year, the stipulation being that the use of the land conform to the standards set by the Park Service. In a 1940 memorandum Abbott stated that:

> A careful Parkway landscape including seeding, sodding, and reforestation and rehabilitation of worn out pastures and fields should not only stabilize and beautify Parkway lands, but inspire better care of land throughout the mountains. As part of the landscape program, ... a program of mountain farm demonstration has been initiated on many farms facing the Blue Ridge Parkway. From these not only should a much needed sense of better farm management be spread among farmers in the Blue Ridge, but as well the lesson in land conservation be made apparent to the hundreds of thousands who will annually drive the Parkway providing an audience for the demonstrational work. As part of this program many acres of rehabilitated Parkway pastures and fields will be leased back to the nearby farmer at a nominal rental, thus reducing Parkway maintenance costs while at the same time preserving the panoramic views across the open fields which the Parkway location affords (p.2).

Abbott hoped that these land management practices, once proven effective, would find their way into the general population and work to eradicate the "destructive" practices of past generations. To this end, extensive soil improvements were carried out on all pasture and agricultural lands according to a specified schedule (see Figures 4 and 5 as idealized agriscapes). Lime, fertilizers and seeds were spread to reclaim lands that were deemed useful. Other marginal property, such as steep hillslopes, or areas which need not remain open as pasture in order to preserve the view, were assisted by the addition of lime, topsoil and wildflower seeds to aid the regeneration of natural plant succession. The significance of these improvements, however, lay not in the material well being of the residents, but in their demonstrational value; such scenes were constructed for the visual consumption of the driver, conveying, it was hoped, "an atmosphere of original mountain habitation" (Borresen, 1941, p.1).

Culturescapes

Fortunately for Abbott, the native residents took slightly better care of their homes than their fields. Along the length of the Parkway there are examples of mountain handicraft and craftsmanship in the form of log structures ranging from homes to barns to water-powered mills. For Abbott, these structures were not to be just carefully preserved relics, but also, importantly, staged scenes for the auto tourist:

> At present the Parkway is based on scenic view only, and after traveling more than 400 miles on what appears to be the top of the world, some little diversion will be restful. The country through which it travels is rich in folklore... [The residents']

> struggle for existence, and their ingenious efforts to create small comforts of life have left a trail of handicraft which in simplicity and often crudity have proven to be both artistic and useful. The story can best be told by recreating some of these features which are now fast disappearing, namely recreating the home handicraft (Borresen, 1940, p.1).

It was up to the engineers and landscapers of the Parkway to determine which of these structures were to be restored and preserved, or merely stabilized and left closed, to be seen from the road only as stage props. Five structures situated immediately along the route were seen to be ideal for restoration and preservation, namely the Trail Cabin, the Orlene Puckett Cabin, the Martin Brinegar Cabin, the Caudill Cabin, and the Mabry Mill (Abbott, 1941). Three of these structures are described below.

The Trail Family Cabin, built in the 1880s, is situated at a recreation area near an overlook known as the Smart View. The cabin and site were considered too picturesque to remain as fixtures only. It was suggested that the house be completely restored and made into a habitable home because, "... the man who built this home was an artist at heart and appreciated the beauty of these mountains.... The primitive grandeur that appears before the visitor is hard to describe" (Borresen, 1940, p.2). During the rebuilding of this structure it was found that much of the timber had to be replaced because of its age. The original logs were used as templates to recreate the cabin as closely as possible. In order to complete the picture it was suggested that, "... an old wood sled or at least two or three wheels, etc. from an old wagon should be leaned against outside walls or nearby trees" (Hieb, 1941, p.2).

The location and construction of the Caudill Cabin made it, according to Abbott (1946), one of the finest examples of pioneer cabins along the Blue Ridge Parkway. From an existing overlook at Wildcat Rocks, the tourist looks down a vertical distance of nearly 2,500 feet at a cabin surrounded on three sides by steep mountains. According to the architect of the site, "It is doubtful if a similar example of a pioneer cabin exists which so dramatically illustrates the extreme isolation of the mountain folk. Paradoxically, the cabin can be seen by many people" (Abbott, 1946, p.1). With the development of The Bluffs recreation area, a foot trail of about one mile, tourists were able to reach the cabin itself. In order to prepare the site for tourist viewing, improvements were needed. Abbott (1946, p.2) noted that the,

> ... clearing has reforested chiefly with yellow poplar...[that] in vicinity of cabin should be cleared, leaving large trees, which evidently were left standing when [the] cabin was built, and fruit trees. This clearing is necessary for fire protection and better visibility of the cabin from Wildcat Rocks. It would restore the picture.

This "picture" of mountain life was important to the myth that Abbott was trying to create. This cabin, in this setting, was to signify isolation, independence, and backwardness; in sum, a lost culture in need of illumination.

The final structure on the list, Mabry Mill, has become the showplace of the Parkway. It did not, however, start out this way. Many of the initial impressions of the mill site were disappointing. Borresen, for example, noted that, "The building is not very old, dating perhaps between 1900-1920" (1940, p.2). He did, however, see some promise: "From a distance, the mill has some striking features, particularly the three different roof lines. The building is well weathered and appears much older than it is. It is ideally located some sixty feet from the Parkway, with space for a parking area readily available." In addition to the mill house, the site contained a small log blacksmith shop, a large, well preserved log barn, and the miller's house, a modern clapboard frame structure:

> In this compact group of buildings we have an exhibit of the home, workshop, tools and creations of a twentieth century jack of all trades whose skills enabled his community to retain a large measure of unity and self sufficiency far into the

> heyday of the mail order house and the automobile (Hieb, 1941, p.3).

A dam was added near the front of the mill, collecting the wheel spill, which provided a reflecting pool that enhanced the mill's photogenic qualities for the tourists (Figures 6 and 7). Despite numerous recommendations to the contrary (Hieb, 1941; Borresen, 1941), Abbott ordered Ed Mabry's hand built house dismantled and removed from the site, ostensibly to provide room for parking. In its place, a one room log cabin was trucked in from a site nearby and set in place of the original house (Figures 8 and 9). Others who have studied the handling of the site suggest that the Mabry house was removed because the clapboards appeared incongruous with the rest of the Parkway's pioneer image (Noblitt, 1994). In addition, Parkway officials removed the kerosene engine that Mabry had used to power the mill, and rebuilt the overshot waterwheel that had been inoperable for a number of years prior to acquisition of the site. In promoting the myth of the insular, self-sufficient pioneer, all traces of "outside" influence were removed. According to a Park service report, the alterations made to the mill were so extensive that the natural and cultural landscape now bears only a passing resemblance to the original scene (Noblitt, 1994).

In these three examples we see the overriding presumption that "history" is to be considered a generic "past," such that the age of a building is not as important as having the proper *representation* of age and character. Following the decision on which structures to preserve, efforts revolved around how to make those chosen look as authentic as possible. To this end, alterations were made to the structures themselves, as well as to the surrounding areas. Props were added and, for character, locals were brought in to demonstrate and sell "traditional" mountain culture to the tourist.

Carscapes

We have seen how control was exerted over the scenes that presented themselves to the tourist. The discussion will now turn to the ways in which the tourist was controlled. One of the most simple methods of control adopted by the designers was to determine where and how often tourists driving the Parkway were able to leave the road and exit their cars. Abbott thought that the Parkway would be a, "road-type which will invite leisurely driving and frequent stops for a period of hours or of days by the vacationer. It is unquestionably desirable, therefore, to set aside certain worthwhile areas at which the motorist may stop and to provide facilities..." (1934, p.1).

Waystations were constructed at intervals along the route and ranged from elaborate lakeside resorts with lodges, to campgrounds, to simple turnouts with picnic tables (Figure 10). Even at these roadside parks, the myth of a traditional Blue Ridge culture was sustained. Many of the larger areas had concessions and gift shops in which mountain handicrafts were demonstrated (see Figures 11 and 12). These crafts, as well as "such products as sourwood honey, sorghum molasses, wild fruits and herbs – collection and production of which were fostered through the 'hill culture' educational program – were to be readily available to the tourist. Thus, through education program itself, the natives were to be "taught" their own culture.

As a complement to the waystations, it was determined that gas and service stations would be needed along the route at roughly 20 to 25 mile intervals. This was a troubling problem for the designers who wanted to avoid strip development along the roads that intersected the Parkway. Abbott thought that:

> It is beyond question that these things will spring up in the nondescript fashion of ribbon development along the ordinary highway unless definite measures are taken to provide for them on government property. Since the protective effect of the Parkway right of way will break down at each intersection with a public road, it is desirable to locate stations in such a manner as to discourage competition by such private enterprises. Attractively designed to fit their special environs and

use these units would add greatly to the enjoyment of the Parkway (1934, p.4).

In addition to the control exercised over the visitor outside the car at the side of the road, the view from inside the car was similarly a mediated experience. The road itself, although a path into the park environs, acted as a mediating influence. The car and its inhabitants, as an extension of the "present" and the "city" were not allowed to intermingle with "nature" and the "past;" they were kept separate by the shoulders of the road. Conversely, this mobility provided the traveler with an altogether different experience from the traditional park visit. Similar to the changing scenes on the stage throughout a play, the scenes out the car window changed with each passing curve in the road (Figure 13). These panoramic views were, and are, part of the dynamic travel process in which the distance traveled becomes a metaphor for passing time. As Wilson suggests, "The ... car is a metaphor for progress. It is always moving ahead – although the effect is the opposite, as if the landscape were moving past us, into the ... shadows of history" (1992, p.34). To the tourist in the car, it becomes almost a sacred practice to be able to penetrate nature by driving through it; to sanctify nature by keeping it separate. Within the comfort of the private world of the car one can view the outside regardless of the circumstances or season. Heat, rain or wind are no longer factors to deter the tourist, and seasons are marked not by change in weather and temperature but by the sights to be seen: June is the time for rhododendron blooms, Fall is the changing of the foliage, and Winter becomes a snowy wonderland.

Conclusion

It is unusual to see any project of this size, especially when it involves the federal government, placed so much under the control of one individual. Yet Stanley Abbott was given virtual free reign in his designs and control over a workforce that at times numbered in excess of 2,500 men. It is this fact that gives the Parkway its unique status within the cultural landscape. It is unlikely that the singular vision of one individual will have such a profound impact on a regional landscape and its inhabitants again. Not only was Abbott responsible for the creation of what is now the most visited park in the nation, his vision was responsible for the course of the future expansion and near monopoly that tourism now enjoys in the region. Residents and businesses along the Parkway had few options and little recourse other than to adopt the mythological representations of mountain culture and natural vistas created by Abbott. They had to promote them as the "true" history of the region in order to survive, both economically and culturally, and to encourage the increasing number of outsiders that growth in tourism demanded.

References

Abbott, S. (1946) *Memorandum for the Regional Director, Region I*, Record Group 5, Series 46, National Park Service Archives, Asheville NC.

—— (1941) *Memorandum for the Regional Director, Region I*, Record Group 5, Series 46, National Park Service Archives, Asheville NC.

—— (1940) *Memorandum for Mr. Vint*, Record Group 5, Series 18, National Park Service Archives, Asheville NC.

—— (1936) *Planning the Complete Landscape Development - The Problem and the Program*, National Park Service Archives, Asheville, NC.

—— (1934) *The Appalachian National Parkway - Recreation and Service Areas*, Record Group 7, Series 39, National Park Service Archives, Asheville NC.

Borresen, T. (1941) *Inspection Report Blue Ridge Parkway, Old Log Cabins and Other Old Structures Along the Parkway*, National Park Service Library, Asheville NC.

—— (1940) *Report on Mountain Culture and Handicraft, Blue Ridge Parkway*, Record Group 5, Series 46, National Park Service Archives, Asheville NC.

Gignoux, L. (1986) "Stanley Abbott and the Design of the Blue Ridge Parkway," in Buxton, B. and Beatty, S., eds. *Blue Ridge Parkway-Agent of Transition: Proceedings of the BRP Golden Anniversary Conference.* Boone, NC: Appalachian Consortium Press.

Hieb, D. (1941) *Report of a Trip to Investigate Historic Sites and Buildings Along the Blue Ridge Parkway*, Record Group 5 Series 46, National Park Service Archives, Asheville NC

Ickes to Ehringhaus, November 10, 1934 in Record Group 48, National Park Service Archives, Asheville NC.

Noblitt, P. (1994) "The Blue Ridge Parkway and Myths of the Pioneer," *Appalachian Journal* 21.4: 394-408

Raitz, K. and Ulack, R. (1984) *Appalachia - A Regional Geography: Land, People and Development.* Boulder, CO: Westview Press.

Swaim, D. (1986) "Stanley Abbott and the Design of the Blue Ridge Parkway," in Buxton, B. and Beatty, S., eds. Blue Ridge Parkway-Agent of Transition: Proceedings of the BRP Golden Anniversary Conference. Boone, NC: Appalachian Consortium Press.

U.S. Federal Land Committee (1942) *Public Works and Rural Land Use: Report of the Land Committee to the National Resources Planning Board*, Washington, DC: Government Printing Office.

Wilson, A. (1992) *The Culture of Nature: North American Landscape from Disney to the Exxon Valdese.* Cambridge, MA: Blackwell

The Changing Economy of Tobacco in Eastern North Carolina, 1968-98

Holly M. Hapke,* Stephen M. Purvis,** Darrell B. Pate,** Gregory R. Daisey,** Ellis M. George,** Joshua R. Hill,** Christopher Hoffman,** Rawls Howard III,** Prentice R. Jackson III,** Chris Murphy,** Fred M. Wescott III**

* Department of Geography, East Carolina University
** Undergraduate School, East Carolina University

This paper examines the changing economy and geography of tobacco in eastern North Carolina over the past thirty years. Our primary interest is to assess the technological changes that have taken place in cultivation and harvesting, and the impacts of these changes on production practices and the agricultural landscape of one county in the region (Pitt). During the period under study, the tobacco culture of the state has undergone a tremendous transformation that has encompassed every stage of the production process. The most significant innovations in this transformation process have been bulk barns for curing and hydroponic greenhouses for the cultivation of seedlings. One impact of these particular innovations, and with mechanization in general, is that Hispanic migrant labor has become increasingly important to the operation of the tobacco farm.

Tobacco has captured the public's attention of late as concerns about public health, regulation of sales and advertising, and changes in farm legislation raise a number of questions about the future of tobacco production in the United States. These questions take on particular relevance in North Carolina where tobacco has historically played a significant role in the state's economy. Although its relative share of the economy has steadily declined over the past three decades, tobacco continues to be an important industry in the state. Its total economic impact on North Carolina is $7.7 billion, and the industry directly and indirectly employs over 280,000 North Carolinians (*North Carolina Tobacco Report*, 1996).

Yet, the industry today sits on the threshold of profound change, which renders its future in the state unclear. In addition to political pressures, global industrial restructuring and increasing competition from foreign producers are creating an uncertain future for tobacco in North Carolina. These new challenges, however, mark only the latest events in a history of ongoing transformation that has shaped the landscape of tobacco-growing regions all over the country. The intent of this paper is to examine the changing economy of tobacco in eastern North Carolina and to assess the impact changes in production technology have had on the agricultural landscape of one county --Pitt County -- in particular. In investigating how the geography of tobacco has unfolded in Pitt County over the past thirty years, we seek to understand the technological changes that have taken place in cultivation and harvesting and how these have affected production as a whole. Our findings are based on archival research and interviews with tobacco farmers, warehouse operators, and the Director of County Extension forPitt County.

This study will provide first an overview of the global tobacco economy and the position of North Carolina and Pitt County therein, and a review of the history of tobacco production in eastern North Carolina. We then turn to a discussion of the changes in the production process since the late 1960s. Following an assessment of some of the impacts mechanization has had on tobacco farming in the county, we comment briefly on the marketing system for tobacco, and conclude with a discussion of emerging trends and future prospects of tobacco for Pitt County. Most prominent trends are: a decreasing number of farms in the region while individual farm size has increased; and changes in the pattern of on-farm labor, including increasing reliance on

immigrant Hispanic labor.

North Carolina and the Global Tobacco Economy

World tobacco production currently stands at approximately six million metric tons (USDA, 1997b). Approximately eleven percent of the tobacco produced in the world comes from the United States, ranking it second in total world production only to China in 1996. The United States is the largest exporter of cigarettes and is the second largest exporter of unmanufactured tobacco after Brazil, accounting for almost twelve percent of total world exports in 1996.[1] Total exports of unmanufactured tobacco from the U.S. in 1996 reached 222,316 metric tons and were valued at $1.39 billion (USDA, 1997c). In fact, unmanufactued tobacco ranks sixth in value among U.S. agricultural commodities (USDA, 1997a), and earnings from tobacco made it the ninth largest contributor to U.S. agricultural exports in 1993 (U.S. Bureau of Census, 1995).

The type of tobacco that is by far the largest in volume and value is flue-cured (bright leaf) tobacco, which is the principal ingredient in blended cigarettes and is also used in other smoking and chewing tobaccos. Six states currently grow flue-cured tobacco: Virginia, North Carolina, South Carolina, Georgia, Florida, and Alabama (see Map 1). For many years the largest producer of flue-cured tobacco has been North Carolina, and within North Carolina, the eastern coastal plain has been the region of greatest production significance (see Map 2). North Carolina produced five hundred seventy-three million pounds of flue-cured tobacco in 1996 (NCDA, 1997d), the exports of which earned the state $574 million (NCDA, 1997c). Thirty-six percent of all tobacco farmers are located in North Carolina, and the state employs sixteen percent of the total tobacco workforce in the country (North Carolina Tobacco Report, 1996-97).

Tobacco ranks third after hogs and poultry in terms of cash receipts but in terms of value of agriculture export shares, tobacco ranks first (NCDA, 1997c). Furthermore, it is only since 1992 that hog production has overtaken tobacco. Within North Carolina, Pitt County, located in the eastern coastal plain, is the single largest producer of flue-cured tobacco. In 1996 the county harvested 33.6 million pounds, roughly 6% of the state's total that year. (NCDA, 1997f). Its importance in Pitt County is attested to by the fact that it annually nets farmers between $800 and $1400 an acre and outstrips all other field crops in gross receipts by almost $4000 per acre (Smith, 1997). No other field crop comes close to tobacco in income contribution.

Tobacco has not always enjoyed such a prominent position in the states agricultural profile, however, and the importance of flue-cured tobacco in particular did not reach its peak until well into the twentieth century. Previously, other crop cultures,i.e., cotton, predominated until a series of events brought tobacco to the fore. The historical dev- elopment of tobacco culture in North Carolina is described in the section below.

The History of Tobacco in Eastern North Carolina[2]

Cultivation of tobacco originated in Maryland in the 1660s but soon moved southward into Virginia and northern North Carolina and westward into Kentucky and Ohio. By the nineteenth century tobacco had spread to parts of North Carolina and into South Carolina and Georgia, but cotton then, "became king and supplanted tobacco for a century until the boll weevil and low cotton prices [in the latter quarter of the century] reversed th[is] trend" (Daniel, 1985, p.21). Not until the last quarter of the nineteenth century would tobacco production surge in North Carolina. The most influential factors of this expansion were the declining price of cotton in conjunction with changing consumer desires and increasing demands of tobacco manufacturers (Tilley, 1948).

After the War of 1812, foreign trade had begun to favor the bright yellow variety of

[1] This figure is based on estimates of world tobacco production for 1996 and is consistent with the US's percent share of world exports in 1995 which numbered 11.7% (USDA, 1997c).

