

FIELDGUIDE TO CENTRAL PENNSYLVANIA
 EASTERN HISTORICAL GEOGRAPHERS ASSOCIATION MEETINGS 1987
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INTRODUCTION

OVERVIEW

Sharp boundaries separate highly distinctive subregions in central Pennsylvania. Any traveler can recognize the parts: stable farming regions, depleted boom towns in coal or lumber, superannuated transport and manufacturing towns, and fresh vigor in centers of the service sector.

As we travel today from State College to the Shamokin basin we will pass through several such areas. We should recognize that these disparate parts of the landscape were produced by a unified sequence of events. The differentiation on the landscape is a product of these forces:

- 1 a gradual, and then finally stunted, extension of a transport system into the intricately mountainous topography of central Pennsylvania,
- 2 a gradual integration of this region into a developing national economy, forcing a century-long shift in resource use from
 - a. domestic or village production (typified by food), to
 - b. simple commercial materials (such as lumber and forged iron), to
 - c. the provision of a single input to an integrated industrial system located elsewhere (as in anthracite mining),
- 3 a concomitant gradual increase in the power of capital for the efficient development of resources, and therefore in the control exercised by corporate managers;
- 4 all of this working on a rich but patchy pool of resources.

LAND

Central Pennsylvania is one of the best endowed regions of North America. Fertile, well watered valleys are intersected by wooded ridges that have yielded billions of board-feet of timber. Iron ore and limestone are found in sight of each other, and just a few miles from them are two of the biggest coal fields in the East. All of this is less than two hundred miles from New York, Philadelphia, or Baltimore. The burden of the region, however, has been its physiography. Transportation is simple along the strike of the ridges — but goes nowhere. Travel across the ridges — to the coast or to the continent — has been exceedingly difficult.

Geologically, central Pennsylvania is an anticlinorium of sedimentary rocks plunging east and west from State College. State College is at the most uplifted portion of the structure, situated on Ordovician limestone in a valley bounded in all directions by sandstone ridges. As we travel eastward today, we will move irregularly up the stratigraphic column, crossing those ridges into broad lowland of Devonian shales and limestones in which the Susquehanna River flows. Our destination is one of the anthracite valleys in the eastern part of the state. The Pennsylvanian-age coal has been protected from erosion within abroad downward in the Appalachians.

There are four major physical elements in the human landscape of Pennsylvania. This trip crosses examples of each, in this order:

1. Farmland. We start in Nittany Valley, a rich agricultural valley. Various parts of the state resemble this valley: other limestone and shale valleys, the river floodplains, and much of the Piedmont.
2. Barriers. Next we pass over a belt of uninhabited, wooded sandstone ridges. Today this is scenic wilderness, easily traversed on paved roads. To an ox cart on a muddy road, however, this was a formidable barrier, to be crossed only at great effort, and only in a few places. The belts of Sandstone Mountains zigging and zagging across the center part of the state were walls to the settlers, and much access was by long, indirect water level routes. The Allegheny Front, fifteen miles north of State College, is the most formidable barrier of all, slowing or stopping attempts to go west.
3. Routes. The midpoint of our journey eastward is at the confluence of the branches of the Susquehanna. Because there are so few good routes, travel in central Pennsylvania becomes highly concentrated where it is most feasible. This usually means people travel into the region exactly where the drainage leaves. Thus economic regions tend to match the watersheds of major streams. The Valley of the Susquehanna, and the valleys of its North and West Branches, are particularly thickly developed with transportation facilities. These are, therefore, the locations of the most active commercial and industrial development.
4. Resources. We are headed to some intense little pockets of mining activity in the anthracite valleys. All across central Pennsylvania are spread, according to the vagaries of nature, patches of commercial resources. Like

everything else in this area, these are located by the dip and plunge of the folded rocks, and tend to be in east-west stripes. The anthracite fields are the most important and most obvious examples of the geologic patchiness of resources, but each of lumber, iron ore, water power, good soil, brick clay, and lime has a discrete pattern aligned directly with (or else directly across) the strike of the Appalachians.

REGIONS

A simplification of the geography of central Pennsylvania is necessary for this quick glimpse at it. Any model of the state needs to acknowledge the interplay of the resources in discrete patches on the land, the access to those places from tidewater, and the several cultural groups that immigrated into the state.

A simple division that reflects the very different histories of the very different parts might include these four caricatures:

1. Remote valleys. Archetypal place: Milheim and vicinity. These areas were settled early as parochial sites of services and exchange for a Germanic agricultural economy. Intervening barriers severely limited the interaction from these places to the rest of the nation.
2. River towns. We'll visit Sunbury. Settled along the river as way-stations and as processing sites in the export of rural surplus, these places grew rapidly in size and wealth when they assumed those same intermediary roles during the much more massive export of bulk resources. With their subsequent and ongoing loss of relative advantage to newer resource areas and to larger cities, these towns have been losing population for decades and can expect decades more of the same.
3. Boom towns. Shamokin and its surrounding township sit atop 200,000,000 tons of anthracite. Shamokin grew from coal mining, and it shrank when mining ended. The land was laid out by the force of distant capital, meant only to be the mines and railroads and miners' housing needed to bring coal to market. The industrial landscape is now defunct, but the town is still there. The distinctive cultural groups which moved into the valley have printed their Eastern and Southern European styles upon the landscape. Lumber towns and iron towns were less monomaniacal than the coal towns, but they too show the imprint of a single blossoming and a slow decline.
4. New growth. Example: State College. The average trajectory of central Pennsylvania is decline, but spots within it are growing rapidly. The places which are succeeding are those which can capitalize on specialized services with a regional or national market: education, research, medicine. Involved in the success of many of these towns is the polishing of images of their own pasts.

THE TOUR

PART I: RURAL NITTANY VALLEY.

Now site of the most cosmopolitan town in central Pennsylvania, the Nittany Valley was exceedingly remote before the railroad arrived in the 1850's. Before that time, access to this valley was via a circuitous journey up the West Branch, and then up Spring Creek through a gap near Bellefonte.

The valley was settled mostly by industrious German farmers with strong domestic orientations. Towns were established to provide basic services to the local market — a smithy, a mill, a store — and were weakly linked to the world beyond. Iron, charcoal, and wheat were among the few products exported from these valleys in early times.

Towns and farmsteads were highly formalized in plan. The Pennsylvania town is an intense settlement. In its purest form — as seen in the Great Valley and the Piedmont - -it consists of fractional or compressed versions of Pennsylvania four-over-four houses, built a meter or two from each other and from the sidewalk along a rectilinear street grid. At the central intersection, the two streets are widened to form a diamond, where the periodic farm market was held. Often the Pennsylvania town seems to be meant as a miniature version of Philadelphia — even using the same street names.

Settled eighty years after the Lancaster area, settlement in Centre County had diverged from the classical form, but the functions were largely preserved. Diamonds look degenerate, often only a modest widening stretched along Market St. for several blocks, or else an amorphous enlargement of the central intersection. But diamonds still served as the site of the farmers' market, and still do today on a less regular basis.