[2] See Tilley (1948) for a comprehensive history of the early bright leaf tobacco industry.

tobacco, which then obtained extraor- This then led to efforts to produce yellow-leafed tobacco in the tobacco regions of Maryland, Ohio, Kentucky, Virginia, and the Piedmont of North Carolina. Due to favorable climatic conditions, the area of the Piedmont along the Virginia-North Carolina border dom-inated bright leaf tobacco production into the mid-nineteenth century.[3] Following the Civil War consumer demand shifted to particular brands of smoking tobacco. This, combined with innovations in curing, namely the flue, and a greater understanding of proper soil types, created a growing and successful market for flue-cured, bright leaf tobacco. Bright leaf tobacco production exploded in the 1870s. It spread across North Carolina (see Table 1) into South Carolina, Georgia and Florida from the 1880s into the 1920s, constituting, "the period of greatest expansion ever made by a luxury crop" (Tilley, 1948, p.123). By 1922 the leading authorities on tobacco culture in the United States pronounced bright leaf the leading type of tobacco of the world (Tilley, 1948).

Table 1 - Census of Production, 1879-1889

County	1879	1889
Wake	94,354 lbs	479,585 lbs
Franklin	58,932	859,015
Nash	7,562	782,713
Pitt	598	27,104
Wayne	102,979	112,010
Robeson	577	10,500

Source: Tilley, N.M. 1948. *The Bright Tobacco Industry 1860-1929* (Chapel Hill: University of North Carolina Press.)

The route by which flue-cured, bright leaf tobacco entered the eastern Coastal Plain emerged in the mid-1880s when production dinarily high prices (Tilley, 1948). expanded eastward from the Old Belt into Wayne, Franklin and Nash counties. Pitt County made the transition from cotton to tobacco relatively late in 1886, but soon exceeded its predecessors in production levels. It is now the leading producer of flue-cured Tobacco in North Carolina and the United States.

Changing Production Practices and Tech-nological Innovation

The modern process of producing a crop of tobacco begins in November when farmers plow, or turn, their land to destroy old crop residue and aerate the soil. In mid-February the greenhouse is seeded, and while the seedlings are maturing, field preparation takes place. Transplanting begins in mid-April and lasts a week or two depending on the number of acres to be planted and numbers of workers hired.[4] Transplanting is followed by weekly cultivation (plowing) until June when topping and spraying to stunt sucker leaf growth take place. Depending on the extent of pests, all or part of the fields will also be periodically sprayed with pesticides. Priming and curing begins in mid-July, and by October the last tobacco is sold. While the basic production process is consistent with that prior to mechanization, the new machines and chemical inputs (fertilizers, pesticides, herbicides) have considerably reduced the number of "man-hours" needed to produce an acre of tobacco.

In the late 1950s chemical sprays for removing suckers became available, and topping machines came into widespread use a decade later. These two innovations have helped reduce the arduousness and cost of labor tremendously. The past few decades have also seen the rise of more powerful and efficient irrigation systems such as the aluminum pipe and gun systems, and more recently, the spool and reel irrigation systems. Because flue-cured tobacco leaves ideally are primed individually as they

[3] This region eventually came to be called the "Old Belt" region and consisted of ten counties. These include: Halifax, Pittsylvania, Henry, Franklin, and Patrick in Virginia; and Granville, Person, Caswell, Rockingham, and Stokes in North Carolina.

[4] One farmer we interviewed, for example, employs three adults to assist him, and it takes them approximately a week to transplant fifty-two acres.

ripen,[5] harvesting has proved the most difficult operation to mechanize[6] Mechanical harvesters, introduced after the late 1960s, are equipped with an adjustable blade that cuts leaves at the desired height and can be operated by one or two individuals. Another type harvests all the leaves of a single plant at once,which are then cured together as a mixed grade. While some farmers are willing to "sacrifice" a few green leaves for the saving in labor (Hart and Chestang, 1978), other farmers privilege leaf quality and choose to rely on human primers who can judge a leaf's readiness for harvest.

Perhaps the two most significant innovations that have marked the local landscape in eastern North Carolina during the period under study have been the bulk barn for curing and the hydroponic greenhouse for the cultivation of seedlings. The original flue-cured stick barns were supplanted by fully automated, gas-burning bulk barns in the early 1970s. Whereas the earlier barns were tall buildings accommodating five tiers of tobacco tied to sticks, the new bulk barns are long narrow structures in which leaves are impaled on pronged racks that are then hung on metal rungs ("runners") that run along the sides of the barn. The latest development in curing technology appearing on the horizon is the "box barn" in which tobacco leaves are loosely packed in metal cages that are then stacked in the barn for curing.

The driving force behind innovations in curing methods has been the effort to decrease labor costs. The bulk barn has decreased the number of workers needed to fill a barn by eliminating the stringing stage, and the new box barn has decreased this number further. With a mechanical primer and the new box barn for curing, it is conceivable that two people could prime and barn the average farmer's tobacco crop, compared to the six or more required by bulk barns.

The second, and most recent, innovation to take place in tobacco culture is the hydroponic greenhouse. Previously tobacco seedlings were cultivated in small plots called "plant beds" that were covered with straw and plastic. Seedlings were then hand-picked according to size and carried by hand to nearby fields for transplanting -- a highly labor-intense process. In the late 1980s and early 1990s farmers began using greenhouses and hydroponic technology for cultivating seedlings.[7] In addition to reducing labor costs and producing higher quality seedlings, the greenhouses are less prone to damage from the elements and pests than were the plantbeds. The use of such greenhouses has spawned a new business - one in which individuals deal exclusively in the cultivation and sale of tobacco seedlings. While some farmers deliberately plant more seedlings than they will use on their own farms with the intent of selling their excess to other farmers, other farmers have opted to focus entirely on seedling cultivation, converting their land to cultivating other crops or leasing it to other farmers.

One question or issue that arises in general discussions of mechanization is the extent to which mechanization *displaces* human labor or transpires in *response to* labor shortages. While mechanization of other crop cultures has been driven by the desire to increase production efficiency by reducing labor costs, in tobacco a shortage of labor has at least partially prompted mechanization. Certainly many farmers complain of an inability to find sufficient supply of labor and explain the drive behind

[5] This differs from other varieties of tobacco such as burley in which the entire stalk is harvested at one time.

[6] Taxi rigs, introduced in the mid 1950s, eliminated four handers but still required four primers, two stringers, and a driver More importantly, they modified labor needs allowing farmers to replace young men with elderly men, women and children (Hart and Chestang, 1978).

[7] These greenhouses consist of arched PVC or metal tubing with plastic sheeting stretched over them. Climate is controlled by fresh air vents on the sides of the house and gas heaters inside. A raised walkway runs down the middle of a six-inch high pool of water on which float Styrofoam trays of tobacco seedlings. The placement of the seeds in the trays has been routinized by a machine, which has rendered the entire process much less arduous and time consuming than previously. The greenhouse is also rigged with a lawnmower that is run over the seedlings periodically to foster strong stem growth and ensure uniformity of height.

mechanization in these terms. Yet, the complete story of this process is rather more complex.

According to Mann (1981) human labor needs by the 1960s had been greatly reduced in the early stages of production but remained concentrated in the harvesting stage. Assembling a large harvesting crew for only a few weeks at the end of summer became difficult and expensive and was further exacerbated by industrialization, which provided alternative employment opportunities to potential workers. Hart and Chestang (1978) claim, however, that while competition from new factory jobs arising in the 1950s and 1960s did pressure farmers to use labor more efficiently, it does not entirely explain the driving force behind mechanization: "Some farm workers undoubtedly were displaced when innovative farmers adopted new machines, [and] some conservative farmers undoubtedly were compelled to adopt new machines because they could no longer rely on their former labor supply,... [i]t would be completely wrong ... to assume that all tobacco farmers were forced to mechanize by labor shortages" (Hart and Chestang, 1978, pp.450-1). Rather, according to their analysis, the two processes seemed to have unfolded hand-in-hand.

The lifting of restrictions on leases, transfer of allotments by Congress in 1961 and a change in law in 1968 that allowed the loose-leaf sale of tobacco were also significant in promoting mechanization The first initiative allowed farmers, particularly in the coastal region, to consolidate tobacco acreage into large-scale units through leasing or purchasing other farmers' allotments, which removed a significant barrier to mechanization (Mann, 1981).[8] Dalton (1981) notes that between 1966 and 1979, the amount of acreage allotments leased in North Carolina increased 250%. And, the sale of loose leaves of tobacco allowed bulk curing to take place, thus eliminating the number of laborers needed to barn a crop of tobacco. These three political events, in conjunction with technological innovation and industrialization, facilitated a major economic transformation in the entire landscape of tobacco production (Mann, 1981, p.41). The overall impact has been to effect a transition from small tobacco farms to large-scale farming.

Impact of Mechanization and Emerging Trends in Tobacco Farming in Pitt County

There are approximately five hundred eighty working farms in Pitt County. Of these, two hundred produce tobacco. The average farm size in the county is three hundred thirty-three acres, and the average acreage of tobacco farmed by an individual farm unit is approximately eighty acres (Smith, 1997). With mechanization, the trend all over North Carolina has been toward consolidation of land holdings on fewer farms. Dalton observes that throughout the 1970s, flue-cured tobacco farms in North Carolina became, "larger and more mechanized, requiring fewer and fewer farmers and relying on more and more leased quota. ... [A]s mechanization increases, farms get bigger, more tobacco is leased, and fewer people grow it" (1981, p.63). According to his research, the number of farms in North Carolina producing flue-cured tobacco declined from seventy-seven thousand in 1964 to thirty-four thousand in 1978, while average acreage per farm more than doubled during this time (Dalton, 1981).

Hart and Chestang (1978; 1996) observed that in seven NC counties (including Pitt County), the number of farms decreased from 26,315 in 1954 to 6,331 in 1974 -- a decline of seventy-six percent. Acreage under tobacco decreased by forty-four percent from 161,365 in 1954 to 90,862 in 1974, but production dropped by only twelve percent, which they attribute to higher yields per acre. Using these figures, we can also see that the average acres per farm more than doubled from six acres in 1954 to fourteen acres in 1974. This period of consolidation can apparently be

[8] Mann (1981) notes that the first mechanical harvester had a forty acre break-even capacity, therefore, its use became feasible after the limitation on leasing more than five acres was lifted and tobacco acreage could be consolidated.

attributed in part to a shift away from tenant farming and sharecropping as a result of New Deal legislation (see Daniel, 1985) and the fact that land owners found these tenuerial arrangements increasingly disadvantageous (Mann, 1981).

Since 1970 the trend toward consolidation has continued and is depicted in Figures 1 and 2 below. The number of all farms in the state as a whole has decreased from nearly 150,000 in 1971 to 60,000 in 1992 while average size has increased from 100 acres to approximately 160acres. In Pitt County during the same period farm size increased from approximately 110 to 330 acres, while the number of farms has dropped from 2400 to580.

If we break this down by category of farm size, the number of farms in all categories decreased between eleven and seventeen percent from 1987 to 1992 with the exception those in the largest-size bracket (1,000 acres or more), which actually increased by thirteen percent (Census of Agriculture, 1992) (See Table 2) Although the exact figures for tobacco farms over this period are not available, Mitch Smith, County Extension Director for Pitt County has observed a notable decrease in the number of tobacco farmers over the past fourteen years. Table 3below illustrates trends in allotments, base acreage and poundage for North Carolina and Pitt County since 1970.

This consolidation of land after 1970 is perhaps more directly attributable to mechanization than previously in that while labor requirements have certainly decreased, overall costs of production have increased in other ways. For example, recent innovations in chemical inputs have produced pesticides and herbicides that are less toxic and more biodegradable than their predecessors, but they are considerably more expensive than earlier versions. More importantly, financial investment for machinery can run between $250,000 and $500,000. It is no surprise that these costs have resulted in a trend toward fewer but larger-sized operations over the past few decades.

Despite increasing consolidation of holdings, it is interesting to note that tobacco still represents a fraction of the entire farm operation in terms of acreage, though not of earnings.[10] For example, the tobacco farmers we interviewed all plant a combination of crops that include cotton, corn, soybeans, and peanuts in addition to tobacco. Of the three farms we surveyed in Pitt County, the smallest cultivates 172 total acres with 52 acres in tobacco (or 30%). The other two farms are considerably larger - 650 total acres, of which 50 acres are in tobacco (8%), and 980 total acres, with 100 acres in tobacco (10%).[11]

On average, sixty percent of the cultivated land in tobacco on a given farm is leased from another allotment holder, and approximately half of the net profits from tobacco are paid to the actual owner of the allotments, yet gross tobacco earnings per acre outstrip any other field crop. Three hundred seventy-two acres of cotton would have to replace fifty acres of tobacco to equal the latter's gross income. This means that until substitute crops become more lucrative, farmers in eastern North Carolina will continue to grow tobacco.

A second visible trend emerging in tobacco farming over the past two decades pertains to changes in labor patterns on farms. Several studies have observed a general trend of the increasing importance in off-farm employment to farming households as a whole (see, for example, (Hart & Chestang, 1996; Danbom, 1995; Bartlett, 1993; Friedberger, 1988), and all three of the farmers in Pitt County that we interviewed reported at least one adult working off the farm. More recent is an apparent shift away from local, "native" labor toward the use of Hispanic immigrant and migrant labor, primarily from Mexico. One of the farmers we interviewed employs about twelve Mexican laborers every season in addition to two family members and an African American man who has worked on the farm for nearly twenty years. Two other farms have replaced local high students with fifteen to twenty migrant laborers from Mexico, and a fourth farm, which is one of the largest in the county, has been

[10] See also Hart andChestang (1996) for a discussion of diversification in farming in eastern North Carolina.

[11] Note: In 1998, tobacco acreage was reduced by 17%.

Table 2. Number of Farms in North Carolina by Farm-size Category, 1987-92

Farms by size:	1987	1992	% Change
1 to 9 acres	5,253	4,651	-11.5
10 to 49 acres	8,088	15,852	-12.4
50 to 179 acres	2,680	19,366	-14.6
180 to 499 acres	9,337	8,007	-16.6
500 to 999 acres	2,676	2,564	- 4.2
1000 acres or more	1,250	1,414	+13.0

Source: 1992 Census of Agriculture - North Carolina Agriculture Highlights

Table 3. Flue-Cured Tobacco Allotments, #Farms, Base Acreage & Base Poundage - 1970 to 1997 North Carolina & Pitt County.

#Farms (Allotments)

	1970 #	1975 # (%)	1980 # (%)	1985 # (%)	1990 # (%)	1995 # (%)
Pitt County	2,600	2,512 (-3.4)	2,456 (-2.2)	2,275 (-7.4)	1,715 (-24.6)	1,406 (-18.0)
NC Total	115,397	114,517 (-0.8)	115,779 (+1.1)	100,039 (-13.6)	44,417 (-55.6)	34,364 (-22.6)

Base Acreage

Pitt County	20,309	28,252 (+39.1)	20,895 (-26.0)	14,032 (-32.8)	15,384 (+9.6)	16,358 (+6.3)
NC Total	380,645	529,722 (+39.2)	388,749 (-26.6)	255,859 (-34.2)	276,312 (+8.0)	293,418 (+6.2)

Base Poundage (million pounds)

Pitt County	39.307	54.621 (+39.0)	40.381 (-26.0)	28.553 (-29.2)	32.351 (+13.3)	34.416 (+6.4)
NC Total	707.168	983.465 (+39.1)	722.016 (-26.6)	510.870 (-29.2)	578.177 (+13.2)	615.765 (+6.5)

Source: USDA Agricultural Stabilization and Conservation Service. In (NCDA) *North Carolina Tobacco Report 1996-97.*

Figure 1 - Comparison of Farm Size to Number Farms - North Carolina

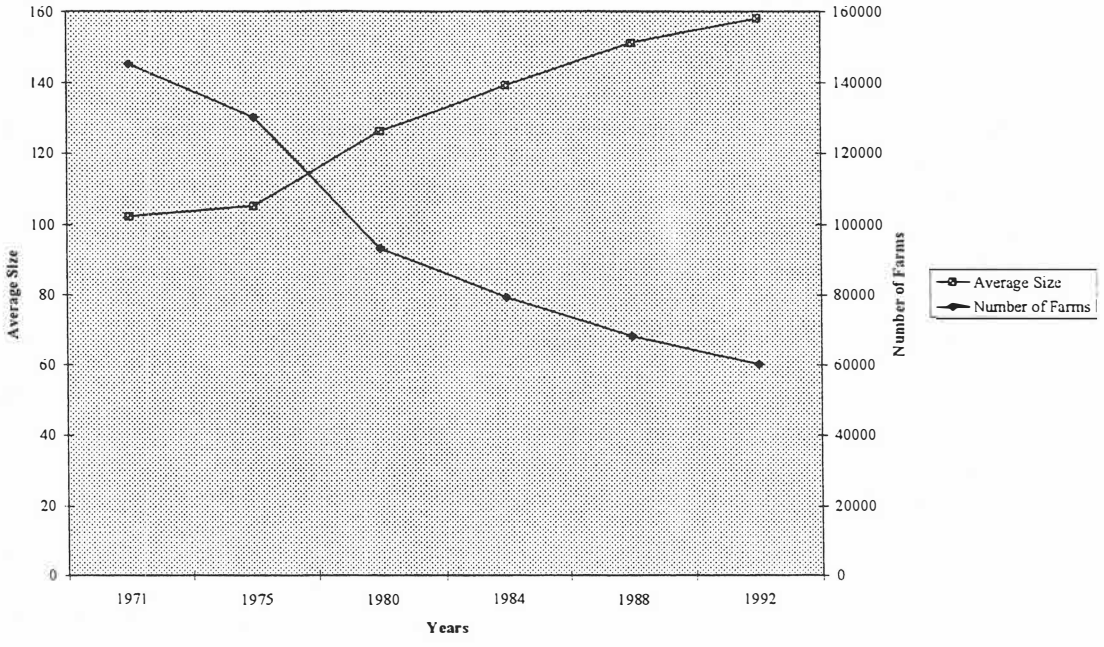
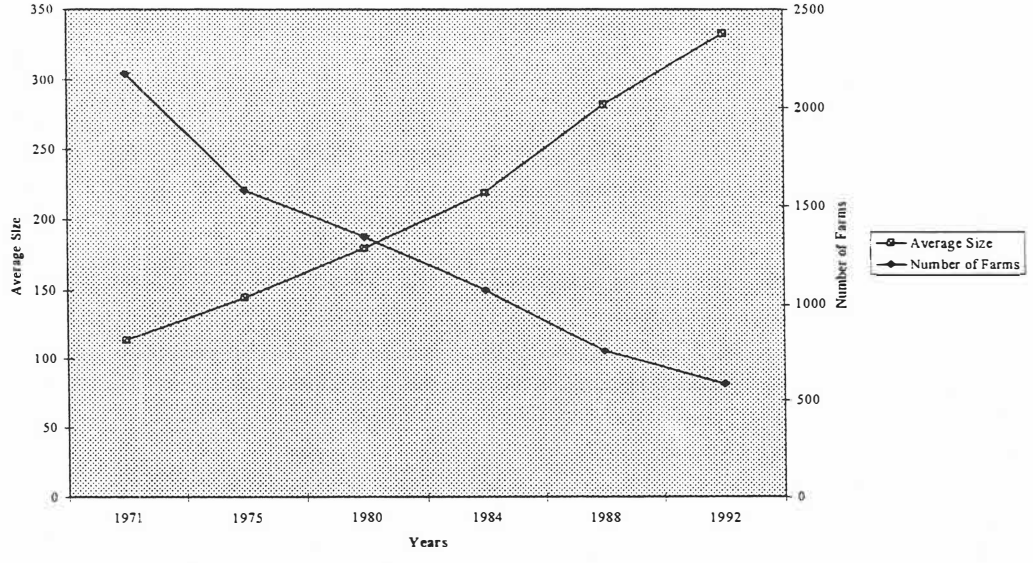


Figure 2 - Comparison of Farm Size to Number Farms - Pitt County



employing eight to ten migrant laborers exclusively in its tobacco operation since 1981. The smallest of the farms we examined prefers to hire high school students for topping and loading the bulk barns for curing. An elderly African American man and woman, and a younger Mexican man, who have all worked for this farmer for years, help with transplanting and other stages of production. He explained this preference as stemming from complications posed by language and the difficulty of explaining his particular cultivation methods to non-English speaking workers. These anecdotal observations and the fact that an estimated eighty percent of farms in Pitt County now rely on immigrant labor, though not systemically studied in this project, indicate potentially interesting areas of further research.