Penn State University was located in Nittany Valley in 1855 for its open farmland far from the cities, but the place is no longer connected to the rural landscape. Discussion of the university and State College will be saved for our return, when the growing city can be seen relative to other parts of the region.

- Board bus at the station across from Walker Building; head out to Atherton Street (U.S. Rt. 322); turn east ("south," by local directions); leave State College after three miles and pass through intermittent suburbs to Boalsburg; turn left on Pa. Rt. 45.**

Boalsburg is an older town than State College, laid out in 1810 along the traditional east-west axis of the valley, which became Pa. Rt. 45. Rt. 322 is a 20th Century automobile route, headed off toward a high pass in the mountains toward Harrisburg. We will bypass old Boalsburg but lock onto the historic east-west road just beyond town.

The broad, raised limestone valley floor beginning east of Boalsburg is typical of the physical landscape of all the valleys connected to Nittany Valley. We are entering Penn Valley, bounded to the north (left) by Nittany Mountain and to the south by Tussey Mt. The limestone here weathers into an orangish soil called the Hagerstown clay loam. It is as productive as any in the East. It is rich in clay but resistant to erosion because the water drains into caverns beneath the ground.

The traditional arrangement of a farmstead in central Pennsylvania is highly formulaic. House fronts almost always face the road. If a house does not face a road, it is most likely that the road has been moved. The Pennsylvania German barn is built to serve a large farm in a cold humid climate. The spacious upper story holds hay and provides a dry space for threshing

storage, socializing, or whatever else the season requires. Stalls beneath are insulated by the earth and hay, and barn and barnyard are both accessible in bad weather from under the forebay (the overhang of the upper story). Barns were usually built with the forebay facing south or southeast, toward the morning sun, and the big door is positioned on the upper side of a hill or artificial "bank" so wagons can be driven in to the level of the threshing floor. Typically the whole farmstead was arranged so that the barnyard was visible from the house, and therefore the house is usually approximately east of the barn. The location of the entire group of buildings was often controlled by availability of water — near enough to a stream that animals can drink and wells needn't be deep, but far enough to be out of the flood zone.

Traditional Pennsylvania agriculture was mixed animal and grain farming. The Amish farms are the closest model remaining. A typical Amish farm is like this: Near the house is a large garden full of beans and cole. Outbuildings hold chickens and pigs for market and for home. Horses, cows, and cattle live in the barn and the barnyard. Near the barn is cow pasture, far from the barn is beef and sheep pasture. Hay and grain are grown between. Nearly every farm has a wood lot on the hilliest land.

Today most of the agriculture in central Pennsylvania is in support of Holsteins. Intensive pork, egg, or poultry operations are also common, and most farmers grow surplus grain in addition to their animal feed. The bulk of the prime farmland is in corn and soybeans, with wheat and oats rotated in. Hay is harvested off steeper land or off wheat fields during rotation.

The traditional Pennsylvania barn is a good dairy barn, with ample space for storing hay in the top, and decent stalls for the cows below. Most operations now are several times larger than the ones for which the barns were designed, and two resulting changes are typical. First, storage is greatly increased by the construction of air-tight silos (like the \$45,000 blue Harvestores) or silage trenches covered with white plastic and old tires. Volume of the silos approaches the rest of the barn in some cases. Because threshing no longer uses floor space, hay storage in a Pennsylvania barn is adequate for a sizable herd. But farmers also store hay in the field, in 3000 lb. round bails treated (like white bread) against mold with sodium propionate. The second accommodation to a larger herd, and to Health Department regulations, is the construction of a milking shed on the down-hill side of the barn. Cement floors and new plumbing greatly speed the daily milking and mucking-out.

The area of a standard farm operation has more than doubled since the introduction of the tractor, but the number of farmhouses is nearly the same. Today most of the farmhouses throughout central Pennsylvania are surrounded by land which is worked from another farm. Near a town these houses are rented out or subdivided away from the rest of the land, for commuters and for gentlemen farmers. In remote areas they are lent to the farmers' kin or hired help, or else they are abandoned.

Continue on Rt. 45 through Old Fort (intersection of Pa. Rt. 601) past Spring Mills to Milheim.

Names on the land and a few arrowheads are all that remain of the original inhabitants of central Pennsylvania. Even the earliest European settlers entered a land depopulated by disease and disrupted by the influx of powerful tribes displaced elsewhere.

It is still possible to imagine the aboriginal landscape. The environment to think about is not today's woods, on sterile sandy soil, but rather flat valleys and streams banks now in farms. These are the places where artifacts are most commonly found. Camps were located where streams came together. There fish and mussels were plentiful, and access was available in several directions. The routes of many modern roads would be familiar to the Pennsylvania Indians, because they follow the same streams and pass through the same gaps as Indian trails.

The most productive land in Indian days was the same land as now — limestone valley floors. Old Fort was Clearfield to the settlers, a true prairie maintained by anthropogenic fire. Burnt ground is easier to plant; regenerating land feeds many more deer than does forest.

Old Fort was the site of a small wooden fort built by an early settler. For our journey, this spot marks the end of the landscape looking primarily toward State College, and the beginning of a chain of self-contained small towns. Billboards to the west advertise State College banks and hotels, to the east they are the national cigarette and soft drink ads. Rud-Cor trailer park, just west of town, provides low cost housing for the janitors and cooks who maintain and feed the University; to the east are farm dealerships and a bean cannery.

Spring Mills is at the northern end of a water gap, wide enough for a railroad but not for a road. A minor rail line (The Lewisburg and Tyrone Railroad) came though the gap in the 1870's, and the town has some hotels from that time.

Groves of pines on the lower mountain slopes along this valley mark abandoned farmland. Agriculture has been retreating from the steeper land for a century. The woods are full of fences, roads, and foundations from when farms extended further from the valley floor. Soil erosion has marginalized much shaly land, and continues to do so. The advent of larger machinery also decreased the value of irregular and steep fields.

The village of Milheim is good representative of the isolate Pennsylvania farm town. Later we will pause in some more elegant (and more open) towns to examine details of Pennsylvania town morphology; in Milheim we will focus only on situation and on settlement pattern as we pass through. Because the town is seven miles from Spring Mills, any farmer on the rich land of the valley only two or three hours from a village. It was established on Elk Creek (in 1797) as the "home" of a mill; that is, the town was subservient to the agricultural landscape from the beginning. Central Pennsylvania towns are commonly nucleated a mill like this. The hotel was another standard function in these towns. Like many Pennsylvania towns, Milheim has always had a strong German flavor. A German language newspaper was published there until the 1890s. (Towns in other parts of Nittany Valley are more heavily Scots-Irish.)

The center of town is very dense. It is packed as tightly as a city, with houses so close to the street that the gutter spouts must be suspended over the sidewalk to avoid splashing pedestrians. The buildings on the main street are directly adjacent to each other, even though this town has always been in the midst of open farmland — there is still a monstrous barn only half a block north of the central intersection. Newer houses are more spread out, but not much. Essentially all of the houses built in the last century are within conversational distance of each other.

The houses at the eastern end of Milheim show a small period of prosperity in 1910, or so — from the opening of a silk mill on Elk Creek — and then Aaronsburg starts. Aaronsburg's founder thought his town should become the state capital because it was at the center of the state, and therefore he laid it out grandly so the governor could march up the main street to his inauguration.