The Marketing of Tobacco

No discussion of the tobacco industry would be complete without attention to marketing and the role of the warehouse. The marketing process has changed little over the past thirty years. No innovation has yet rendered the structure of the sales process obsolete, and the basic farmer-warehouse relationship has remained rather constant amidst the many changes that have swept through the industry. Nevertheless, the warehouse and its role in the production of tobacco warrants brief attention.

The warehouse is the "middleman" of the tobacco industry, mediating transactions between the growers and the tobacco manufacturing companies. Before harvest, farmers contract with a particular warehouse. Growers choose their warehouse based on traditional relationships with owners, accessibility, and/or its reputation for obtaining high prices. It is not unusual for a large tobacco farmer to sell his/her crop at more than one warehouse, and often the advancement of loans to the farmer by the warehouse owner secures a contract for the sale of his/her tobacco.

Beginning mid-July, the farmer delivers cured tobacco to the warehouse in sheets weighing between 250 to 300 pounds. The sheets are weighed and transferred to the warehouse floor where they are placed in long rows, graded and prepared for sale. The sale itself is a frantic race. To the outside observer, the auctioneer's call is incomprehensible as he and the buyers walk down the rows of tobacco bidding on individual sheets of tobacco. Usually six or so buyers walk the floor with the auctioneer, warehouse sales manager, a very fast ticket writer (who notes the sale price for each sheet), and someone to attach the ticket to the sheet. The entire process lasts about an hour and a half.

The warehouse collects payment from the companies purchasing the tobacco and disburses it to the farmers on a weekly basis, taking out its commission and the stabilization program fee (two to three cents per pound sold).[12] Warehouses employ as many as twenty people who perform jobs ranging from clerical staff to auctioneers to floor workers who unload, load, and prepare tobacco for sale. A shift in the ethnic makeup of the warehouse labor force is emerging. As with farm labor, immigrant Hispanic workers appear to be replacing young African American and Caucasian men on the warehouse floor. A second trend is toward baling tobacco in lots weighing seven hundred fifty pounds, which will require a new round of investment in

[12] This is a program that allows farmers to receive a minimum support price. Since 1982 the program has been entirely self-financed by tobacco farmers.

machinery by farmers. There is also discussion of tobacco companies attempting to reduce warehouse costs by contracting directly with farmers, which will, of course, eliminate the warehouse from tobacco culture altogether.

Conclusion - Prospects for the Future

It is apparent from the foregoing analysis that the tobacco culture of eastern North Carolina has undergone a tremendous transformation over the past three decades. Between mechanization and other production innovations, every stage of the production process from the planting of seedlings to harvesting and curing has undergone change, and this has had a number of impacts on the local landscape of eastern North Carolina. With mechanization has emerged a trend toward consolidation of holdings and increased scale of operation. The size of individual farms has increased at the same time their number has decreased. While limitations on the lease and sale of tobacco allotments initially constrained such expansion, once removed, mechanization and consolidation seem to have advanced hand-in-hand. The decline in the number of tobacco farmers in Pitt County is apparent. As one of the farmers we interview noted, "When I was in school, almost all of my classmates' families worked in tobacco. Now my sons are the only kids in their class who live on a tobacco farm."

The second apparent trend associated with tobacco cultivation is the change in human labor. To some extent, the shortage of labor and industialization have driven mech-anization. Also, the demographic profile of the tobacco worker is changing. The average age of the farmer has steadily increased, as has, it appears, the average of the locally hired laborer. Although this latter observation is yet to be documented adequately, anecdotal evidence suggests that fewer young people who are native to the area work as agricultural laborers. Instead, we have noted the influx of workers from Latin America and the changing demographic profile of the region as a result. The role and experiences of these workers in the tobacco economy point to a number of interesting questions yet to be adequately investigated.

Finally, although not assessed here, there is sufficient evidence to suggest that industrial restructuring and the changing global economy of tobacco, not to mention free trade initiatives, proposed changes in the tobacco program, and public health litigation, are pressing in on the American tobacco farmer. Further mechanization in the form of baling may continue to push small farmers out of production as this will require a new round of investment in machinery. A shift to contract purchasing is under discussion, and this is likely to change the terms under which farmers grow and sell tobacco as the warehouse is eliminated from the equation and the relationship between the farmer and large tobacco companies gets reworked. Ultimately, the future is at best unclear, and the events of the next five years or will prove interesting.

Acknowledgements

The authors would like to thank Robert Wilson, Mitch Smith, and Ron Boyette for their assistance in the research and two anonymous reviewers for their helpful comments. Maps were prepared by John Peacock and Darrell Pate.

References

Akehurst, B.C. (1968) *Tobacco.* Boston: Longman.

Bartlett, P.R. (1993) *American Dreams, Rural Realities: Family Farms in Crisis.* Chapel Hill: University of North Carolina Press.

Brown, B. (1997) "Tobacco Settlement Update," Online. NC State University Department of Agri-cultural and Resource Economics. www2.ncsu.edu/ncsu/cals/ag_rec/.

Census of Agriculture (1992) "North Carolina Had 51,854 Farms in 1992," Online. U.S. Department of Commerce, Bureau of the Census. www.census.gov/agts/agcen/view/92a29nc.txt. 14 October 1997.

----- (1992) "North Carolina Highlights," Online. U.S. Department of Commerce, Bureau of the Census.(www.census.gov/agts/agcen/view/92a29nc.txt) February 1998.

Dalton, R. (1981) "Changes in the Structure of the Flue-Cured Tobacco Farm: A Compilation of Available Data Sources," in Finger, W.R. ed. *The Tobacco Industry in Transition.* Lexington, MA: Lexington Books.

Danbom, D.B. (1995) *Born in the Country: A History of Rural America.* Baltimore and London: Johns Hopkins University Press.

Daniel, P. (1985) *Breaking the Land: the Transformation of Cotton, Tobacco, and Rice Cultures since 1880.* Urbana and Chicago: University of Illinois Press.

Flue-Cured Tobacco Cooperative Stabilization Corporation (FCTCSC) (n.d.), "Tobacco Production in the United States," Raleigh, NC.

Friedberger, M. (1988) *Farm Families and Change in Twentieth Century America.* Lexington, KY: University of Kentucky Press.

Hart, J.F. and **E.L. Chestang** (1978) "Rural Revolution in East Carolina," *Geographical Review* 68.4, 435-458.

----- (1996) "Turmoil in Tobaccoland," *Geographical Review* 86.4:550-572.

Mann, C.K. (1981) "The Tobacco Franchise for Whom?" in Finger, W.R. ed. *The Tobacco Industry in Transition.* Lexington, MA: Lexington Books.

North Carolina Department of Agriculture (NCDA)(1996-97), *North Carolina Tobacco Reports.* Raleigh: State of North Carolina.

----- (1997a) "Cash Receipts from Farming by Commodity," North Carolina Department of Agriculture- Statistics - Cash Receipts. Online. www.agr.state.nc.us/stats/cashrcpt/cshcomyr.htm. 24 March 1997.

----- (1997b) "Cash Receipts Source Pie Chart," North Carolina Department of Agriculture - Statistics - Cash Receipts. Online. www.agr.state.nc.us/stats/cashrcpt. 6 June 1997.

----- (1997c) "Exports," North Carolina Department of Agriculture - Statistics - Farm Income - Exports. Online. www.agr.state.nc.us/stats/ncexpo~1.htm. 21 April 1997.

Bartlett, P.R. (1993) *American Dreams, Rural Realities: Family Farms in Crisis.* Chapel Hill: University of North Carolina Press.

Brown, B. (1997) "Tobacco Settlement Update," Online. NC State University Department of Agri-cultural and Resource Economics. www2.ncsu.edu/ncsu/cals/ag_rec/.

Census of Agriculture (1992) "North Carolina Had 51,854 Farms in 1992," Online. U.S. Department of Commerce, Bureau of the Census. www.census.gov/agts/agcen/view/92a29nc.txt. 14 October 1997.

----- (1992) "North Carolina Highlights," Online. U.S. Department of Commerce, Bureau of the Census.(www.census.gov/agts/agcen/view/92a29nc.txt) February 1998.

Dalton, R. (1981) "Changes in the Structure of the Flue-Cured Tobacco Farm: A Compilation of Available Data Sources," in Finger, W.R. ed. *The Tobacco Industry in Transition.* Lexington, MA: Lexington Books.

Danbom, D.B. (1995) *Born in the Country: A History of Rural America.* Baltimore and London: Johns Hopkins University Press.

Daniel, P. (1985) *Breaking the Land: the Transformation of Cotton, Tobacco, and Rice Cultures since 1880.* Urbana and Chicago: University of Illinois Press.

Flue-Cured Tobacco Cooperative Stabilization Corporation (FCTCSC) (n.d.), "Tobacco Production in the United States," Raleigh, NC.

Friedberger, M. (1988) *Farm Families and Change in Twentieth Century America.* Lexington, KY: University of Kentucky Press.

Hart, J.F. and **E.L. Chestang** (1978) "Rural Revolution in East Carolina," *Geographical Review* 68.4, 435-458.

----- (1996) "Turmoil in Tobaccoland," *Geographical Review* 86.4:550-572.

Mann, C.K. (1981) "The Tobacco Franchise for Whom?" in Finger, W.R. ed. *The Tobacco Industry in Transition.* Lexington, MA: Lexington Books.

North Carolina Department of Agriculture (NCDA)(1996-97), *North Carolina Tobacco Reports.* Raleigh: State of North Carolina.

----- (1997a) "Cash Receipts from Farming by Commodity," North Carolina Department of Agriculture- Statistics - Cash Receipts. Online. www.agr.state.nc.us/stats/cashrcpt/cshcomyr.htm. 24 March 1997.

----- (1997b) "Cash Receipts Source Pie Chart," North Carolina Department of Agriculture - Statistics - Cash Receipts. Online. www.agr.state.nc.us/stats/cashrcpt. 6 June 1997.

----- (1997c) "Exports," North Carolina Department of Agriculture - Statistics - Farm Income - Exports. Online. www.agr.state.nc.us/stats/ncexpo~1.htm. 21 April 1997.

Tobacco Blues: A Review

John Fraser Hart
Department of Geography, University of Minnesota

American tobacco farmers have felt increasingly beleaguered ever since 1966, when the Surgeon General first announced that cigarette smoking might be bad for you. Since then attacking tobacco has become high fashion politically and socially, and a veritable bloodlust has seized critics of smoking, who have mercilessly castigated anything and everything that has to do with tobacco.

Tobacco farmers have been made to feel defensive about growing a perfectly legal crop for which they have no even remotely acceptable alternative, and they protest that they have suffered unfairly for the ruthless and deceptive practices of the cigarette manufacturing companies. Ironically, the farmers have better reason for hating the cigarette companies than almost anyone else, because the companies determine the price the farmers receive for the crop that is their principal source of income.

"Tobacco Blues,"[1] is an attempt to document the attitudes and feeling of tobacco farmers under stress. The authors have focused on a quartet of farmers in Kentucky who are correctly balanced racially, although one must wonder how representative they are. What proportion of Kentucky tobacco farmers are black? How many wives of black Kentucky tobacco farmers have testified before Congressional committees? How many small tobacco farmers in Kentucky are into organic farming and sustainable agriculture?

The authors seem more interested in affective pictorial quality than in substance. They have some nice footage of transplanting, topping, cutting, spearing, hanging, and stripping tobacco, and of an auction in a sales warehouse, but they seem startlingly uncurious about what people are doing and why they are doing it. They have squandered a fine educational opportunity to make a good documentary about the people who grow tobacco and how they grow it. Perhaps that was not their objective, but if not, what was? They communicate no clear sense of purpose.

It is unfortunate indeed that they did not seek advice from someone who knows something about geography and about tobacco. They seem blissfully unaware that their tape is highly placebound to Burley tobacco and to the Bluegrass area of Kentucky, which they fail to mention. Few farmers in North Carolina, for example, are familiar with cutting, spearing, hanging, and stripping tobacco, and they might well wonder if sucker leaves fall off all by themselves in Kentucky.

This film might be good television, but it is poor geography. It is the kind of thing that you might watch once on public television and promptly forget, but it is so lacking in substance that one would not wish to sit through it a second time, and it would be a waste of time in the classroom.

[1] A Café Sisters Production, 1997, Lexington, Kentucky: Erin McGinnis, 218 West Bell Court, 40508.

The Undiscovered Country

Deonna Kelli
General Board of Global Ministries for the
United Methodist Church, Women's Division

Tobacco Blues is a video documentary that focuses directly on the impacts of global restructuring within the tobacco industry, and federal agricultural policy, on four Kentucky burley-farming families; in doing so it effectively webs place, space, politics, economics and culture as each family struggles to adjust to the declining fortunes and moral turbulence wrought in the wake of this particular crop. In this brief commentary I make note of the challenges and concerns facing tobacco farmers, but also use the film to illustrate three issues that should be of significance to rural geographers. These are: (1) the inextricable linkage of productive and reproductive factors within rural spaces; (2) the importance of theorizing the "global" and the "local"; and (3) the need to reassess our methods of research and presentation.

With more tobacco being produced overseas farmers across America are finding their livelihoods threatened. *Tobacco Blues* examines this transformation by considering the tradition of tobacco farming in one community, eastern Kentucky, the moral debates on cigarettes currently in circulation, and the viable options farmers have to tobacco production. The central, organizing theme of the film is that tobacco farming is a way of life as well as gaining an income, and as it comes to an end whole cultures are being transformed. Will tobacco farms become mere artifacts in the landscape?

The four families depicted in Tobacco Blues are chosen for their diverse experiences of the business. The Mack family narrates the challenges facing them as both tobacco farmers and African–Americans in Kentucky. Mattie Mack is a well-known activist for the protection of tobacco, and is visible at the national level through her meetings with President Clinton on the subject. Carrying on the fifth generation of tobacco farming, the Greathouse family is determined to maintain this heritage, even though their modern farm primarily produces other crops. Ed and Janet Jenkins raised nine children in the hope that they would carry on with the family farm: only two of the children remain, however, while their mother worries that Ed has emphysema. Finally, Steve Smith has decided to remain on his family's tobacco farm and supplant his income with organic vegetables, even though his parents urge him to find a more secure future elsewhere.

Moral issues involved with the cultivation of tobacco wear heavily on each family. All discourage smoking in their homes, while the tobacco companies are castigated for the addictive carcinogens that are added to cigarettes. Farmers feel victimized by the corporate side of the industry when images like the Marlboro Man and Joe Camel glamorize smoking on the one hand, and obscure the culture of tobacco on the other. The over-riding opinion, however, expressed by all four families is that smoking is fundamentally a consumer choice, and that in supplying the basic ingredient for cigarettes they have earned enough money to realize their own dreams in terms of educating their children.

One weakness of the film is the lack of information on the production of tobacco: more background on FDA regulations and environmental policy would help viewers unfamiliar with current debates appreciate the magnitude of the crisis affecting farmers and the diversity of processes and policies that must be negotiated for farming to take place. That said, the contribution of *Tobacco Blues* lies within the subtle yet effective way in which the cultural geography of the rural South is documented. In rural geography the productive processes involved in 'making a living" have all too often been privileged over the reproductive

processes involved in education, health and raising a family. In *Tobacco Blues* we see the necessary interconnectedness of all of these factors, such that the demarcations of "economic" and "cultural" geography are rendered arbitrary. Further, the globalized networks that link farmers in Kentucky to the halls of Washington DC, corporate headquarters in New York, financial dealers on Wall Street, farmers in the Third World, and cigarette smokers across the world, undermine any attempt at a "place-based" study of tobacco. Our theories concerning the transformation of tobacco production must be able to account for this cross-scale complex of people and events that together make up the tobacco "industry." Finally, as geographers we must expand our methods of inquiry and learn the importance of oral history and narrative. Too often we fall back on statistics in order to get the "big" picture – what such a picture lacks, however, is a sense not only of the complexity of processes noted above, but also their real world relevance. In my own work with Muslim communities in the rural South I have come to realize that it is only via in-depth interviewing that one can discern and describe the spaces that people live in, spaces which have traditionally been invisible to rural geographers. If geographers are to propel themselves to the forefront of research into rural areas, they must follow the lead of people such as the film-makers and learn from them how to see the "undiscovered" country.

Foreign Direct Investment in North Carolina

Harrison S. Campbell, Jr. and Alfred W. Stuart
Department of Geography and Earth Sciences
University of North Carolina at Charlotte

North Carolina has witnessed dramatic growth in foreign direct investment (FDI) over the last twenty years. As a result, one in every ten workers in the private, non-farm sector, and over 13 percent of all manufacturing workers are now employed in more than 750 foreign-owned firms throughout the state. Though two-thirds of the state's counties host at least one foreign-owned establishment, the majority of FDI flows to the state's metropolitan areas. This paper describes the motivations behind the establishment of foreign operations, highlights attributes of the state and its metropolitan areas that are conducive to FDI, illustrates patterns and trends of foreign-firm location, and concludes with a few remarks about the relationship of FDI to economic development in the state.

One of the most visible, and sometimes controversial, features of the global economy has been the remarkable pace with which foreign-owned firms have invested in the United States. Declines in the value of the dollar fueled rapid growth of foreign-owned transnational corporations (TNCs) during the 1980s further intensifying a trend that began accelerating in the mid-1970s. Between 1976 and 1986, the number of U.S. employees working for foreign-owned TNCs more than doubled to 3 million and by 1995, the number had reached nearly 5 million (Woodward and Glickman, 1991; Fahim-Nader and Zeile, 1997).

Although investment by foreign enterprises in the United States accelerated sharply in the 1970s, foreign direct investment (FDI) is not new to North Carolina. In the 1880s, for example, the Stanly Freehold Gold Mine in New London, later known as the Parker Mine in Stanly County, was purchased by a group of British investors from William Hirst of Philadelphia. To many residents of the state, though, the most visible result of globalization came in the 1970s as the rising tide of foreign-produced textile and apparel products cut into the market for local products. Fierce com-petition in textiles and apparel caused many domestic producers to shift production to Asian, Latin American and other offshore sites (Stuart, 1996). Partially off-setting these losses, however, was a growing tendency for foreign-owned companies to buy or build businesses in the state. Their numbers grew dramatically between the late 1970s and the early 1990s. Nearly 225,000 North Carolinians (about one in every ten workers in the private, non-farm sector) are now employed in more than 750 foreign-owned firms, which, by 1993, had invested $21.3 billion in property, plants, and equipment (North Carolina Department of Commerce, 1996; U.S. Bureau of the Census, various years).

Because inward investment and the siting of production facilities represent new flows of capital and jobs into state and local economies, the attraction of branch plants and headquarters of foreign-owned enterprises have become important components of economic development policy in North Carolina and elsewhere. State and local governments, anxious to expand their tax bases and employment opportunities have actively courted FDI in efforts to revive or further enhance their economic base. Critics, however, have not let these efforts go unnoticed. In some cases it is believed that foreign-owned firms compete with domestic firms, thereby creating jobs in one location only to displace jobs elsewhere. In other cases, controversy over the attraction of FDI has revolved around the use of industrial incentives that have become almost standard practice in attempts to lure major employers. Tax abatements, infrastructure provision and specialized job training are common incentives offered by governments in their efforts to attract inward investment. As was

illustrated by the $300 million package extended to Mercedes-Benz in Alabama, the prize of landing high profile industries has led many states to compete with one another, offering ever-increasing inducements to attract foreign investment. Part of these efforts by state and local governments may be a response to the disinvestment that characterized the closing of many U.S. manufacturing facilities in the late 1970s and early 1980s, the community impacts of which have been have been well-documented (Bluestone and Harrison, 1982). Today, much of the economic restructuring associated with deindustrialization appears to be complete.

In North Carolina the restructuring of the state's economy has been a double-edged sword. While disinvestment devastated some communities, particularly in rural areas, FDI has helped tooff-set some of the earlier losses and diversify the state's economy. At the same time, economic restructuring brought with it spatial reorganization that has tended to favor urban areas as locations for FDI. Thus, the outward flow of American capital has been, to some extent, replaced by the inward flow of foreign capital, though the specific locations of these capital flows have changed over time.

The purpose of this paper is to describe patterns and trends of foreign direct investment in North Carolina. To this end, the paper begins by defining what foreign direct investment means and what factors motivate firms to become transnational. Next, several characteristics of North Carolina are examined to illustrate why the state has been successful in attracting FDI. Patterns of foreign-firm investment and location are then examined, illustrating their spatial and sectoral dimensions, and regularities in the source countries that invest in the state. Because U.S. headquarters of foreign-owned firms are important regionally and internationally, changes in the spatial pattern of foreign-owned headquarters are also examined. The paper concludes with a few remarks about the importance of FDI in North Carolina and its implications for economic development.

The What's and Why's of FDI

Before analyzing its patterns and trends, it is useful to define what is meant by foreign direct investment. According to the Int-ernational Trade Administration of the U.S. Department of Commerce, foreign direct investment is defined as the direct or indirect ownership by a foreign person, company, or affiliated group of 10 percent or more of the voting securities in a U.S. business enterprise, or a 10 percent or more interest in real property (U.S. Department of Commerce, 1995, p. 97). The agents of FDI are usually transnational corporations (TNCs) that own or control goods- and service-producing facilities in more than one country. Consequently, the transnational corporation is central to FDI. In fact, the transnational corporation is central to the growth of the global economy in general. It has been estimated, for example, that as much as 20 percent of global output is produced by TNCs and their subsidiaries, and that approximately 25 percent of all international trade is between different branches of transnational corporations (Dicken, 1992). However, engaging in international trade does not by itself make a corporation transnational. Instead, TNCs must have productive facilities in other countries. Foreign firms access these facilities through mergers, acquisitions or joint ventures in which the foreign firm establishes a controlling interest. While there are many reasons why TNCs might prefer to enter foreign markets by way of mergers or joint ventures, the most frequent means by which firms establish presence in other countries is through FDI.

If transnational corporations and FDI are driving the global economy, what factors help explain their growth? Why should firms seek to "internationalize"? The simple answer is that firms realize benefits from establishing foreign operations. Foreign direct investment is one strategy among many that firms use in their attempt to maximize profit. If profit is simply revenue less costs, then establishing foreign presence must affect one, or both, of the variables in the profit equation. Typically, FDI is viewed as a means for penetrating new markets to increase revenue or to exploit the

advantages of lower factor costs at alternative locations. However, extending markets or seeking lower cost locations for production can be successful only if coordination of production and the costs of distance can be controlled. In other words, the added revenue, or cost savings, must be greater than the transportation or organizational costs associated with operating a network of far-flung production facilities (Dicken, 1992). The growth in TNCs and FDI has been facilitated by the increasing ability of these enterprises to make intensive use of enabling technologies in transportation, communications and organization.

Although coordination of multiple facilities can complicate the logistics of production, there are at least four firm-specific reasons to establish foreign operations. First, FDI is the most effective means to penetrate large, wealthy markets. Despite the popular conception that most FDI flows to developing countries, the vast majority of FDI is between a handful of advanced, industrialized regions such as the United States, Canada, Northern and Western Europe, and Japan. Second, FDI has ownership-specific advantages in that controlling operations in other countries allows international firms to protect proprietary information. Third, and relatedly, FDI helps control transactions costs of the international firm. Transactions costs determine whether activities are undertaken within the firm or through external markets. Especially in manufacturing, the sale of products frequently involves before- and after-market services that are best provided by persons with accumulated, specialized, firm-specific knowledge, information that firms prefer to control (ÓhUallacain and Reid, 1992). By engaging in FDI, firms internalize these transactions and maintain tighter control over proprietary information. Finally, FDI hedges against uncertainty. By internalizing market transactions and pursuing advantageous transfer pricing strategies that help off-set regional differences in taxation, FDI helps reduce firms' vulnerability to fluctuating exchange rates, tariffs, import quotas, and other non-tariff barriers.

In addition to firm-specific advantages, there are also location-specific factors that affect individual site selections. Clearly, one effect of penetrating new markets is to reduce transportation costs associated with serving that market. Second, location-specific advantages can include consumer preferences for "locally" produced goods and services. To the extent that local presence gives the appearance of local ownership, then advantages of FDI can be realized. Third, it is well known that there are spatial variations in production costs including those associated with land, labor, capital and energy. If input-cost considerations are important to firms, they will seek locations where these costs can be minimized while assuring a reasonable level of product quality.

Why North Carolina?

North Carolina has not always been a *major* host to FDI. Seeking access to large markets, most FDI has traditionally been attracted to urban areas, especially in the Northeast. While states bordering international boundaries have always been important locations for FDI, Bagchi-Sen and Wheeler (1989) show that the New York metropolitan area was host to 71 percent of all FDI transactions between 1974 and 1978. By 1983, the New York area's share of transactions fell to 18 percent as the share of FDI flowing to the South rose from 13.4 percent to 45.6 percent. During this time, the industrial composition of foreign investment also began to change. While most FDI is still in manufacturing, an important trend to emerge in the 1980s was the growth of FDI in finance, insurance and real estate. In many cases, the sectoral distribution of FDI reflects existing industrial concentrations across states as firms attempt to exploit existing patterns of regional comparative advantage. Over time, the geographic pattern of FDI has moved down the urban hierarchy and to suburban fringe and rural areas, especially in manufacturing, as foreign firms seek locations that simultaneously provide adequate market access and lower factor costs. North Carolina has benefited from the general tendency for FDI to disperse to the South's

major metropolitan areas. Its history of non-unionized, low wage rural manufacturing coupled with good market access from the state's urban areas have produced a business climate conducive to FDI growth and foreign-firm location.

In many respects the locational trends exhibited by foreign-owned firms reflect those of domestic firms. Typically, site selection is a two-step process in which investors choose states based on access to markets, labor considerations, transportation facilities, material suppliers and other key industries. Once a broad region has been identified, the choice of specific locale is often based on access to international airports, interstate highways, and various site characteristics such as availability of suitable space, room for expansion, water capacity and utility rates. While climate, union membership, and fuel costs have been significant in determining the location of foreign-owned manufacturing firms (Kahley, 1986 as cited in Woodward and Glickman, 1991) tax rates and incentives are not as important to site selection as market access and labor considerations (Arpan, 1981). These factors, and the agglomeration economies found in and around major cities, help explain the continuing trend for TNCs to locate primarily in urban areas.

Urbanized areas are almost the only places where multi-story office buildings that house corporate and regional offices, bank headquarters and a host of other information processing businesses are found. Further, many of the nation's "high-tech" manufacturers are located in urban areas. Neil Peirce, a nationally syndicated columnist and student of urban affairs, refers to these urban regions as "citistates" and describes them as the "cash cows of the American economy" (Peirce, 1998). To support this position, he cites data showing that 80 percent of the U.S. population, 84 percent of all jobs, 90 percent of financial services employment and 93 percent of jobs in both high technology and business services are located in metropolitan areas. Small wonder, then, that foreign-owned firms are attracted to the same places.

Urban areas clearly offer proximity to a variety of industries, access to intermediate producer services and a labor force with a diversified mix of skills. However, many foreign-owned firms are also drawn to large urban centers that provide major commercial air service that facilitates movement of people and goods between far-flung operations around the world. This is a key feature of the global economy in which these firms are active participants. Along with air service, foreign nationals are drawn to places having more varied and sophisticated amenities, from restaurants to museums, and where there is a similar cultural community of people with whom they can assimilate. Many larger metropolitan areas have schools where children from other countries can stay in touch with their home cultures during what may be a several-year "tour of duty" by their parents.

North Carolina possesses many of the attributes TNCs seek when establishing new production facilities. One of the more striking characteristics of state's labor force, for example, is its relatively low level of unionization. North Carolina is one of only 21 with "right to work" laws and the memories of some bitter and violent strikes in the 1920s and 1930s left many workers disenchanted with organized labor. Union membership has never been high in the state and between 1983 and 1996 the number of workers represented by a union dropped from 179,000 to 143,000. In 1996, only 4.1 percent of all North Carolina workers belonged to a union, the second lowest level in the United States (Campbell, forthcoming). Low levels of unionization may also be related to the state's low labor costs. In 1995, the average North Carolina worker earned $26,059 (87.6 percent of the national average). As illustrated in Figure 1, average hourly wages for production workers in manufacturing have alsoundercut the national average by approximately 20 to 25 percent over the last twenty-five years. Since labor costs occupy a significant proportion of production costs, there is a natural tendency for foreign investors seeking to penetrate American markets to minimize these costs where possible.

Like other states in the region, North Carolina provides excellent access to

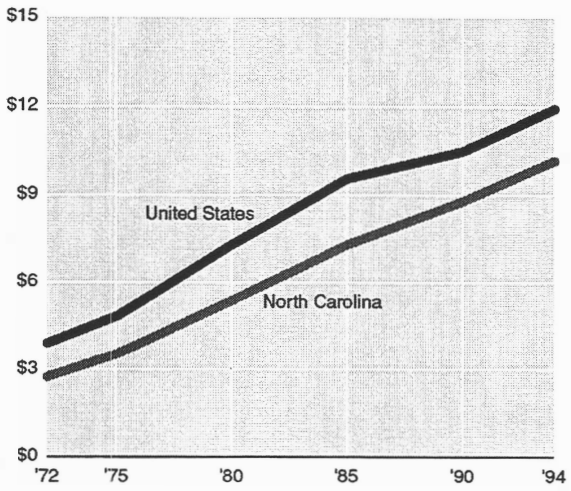


Figure 1: Average Hourly Wages for Manufacturing Production Workers
Source: Bureau of Labor Statistics

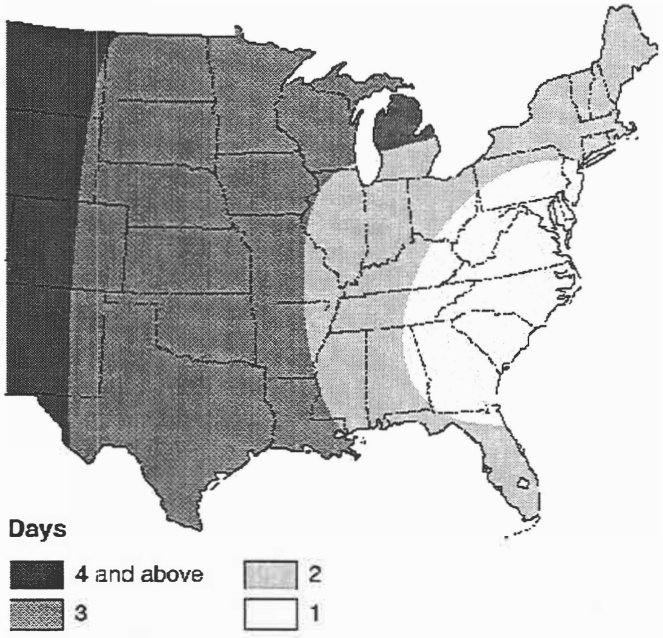


Figure 2: Truck Delivery Time from the Geographic Center of North Carolina

markets in the Southeast and Middle Atlantic states, as well as good access to the Northeast and several Midwestern states (Figure 2). Approximately 22 percent of the U.S. population lives within one day's delivery time from North Carolina, 60 percent is within two days time, and fully 79 percent of the nation's population is within three days delivery time by truck. The speed and flexibility with which producers can serve important markets has become critical to many firms. In fact, access to markets and other key industries are the most frequently mentioned locational factors cited by respondents to a KPMG Peat Marwick foreign-firm survey (KPMG Peat Marwick, 1994). Of the 238 foreign-owned headquarters surveyed in North Carolina, 52 percent cited access to markets and other industries as an important locational factor affecting site selection (Table 1) which was not markedly different from their responses seven years earlier (KPMG Peat Marwick, 1987). Discussed below, the influence of other related industries on foreign-firm location clearly reflects regional differences in industrial specialization throughout the state. Other factors frequently cited by respondents to the KPMG survey included access to airports, acquisition and joint venture opportunities, personal preferences and living conditions. Fifty-two (22 percent) of the res- pondents cited personal preferences, and 46 (19 percent) mentioned that living conditions are important locational factors. Acquisitions and joint ventures were primarily viewed as a means for diversifying product lines, expanding geographic market coverage and increasing market share. Between 1982 and 1987 thirty-five companies were acquired by foreign firms and between 1992 and 1994 forty-five foreign-owned firms were estab lished through acquisition while only fifteen were joint ventures (KPMG Peat Marwick, 1987, 1994). Although purchasing an established American firm was viewed as a quicker and less risky means for entering the U.S. market, new start-up operations far exceeded the number of acquisitions and joint ventures.

Table 1. Location Factors Important to International Headquarters (N=236)

Primary Factors	Number of Times Mentioned
Proximity to key industry or market	124
Air transportation *	54
Acquisition/joint venture opportunity	53
Personal preference/executive in place	52
Quality and cost of labor	49
Living conditions/climate	46
Availability of space, building, or site	23
Regional economic growth	20
Lower taxes/other cost advantages	16
International business climate	14
Communication/time zone	8
Prior investment in area	6
Availability of financing	3
Other	33

Source: KPMG Peat Marwick (1994).

The importance of air service should not be underestimated. Like many corporate entities, foreign-owned firms rely heavily on air transportation. Access to international airports and the availability of direct international flights are clearly important to travelers conducting business internationally and large airports appear to act as magnets

Table 2. Employment by Nonbank U.S. Affiliates, 1990-1995

	Employment (1000s)		Percent of Private Employment	
Region/State	**1990**	**1995**	**1990**	**1995**
TOTAL	4,734.5	4,928.3	5.0	4.8
New England	280.6	301.1	5.0	5.3
Mideast	930.2	918.6	5.4	5.4
Great Lakes	812.8	824.1	4.9	4.6
Plains	248.4	250.8	3.6	3.3
Southeast	1,153.1	1,283.3	5.4	5.3
Alabama	55.7	60.1	4.1	4.0
Arkansas	29.2	30.9	3.7	3.4
Florida	205.7	209.6	4.4	4.0
Georgia	161.0	180.3	6.4	6.2
Kentucky	65.7	82.4	5.3	5.9
Louisiana	61.4	50.5	4.7	3.5
Mississippi	23.6	22.7	3.1	2.6
North Carolina	181.0	224.9	6.7	7.5
South Carolina	104.7	113.1	8.1	8.1
Tennessee	116.9	138.2	6.2	6.3
Virginia	113.3	141.5	4.8	5.6
West Virginia	34.9	29.1	6.9	5.3
Southwest	417.6	418.3	4.8	4.2
Rocky Mountain	99.9	122.0	3.9	3.8
Far West	761.4	762.5	4.9	4.9
Source: Fahim-Nader and Zeile (1997).				

for foreign firms locating in the state. In addition to the market size and concentration of key industries found in Charlotte, Greensboro and Raleigh-Durham, it is likely that the state's major airports in these areas influence the location of FDI.

While it is impossible to know all the factors that have contributed to FDI growth in North Carolina, it is clear that the state possesses many attributes that foreign investors find attractive. Just how attractive the state is to foreign investment can be revealed by examining patterns and trends in FDI over recent years.

FDI in North Carolina: Patterns and Trends

Foreign direct investment has been an important component of North Carolina's growth. From 1981 to 1993 the value of investments made by foreign-owned firms in the state increased four-fold from $5.5 billion to $21.3 billion. While the state's share of total U.S. FDI has remained fairly constant over time, FDI as a percent of Gross State Product has increased steadily from 8.3 percent in 1981 to 12.6 percent in 1993 (U.S. Bureau of the Census, various years). Table 2 puts these figures in perspective with regard to employment in other regions. Between 1990 and 1995 the number of employees working in U.S. affiliates of foreign-owned firms throughout the U.S. increased by 4 percent to a total of 4.9 million persons. Among all major regions, the Southeast has continued to be the largest host to employment in these firms. Growing by 11 percent in five years, the Southeast's share of U.S. employment in these firms grew from 24 percent to 26 percent. During this period North Carolina experienced particularly strong growth. In 1990, North Carolina ranked second in employment (behind Florida) among Southeastern states with 181,000 jobs in non-bank U.S. affiliates of foreign-owned companies. Growing by 24 percent in the ensuing five years, North Carolina ranked first in employment with 224,900 jobs, increasing its share of the Southeast total from 15.7 percent in 1990 to 17.5 percent by 1995. With 7.5 percent of the state's private sector employment in 1995, North Carolina is second only to South Carolina in its dependency on FDI for job creation in the Southeast and third nationally behind Hawaii.

What kinds of jobs are these? Unfortunately, consistent data to answer this question are not readily available. Table 3, however, provides an indication of the sectoral distribution of this employment for 1992. In many sectors, the distribution of employment in foreign-owned firms resembles the overall distribution in the state, especially in construction, wholesale, retail, and finance, insurance and real estate. The major difference is that fully 60 percent of North Carolina employment in foreign-owned companies appears in manufacturing. In 1992, there were 114,330 manufacturing jobs in U.S. affiliates of foreign companies, accounting for 13.6 percent of all manufacturing employment in the state. While manufacturing firms have long dominated FDI in the U.S., it is interesting to note that FDI is also becoming more diversified. Ten percent of employment in foreign-owned establishments was in services and financial sectors of the economy accounting for over 19,000 jobs in 1992. As the prominence of services and information-based economic activities continues to grow, it is likely that these sectors will account for a growing proportion of FDI in the future.

Of the thirty-five nations represented in North Carolina, nearly 60 percent are from three countries. Table 4 lists the country of origin of firms found in the North Carolina International Firms Directory. The most highly represented countries are Germany (154 firms), the United Kingdom (148 firms) and Japan (139 firms). Canada and Switzerland rank a distant fourth and fifth with 62 and 61 firms, respectively, while France, Italy, Sweden and The Netherlands also have significant presence. These nine countries account for 90 percent of foreign-owned companies in the state and represent some of the most advanced industrialized nations. While penetrating large markets is

Table 3. Industry Distribution of Employment in Foreign-Owned Establishments, 1992

Sector	Foreign-Owned Establishments (Percent)	All Establishments (Percent)
Construction	3.4	5.6
Manufacturing	60.2	31.0
TCPU	0.5	5.8
Wholesale Trade	6.9	6.2
Retail Trade	19.0	21.0
FIRE	3.1	5.1
Services	6.9	25.4

Sources: U.S. Department of Commerce (1997).