Aaronsburg and Milheim are almost twin towns, but otherwise the average spacing between the towns is increasing as we travel east. The valley narrows, the soil gets shalier, and the population is more dispersed. The smallest town is Woodward, perched on the bouldery slopes of Tussey Mountain, whose biggest building was a tavern built to feed drovers as they started through the rugged pass and narrows to the east. (The turnpike through the mountains was built in 1827.) The cultural and the commercial isolation of Nittany Valley is exemplified by Woodward.

TRANSITION: CROSSING THE RIDGES IN THE PENNSYLVANIA STATE FOREST.

The forests of Pennsylvania were very aggressively logged. Several stages in the exploitation can be identified, corresponding to the overall evolution of the economic landscape. The forest was a burden to the settlers. The trees were in their way and there was no real market. Wood ash and tannery bark were minor sources of income, and as towns developed a modest market for lumber, firewood, and charcoal was created. This employed men and built a few saw mills.

The major commercial exploitation of the forests was in three stages, each more ruthless than the last, each driven by more distance forces than the last. Local iron production preceded the canals and railroads. In this immediate area iron furnaces began in the 1820's. Much charcoal was produced for them over square miles of forest, and packed to the furnaces on horses. This industry was limited by the modest supply of ore and the cost of hauling the finished iron off to market. Next lumbering arrived. The valleys were satellite operations to the giant industry at Williamsport, itself run by displaced Maine lumbermen. Pennsylvania was the largest producer of lumber in the nation in 1860, and the largest mill in the world was in Williamsport, cutting up to 80,000,000 board feet per year. Lumbering was tied to transportation — early logging relied on streams for rafting; railroads or canals were needed to haul off the products; and wooden bridges were big consumers. Logging began in these mountains in 1852 and was over by 1870. The land yielded up to 100,000 board feet per acre at first cut. White pine was most sought for construction. Oak and chestnut were cut later for making furniture, wagons, and canal boats. This period was damaging to the forest, but it produced buildings and industries which still exist.

In the third period, these forests fell under the shadow of the anthracite industry and its enormous economic power. Starting in 1873, for example, Ario Pardee of Hazleton bought 80,000 acres of forest in Union, Centre and two other adjacent counties to produce mine timbers. This was a new scale for forestry operations. Hazleton is sixty miles away, and 80,000 acres is over half of the total area of all the anthracite fields. Pardee had built narrow gauge steam railroads, bridges, a mill, and a town. He shipped seventy car loads of mine props a month. And he never visited the town named after him. Other coal operators also acquired other tracts in the county. Men were paid \$1.05 a day for hard, dangerous work;

explosions, wrecks, forest fires were common. The industry wreaked permanent damage on the forest environment. This lumbering was clearly kin to the anthracite industry which supported it.

In the 1910s, the state started buying and reseeding abandoned lumber tracts. Today the state owns nearly one third of Union County. This was begun under the care of future governor Gifford Pinchot. Pinchot, educated in Germany, was one of the originators in the United States of governmental influence in environmental affairs; he went on to help start the U.S. Forest Service.

The healthy cover of mature trees in the forest today disguises a system that has been mightily stressed and is still in flux. Today's forest is significantly smaller, less diverse, and less productive than the primeval forest was. Logging removed massive white pines, hemlocks, birches, and tulip poplars, which recolonize slowly. Introduced diseases eliminated all mature chestnuts and elms, and new insects are reducing the competitiveness of the oaks. An astounding amount of erosion off these fragile slopes — the equivalent volume to more than 4" from every piece of mountain can be found in stream floodplains, and still more was lost down the river — has decreased the productivity of the land and increased the amount of pine and scrub. The Pennsylvania Department of Environmental Resources continues to allow logging of its land on a 100 year cycle, under its "multiuse" conservation policy.

A considerable human landscape is hidden beneath the canopy, a sequence of artifacts that reflect shifting stages in society's valuation of the forest. The beds and ties of the narrow- gauge railroads run up most stream valleys. CCC camps and roads remain from the period, in living memory, after land had reverted to public ownership and was first opened to easy public access. The users of the CCC-developed facilities had been hunters and outdoorspeople. Now post-industrial recreational uses of the land are being institutionalized, with specialized snowmobile, A TV, cross-country ski, and Jeep trails being developed, along with campgrounds for trailers and Winnebagos.

Continue out the gap at the eastern end of Penn Valley; into Buffalo Valley at Laurelton; through Hartleton toward Mifflinburg.

PART II: A LANDSCAPE LOOKING TOWARD THE RIVER TOWNS

Crossing this set of ridges brings us into the Susquehanna Lowlands, a region hydrologically and economically tributary to the river itself. As we approach the stream we will see increasing evidence of the intense interaction up and down the valley. The landscape changes from an agricultural region dotted with commercial nuclei, to a commercial landscape with agriculture on its fringes. At its simplest the agricultural landscape looked in on itself, with only incidental interactions with the distant world; at its most developed, the commercial landscape was an economic extension the coastal cities up the river into this rich region.

A gradual pass and Hairy John State Park — named for a shaggy thief who robbed carriages laboring up the grade — separates Penn Valley from Buffalo Valley to its east. To the south, Penns Creek passes dramatically through these ridges, draining parts of both valleys. Buffalo Valley is far more accessible than Penn Valley to the cities on and near the Susquehanna, and we will see increasing numbers of non-farm households for the next fifteen miles. But this valley was long a cul-de-sac, and the western end is quite similar to Penn Valley. Buffalo Valley was opened to settlement by land grants to officers in 1768 and was settled rapidly in the next ten years.

To the south of Rt. 45 are the farm villages of Laurelton, Millmont, and Swengel. Glen Iron held a small, charcoal-fired iron furnace. It was one of a series of such facilities using an ore on the outer slopes of these big ridges, all thoroughly eclipsed by Pittsburgh after the Civil War, and closed by the 1910s. We will later visit Danville, a better developed example of these towns.

Hartleton is the western end of a community of Old-Order Mennonites. Martin's store, for example, at the east end of town, carries all the accouterments of an Old-Order household – black hats, monochrome yard goods, and Taiwanese sneakers. There is also a harness-maker in town and a buggy factory in Vicksburg, ten miles east. Buggies cost about \$1500.

Mennonites are one group in a continuum of fundamentalist German churches. A typical arrangement of the churches, from most conservative to least is: Amish, Mennonite, Brethren, Evangelical, Church of Christ, and then Lutherans, Methodists, etc. In this valley the Amish are Beachy Amish, who are comparatively liberal, but some of the Mennonites are very conservative. Other Mennonites are not. Many of the health workers in the region are Mennonites of various stripes.

The Old-Order Mennonites in this valley speak a German dialect in their houses, they eschew automobiles and rubber-tired tractors, and they dress somberly, although not so somberly as the Lancaster County Amish. Unlike those Amish, these people worship in churches rather than in homes, and the men shave their beards.

The Mennonites are comparatively new to this area, drawn by the relatively under-priced farmland. According to the county extension agent, 90% of the farms changing hands in this valley go to Old-Order families. Those families have a considerable economic advantage in paying for farmland, for two reasons. First, they have fewer other costs because their production — and their lives — are so simple. Second, they engage in more intensive production than their neighbors. In addition to having dairy herds like everybody else, Mennonites grow strawberries, vegetables, tobacco, veal, poultry,

flowers, and AKC dogs: all high-labor, high-profit uses of land, and all feasible only because of their large families and willingness to work; The Mennonites resemble first-generation immigrants in their approach to employment and fill a similar niche in society, although their status has been stable for generations. They operate greenhouses, they bake pastries and they make butter for the farmers' market, their stores are open endless hours~ children sit by the road all day in the fall selling cauliflowers and pumpkins, and young women seek jobs in housework and child care.

There is very little hostility apparent toward the newcomers in this area. Perhaps this is a tribute to the decent people who live in central Pennsylvania, or it is because a dairy farmer is only very vaguely in competition with another individual dairy farmer. Stories abound, and are told with some relish, about the fecundity and the financial resources of the Mennonites, but there is no overt resentment.

Mennonite culture differs only in degree from that of most of the rest of the farmers in the valley, who are also hardworking, socially conservative, fundamentalist German-American Protestants. The ancestors of both sets of people must have been nearly indistinguishable when they arrived in Pennsylvania two and three hundred years ago. The differences evolved here. This overall similarity explains a portion of the Mennonites' ease in integration, and their commercial success in marketing to the rest of the community.

Enter Mifflinburg from the west on Chestnut St.; turn south (right) at Third St. (second light); pass Market St. (first stop sign) on the way out of town on Pa. Rt. 304.

Mifflinburg was founded in 1792 and in 1798 — it was two towns physically joined at Third Street and politically joined in 1827. The towns met at an angle and the main streets were a block out of alignment — Market is larger to the west and Chestnut is larger to the east.

Mifflinburg exemplifies the division in central Pennsylvania between the substantially self-contained countryside, and the Susquehanna axis looking off toward coastal cities. Mifflinburg was originally at the transition in space, looking both ways. It was the railhead for the farm region behind, connecting it to urban markets beyond. It was also at the transition in time. It began as strongly Germanic farm towns — the founders' gravestones are in written in German. Through most of the 19th Century the businesses in the town were directed at the local market — blacksmiths, gunsmiths, millers, dry goods merchants, distillers, and taverns. In time the businesses became more specialized — banks, hardware stores, daguerreotypists, and buggy shops — but the local focus persevered.

In 1871 the railroad came to town, and the economy changed rapidly. In particular, Mifflinburg buggy manufacturers found they could sell their light, high-quality products all over the Northeast. Wood and good labor abounded, and now access to markets was possible. Twenty-two full time buggy works existed in 1886 where there had been two in 1860. Mifflinburg was reputed to have had fifty-two by 1915. Over that period the manufacture of buggies modernized enormously. At the beginning a buggy shop held one buggy, and a couple of men built the frame, carved and forged wheels and axles, and finished the buggy. By 1900 buggy companies were buying springs and rubber tires, and the axles were forged in Scranton. Parts were subcontracted within the town, and the buggies were assembled in a few large shops. By 1900 Mifflinburg was said to be producing 6000 buggies per year.

Mifflinburg fell to Detroit, of course, but not completely until 1941. By 1920 the big companies had shifted to car bodies, and by the end the Mifflinburg market was for specialized vehicles — mail cars and ambulances. The Ritz-Craft recreational vehicle coach works at the west end of town is the inheritor of the buggy tradition, and the knitting mills, furniture factories, and garment works also draw on the same skills that buggy making did. But Mifflinburg could not make the change in scale that meant success in the 20th Century. Just as Mifflinburg drew off markets from local manufacturers across Pennsylvania, even bigger cities drew off Mifflinburg's market.

South from Mifflinburg on 304 through New Berlin, to U.S. Rt. 15; turn south.

New Berlin (BER-lin, since the World Wars) was established in 1792. It became the first county seat when Union County was split off from Northumberland. Bypassed by the railroad, losing the courthouse to Lewisburg (1855), and situated on a generally unnavigable stream, New Berlin did not undergo the 19th Century transition into industry that Mifflinburg did. It was, however, a religious center, site of the first Evangelical Church in United States (1816), and subsequently of an Evangelical Seminary (1855-1911). The old center of town is a block south of the main road we take through town.

Turn right on U.S. Rt. 15 at Winfield and travel two miles to the crest of the hill; turn left on County Line Road; continue four miles through rolling shale upland to the access road to Shikellamy State Park; turn left; reach the first overlook and exit bus.

Shikellamy State Park overlooks the center of central Pennsylvania. To the left is the rounded form of Montour Ridge, typical of the sandstone mountains which protect Nittany Valley and other isolated areas. In the distance to the right is the sharp end of the Shamokin Basin, within which lies the Western Middle anthracite field, site of eighty years of vigorous mining. Directly below are two big river towns, built and made wealthy by facilitating the production, processing, and export of resources from this region.

The two branches of the Susquehanna flow together here at Sunbury (the town across the stream to the right). From the north, our left, comes the West Branch; from the east, around the island in front of us, comes the North Branch.

Transportation chokes tightly into the narrow valley of the West Branch of the Susquehanna River, which connects upstream to Williamsport, Bellefonte (near State College), and the bituminous coal fields of north central Pennsylvania ... and beyond that to upstate New York and Canada across a spur of the Appalachian Plateau. Downstream are Harrisburg, Baltimore, Washington, and southeastern United States. Each side of the river has a highway and a railroad (it was the Reading on the west shore. the Pennsylvania on the east) and the canal passed along the east side of the river.

The North Branch drains nearly half of the anthracite fields and usually carries a load of silt from the strip mines that makes the left side of the stream muddier than the right side as far south as Harrisburg. Wilkes-Barre and Scranton, up the North Branch, are well connected by rail to New York. Thus that branch of the river is less important for transportation. At the point formed by the two rivers is Northumberland, a large rail yard appended onto an elegant little river town.

This junction has always been important, a fact recognized sequentially by the Indians, the explorers, the "Indian fighters," the early settlers, the coal producers, the railroads, and the highway department, each of whom located an important facility near here and each of whom contributed in some fashion to the growth of Sunbury.

Sunbury (which the Indians called Shamokin) was an important pre-European capital. Sunbury is at the center of a large, fertile area. Glacial gorges and the deeper pre-agricultural streams connected Sunbury by canoe with much of Pennsylvania and New York. Twelve Indian trails also left the town.

When the first European explorer passed this point in 1615 Sunbury was the site of a Susquehannock Village. By earliest trading contact in the 1720.s the Indian politics of Sunbury were already confused. The Delaware, who had sold their land in the east, were in primary control. The Tuscarora had been also pushed in from southern Pennsylvania. Some Shawnee from South Carolina were camped a few miles north. And the Iroquois claimed dominion over the whole area from having conquered the Delaware. Shamokin was said to be the largest Indian town in the Pennsylvania colony at that time. Fifty shingled wooden houses covered a considerable area in the town, which was surrounded by a wooden palisade.