Note: TCPU stands for Transportation, Communications and Public Utilities. FIRE stands for Finance, Insurance and Real Estate.

the primary motivation behind FDI, Dicken (1992) notes that the geographic destination of FDI frequently reflects cultural similarities between the host and investing countries. Cultural similarity between source and host nations is not only conducive to community assimilation, but also minimizes differences in management style and labor relations. The location of these firms is highly concentrated in the state's urban areas (Figure 3). Seventy-four percent of these firms are located in the state's largest metropolitan areas, with 45 percent of the total located in the Charlotte region alone. Though it is clear from the map that most counties in the state participate in the global economy by hosting foreign direct investment, the Charlotte, Piedmont Triad, Research Triangle, and Hickory-Morganton areas account for the majority of foreign-owned firms in the state. These metropolitan areas bring together many of the characteristics relevant to foreign-firm location. For example, each of these areas represents a market in itself, as well as providing good access to other regional

Table 4. National Origin of Foreign Firms in North Carolina, 1996

Country	Number of Firms
Germany	154
United Kingdom	148
Japan	139
Canada	62
Switzerland	61
France	41
Italy	35
Sweden	20
The Netherlands	19
All Others	72
TOTAL	751

Source: North Carolina Department of Commerce (1996).
Note: This is not a comprehensive list; some firms requested that they not be included.

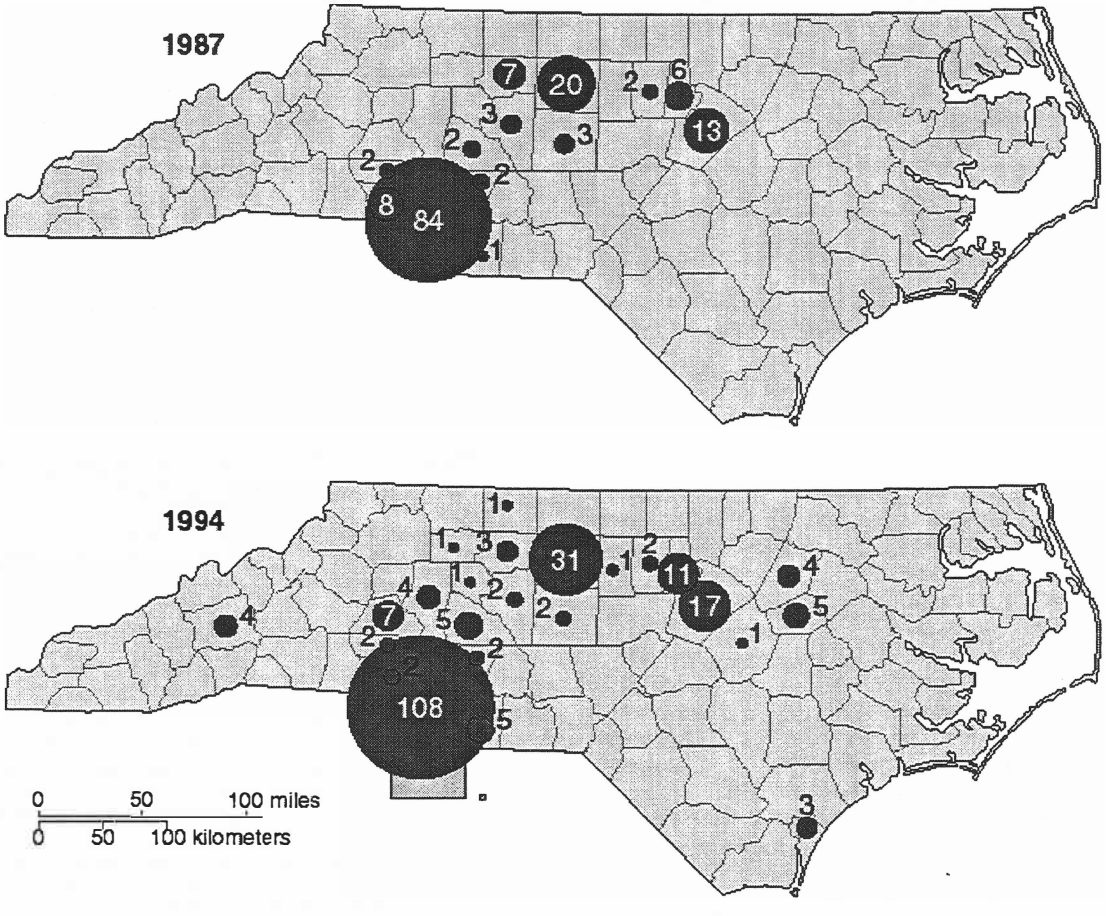


Figure3: Location of Corporate Headquarters of Foreign-Owned Firms.
Source: North Carolina Department of Commerce.

markets. The state's largest airports are found in Greensboro, Raleigh-Durham, and especially Charlotte. Being the state's largest metropolitan areas, they also provide TNCs with the largest, most diversified labor pools in the state and contain many of North Carolina's key industries to which foreign-firms are attracted. Research Triangle Park near Raleigh and Durham, for example, has attracted the largest number of materials testing, research and development, drug and pharmaceuticals companies. The Greensboro area has tended to attract foreign investors in furniture, lumber and wood products, leather and textile products, while the Charlotte metropolitan area accounts for the majority of foreign-owned contract construction, machinery, fabricated metals, engineering and architectural firms (KPMG Peat Marwick, 1994). Thus, a conducive business climate, well-developed infrastructure and diversity of economic, cultural and recreational amenities found in the state's major urban areas appear to drive the location of FDI in North Carolina.

Location of Foreign-Owned Headquarters

Yet another prized possession of states are U.S. headquarters of foreign-owned companies.[1] Although headquarter operations are not always large employers by themselves, they provide state and local jurisdictions with visibility and prestige and enhance the position of jurisdictions as players in the global economy. Marketing programs regularly tout the number and variety of foreign firm headquarters as evidence of a progressive, future-oriented business climate (Furuseth, 1996). Corporate headquarters might also be important to the extent that they attract other forms of FDI, particularly from companies of the same national origin or industrial sector.

North Carolina has witnessed substantial growth in the number of international headquarters based in the state. From the late 1970s to the early 1990s, the number of foreign headquarters in the state grew nearly five-fold. Illustrated in Figure 4, in 1978 there were only 66 headquarters of foreign companies in the state, but by 1994 the number of headquarters had grown to 326, employing over 70,000.

There is a substantial urban bias in the location of these headquarters that can be seen in Figure 5. Taken together, the Charlotte, Piedmont Triad, and Raleigh-Durham metropolitan areas accounted for 78 percent of the state's total. By 1994, the spatial distribution became slightly more concentrated in the state's three largest metropolitan areas, accounting for 82 percent of the 326 foreign-owned headquarters. In both time periods there was a strong tendency for headquarters to locate in the central county of metropolitan areas. For example, in 1987, 43 percent of all foreign headquarters were located in Mecklenburg County alone and by 1994 the counties of Durham, Guilford, Mecklenburg and Wake contained 70 percent of all foreign headquarters in North Carolina (Furuseth, 1996). The major difference between these spatial distributions in 1987 and 1994 was the importance of several smaller metropolitan areas attracting this kind of activity. The Hickory-Morganton, Asheville, Rocky Mount, and Wilmington metropolitan areas all added between three and seven international headquarters. In terms of their nation of origin, headquarter operations in Charlotte tended to be dominated by firms from Germany, Switzerland, Italy, and Japan while British firms tended to locate in the Raleigh-Durham area. Interestingly, though there are relatively few headquarter operations in rural portions of the state, those that do exist are more likely to be of Canadian origin.

Conclusion

The preceding discussion illustrates that foreign direct investment is an important part of the North Carolina economy and attracting FDI is one way by which states and local areas better position themselves to compete in the global economy. As a result of rapid growth in the number of foreign-owned firms, one in every ten private sector, non-farm jobs is now found in a foreign-owned business. In manufacturing, 13.6 percent of all jobs are the direct result of FDI. Germany, the United Kingdom and

[1] Although it is difficult to determine from the data, it appears that foreign-owned headquarters are a subset of the foreign-own firms in Figure 3.

Japan are the most represented nations in North Carolina, but thirty-five countries have some presence in the state. Although urban counties tend to host foreign firms to a greater degree than rural counties, two-thirds of all counties in North Carolina contain at least one foreign-owned firm. The attraction of foreign-owned firms has important implications for economic development, even in counties that do not currently contain such firms.

One important aspect of FDI in North Carolina is that these firms create jobs. The current health of the state's economy is due, in part, to the attraction of outside capital and foreign-owned firms have been an important source of capital flows. This is particularly true for those rural counties that contain these firms. However, it is likely that those counties not hosting FDI also benefit from having foreign firms in the state. The primary way by which these counties might benefit is through interindustry and interregional linkages with foreign firms doing business in North Carolina and elsewhere. These linkages are established as foreign-owned companies purchase prod-uction inputs and supplies from domestic producers, many of which are located outside the firm's county. Input supply linkages with foreign-owned manufacturers can be especially important because the domestic content of their output approaches 87 percent (Zeile, 1998). To the extent that some of these purchases are made from firms located in rural areas of the state, they represent important interregional linkages between foreign-owned and domestic establishments. These observations are supported in an earlier study by ÓhUallcain (1984) who concluded that foreign subsidiaries in the Midwest make important contributions to state economies via their material linkages.

It is clear that participation in global economy is not simply a matter of expanding international trade. Increasingly, trans-national corporations are establishing operations around the globe. The tendency for foreign direct investment to flow to urban areas reflects economies of localization and urbanization available in metropolitan regions as these firms seek access to markets, related industries and specialized infrastructure. Despite the controversy that sometimes surrounds FDI, foreign-owned firms now contribute significantly to economic development in North Carolina.

Acknowledgments

The comments and suggestions of anonymous reviewers helped improve this paper and are gratefully acknowledged. We also thank Laurie Garo and Bo King from the Department of Geography and Earth Sciences at UNC-Charlotte for their assistance with graphics.

References

Arpan, J. (1981) "The Impact of State Incentives on Foreign Investors' Site Selections," *Economic Review*, 66(8): 36-42.

Bagchi-Sen, S. and **Wheeler, J.** (1989) "A Spatial and Temporal Model of Foreign Direct Investment in the United States," *Economic Geography*, 65(2): 113-129.

Bluestone, B. and **Harrison, B** (1982) *The Deindustrialization of America*, New York: Basic Books.

Campbell, H. (forthcoming) "The Economy," in *Atlas of North Carolina*, A. Stuart and D. Orr, (eds.), Chapel Hill, NC: University of North Carolina Press.

Dicken, P. (1992) *Global Shift*, Second Edition, New York: The Guilford Press.

Fahim-Nader, M. and **Zeile, W.** (1997) "Foreign Direct Investment in the United States: New Investment in 1996 and Affiliate Operations in 1995," *Survey of Current Business*, 77(6): 42-69.

Furuseth, O. (1996) "The North Carolina Business Landscape View through Foreign Eyes," in *Snapshots of the Carolinas: Landscapes and Cultures*, G. Gordon Bennett (ed.), Washington, DC: 1996 Association of American Geographers: 159-163.

Kahley, W. (1986) "Comparative Advantage and State Employment Change," Unpublished Manuscript, Atlanta, GA: Federal Reserve Bank of Atlanta.

KPMG Peat Marwick (1987) *1987 Survey of Foreign Based Companies With U.S. Headquarters in North Carolina*, Charlotte, NC: KPMG Peat Marwick.

KPMG Peat Marwick (1994) *North Carolina 1994 Inbound Investment Study*, Charlotte, NC: KPMG Peat Marwick.

ÓhUallcain, B. (1984) "Linkages and Foreign Direct Investment in the United States," *Economic Geography*, 60(3): 233-253.

ÓhUallcain, B. and **Reid, N.** (1992) "Source Country Differences in the Spatial Distribution of Foreign Direct Investment in the United States," *Professional Geographer*, 44(3): 273-285.

North Carolina Department of Commerce (1996) *International Firms Directory*, Raleigh, NC.

Stuart, A. (1996) *Fifty Years of Economic and Demographic Change in North Carolina: From Mill Village to Metropolis*, Department of Geography and Earth Sciences Monograph, Charlotte, NC: University of North Carolina at Charlotte.

U.S. Bureau of the Census (various years) *Statistical Abstract of the United States*, Washington, DC: U.S. Government Printing Office.

U.S. Department of Commerce (1995) *Foreign Direct Investment in the United States*, Washington, DC: U.S. Government Printing Office.

U.S. Department of Commerce (1997) *Foreign Direct Investment in the United States: Establishment Data for 1992*, Washington, DC: U.S. Government Printing Office.

Woodward, D. and **Glickman, N.** (1991) "Regional and Local Determinants of Foreign Firm Location in the United States," in H. Herzog and A. Schlottman (eds.) *Industry Location and Public Policy*, Knoxville, TN: The University of Tennessee Press, 190-217.

Zeile, W. (1998) "The Domestic Orientation of Production and Sales by U.S. Manufacturing Affiliates of Foreign Companies", *Survey of Current Business*, 78(4): 29-50.

Local Planning within a Global Economy

Lee Padrick and Thomas Richter
Division of Community Assistance, North Carolina Department of Commerce

The international trend toward conglomeration has had tremendous effects on local economies. The general store in small towns, prevalent twenty years ago, has given way to the big-box retail store and the strip shopping center. Thediner has been replaced by the fast-food restaurant with a drive-thru window. Even agriculture has gone through a similar restructuring; the small family farm has been replaced with high-end agribusiness. Further, the majority of North Carolina's workers have shifted from agricultural professions to the service industry and current telecommunications allows local service businesses and industries to market themselves globally and compete on a global platform

Working in rural communities provides one with a good understanding of the mobilization of capital. The central business districts of many of North Carolina's towns are decaying or struggling financially, while the strip shopping centers are proliferating on the outer periphery. Political leaders in these communities search for options that promote growth of the local tax bases and sprawling new developments provide local governments with the needed revenues to keep existing services without budget cuts and/or tax hikes. Additionally, the growth of local tax bases allows communities to stabilize or reduce their tax rates, a key component in the fierce competition among communities for business and industry. But how is the global economy affected by our work with small, rural towns' land use plans and zoning ordinances?

The North Carolina Department of Commerce, Division of Community Assistance provides technical assistance to local governments and regional organizations with economic development, revitalization efforts, and growth management. Additionally, a significant amount of the workload is devoted to developing regulations as tools to implement planning initiatives and working within the parameters of existing federal, state, and local restrictions to promote sustainable economic development within the State. Traditionally, the most frequently used tool at the local level is the ubiquitous zoning ordinance.

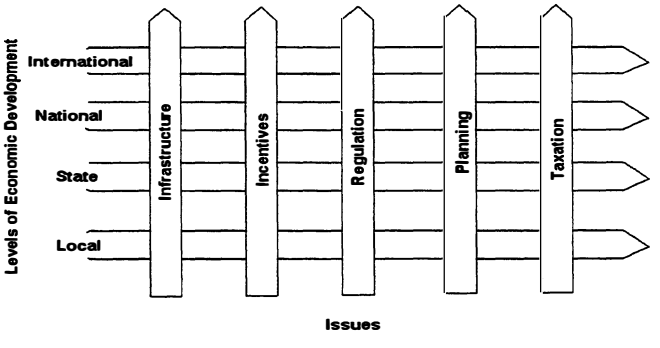
Land use planning, in the form of zoning, subdivision regulations, watershed protection, or floodplain ordinances, has a tremendous impact on economic development, land use practices, and public expenditures. Such regulations are a two-edge sword, however, that brings advantages and disadvantages. Without such controls in place, the free market would possess unlimited discretion over the development of land within a community. An absence of controls would permit 10,000 investments in land and development to be made by 10,000 individuals, guided solely by profit-maximizing (least initial cost) motives, with no policies in place to guide this development. The impact such a policy would have on community utilities, services, and property values would reverberate up the hierarchy of governmental levels and potentially have chaotic or catastrophic consequences. The costs of public services would skyrocket while the revenues generated through property taxes would diminish, thereby making local governments financially vulnerable. All communities have and enforce land use regulations that affect site improvement costs. Unfortunately, regulations also impact and increase production costs. That being said, the community with the least amount of local regulation in theory possesses an advantage over other communities competing for new business and industry.

The task of developing local level decisions in response to global economic changes immediately brings to mind the work of former Governor and United States Senator Terry Sanford. Senator Sanford, in

Storm Over The States (1967), used the "picket fence" metaphor to explain intergovernmental relations between levels of bureaucracy. This approach can be applied to the relationship between the local and the global economic structures (see the accompanying figure). At the local level, various actors work to promote economic development and provide services to citizens. Infrastructure, such as roads and utilities, is primarily a local function. Cities and counties spend a significant portion of their annual budgets on the extension or maintenance of infrastructure needs and the placement of roads or utilities can play a major role in the location decisions of business and industry. Additionally, local governments routinely provide business and industry with incentives, in the form of tax deferral or land, to locate within their jurisdiction. Local regulations can also greatly affect location decisions; if the community exercises zoning, the property must be zoned to allow a particular business or industry as a permissible use. Communities must set aside areas within their jurisdiction for residential use to support the workers of the businesses and industries they are attempting to lure to the area. These residential areas must be situated so that they are a significant distance from the areas zoned for commercial and industrial uses to allow residential properties to appreciate in value without suffering the negative externalities of the commercial and industrial developments. Local governments must plan for future roads, utility extensions, and growth patterns to accommodate the potential new business and industry. Finally, taxation at this level, in the form of personal and real property taxes, funds most city and county services. Achieving a balance between good services and a "reasonable" tax rate (one that may encourage or discourage capital investment) is the difficult task of local elected officials.

The state plays a somewhat different role than the local level. The state provides the cities and counties with monies to extend and upgrade local roads and utilities, while funding projects of their own, such as transportation needs and regional economic development projects. Incentives offered by the state to business and industry take the form of funds extended to the local governments to attract economic development and stimulate community growth. The state, with local government participation, invests in major facilities such as the GlobalTransPark, port improvements, free trade zones, and the placement of interstate-quality roads, has much to do with economic viability of local business investment. For the investor considering the choice between Silicon Valley or Research Triangle Park, the answer can be found at the bottom line. Cisco Systems has decided that North Carolina makes more sense than California. Mountain Air said "yes" to the Global TransPark in Kinston. The state also assumes the role of the regulator and

Relationship Between the Local and Global Levels of Economic Development



enforcer of state policy and further gives the local governments the enabling powers necessary to regulate at the local level. Planning at the state level attempts to assist the future budgeting of big-ticket items, such as highways. Taxation, in the form of income taxes and sales taxes, along with various user fees/licenses associated with state programs, provide the majority of funds necessary to finance state activities.

At the national or federal level, the government subsidizes infrastructure needs through the allocation of federal monies to the state levels for the improvement of infrastructure. Incentives are provided for economic development and trade at the national level by the use of taxing and financial arrangements and through the allotment of various grant programs, in addition to interstate agreements. The federal government further regulates land use and economic activity by the numerous federal agencies enforcing various federal statutes. Planning at the national level is currently conducted mainly by bureaucratic agencies; a national planning agency was abolished in the 1940s. Finally, taxation at the national tier manifests itself in the form of federal income taxes. This approach is geographically indiscriminate with our borders, but is becoming critical in our globalizing economy.