Following the French-inspired "Penns Creek Massacre" by New York Indians on Oct. 16, 1755, the colonial authorities built Fort Augusta, the largest of Pennsylvania's frontier forts, at the site of the Indian village and the Indians moved off to Ohio. It was the fort at this site which opened the region to development, and all towns up the West Branch date from after 1755.

Canals and railroad arrived here within a couple of decades of each *other*. Susquehanna Division of the Pennsylvania Canal reached Sunbury in 1832. It came up the west side of the main stream, crossed the river by the Northumberland bridge beneath the overlook, and split at Northumberland (directly across from the overlook) to form the West Branch and the North Branch Divisions. Dams, such as Shamokin Dam to the south, were built to fill the canal out of the river, and to permit the canal to cross the river. The North Branch Division passed through Wilkes-Barre, and eventually reached the Erie Canal, through the Chenango Extension, in 1856. The West Branch Division extended to Williamsport in 1833 and Lock Haven in 1834.

Canals operated only part of the year, canal works were highly vulnerable to the force of the river, and merchandise transported by canals was tied up in transit for weeks. The state sold off the Susquehanna canals after twenty-five years of operation, and the Susquehanna Divisions were abandoned completely in 1889.

The canals encouraged the earliest railroads. A feeder line to haul coal from Shamokin to Sunbury was built between 1834 and 1838. These trains were pulled by horses until 1852. The rail connection to Harrisburg was completed in 1857. Connection upstream preceded that link — to Lock Haven in 1856 and to Wilkes-Barre in 1852. A major freight yard — 60 tracks wide and 9 miles long — was built by the Pennsylvania Railroad in Northumberland in 1911 , but that function was abandoned gradually to bigger cities after 1928.

☐ Reboard the bus, head out of the park by going downhill and turning sharply left; descend to U .S. Rt. 11 at the river; turn left; cross the North Branch to Northumberland; turn left on Queen St.; right on Fifth St.; right on King St.; pause In the next block at the market square.

Northumberland was laid out in 1772 in a traditional Pennsylvania form on the upper terrace of the river. Royal street names — King, Queen, Duke — are used in Northumberland, as in Lancaster and York. The widening in King Street acted as a diamond, site of the periodic farm market. This form, the diamond as a three or four block part of the central street, is typical along the river here. Northumberland was a major stage stop, and the diamond held several handsome commercial buildings — taverns and hotels — and other houses that show this was a wealthy and elegant town. Joseph Priestly, nominal discoverer of oxygen, moved to Northumberland in 1794 in self-imposed exile for his Non-conformist beliefs. Through 1860, commercial buildings were usually larger versions of conventional domestic structures. The explicitly commercial architecture of the late 19th Century started a half block from the old diamond, in what is atypical pattern for this region. New development began on the nearest significantly cheaper land to the previous stage of development.

Canal, railroad, and industrial development was on the floodplain. The Rt. 11 bridge is near the canal's river crossing, and the canal basin was at The Point. The great Northumberland freight yard extended for miles up the West Branch, starting west of downtown. Silk mills and canneries were at the edge of town to the south and east. All of this development around the town preserved the upper island of old town from obliteration.

Continue south on King Street to the river bridge, which crosses to City Island and then to Sunbury; turn sharply right, past the Celotex wallboard factory, and down Front St. beside the floodwall past the site of Fort Augusta; turn left on Market St. and continue through the downtown.

Sunbury is typical of the towns which developed in the axis of transportation along the Susquehanna River. Always a trading center, the town looked like any traditional village when this was a comparatively isolated region. Morphologically the old center of Sunbury is almost identical to Northumberland's, with an elongate diamond leading down to the river. Sunbury is seat of Northumberland County, which was larger than the state of Maryland until other counties started slicing out pieces in 1795. The present ornate courthouse was built in 1865. Northumberland County includes most of the coal land we will see today. It is common for anthracite counties to be governed from outside like this, because the coal land was rugged and valueless at the time when the counties were created.

As interaction between the Susquehanna basin and coastal area developed" Sunbury grew into a busy, wealthy industrial center. Even today the principle industries in Sunbury reflect the town's specific 19th Century experiences as a river town. The Celotex factory processes wood fiber into wallboard, recalling the lumber industry upstream. Paulsen Wire Rope is descended from the iron manufacturers who located along the river between coal and iron ore. Weis Market is a typical successful retail chain, utilizing Sunbury's central location. And Sunbury Textile Mills, established in 1896, remains from the period when industrialists first tapped the pool of women's labor in central Pennsylvania by opening dozens of silk mills.

Now that coal and railroads don't rule the economy, Sunbury is three decades into a gradual decline. Sunbury grew as the highest point on the trunk of the biggest river in the east, and has shriveled as industry in the watershed declined. Coal went earliest, and took some heavy industry with it. Various industries in the region have been moving south for decades, some to be replaced by light industry and some not. Sunbury is now on the verge of serious decline. The city stands in line for the fate of many towns along the Susquehannas — Milton losing American Car Foundry business, Lock Haven losing Piper Aircraft, Bloomsburg losing Magee Carpet, Montgomery losing Zenith cabinets.

Even the town's local market area has been stolen. Sunbury is that unfortunately sized city which matches nearly function-for-function the businesses present in a mall, and the new Susquehanna Valley Mall across the river is chewing the vitals out of Sunbury. The town is declining to second-hand shops and discount drug stores in over-size buildings, and to women mud-wrestlers at the Bijou.

This century has been rough on Sunbury in other ways. The flood wall along Front St., which gives the town the feel of an empty swimming pool, was built to the level of the 1936 flood, providing graphic illustration of how deep that water was. The 1972 flood was, unfortunately, three inches deeper, three inches over the wall, and the town would have been lost but for Wilkes-Barre's bad fortune in absorbing the flood waters when their own levee broke. But the wrath of nature had been directed toward a town already suffering from less natural ailments.

Follow Rt. 61 east through Paxinos and the narrows of Shamokin Creek.

PART III: THE ANTHRACITE REGION

Hunters and blacksmiths had been aware of black rocks that burn in eastern Pennsylvania since the 1760s and some anthracite had been used in the Carlisle armory during the Revolution. But even as late as 1830 anthracite land was selling for \$1 per acre.

By the Civil War the anthracite region was one of the most valuable mineral deposits on the continent, and its value continued to increase for almost half a century. The transition of anthracite from a curiosity in a remote region into one of the key ingredients in the American Industrial Revolution is a geographic event of some significance. It illustrates the cultural, economic, and geographic disjunction in American history caused by the railroad. The technology of the railroad created a demand for resources that the technology itself could provide. Then the power of the rail companies let them create and mold entire landscapes toward providing resources.

The railroads were, in many ways, the first big businesses in America, bringing the force of illimitable resources to the ancient task of monopolizing resources and controlling labor. In the history of anthracite region we can follow America's style of resource exploitation as it evolved from medieval mine pits worked with picks and baskets, to mines run like knitting mills with thousands of adult and child workers serving large stationary machines, to a senescent landscape whose production has been displaced to even larger-scale mechanized operations in Illinois or Saudi Arabia.

That middle stage of American resource exploitation – the labor-intensive industrial resource landscape – is illustrated better in the anthracite region than almost anywhere else. Here entire valleys were bought, mapped, built, populated, and excavated to sealevel, toward the single-minded goal of producing coal at the least cost to the rail companies.

And when the market no longer existed for that coal, the rail companies directed their attention elsewhere. The landscape they left became fossilized. The people — immigrant populations brought in to work the land — remain. They have done an admirable job of finding inhabitability in a damaged land, an inhabitability not visible to many visitors.

Approaching Shamokin A few old taverns remind us that Rt. 61 is an old road, one that connected central Pennsylvania to Philadelphia since before serious settlement. The land is shaly in most of Northumberland County, and the steep slopes and thin soils do not support the same rich farming landscape as does the limestone soils of Penns and Buffalo Valley.

A symbiosis often existed between a coal region town and the farm towns nearby, with the farmers supplying milk and vegetables to the coal town, and the miners giving cash and some European flavor to the farm town. But at Shamokin Gap more of the coal region has affected the land than just some commercial interactions. Massive mining operations have been going on in the Shamokin basin for over a century, and some of the mess has spilled out. The pressure on land within the valley has been sufficient to extrude parts of the coal operations of Shamokin nearly to Paxinos. Big and little coal yards, rail sidings, truck and equipment repair shops, and suburban housing extend along the rusty-colored Shamokin Creek.

Between the ridges at Shamokin Gap stands an odd cross between an eyesore and a monument: the largest pile of anthracite mine waste in the world, the Glen Burn culm bank. This mountain is made of black shale — called culm, its Welsh name — mined underground and carried to the surface where small boys picked it out from the coal before shipping.

The traveler always approaches the coal region in reverse of how the mining operation works, seeing first the reject rock and the rail lines that hauled the coal away, and seeing last the holes the coal came from and the homes of the people who came to Pennsylvania to mine that coal. Mentally one needs to keep looking back, looking out of the valley, in order to understand that what has happened inside. The town, the land, and the people were controlled by forces beyond the gap.

In the gap itself, transitional in space and in commerce, is the fresh wreckage of the Glen Burn Colliery. Usually called a breaker, a colliery is a bulky factory that accepted carts of freshly-mined coal from the miners and produced crushed, sized, and cleaned coal to be sold and shipped. Glen Burn Mine, just inside the gap, once fed coal to the breaker from tunnels extending under the city, but deep mines like this are almost extinct. Coal now comes from a small number of strip mines, such as one on the ridge just west of the gap, which are safer and cheaper to run, and far, far easier to run at partial capacity.

Mining has gone on at this site since 1839, and there has been a colliery here since 1862. It is being torn down this year. We will pass a newer colliery in a few miles. Thirty-two large collieries were built in Northumberland County alone.

□ **Into Shamokin on Rt. 61 Business; bear left at the first intersection onto Independence Ave.; turn right at the light on Pa. Rt. 125; go straight at the gas station where Rt. 125 turns left up the mountain; follow paved road for two miles; continue for 300 yds. after this road turns to rugged gravel; leave bus, take your lunch, and walk down into the Bear Valley Strip mine.**

The Shamokin basin is a synclinal valley, plunging to the east. All coal in Pennsylvania is at the top of the stratigraphic section, and is preserved only where deformation forced the rock downward, as in this syncline. About three of these synclines in the eastern part of the state were also buried deeply enough that the coal was metamorphosed into anthracite; west and north of here the coal is less-altered bituminous, which is easier to mine and burn, but is dirtier, too.

The knobby, rolling sandstone bed seen in this mine is the under-rock of the Mammoth Vein, largest of the fourteen-or-so major coal veins. It is 124 feet thick in Tamaqua. This was swamp during the Carboniferous, lithified to coal during the Permian, and then contorted by the collision of this continent with Africa during the Appalachian Orogeny. To the educated eye the marks of that orogeny are very clear in the faults and joints here; my colleague Dick Nickelsen contends that this is the best exposure of folded structure in the nation. Those folds greatly increased the complexity of mining, and explain why the anthracite region is dead. Coal veins climb and fall at 85° over the folds, they widen and pinch-out from flowing like toothpaste under the force of compression, and they are abruptly truncated here-and-there by faults. The cost of producing anthracite is three times the cost of producing bituminous, from the unfolded beds of Appalachia.

Geomorphically, the net effect of the coal operations has been to bring billions of tons of organic sediment to the surface. The waste rock lies about in unstable heaps, sliding into buildings occasionally, and providing an inexhaustible source for sediment in the streams. The warren of old mines beneath the valley, and the piles of mine rock on the surface, expose iron sulfide to the atmosphere, where it oxidizes into rust and sulfuric acid. Added to the streams, it causes them to become orange, vile smelling, acidic, and sterile. The deep mines themselves slowly heal over as timbers rot and the roofs collapse. As this happens the ground settles unevenly, and foundations pitch and crack. Periodically city streets will drop twenty feet below grade.

Over half of the land in this valley has been directly excavated or buried by stripping. Little vegetation can grow on the black soil at the surface: roots get crushed, buried, desiccated, baked, or pickled in the rocky, unstable, droughty, black, acidic soil. Mine reclamation was unheard of until the 1960s, and most of the damage had been done by then. New mines are reclaimed, but new mines are rare. Arguably this land never had value sufficient to warrant thousands of dollars per acre to fill, grade, and plant it; but that same acquiescence to the loss of the land must accept that this is now one of the ugliest rural landscapes in the East.

Mining The scale of the work which has been done in the coal valleys is hard to comprehend. Thousands of miles of tunnel have been dug, a shovelful at a time, but we see little at the surface but black piles of waste. One hundred and forty thousand men worked in the mines at the turn of the century — 60,000 miners and 28,000 others underground; 30,000 laborers and mechanics above ground; and 16,000 boys picking slate. Miners earned \$2.25 per day; breaker boys earned 75 cents.

Bear Valley was mined twice — at least, and so far. Deep miners dug tunnels along the big vein in the 19th Century. Pick marks and timber sockets are often visible in strip-mine walls like these. The headworks of the mine are visible just east of here near the road, and culm can be seen at the top of the end wall profile where it was spread on the ground. Strip mining started in this area about forty years ago. Large shovels and bulldozers cut down through the culm, through yards of overburden, through previously unmined lesser veins, to the Mammoth Vein, in order to remove the coal the earlier miners had left behind to hold the roof up. Mining ended in this pit in 1948.

Production of anthracite this year will probably be about 3,500,000 tons, down slightly from 1986. Less than one tenth of that will be deep-mined, and nearly half of it will not be mined at all, merely reclaimed from poorly sorted culm banks. Peak production was in 1917, with 100,000,000 tons produced, almost all deep mined.