The international level of the "picket fence" and its interaction with the five "fenceposts" results largely from a synergy of lower level actions and reactions. International infrastructure, incentives, regulation, planning and taxation are all components of trade agreements, treaties, and tariffs. The interconnectiveness of the hierarchical tiers is necessary for the growth, advancement, and progress of national and global markets. Moreover, the "fenceposts" represent issues that must be considered at all levels and at the appropriate scale.

In retrospect, local government planning does indeed respond to and have a significant effect on the global economy. The policies advocated by local officials in decision-making roles will influence locational and marketing decisions made by international conglomerations and, in doing so, will have effects on global markets. Local land use decisions impact many sectors of the global economy, such as real estate, utilities, and manufacturing. Moreover, current intensive development standards require ever-increasing distances between incompatible land uses in an increasingly crowded world. In North Carolina, development standards, in accordance with the bulk of state enabling legislation, is a local government responsibility. Tip O'Neill, former Speaker of the House of Representatives, once said, "All politics is local." Cannot the same be said of economic development?

The Global TransPark: A Progress Report

Kelly Stuart
Information and Communication Specialist, GlobalTransPark Authority

In November 1990, John D. Kasarda, Ph.D., director of the Kenan Institute of Private Enterprise at the University of North Carolina at Chapel Hill, presented the conceptual outline for a new type of infrastructure: a "Global Air Cargo-Industrial Complex for the State of North Carolina." This concept has developed into a very unique project. The North Carolina Global TransPark is more than an airport – it is a unique industrial and transportation complex.

By the turn of the century, the Global TransPark will be fully operational, with its initial core capabilities in place and industrial development under way. As it grows, cargo from factories and farms across North Carolina and the entire East Coast will be transported through the GTP, destined for countries in the Global TransPark Network and beyond. Components and parts from around the world will arrive at the GTP to be assembled and processed into finished goods. The GTP has been acknowledged as a national and international leader in this type of innovative infrastructure development.

The North Carolina Global TransPark is a transportation and industrial complex designed to meet the present and emerging needs of domestic and international commerce. Companies are adapting to just-in-time manufacturing and distribution practices to meet customer demand. Air cargo shipments are growing at a rate of five times faster than air passenger service, and reliable surface transportation services are being called upon to meet the demands of business. Initiatives such as the Global TransPark are helping businesses reduce inventory costs and shorten delivery times. The GTP will create and preserve jobs by allowing North Carolina and the United States to be stronger competitors in the global marketplace. As the project develops, it will provide benefits to companies across the state and in the Southeast U.S., as well as to on-site tenants.

Project Achievements

Environmental Matters

Since it was initiated as a state project in 1991, the North Carolina Global TransPark has been working to complete a series of environmental and planning requirements that had to be accomplished before construction could begin. With the conclusion of the federal Environmental Impact Statement September 17, 1997 and the July 1998 announcement that the U.S. Department of Transportation will provide $17.5 million to pay a 50% share of the building costs for key runway and airfield improvements, the GTP is on the doorstep of construction. Only the U.S. Army Corps of Engineers' approval of a 404-permit remains to be accomplished.

Runway Improvements

The Global TransPark is already responsible for a much-improved airport capable of increased passenger and cargo service. The U.S. Department of Defense funded strengthening and lengthening of the runway, bringing it to its current status of 8,600 feet. The longer runway and safety improvements enable the Department of Defense to keep KC-135 crews closer to their base stations during training exercises. The resulting higher quality landing surface and a greater load-bearing capacity benefit all airport users. A number of carriers are expressing an interest in using the airport for cargo service and are awaiting the outcome of the EIS. The improved runway is now a viable base of operations for loaded DC-8 class cargo aircraft.

Education and Training Center

Construction is underway on the new $6.3 million Education and Training Center on-site at the GTP with completion expected by early 1999. With instructional assistance from the State Community College System and the University of North Carolina, as well as private universities, the ETC will offer a full range of high-level business training in areas ranging from just-in-time logistics

practices to conventional worker skills training. Technology transfer programs will also be developed at the Center in conjunction with national laboratories and institutes. The 30,363 square foot Center will include classrooms, an auditorium, administrative offices, an innovative multi-use high-ceilinged laboratory and demonstration modules. These modules can be fitted with any type of equipment or process on which employees can then be trained. Applications for modules include materials handling, industrial robotics, computer integrated manufacturing, and other types of industrial automation.

Through a cooperative arrangement with the 11 community colleges in the Global TransPark Region, the center will work with companies to develop training programs for workers in a wide range of high-skill jobs. When opened, it will provide an invaluable asset to GTP tenants and will meet training needs throughout the region. In addition, it will be made available to the University of North Carolina systems for management education programs. The Center will utilize the latest technologies for telecommunications and data processing, distance learning and advanced logistics practices. The Center is scheduled to host its first major event when a large equipment exhibition comes to Kinston in October 1999.

Foreign Trade Zone Designation

In May, 1996, U.S. Secretary of Commerce Mickey Kantor reviewed the application from the Global TransPark Authority and awarded Foreign Trade Zone 214 to the GTP. Designation as a Foreign Trade Zone helps create and preserve U.S. jobs. It allows companies within the Global TransPark to defer, reduce or eliminate payment of some tariffs and duties. It also provides incentives for companies to maintain production facilities in the United States. Companies that are not located within the perimeter of the GTP are eligible to apply for subzone status, giving them the same trade advantages. In announcing the Foreign Trade Zone designation, Kantor said, "The Global TransPark is built on a foundation of public-private partnerships, one of the cornerstones of President Clinton's economic vision to create high-paying jobs for Americans. The TransPark is the future of international trade. It will help generate economic activity in North Carolina and all along the Eastern Seaboard by increasing exports and helping to attract direct investment in the state's economy."

Mountain Air Cargo

Late in the summer of 1996, the Global TransPark's first tenant, Mountain Air Cargo/Mountain Aircraft Services occupied its new 66,000 square foot maintenance facility at the GTP and consolidated its repairs and parts distribution activities. One of the nation's largest small cargo carriers, Mountain Air Cargo operates cargo aircraft for Federal Express. Mountain Air Cargo currently employs 100 people and expects to expand the number of employees to 300 at its facility at the GTP.

Global TransPark Network/Customs Improvement Project

In the FY1998 Treasury Department Appropriations Act, the U.S. Congress provided $500,000 to support the Global TransPark Network/Customs Improvement Project. This project, which will be managed and coordinated by the Foundation for Transportation, Trade and Commerce at the University of North Carolina at Chapel Hill, is designed to improve customs processes between the United States and Thailand and the Philippines. Working relationships with international projects will provide North Carolina manufacturers, farmers and agribusinesses unprecented access to world markets. North Carolina has a positive balance of trade, exporting more than it imports. The network of the Global TransPark with other facilities willmake it possible to further expand exports.

The Future of the GTP

When completed, the project will have two long-range parallel runways, a state-of-the art central cargo processing area, a highway-to-rail intermodal terminal, a dedicted system for transporting cargo throughout the GTP, a high-speed road network, and upgraded connections to regional road and rail systems. The GTP will support its tenants and users with

comprehensive electronic commerce capabilities, including enhanced electronic data interchange technology linking different means of transportation, and advanced telecommunications. Expedited customs precedures will be utilized to facilitate import and export activities.

Wetlands Mitigation

The North Carolina Global TransPark will eventually encompass 15,300 acres of land in eastern North Carolina. With as many as 871-acres of wetlands potentially being affected by development within the 5,775-acres that will serve as the core of the GTP, a detailed mitigation plan has been prepared. This plan, which will restore, enhance, and preserve wetlands, including a conservation strategy designed to protect remaining natural resources, is a model for environmental protection. Most wetlands at the GTP have been degraded by previous and present land use practices: clear-cutting, removal of trees and shrubs along stream channels, dumping of abandoned cars and old fuel tanks, stream dredging, waste dumping, sedimentation and ditching. The existing conditions severely affect the ability of these wetlands to function.

The Global TransPark Authority will begin making environmental improvements under its mitigation plan once it has received the 404-permit to be issued by the U.S. Army Corps of Engineers. The 404-permit will allow the GTP to fill certain specific wetland areas, including those needed to complete the extension of the runway. The improved airfield will give the Global TransPark the international air cargo lift that is a key to the multimodal nature of the project. That global cargo capability will allow the project to make full use of some of the elements that have already taken shape such as the Foreign Trade Zone and the Education and Training Center.

Tenant Recruitment

The GTP Authority's Marketing has continued to supply information to companies that are expressing interest in the Global TransPark. A number of site visits have been made recently by companies selecting locations for a variety of requirements, and the GTP continues to be under construction.

This year's competition for the new FedEx Mid-Atlantic Hub is producing a number of benefits to the GTP recruiting. Making the FedEx finalist list has drawn recognition from other companies and is opening the door for future opportunities. FedEx singled out the GTP for praise, although it did not meet their geographic and infrastructure requirements at this point. A FedEx official said the GTP will "merge air, rail, road and sea transportation capabilities into an ideal logistical setup for industrial and distribution tenants." He added that, "the GTP will distinguish the region as a hub for international trade and business."

Coming out of the FedEx site-selection process, it is more obvious than ever that infrastructural improvements hold the key to the GTP's success. Extending the existing runway to 10,600 feet and improving immediate road access by rapidly completing the Crescent Road Connector project are top priorities. Upgrades to regional highway access called for by the state Transportation Improvement Program, some of which are already underway, will greatly benefit the GTP project.

Postscript

On July 29, 1998, Rodney Slater, the U.S. Secretary of Transportation announced that the Federal Aviation Administration would provide $17.5 million to help extend the existing runway at the North Carolina Global TransPark from 8,600 feet to 10,600 feet. This extension is a key to the vision of the project, allowing large cargo aircraft to land on and take off from the runways.

Small-Scale Neotraditionalism in Cary, North Carolina: A Case Study of Carpenter Village

Mary Beth Morde
Community Development Department, City of Raleigh

Many newly-constructed neighborhoods claim to have "old timely charm," a "unique sense of ambiance," a "sense of community," or a "neighborly feel." These terms are often used to describe a planning movement that continues to gain momentum in cities and municipalities across the country. Neotraditional, as these neighborhoods are often labeled, can however, be a vague and confusing notion, because it is an oxymoron. How can something be new and old simultaneously? To lend clarity to the neotraditional planning concept, this paper examines the emergence of the movement in the planning literature, the objectives, design features, and critiques, of the movement, and provides a case study of aneotraditional neighborhood in Cary, North Carolina.

The contemporary neighborhood planning model that has dominated the American urban landscape for most of the twentieth century is currently undergoing dramatic change. In the 1930s, decentralization, facilitated by the rapid increase in private vehicle ownership, was believed to be the cure for overcrowded inner city conditions. This premise was reflected in the design of neighborhoods and suburbs characterized by large and spacious lots, wide streets, and houses set far apart. While critiques, such as Jane Jacobs' *The Death and Life of Great American Cities*, (1961) occasionally emerged, the "modern" neighborhood planning paradigm continued to be embodied in the built form throughout the succeeding decades. With the onset of the 1990s, though, the level of dissatisfaction with suburbs grew and became more clearly articulated by residents, planners and academics. Residents of modern suburbs, for example, complained of the economic, environmental, and psychological/social problems resulting from the organization, layout, zoning, costs, and consequences of modern neighborhood planning. The May 15, 1995 cover of *Newsweek* titled, "Bye-Bye Suburban Dream," said it all. Suburban dissatisfaction was at the forefront of American planning and politics (see Table 1). As the 20th century closes, many cities and towns are turning to a "new" residential ideal, namely neotraditionalism. Looking to the past for inspiration, planners have incorporated elements of "small town" America in order to offset what is perceived to be a lack of "community" (Audirac and Shermyan, 1994, Ewing, 1997, Gersh, 1996, Katz, 1997, Southworth, 1997).

Before undertaking an assessment of the objectives and claims of one such neotraditional neighborhood in Cary, North Carolina, I briefly consider the emergence of this movement within the planning literature, as well as several in-depth case studies undertaken by geographers of similar building projects within the US.

The Emergence of Neotraditional Planning

As planners, politicians, and developers struggled to understand the problems of the suburbs, attention focused on their predecessor, the American small town. It seemed to many that such places did not have the social, economic, physical, or identity problems of the suburbs; small town residents seemed happy.

This happiness was believed to be, at least partially, a function of the built environment (Arendt, 1994). As research on these residential ideals continued, distinguishing physical and social features were identified -- small towns seemed to successfully combine mixed housing sizes and styles, residents of various ages and races, and a sense of place and purpose (see Table 2).

Greenbie (1981) conducted some of the first research into the social repercussions of different planning styles, attempting first of all to discern the physical differences

between a modern suburban neighborhood and a small town neighborhood. In studying the streetscapes of numerous small towns, he concluded that the "feel" of a small town pivots on the width of the street corridor, the distances between homes, and the sidewalk setback. When compared to typical subdivisions,[1] the differences are obvious. Modern subdivisions provide building forms that are out of scale with the more historical areas of cities and towns. Over the years Greenbie's idealization of the small town environment has gained popularity, as more and more development firms and planning departments incorporate diverse elements of the American small town into their housing projects.

While neotraditionalism as a planning ideal is an easy concept to understand, neotraditionalism as a particular planning style is difficult to pin down because there is no single accepted definition of what it is or should be (see Table 3, however, for a comprehensive summary of the contrasting elements that characterize "modern" and "neotraditional" subdivisions). There are regional variations in concept, as well as variation in the actual implementation of this planning style.

Nationwide, neotraditionalism is often referred to as New Urbanism. In the Southeast, Traditional Neighborhood Develop-ments (TNDs) are also known as a Neo-Traditional Developments (NTDs), while the Pedestrian Pocket (PPs) of the west coast is also known as Pedestrian-Oriented Developments (PODs). In the Northeast of the country the Urban Village development concept is popular. These regional name differences hide subtle variations in the design concepts themselves. Neo-traditional development schemes emulate historical architectural form, and rely on preexisting roads and infrastructure. The Pedestrian Pockets typically emphasize mass transit or light rail, as well as "walkability", while Urban Villages focus on thereconstruction of existing towns. There are, however, three major hallmarks to neotraditional developments (hereafter referred to as NTDs): 1) controlled traffic patterns; 2) integration of land use; and 3) allusion to the history and tradition of the site.

Table 1. Elements of Suburban Dissatisfaction

Uniform housing styles and types
Massive size and scale of contemporary subdivisions
Large lot size
Extremely wide streets
Cul-de-sacs
Few walking opportunities
Different yet adjacent neighborhoods do not connect literally (via sidewalks), nor figuratively (in regard to scale of buildings).
Lack of sidewalks and porches
Lack of trees and greenery
Unfocussed open space
Traffic
Sprawl

Table 2. Distinguishing Characteristics of the "Small Town."

Compact, tight form
Medium density
Downtown districts have mixed uses, gathering places, public places, and parks
Residential neighborhoods are close to town centers, sometimes abutting commercial premises
Civic spaces are open and accessible
Pedestrian-friendly and automobile accessible
Streets scaled for everyday usage

Source: Arendt (1994)

[1] The term subdivision in this paper refers to large-scale neighborhoods and not merely to the process or result of legally dividing land.

Table 3. Contrasting Style Elements of Modern and Neotraditional Subdivisions.

Modern Subdivisions	Neotraditional Subdivisions
Streets: One travel lane, at least twenty feet in width.	Streets: Two travel lanes, each ten feet wide and separated by a grass median.
Lots: Trees often clear-cut to lend convenience to the developer/builder.	Lots: Trees preserved at all reasonable costs.
Street trees: Usually none.	Street trees: Row of deciduous trees between street and sidewalk, separating pedestrians from cars.
Parking: Rarely on street.	Parking: Recommended on street.
House setback: Large, typically ranging from 50-100 feet.	House setback: Modest, no greater than 20 feet
Sidewalks: Sometimes installed by developer; when sidewalks are built they are placed far from the houses, sometimes 100 feet from the front door.	Sidewalks: Integral to neotraditional neighborhoods. Sidewalks are close to the houses, usually 20-25 feet from the front porch.
Subdivision Design/Layout: Houses are built facing the same direction and on lots of similar size.	Subdivision Design/Layout: A large variety of lot sizes and configurations.
Garage Placement: Oftentimes on the front of new houses; on the sides or front of early modern (1960s) subdivisions.	Garage Placement: Only on the rear of the house.
Distance Housefront to Housefront: Large distances; many codes require a 180 feet separation or more.	Distance Housefront to Housefront: modest distances; an average of 100 feet (which includes front yards and street).
Presence of Alleys: Unused in modern subdivisions.	Presence of Alleys: necessary because of the shallow setbacks. They are maintained by the homeowners association, and serve many functions: easements, locales for garages, routes for trash collection and postal service.
Subdivision Housing Styles: Houses inmany subdivisions have similar size and design. They are generally priced close to one another, which effectively forces economic segregation.	Subdivision Housing Styles: Houses in subdivisions are very different from one another in terms of size and design. This gives flexibility inprices that allows for a variety of residents, thereby reducing economic segregation.

First, a significant element of allNTDs is controlled traffic planning. NTDs are designed to address problems associated with the automobile (see Table 4). In fact, neo-traditional principles of traffic engineering tend to be polar opposites from those applied to conventional subdivision developments (Slayter and Morris, 1990). By encouraging compact development on a grid system neotraditional developments require shorter driving distances and fewer automobile trips.

Second, NTDs integrate mixed land uses, allowing residents to walk to the corner store, rather than drive several miles to a strip shopping center. Such a planning strategy runs counter to prevailing opinion, and forces developers to plan incrementally in whole multi-use sections, rather than a series of single-use phases. Also, mixed land uses and

the construction of walking trails allow for the reduction of traffic congestion.

Third, NTDS are deliberately constructed around a particular version of the history of the site, as well as distinctly "traditional" architectural styles. NTDs borrow housing styles enshrined with historical meaning and symbolism, such as Charleston houses, popularly recognized for their place in Civil War history. More importantly, many NTDs use personal histories, such as the heritage of former land owners, as a means of giving identity to a development. The developers of Rancho Santa Maragarita, in California, fore example, made much of the supposed history of site's Spanish "founding father," despite the fact that he was merely one of many landowners (Till, 1993). Case studies in the geographic literature tend to examine resort NTD communities such as Celebration, Florida; Seaside, Florida; Kentlands, Maryland; or Laguna Beach, California, and uncover similar representations deployed in the construction of NTDs (Falconer Al-Hindi and Staddon, 1997, Slayter and Morris, 1990, Southworth, 1997). There appear to be few articles in the literature that examine non-resort communities, however, and it is these that are becoming a burgeoning trend in the US.

Table 4. Traffic Planning Principles of Neotraditional Communities.

Grid pattern for streets, resulting in multiple available routes from one point to another within the development.
Reduced street widths to accommodate only two 10-foot traffic lanes, with adjacent 8 foot parking aisles on both sides, and no additional right-of-way to widen the streets later.
Reduced or nonexistent hierarchy of streets.
Reduced clearance between the street and objects on the sidewalk, such as benches, trees etc.
Few if any cul-de-sac street designs.
On-street parking to buffer pedestrians and to enclose and help define the streetscape.
Traffic signal cycles of no more than 60 seconds and only the two-phase type.
Reduced curb radii to 10 feet or less to lower speed of turning cars and to reduce the amount of time necessary for pedestrians to cross the street.