A billion tons of anthracite remain here in Northumberland County, and nearly five billion in Schuylkill County, immediately to the southeast. Abundant coal remains but it is not being mined at a significant rate. Owners cite several difficulties. Mechanization is not realistic in anthracite deep mines, the unstable market discourages investment in equipment, and convenience is so much more important than price for domestic heat. Many around here believe the big land owners have little interest in producing or marketing coal, but are only real estate holders, waiting for economic opportunities. Reading Coal, daughter of the bankrupt Reading Railroad, owns this plot and much of the rest of the valley. They operate a couple of small drag-line shovels which produce only hundreds of thousands of tons, but they will often not even discuss selling their land.

Return to the bus after lunch. The bus will retrace its path into Shamokin to rejoin Business Rt. 61 as Independence Ave.; turn right; and traverse the downtown.

Shamokin is not a company town. The land and the buildings in Shamokin have always belonged to a number of people. Most of the coal towns which remain today existed as places before mining started. In contrast, many company-owned small towns grew, shrank, and disappeared in the countryside during the period of mining. Shamokin had long been a one-company town, though, in the sense that Reading Railroad was the only major coal producer in this end of the valley for fifty years.

Railroads controlled 95% of anthracite production at 1900. As a group, the railroads were among the least enlightened corporations in the history of this nation. The Reading was the largest and among the most brutal of them. Their mining system relied on the recruitment, impoverishment, isolation, and physical abuse of immigrants. The geography of this system comprised a few cities like Shamokin and many, many small towns (like Locustdale, which we will pass through later).

Shamokin was laid out in 1835, five years before coal mining began. The town grew as coal production did, and its population peaked in the same decade: 21,204 people in 1920. Today Shamokin has somewhat under 10,000 people, and the lowest per capita income of any town in Pennsylvania (not counting three college towns). Shamokin also has five banks and the largest Savings and Loan in the state. Shamokin believes itself to have the highest per capita beer consumption in the state. The phone book lists 24 bars and clubs.

The comparatively robust appearance of Shamokin's downtown belies the economic despair of the region. The towns survive because shop-keepers don't expect to make much money — a fact that can be confirmed by a visit to a Shamokin restaurant over lunch some day —, because many shoppers are elderly and are captive to these stores, because big chains have not been attracted to this declining region, and because a personal relationship is important to many merchants and customers in this town.

At the east end of Independence Ave. is the copper-roofed silk mill — more recently a shoe factory — looking like a temple of industry. This building shows the turn-of-the-century influx of labor intensive industries: work for women, work for extra sons. Many such industries have since moved south, but others are still moving into the region.

Two blocks south is St. Ed's, the Catholic Church rebuilt after a fire with an altar of pure anthracite. Shamokin has about fourteen churches. Most of the religious diversity is in ethnic Catholic churches. There are also a synagogue and a couple of mainline Protestant churches.

In 1920 much of the housing was over-crowded. Today much of the housing is unoccupied. Houses are for sale at \$5000. Sections of Coal Township visible to the east of the borough, are typical of coal town housing. Long rows of narrow, tall frame buildings arrayed over valueless hillsides were built by coal companies or investors. Within a city, like Shamokin, these houses were more likely to be owned by individual landlords. In more remote areas the coal companies constructed and rented houses as parts of the entire communities they built — always at a reasonable profit. The coal companies planned to get 12% return on all their investments. In the longer run, owning and maintaining the houses and operating a company store was a headache for the mine operators and a source of labor antagonism. Many mining companies abandoned that business during a period of labor unrest between 1890 and 1910.

Coal sales dropped abruptly in the 1930s and the rail companies ceased all marginal production by closing a number of breakers and abandoning entire towns. That is the time at which this landscape became, in many ways, fossilized. Little has been changed since then: substantially the same buildings exist, as do the same land ownership patterns, the same deteriorating breakers and factories, and the same families in the towns.

Employment in mining is now negligible — 2% of Northumberland County's workforce. Production continues to decline, at the same time that productivity per worker increases. Almost all mining is strip mining, performed with large shovels taking 10 or 20 cubic yards a bite.

Rejoin regular Rt. 61 and leave Shamokin to the east; continue through Kulpmont and two smaller towns to Mt. Carmel; enter on Poplar St. and continue straight to Third St.; turn left, and stop between Vine and Oak. Exit bus for six-block walking tour of a coal town.

Mt. Carmel was settled as a stop on the Sunbury-Reading stage line before anthracite was mined. That fact lingers only as something residents will tell you — that this was a resort town. Mt. Carmel is thoroughly and absolutely an anthracite town right down to its name. Most of the hard coal towns carried Indian names (from anywhere in the East), or Biblical names, or the names of capitalists. A few have German names, one has a Welsh name. No towns have Polish, Irish, or Italian names.

Mt. Carmel is compact, well-preserved, and cleaner than many of its neighbors. Population is now about 8,000, down from a 1920 peak of 22,000. The downtown, all on one street, is a relict of that larger town — and of earlier days when people travelled less to shop. It is now greatly over-scaled for the population of the community, with music stores, furniture stores, carpet stores, and other specialized businesses. The town is highly redundant for some functions, such as clothing stores and restaurants. At the south end of Market St. are four pizza parlors in a row.

The residential parts of town are also fossils. Housing shows the intensity of land-use once necessary here, with three-story buildings attached to the back ends of city lots. The housing is now used at well below its capacity, but the attention given to building is still extreme. Note the many colors of indoor-outdoor carpet on front porches. In a few places just west of the downtown, people have bought up three or four row houses and torn them down to build a standard suburban ranch house. One may desire to live in a nicer building, but there is no point in moving away from your neighbors.

Churches are a central part of the community here. In Mt. Carmel the church buildings are clustered on a ridge at the northeast corner of town — seven on one street. There are three more at the other end of town, and others scattered around.

Also of importance are the large number of clubs and societies, including the four fire stations, ethnic brotherhoods, veterans' groups, service organizations, fraternal organizations, church groups, patronages of neighborhood bars, sports booster clubs for the high school or Penn State or Notre Dame, motorcycle or auto clubs, unions, and extended kinship networks. It is a hard town to be lonely in. It is also, for about the same reason, an easy town to be an alcoholic in.

Industry is segregated away from residences. At the edges of town in various directions are equipment yards, a glove factory, and the largest active mining concern in the region. But little industry remains. High school students plan to move away as soon as they can. There are few new jobs in the area, there is little for non-drinkers to do on a Saturday night. College or the military provides a ready route out of the region. Men can leave more easily than women, but men often find themselves commuting three or four hours a day so the wives can remain in the community of their family. The roads out of the valley are lined with cars left behind by carpoolers to Harrisburg or Reading.

Board the bus, continue one block past Oak St. to Hickory; turn right; continue out of town up Locust Ridge, to the south (past several diverse cemeteries to the left); descend the other side and pause at the Locust Summit breaker.

A brief photo opportunity. To the right is the abandoned Locust Gap breaker; to the left is the newer coal processing plant. When built, the Locust Gap breaker and its twin ten miles away were the world's largest. This one has since been sold to Gilberton Coal Company, which painted its name into the Reading logo. Gilberton is having chronic labor troubles. All

of the vigorous mining in the anthracite valleys is done by newer firms — generally small family businesses taken over by energetic young men.

Continue to the intersection with Pa. Rt. 901; turn left on the unnumbered road through Locustdale, to Ashland.