Source: Slayter and Morris (1990)

Neotraditional Planning in Cary, North Carolina: Carpenter Village

In the eastern US, and particularly in North Carolina, neotraditional planning has appeared in a number of areas, particularly in the Triangle region. The three types of NTDs present are: 1) the full-blown, authentic neotraditional development, in which land is developed with a town center, mixed land uses, prescribed traffic controls, and its own zip code, such as a small village or town; 2) a moderate adaptation of NTD concepts, such as small lots, narrow streets, and the like, but without the mixed land uses, town center, and other features of NTDs; and 3) an adaptation of the NTD concept, complete with mixed land uses, but locating the development within an existing town, as with small-scale neighborhoods and subdivisions. Carpenter Village is an example of the third type. It is an authentic NTD on a small scale, rather than a full-blown town or subdivision with only one or two NTD elements. Carpenter Village is located in the Town of Cary, a suburb of Raleigh, which is in the western portion of Wake County in North Carolina and is located just off Highway 55, outside the Research Triangle Park. It is comprised of 369 acres, half of which are residential.

The development is named for the rural community village of Carpenter, which was located just outside White Oak and Cedar Fork Townships at the turn of the century. Carpenter was settled in 1790 and was officially established in 1865. It was named for William Carpenter, one of the first men to live in the area. Carpenter was known locally for its tobacco production, which flourished at the turn of the century. Tobacco was bought and sold in nearby Apex, which had a tobacco market that served the surrounding communities. The resulting prosperity created by tobacco production enabled Carpenter to establish a post office at the turn of the century. Eventually the community declined, and the Carpenter post office was discontinued in

1933; the mail was forwarded to the Morrisville post office. Today, one of the few original buildings in Carpenter, the old Carpenter Farm Supply and Mill, is still standing (see Figure 1[2]). The former quiet and peaceful community is now completely engulfed by the Town of Cary; but the memory of Carpenter officially lives on, however, in the carefully planned NTD of Carpenter Village.

Carpenter Village was developed in 1997 under the Town of Cary's Planned United Development Ordinance (PUD). As with other NTDs, Carpenter Village has a master plan that sets forth the design of the neighborhood, style and placement of houses, street design, and dictates mixed land uses. The development is set in phases; phase one is almost complete, and phase 19 (the final phase) is scheduled for completion in 2004. Eventually the development will be home to approximately 900 families.

There are three housing types available in Carpenter Village: Townhouses, Charleston homes, and Neighborhood Homes. The sales information describes "homestyles for your lifestyle," and goes on to say, "you can be assured that your home has been carefully selected to contribute to the village atmosphere." Townhouse prices begin in the $130,000s and feature one car oversized garages, walk-up attics, one two or three bedrooms, and custom features. Charleston Homes begin in the $180,000s and feature authentic Charleston floorplans, piazzas/verandahs, front porches, fenced-in courtyards, and alleyways with two-car rear-entry garages. According to sales information, the rear-entry house styles in Carpenter Village were designed for a specific purpose: "rear entry homes will enable garages to be moved from the front-yard prominence to the rear of the house, or may even be detached in the backyard. The message: you, not your car, are in charge here." Neighborhood Homes feature two-story custom built homes, traditional exteriors with front porches, innovative interior designs, and two-car garages with a choice of either rear or side-entry garages. The sales information describes, "front-porch friendly homes and yards," which feature, "home and landscape design [that] encourages a shift...from the seclusion of big back yards to neighbor-friendly front porches and tree-lined sidewalks. If you are seeking privacy, landscaped courtyards provide a peaceful retreat." Each house in Carpenter Village has a large front porch and several styles have wrap-around porches (see Figures 2-5).

Streets in Carpenter Village are consistent with those described by Audirac and Sheryman (1994). They are narrow and have very narrow turning radii. The sales materials describe, "streets that take you somewhere." Sidewalks line both sides of the street. There is one cul-de-sac in Carpenter Village, and according to the sales staff, it was necessary in order to preserve the sensitive nature reserve behind the street (Schabot, May 1998). The planned center of the development, referred to as the "village core," will house several shops, but these will be limited to small eateries (coffee and bagels), professional offices (accountants, physicians, etc.), and a corner convenience store. According to the sales materials, the stores will allow residents to shop, "in a relaxed and intimate setting." Members of the sales staff said the corner store will be a locally-owned place for residents," to stop in and grab milk or bread, but will not be the place where a weeks' worth of shopping can be accomplished" (Schabot, May 1998).

From the moment one walks in the sales office, it is apparent that history and tradition are paramount in the Carpenter Village experience. On the walls hang aged black and white photographs of the Ferrell Family, the original tobacco-growing land owners, most of whom grew up in Carpenter. Also on the walls are hand-held farming devices, relics of the farming heritage of the village; old metal Coca-Cola signs; and other symbols of the former southern-agrarian lifestyle. Carpenter Village sales staff gladly tell the Ferrell family history, and of how Mamie Ferrell dropped by the office just last week on her way to sell homemade apple pies for charity (Schabot, May 1998). Regional history and tradition are beautifully captured in the sales brochure, *Carpenter Village...An Album of*

[2] All of the photos used in this paper were taken by the author.

Figure 1. Old Carpenter Farm Supply and Mill.

Figure 2. Neighborhood Homes in Carpenter Village.

Figure 3. House Frontage on Sidewalks.

Figure 4. Charleston Style Home.

Figure 5. Townhouses in Carpenter Village

Figure 6. Back lots with Rear Garages

an Era. The cover page of this eight page document shows the original Carpenter community store, as well as a Ferrell Family portrait circa 1940. Displayed in the office are brochures, sales sheets, and internet pages. The adopted theme for Carpenter Village is, "It's a place with a past, it's a place for the future.". The sales brochures and booklets proclaim a higher quality of life for residents of Carpenter Village by virtue of the place's history and present location. According to *Album of an Era*, "Carpenter Village brings alive the simple lifestyle of an earlier day...the front porch friendliness of a bygone era is embraced at Carpenter Village, where there is a true sense of community in knowing your neighbors once again." Color photographs, alongside the old black and white ones, depict children swinging in a tire from a tree, and fishing together in a timeless symbol of simplicity. The brochure claims Carpenter Village has, "home styles for every preference, lifestyles to fulfill every desire, and conveniences you've only dreamed of." It goes on to suggest that the village of Carpenter has, "maintained its small-town charm of yesteryear," then links the present to the past: "the world technology leaders are just minutes away in Research Triangle Park ... Carpenter is still a peaceful, serene community embracing the future." The community map depicts Carpenter Village in relation to shopping, places of employment, and cultural and public facilities. It does not, however, show a scale, perhaps for a reason: it is not close, or within walking distance to, any facility on the map. Carpenter Village might offer a peaceful retreat from the hectic pace of modern life, but the neighborhood is suspiciously close to suburban sprawl, it has no transportation system, and limited shopping.

Despite the well-groomed descriptions glorifying Carpenter Village's country-goodness, there are subtle contradictions which warrant further examination. As mentioned earlier, the use of tradition or history in a development is a distinguishing feature of neotraditionalism. But Till (1993) reveals that in many NTDs the use of traditions are recent in origin and are often invented. For example, the brochure says "the historical community of Carpenter welcomes a neighborhood that embraces the past with eyes toward the future." Yet the original Carpenter community no longer exists, which begs the question, just where is Carpenter Village? The land is in Cary and pays Cary taxes, is named for Carpenter and the brochures tell of Carpenter's history, while the office letterhead lists a Morrisville address. Furthermore, promotional materials describe the Ferrell family at length, implying they are deeply important to the history of the site. And yet the Wake County *Heritage Book* (Belvin and Riggs, 1983) lists no Ferrells in the western portion of Wake County.

Another troubling issue is that of accessibility. Carpenter Village, in radio advertisements heard locally on five stations, claims to represent the American dream of an integrated and harmonious community at an affordable price. Furthermore, documents filed with the Cary City Council state "a wide range of housing types and price points will encourage a diversity of residents" *(Carpenter Village Master Plan Documents*, Sheet 2). Yet, according to HUD 1998 Income figures, the Median Family Income (MFI) for the Raleigh SMSA is $54,700 (estimate based on a family of four). Using HUD housing standards, a family of four should be able to afford a single-family home for $136,000. In Carpenter Village, that would buy a low-end townhouse, and certainly not a single-family home. The actual cost of a single-family home in Carpenter Village raises a corollary issue. Sales information sheets claim the single-family home prices start at (a mere) $180,000, but in reality, prices are much higher. According to the June inventory, the average price of a Neighborhood Home is $232,944, and the average price of a Charleston Home is $221,300. Prices for Neighborhood Homes (in the June listing) range from $223,000-$248,000, and the two Charleston Homes available were $207,600 and $235,000 respectively. Common to neotraditional communities is the high price and exclusive location, which, according to critics, results in economic discrimination, and, indirectly, a form of racial segregation

(Falconer Al-Hindi and Staddon, 1997). Economic discrimination is apparent in the layout of Carpenter Village. According to the site map, the common open space, which includes the 22 acre Carpenter Village Lake, is completely surrounded by one housing style, the most expensive style offered, the exclusive Neighborhood Homes, (available from the $190,000s). While along the village core, (arguably a less desirable location than that of the village pond), Townhouses, the least expensive style offered, are the dominant housing style, though an occasional Charleston House adds variety at dispersed intervals. Brochures for Carpenter Village show children of many races playing together, yet arguably few minorities in Wake County could afford to enjoy the site, and no minorities were visible to the author during several site visits.

The information sheets about Carpenter Village make further subtle claims that require closer examination. The sheets seem to imply that the community can cure the social ills present in modern subdivisions. For example, the information sheet entitled *Neotraditional... the new/old lifestyle*, describes the recreation space as one that, "encourages you to get to know your neighbors." If single, introverted, or nonathletic persons were interested in living in Carpenter Village they might find living there uncomfortable. The brochure begrudging allows introverts their solitude: "if you are seeking privacy, landscaped courtyards provide a peaceful retreat." Critics of NTDs claim the scheme seems concerned with not only physical layout, but with how people should behave and interact (Bookout, 15), and this is arguably true in Carpenter Village.

In Falconer Al-Hindi and Staddon's article on Seaside, Florida, the authors claim there are, "inchoate cultural conceptions about the appropriate relations between different built elements and social practice" (1997, p. 358). NTDs place relatively large houses on relatively small lots, which forces recreational activities (of the previously domestic sphere) into public areas, where, NTD proponents believe they should be. This appears to be the case in Carpenter Village as well. Lot sizes (for the single family homes) range from .10 acre to .20 acre, yet the house sizes range from 1,900 - 2,800 square feet -- huge houses on a tiny lots (see Figure 6). Interestingly, the lot sizes are conspicuously missing from the information sheets. The small lots that, "encourage you to get to know your neighbors," are actually the only type of lots available. The seemingly altruistic lot design that, "encourages a shift in social life from the seclusion of big back yards to neighbor-friendly front porches," is not without benefit to the developer. Utilizing small lots allows for higher density, which ultimately creates more houses per acre. This equates to higher profit potential when compared to the modern subdivision standard of one house per half acre.

Perhaps most bothersome to critics of NTDs is the privatization of supposed "public spaces" within these sites. Streets are important amenities in all of these developments and can be strolled at leisure. And yet, as Falconer Al-Hindi and Staddon (1997) argue, the casual participant strolling those streets will find himself or herself under constant and subtle forms of surveillance. I certainly found this to be the case at Carpenter Village; on visiting the site on several occasions I found residents peering through the windows, watching me walk on the sidewalk, almost as if they knew I was an "outsider." Like other neotraditional communities, Carpenter Village has focused open space, which is a nice (and rare) amenity in modern neighborhoods. As mentioned earlier the 22 acre "lake" on the property (which is arguably not a lake, but a pond) is in the rear of the development, completely surrounded by houses, which implies that the pond is designated for residents, and is not, as one might believe, "public" space.

Decisions concerning land use at the site are divided between the local government, which is arguably a "public" space, and the Ferrell devlopment Corporation, a "private" sphere of activity. Carpenter Village is located in the Town of Cary's jurisdiction, which forces land use issues to be brought before public hearings. The Town of Cary has recently experienced growing pains as the town's population more than doubled from 34,000 in 1985 to just under 90,000 in 1997. Growth management was a major

issue during the last City Council election in Cary and as recently asJune, 1998, the Town was requiring developers to pay extra taxes for burdening the infrastructure system and contributing to school overcrowding. Furthermore, in North Carolina local municipalities determine site and subdivision standards, which vary from place to place, but are always consistent with the State building code. Carpenter Village itself is run by a development corporation, which determines building guidelines concerning architectural style, general landscaping, and appropriate residential behavior.

Conclusions

Suburbs, once touted as utopic social, as well as physical, environments, are now viewed by many within the planning field as fundamentally flawed. Suburban development resulted not only in wasted land resources and expensive infrastructure, but also a feeling of malaise. Suburbanites have grown tired of not knowing their neighbors, of having cars whiz by their homes at high rates of speed, and of a lack of "place." By today's standards, current suburb designs seem to represent the very definition of sprawl (Ewing, 1997). In response, planners have turned to the idyllic "small town" communities to provide insight for future development. According to recent research, when buildings are constructed at a human scale, houses are not acres apart, trees separate roads from yards, and streetscapes are warm and inviting, people claim to have a better sense of well-being (Arendt, 1994; Ewing, 1997; Greenbie, 1981; Southworth, 1997). This research has evolved into a new planning paradigm, flexible enough to be adapted to either neighborhood, or town, planning. Neotraditionalism has no official definition, but encourages a compact form, pedestrian-friendly streets, a grid street pattern, strict traffic controls, and focused open space. In the past decade, several NTD towns across the country have been developed and have received national attention, including: Seaside, Florida; Laguna West, California; Kentland, Maryland; and Celebration, Florida.

Critics of NTDs claim the developments are contrived and artificial, and the claims of NTDs are unjustified and at times deceptive. NTDs have been satirized for their artificiality and lack of depth. Such artificiality is evident in the recent box office hit, *The Truman Show*, which was filmed in Seaside, Florida. In subsequent interviews with moviegoers, television polls revealed that no one was aware that the movie was filmed in an actual town; those persons interviewed thought the film was shot on a movie set. Interestingly, even Carpenter Village staff members complained about the artificiality of Seaside; one staff member said it reminded him of *The Stepford Wives*, a movie in which the town's wives are all eerily perfect women on the outside, and yet robotic on the inside. The identical white picket fences, equidistantly-spaced houses, perfectly manicured green lawns, and Charleston house styles, of Carpenter Village lend a southern charm that is sticky sweet, in a Seasidian way.

And yet the very perfection that Carpenter Village strives to achieve is based on images of small town America that we have idealized and will continue to cherish. Neotraditionalism will likely remain a popular planning scheme for a long time to come. Officially, this movement will be advocated by the Congress for New Urbanism (CNU), a national organization dedicated to preserving the principles of New Urbanist planning. As such, I would argue that the task that lies before planners and political officials is to improve the concept. On a practical, planning, level, NTDs can be utilized near America's historic districts. Historic districts are frequently enclaves between incompatible land uses. NTDs constructed adjacent to existing historic districts might complement the districts, and possibly increase the value of historic homes by providing a transition between other land uses.

More significantly, however, thought must be given to the actual implementation of the "ideal" planners wish to represent. Communities characterized by diversity and difference cannot be constructed from developments that are affordable to the few.

Offering affordable housing in these developments would considerably improve the NTD reputation among its critics. Perhaps there is room for this concept in public housing, which has long been plagued with highly publicized problems, including design flaws, crime, and poor traffic control. Recent attempts have been made in a few areas to bring NTD design features into housing projects, and to ensure an adequate mix of rental and private residences. Though there is no proof that NTDs would solve the problems associated with social inequality, the scheme certainly might mitigate them. Neotraditional planning can be seen as a return to common sense neighborhood planning, which is always a good idea. Claiming or implying that a planning tool can cure social problems, is, however, inappropriate and misleading.

Acknowledgments

Thank you to: Linda Drake and BettyGoode, Librarians at UNC at Chapel Hill's Chapin Planning Library, for their kind assistance; R.W. Shearin, Planner with the Town of Cary, for additional information on Carpenter Village; Cary Library staff members; J.D. Sears for information concerning local Carpenter myths and facts; Joyce Pechan for editing assistance; and Dave and Diana Morde.

References:

Adler, J. 1995, "Bye-bye American Dream," *Newsweek*, May 15th, 41-53

Arendt, R. (1994) *Rural by Design.* Washington, D.C.: American Planning Association.

Audirac, I. and **Shermyen, A**. (19--) "An evaluation of neotraditional design's social prescription: postmodern placebo or remedy for suburban malaise?" *Journal of Planning Education and Research*, 13: 161-173

Belvin, L. and **Riggs, H.** eds., (1983) *The Heritage of Wake County, North Carolina.* Winston Salem: Hunter Publishing.

Bookout, L. "Neotraditional town planning: toward a blend of design approaches," *Urban Land*, 51.8: 14-19

Ewing, R. (1997) "Is Los Angeles-style sprawl desirable?" *Journal of the American Planning Association.* 63.1: 107-123

Falconer Al-Hindi, K. and **Staddon C.** (1997) "The hidden histories and geographies of neo-traditional town planning: the case of Seaside, Florida," *Environment and Planning D: Society and Space* 15: 349-372

Gersh, J. (1996) "Subdivide and Conquer: Concrete, Condos, and the Second Conquest of the American West," *The Americus Journal.* 18.3: 14-17

Jacobs, J. (1961) *The Death and Life of Great American Cities.* New York: Random House.

Katz, P. (1997) "Old fashioned values inform the new urbanism," *Planning and Development Report.* Available from http://www.rics.org.uk/ csm/archives/sept97/390991.html.

Schabot, J. Interview. Carpenter Village Sales Office. 10 May, 1998.

Slayter, D. C. and **Morris, M.,** (1990) "A critical look at neotraditional town planning," *PAS Memo.* Pp. 1-3

Southworth, M., (1997) "Walkable Suburbs: An Evaluation of Neotraditional Communities at the Urban Edge," *Journal of the American Planning Association,* 63.2: 28-45

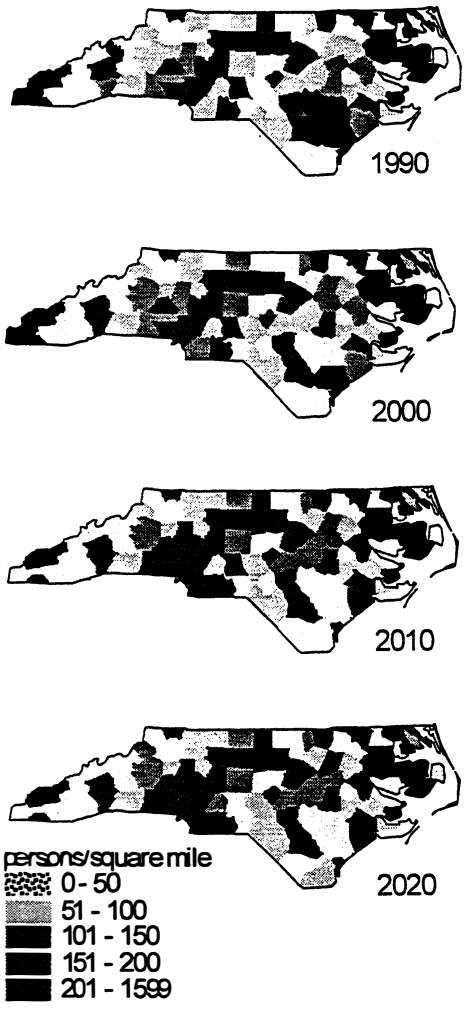
Till, K. (1993) "Neotraditional towns and urban villages: the cultural production of a geography of 'otherness'," *Environment and Planning D: Society and Space*, 11: 709-732.

Statistical Review of the State
Who, Where? North Carolina Demographics

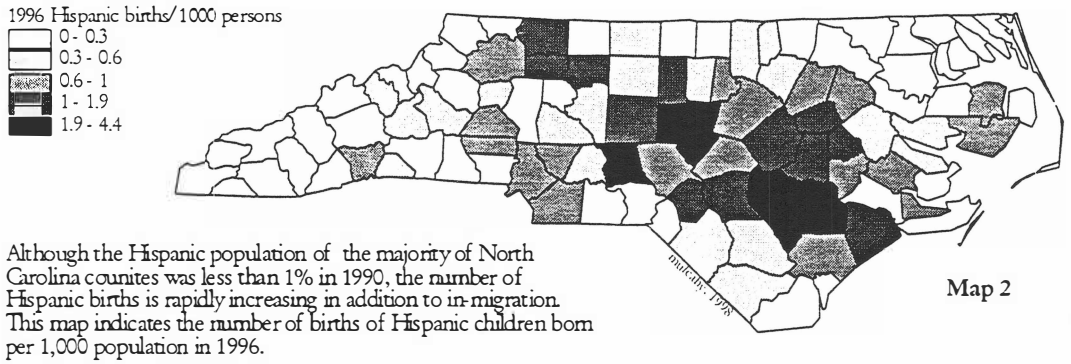
Karen A. Mulcahy, Associate Editor
Department of Geography, East Carolina University

This is the first installment of a new feature that will review statistical information about the state of North Carolina. For this first issue of the Statistical Review – I went browsing. A quick click on the web browser 'search' button, then the entering of the terms 'North Carolina data' and a rich source of on-line data sources was ready for mining. This issue features the Office of State Planning, State Demographics unit. This unit provides data is that is freely and easily available. With a minimum of difficulty, this data was downloaded via a web browser and mapped in a desktop GIS package. The unit disseminates data to the public by county and municipality in annual publications and various county and state population projections are available in electronic or paper form.

The State Demographics unit has a critical role to play in North Carolina because it produces the annual estimates of population used to distribute state shared revenues to local governments. This unit produces both the population estimates such as the recently released 1997 County Provisional population estimates as well as population projections. See Map 1, years 1990 – 2020. The county and state population projections, available by age, race (white/other) and sex, are used for long range planning. The unit uses a variety of means to produce these estimates and projections including the development and enhancement of computer models and the collection and review of data from federal, state and local government. The unit also collects and examines data for the Census Bureau and reviews Census Bureau estimates and methods as a contributing member of the Federal State Cooperative Program for Population Estimates (FSCPE.)



Map 1. – Population Density 1990 - 2020



Although the Hispanic population of the majority of North Carolina counites was less than 1% in 1990, the number of Hispanic births is rapidly increasing in addition to in-migration. This map indicates the number of births of Hispanic children born per 1,000 population in 1996.

Map 2

The data appearing in the series of population density maps were drawn from county estimates as well as the population projections produced by the North Carolina Office of State Planning in June and July of 1996. New to this set of projections is incorporation of the short-term growth from 1990 to 1995 into the projected data for the years 2000 through 2020. A good description of this data including the basic data, birth and death assumptions, and essential methodology are available along with the data sets.

The series of population density maps in Map 1 are drawn from the State Demographics unit web site. The growth trends for North Carolina are clear. Population has increased, and is expected to continue increasing along a broad arc that flexes west and south from Raleigh to Charlotte. Asheville stands out as a rather solitary western population center. By 2010 Greenville and Jacksonville in addition to Wilmington are the counterbalance to the east. The Route 95 corridor also becomes apparent by 2020. The fast growing Hispanic population in North Carolina is illustrated by another data set, "County Hispanic Population 1990, 1990-1996 births." (See Map 2) The growth in Hispanic population is clearly a rural phenomenon, as opposed to the general population growth for the state which primarily occurs in urban areas. This trend is due in large part to migrant employment in rural industries, such as agriculture and food processing. (Cravey 1997)

Data sets such as these can be used in any number of research applications. Population demographics are an integral part of studies that address environmental and socio-economic trends. Current fresh water and infrastructure problems in some parts of the state, for example, are limited to population density. Furthermore, the concentration of certain population groups in specific areas of the state will have political repercussions, as has already been seen in the creation and later destruction of district twelve.

The index of data is extensive and includes over forty different tables. The site provides descriptions of methodology for the revised 91-96, certified 1996, and provisional 1997 county estimates. In addition, a number of maps are available, although interpretation of the map symbolization, with the exception of the Animated Density Map may be challenging.

Technical Notes

The process used to prepare these maps began with saving data accessed through the *www.ospl.state.nc.us/demog* home page.

The procedure described here was the easiest given the software available on my PC but any number of packages may be used. In ***Netscape Navigator 4.04*** I accessed the web page listed above then selected File and Save As. The page was saved as type "plain text" to a file on my hard drive. Next I used ***Microsoft Excel 97*** to open and import the text file. To prepare the data for use with ***ESRI's ArcView*** I deleted all blank lines and unnecessary data, then performed a Save As to ***Dbase IV*** format. The ***Dbase*** format file was then joined with the theme attribute table in ***ArcView***.

Reference

Cravey, A., (1997) "Latino Labor and Poultry Production in Rural North Carolina," *Southeastern Geographer*, 37.2, pp. 295-300

EAST CAROLINA UNIVERSITY

Department of Geography

PROGRAMS AND RESEARCH FACILITIES

Undergraduate tracks include theB.A. in Geography and theB.S. in Applied Geography. The former is a broadly-based geography program, drawing courses from human and physical geography, as well as techniques. The latter has a strong emphasis on spatial analysis, and requires an internship in a state agency or private firm.

At the graduate level the Department specializes in human geography, physical geography and spatial information technologies, and supports a variety of philosophical and methodological approaches within each of these areas. Students are encouraged to develop their research in conjunction with faculty, and to disseminate their findings via professional meetings and journals. Faculty expertise is clustered around the following:

Economic Geography: development policies, practices, and impacts; urban and rural restructuring; and geographic thought (political economy, feminist theory,critical geopolitics).

Cultural Geography: community development; tourist landscapes; cultural ecology and field methods.

Coastal Plain Geomorphology: coastal geomorphology (aeolian processes and dune formation); drainage basin hydrology; fluvial geomorphology; soil geomorphology; and environmental management (natural hazards research, land and water use planning).

Spatial Information Technologies: geographic information systems (watershed/environmental modeling, topographic effects on digital data) remote sensing and image processing, computer cartography (global databases and map projections), and spatial quantitative methods.

Regional Specializations: Africa-East; Africa-South; Asia-South; Caribbean; Middle East; North Carolina; Western Europe.

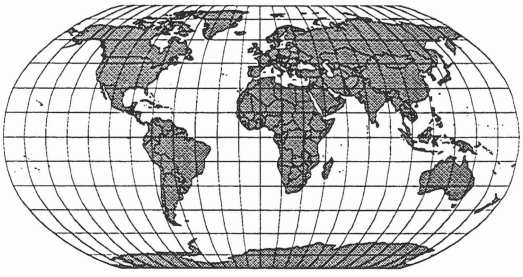
Faculty are actively engaged in research in all four clusters, and have received multiple-year grants from, amongst others, the U.S. Department of Agriculture, the National Science Foundation, the New Jersey Sea Grant Program, N.A.S.A. and the U.S. Forest Service.

The department maintains both a fully equipped physical geography laboratory and a Unix-based Spatial Data Analysis Laboratory. The physical geography laboratory is designed for mechanical analyses of soil and sediment, but also includes state-of-the-art GPS, electronic surveying equipment, and instrumentation for monitoring hydrologic andaeolian processes and responses. The spatial laboratory consists of ten Sun workstations, a large format digitizer, and anEsize DesignJet plotter for teaching and research. Primary software includes Arc/Info, ArcView, and Imagine. Plans for the development of a PC-based departmental laboratory are underway. Students also have access to a wide variety of university facilities including the Institute for Coastal and Marine Resources, the Regional Development Institute, International Programs, and the Y.H. Kim Social Sciences Computer Laboratory. The Kim laboratory provides access to PC-based software such as Adobe Illustrator,ArcView, Atlas*GIS, IDRISI, SAS, SPSS, and Surfer.

FOR CATALOG AND FURTHER INFORMATION WRITE TO:

Undergraduate Catalog: Director of Admissions, Office of Undergraduate Admissions, East Carolina University, Greenville, North Carolina 27858-4353. Tel.: (919) 328-6640. World Wide Web: http:/www.ecu.edu/geog

Graduate Catalog: Graduate School, East Carolina University,Greenville, North Carolina 27858-4353. Tel.: (919) 328-6012. Fax: (919) 328-6054.



GEOGRAPHY
AT
UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

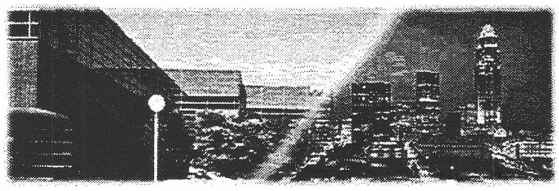
Geography at the University of North Carolina at Wilmington is housed in the Department of Earth Sciences. There are five full-time geographyfaculty. Research interests and specialties include: cultural-historical geography; material culture studies; environmental planning; and fluvial geomorphology. Equipment available for teaching and research includes modern PC-based cartographic and image-processing lab, and photographic and darkroom facilities. The university library contains a strong geography collection including all major journals, and is a repository for government documents and maps. About 40 majors are currently working towards a B.A. in geography.

Wilmington, North Carolina's premier port city, is located on the Cape Fear River and is only ten miles form the Atlantic shore. It is linked to the research Triangle area directly via Interstate 40. With a metropolitan area of over 130,000 residents, Wilmington is the economic and cultural hub of southeastern North Carolina. Climate is warm and humid during the summer, and exceptionally pleasant during the rest of the year, enhancing the variety of coastal recreational activities of the region.

For further information on our undergraduate program contact:

Dr. Frank Ainsley
Department of Earth Sciences
The University of North Carolina at Wilmington
Wilmington, NC 28403
TEL: (910) 962-3490
FAX: (910) 962-7077

THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE
Master of Arts in Geography



The MA in Geography at UNC Charlotte emphasizes the application of skills, methods, and theory to problem solving in contemporary society. Students are offered a solid foundation in research methods, problem formulation, quantitative methods and computer and GIS skills. Many UNCC graduates have gone directly into jobs working as professional geographers using skills acquired in their MA program. Jobs include research and/or marketing specialists, location analysts, planners, transportation specialists and private consultants. About 15% of the more than 100 graduates have gone on to study in Ph.D. programs.

CHARACTERISTICS

- About 55-60 students and 23 faculty are in residence
- Class sizes are small; student and faculty are in close contact; community involved in class projects
- Funding is available on a competitive basis; about half of all full-time, current students have funding
- Execellent Spatial Analysis Labratory with ARC/INFO GIS (workstation and PC) and ERDAS (workstation)
- The Department manages the Center for Transportation Studies which contains a research laboratory

PROGRAM CONCENTRATIONS

Community Planning Track

Students who choose the Community Planning track are awarded an M.A. in Geography and complete a formally structured multi-disciplinary core which includes course work in Geography, Architechture, Economics and Public Administration.

Environmental Analysis and Assessment

The environmental concentration draws upon the expertise of pratitioners and professionals and a diverse earth science and geography faculty. There are three main courses of study: hydrologic processes; atmospheric studies; and an interdisciplinary focus which includes environmental assessment and planning.

Urban-Regional Analysis and Planning

Students in the urban-regional analysis and planning concentration normally become planners in public sector planning agencies. Course work concentration is in one of the following areas:

Planning Theory	Public Facility Siting	Regional Development
Urban Theory	Environmental Planning	Site Feasibility Analysis
Urban Planning	Impact Analysis	

Location Analysis

The Location Analysis concentration prepares students for jobs in location research with retail companies, real estate developers, consulting firms, commercial banks, and economic development agencies or for continued academic training in economic geography and location analysis. Course work is offered in:

Retail Location	Trade Area Analysis	Facility Siting
Office and Industrial Location	Real Estate Development	Applied Population Analysis

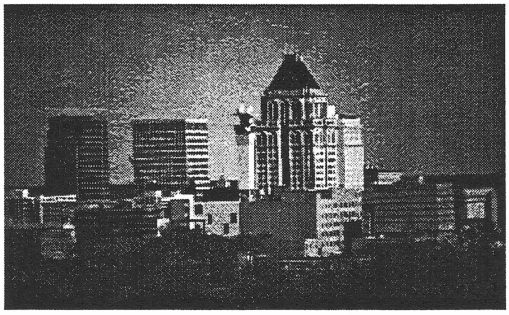
Transportation Studies

Students in Transportation studies can pursue course work in transportation systems analysis, policy formulation, impact analysis, and planning. This concentration prepares students for jobs in the public sector as planners and in the private sector as analysts for transportation providers and private consulting fiirms.

THE INTERNSHIP As a program whichemphsizes applied geography, the Internship is an especially important element and normally replaces the traditional thesis as the capstone project of a graduate program. Projects normally involve the students in the execution of a substative research task for provate or public sector clients where the student is the primary investigator in a specific "real world" research task.

FOR FURTHER INFORMATION CONTACT: Dr. Gerald L. Ingalis, Graduate Coordinator
Department of Geography and Earth Sciences UNCC, Charlotte, NC 28223 (704-547-4260)

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO



UNDERGRADUATE PROGRAM: The undergraduate geography major can choose a concentration in Urban Planning or Earth Science/ Environmental Studies. Currently, there are about 100 majors.

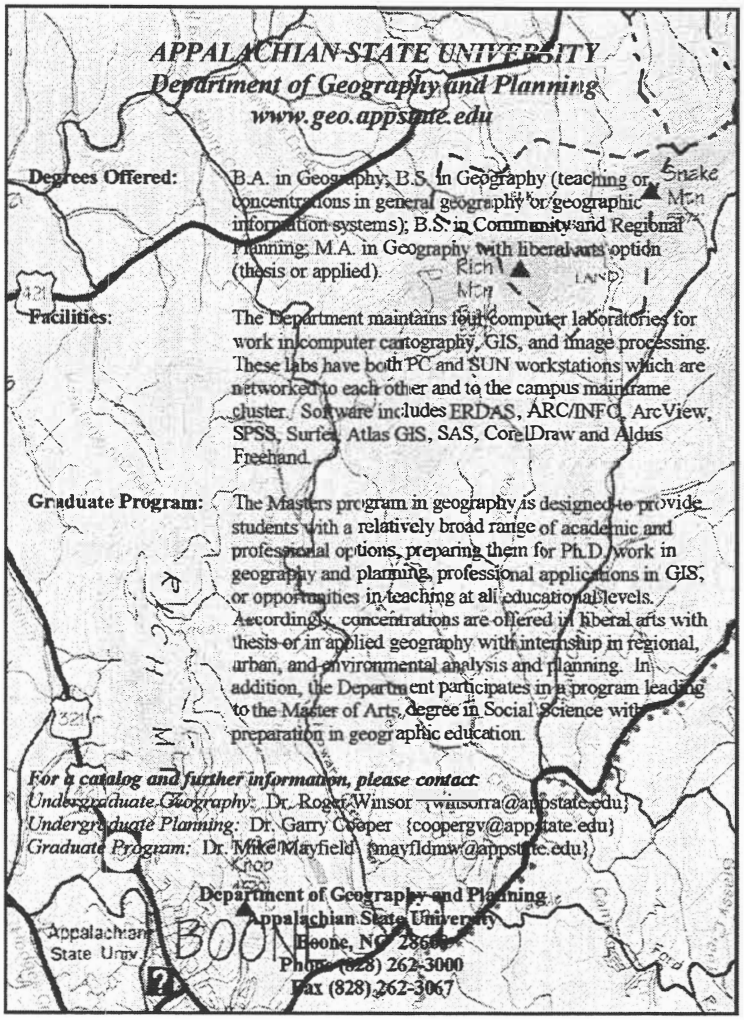
MASTERS IN APPLIED GEOGRAPHY: The program requires 30 hours in geography, including a thesis or internship, plus two courses in statistics or computer science. The program has nearly 30 students and offers graduate assistantships

FACILITIES: The Geography Department houses a state-of-the-art research and teaching lab for GIS, Computer Cartography, Digital Image Processing, and Air Photo Interpretation. There are 20 networkedpentium pro machines on an NT operating system, plus several printers, scanners and digitizing boards, as well as GPS equipment. Software used in the lab includes Arc/InfoArcView, ERDAS, Sufer, Atlas GIS, MapInfo, ER Mapper, Adobe Illustrator, Adobe Photoshop and Corel Draw. There is alsoa climatology and SPSS computer lab, faculty/grad student research lab, geomorphology/geology lab, and a 100+ acre field camp to study geomorphology, hydrology, micro-meteorology, biogeography, and GPS mapping.

SPECIAL ACTIVITIES: Students can become involved in the Department, University, and community while becoming better acquainted with other students, faculty, employers and community leaders. The Department hosts lectures bi-monthly at Geography Club meetings and sponsors several campus-wide events. Students can join the campus chapter of Gamma Theta Upsilonthe international geography honor society, and participate on UNCG's Geography Bowl Team in state competition. Many students take the summer field course to the Westwhich focuses on physical geography and natural resources.

For Undergraduate Information:
Call: 336-334-5388
E-mail: DGBennet@Hamlet.UNCG.EDU

For Graduate Information:
Call: 336-334-5388
E-mail: JJHidore@UNCG.EDU



APPALACHIAN STATE UNIVERSITY
Department of Geography and Planning
www.geo.appstate.edu

Degrees Offered: B.A. in Geography; B.S. in Geography (teaching or concentrations in general geography or geographic information systems); B.S. in Community and Regional Planning; M.A. in Geography with liberal arts option (thesis or applied).

Facilities: The Department maintains four computer laboratories for work in computer cartography, GIS, and image processing. These labs have both PC and SUN workstations which are networked to each other and to the campus mainframe cluster. Software includes ERDAS, ARC/INFO, ArcView, SPSS, Surfer, Atlas GIS, SAS, CorelDraw and Aldus Freehand.

Graduate Program: The Masters program in geography is designed to provide students with a relatively broad range of academic and professional options, preparing them for Ph.D. work in geography and planning, professional applications in GIS, or opportunities in teaching at all educational levels. Accordingly, concentrations are offered in liberal arts with thesis or in applied geography with internship in regional, urban, and environmental analysis and planning. In addition, the Department participates in a program leading to the Master of Arts degree in Social Science with preparation in geographic education.

For a catalog and further information, please contact:
Undergraduate Geography: Dr. Roger Winsor {winsorra@appstate.edu}
Undergraduate Planning: Dr. Garry Cooper {coopergv@appstate.edu}
Graduate Program: Dr. Mike Mayfield {mayfldmw@appstate.edu}

Department of Geography and Planning
Appalachian State University
Boone, NC 28608
Phone (828) 262-3000
Fax (828) 262-3067