Rt. 901 is a commuter highway, to join Interstate 81 a few miles south. The loyal, consistently Democratic, and highly political constituency in anthracite valleys knows how to nurture its legislators, and vice versa. The next district north of here sent the same man, Dan Flood, to Congress for decades. He was reelected after he had been convicted for abusing his power. The voters need these roads to get to patronage jobs in Harrisburg or other jobs off in the urbanized southeastern parts of the state.

Rt. 901 gives a haphazard, backdoor view of the anthracite valley. One sees the direct and indirect effects of block ownership of the land — miles of abandoned strippings, the enormous breaker at Locust Summit sitting by itself in its debris, and then intense little towns where families have jammed all their lives into tiny lots. Homesteads are amalgams of old- world tidiness, K-Mart decorating ideas, and Freudian accommodation for the absurd unruliness of the rest of the landscape. Yards hold more flowers and figurines than grass, just across a fence or a road from culm and orange water. The interiors of these houses are quite ornate, as well.

Locustdale, half hidden in the trees to the left of the highway, is a good example of the small company towns, called patches. This one maintains the feel of the 1920s like few others. Residences are identical boxy duplexes and boarding houses, all sided in green tar paper.

Continue east to the outskirts of Ashland; loop through the top end of town; head back out of town on Rt. 61 north.

Ashland is an archetypal anthracite town, a good place to visit for the casual geographer. Even the name hints at its lunar hinterland. It is in Schuylkill County, the purest mining county in the anthracite region. Its form is splendidly idiosyncratic as a Pennsylvania town, reminding us of the filter that separated traditional Pennsylvania culture from the corporate and Eastern European happenings within these valleys. The main street is twice the width of most streets in the state — built with parades in mind, it appears.

Ashland is only four miles in either direction from another coal town. The density of towns on the land in the anthracite valleys reflects the past conditions. There were much larger populations in the towns, low mobility for shoppers, and a sizable hinterland of little towns like Locustdale, most of which have since been stripped away with the rest of the overburden.

At the southwest end of town are three anthracite tourist attractions. The Kiwanis run two of them, a mine tour and a steam train ride. The mine tour, into a formerly working mine (Pioneer Tunnel), is run by retired miners. The gift shop at the Tunnel sells anthracite jewelry and postcards of strip mines. The third tourist attraction is a state anthracite museum, small but well organized.

Southward through the gap at the bottom of Ashland lies the Mahantango Valley. Although closer to Harrisburg and the other Great Valley cities than Nittany Valley, Mahantango Valley was settled earlier, and has since been more isolated. The valley is on the way to nowhere, in a triangle of land blocked on two sides by anthracite valleys and on the third by the Susquehanna. Ordinary (that is, non-Old Order) farmers and their wives still speak German.

Turn north on Rt. 61, back toward Shamokin; turn right at the top of the hill immediately after the first house in Centralia on the right; stop beside the cemetery.

Even for a hard luck region Centralia is a hard luck town.

Centralia was settled and named before coal mining, in 1826. Intermediate in size between Locustdale and Shamokin, Centralia grew and declined much like its neighbors. Population peaked at nearly 3000 in 1920 and fell to 1100 at the last census.

In 1962 a rubbish fire in a strip mine just east of the cemetery spread into the old mine tunnels underground. Since that time the fire has spread through abandoned mines under a square mile of land — all the land east to the gap, and north to stream level, and south to a fault, and now west through the town. The town is being torn down by the government to protect the residents from asphyxiation by the fumes. The Bureau of Mines is also excavating a trench to the west of town to halt the mine fire's spread toward Mt. Carmel.

At a sociological level the town is dissecting itself, showing us what it is made of as it comes apart. What one can see is generalized inertia, rigid bonds to place, powerful resentment toward the political apparatus (paired ironically with distrust of community organization), shallow animosity between factions developing in town, and finally a self -destructive resistance to leaving this known, dangerous environment for a safer, unknown one.

People want to stay in Centralia while it burns. Some will remain even after the rest of the houses are torn down. This should be surprising to the outsider, but only in degree. It is already surprising that people wanted to stay here when there

wasn't a fire. The fire is just one more trouble for a town that had plenty of troubles already. It looks different to us because we know it is unsolvable, but the other problems this town has may be unsolvable, too.

- Return to Rt. 61, travel north to the center of town; turn left; travel west four miles to Mt. Carmel; follow Rt. 61 through town, retracing our entrance past the churches; continue west to Pa. Rt. 54; turn right; climb over the mountain toward Elysburg, past abandoned and reclaimed strip mines and through the town of Natalie.**

The anthracite towns affected life beyond the valley. Pressure has been great on the nearby land for resources to be used in the coal valleys. The hills were vigorously logged throughout the years for mine props. The narrow valley between the double ridges around the anthracite regions is beaded with reservoirs, holding the only drinkable water in the area. The farms beyond the ridges provided vegetables and dairy for the coal towns. Pressure on the fragile, shaly land was such that much of it was abused and then abandoned, now in scrub or orchard.

Even today the coal region affects the land beyond itself. Development spills over the ridge, especially for fancier residences. And industries that rely on the low cost labor of the coal towns cannot find stable, flat land to build on within the valley. Between Paxinos and Elysburg are about a half dozen plants — a shirt factory, a molding mill, a mobile home manufacturer, a paper recycler. Six years ago the U.S. Department of Energy funded a \$9 million culm-burning plant at Paxinos, which provided essentially free process steam. But no intensive users of steam could be attracted to the area. Only intensive users of labor, who have low energy demands, come to this former energy-producing landscape.

- Follow Rt. 54 through Elysburg, and across the shale uplands to the North Branch or the Susquehanna at Danville.**

Extreme northeastern Pennsylvania bears a slight flavor of New England culture. The North Branch rises in New York, at Cooperstown. Colonial Connecticut claimed this part of Pennsylvania and once fought a war for its possession. When rail lines spread into this part of the state, the Delaware and Hudson, out of New York, was most influential. The print of New England on the land is exceedingly weak. Farm houses are more ornamented in classical styles than in southern Pennsylvania, and villages are more likely to have a civic or a religious center than a commercial center. This reach of the North Branch is substantially a backwater, between the relatively vigorous interaction up the main trunk and the West Branch of the Susquehanna on one side, and the coal-mining and industrial frenzy of the Wyoming Basin around Wilkes Barre and Scranton on the other.

PART IV: POST-INDUSTRIAL PENNSYLVANIA

Central Pennsylvania is almost out of relative economic advantage. The farmland is close enough to the Northeast to have an assured market for milk, but it is cannot compete with the Midwest for meat or grain, or with the irrigated deserts for vegetables. The economic resources are now depleted (lumber), uneconomically small (iron), or overpriced (coal). The Susquehanna has become a transportation trunk to nowhere very interesting. The entire region is in decline relative to the rest of the nation, in population, in income, and in employment.

Yet spots within the area are growing rapidly. State College is the clearest example, but Lewisburg, Danville, and several other small towns are also doing well. What they have in common is that each is perceived to be singularly well equipped to provide a service to the regional market. Education, health care, research, information services, and travel services are the important growing employers in central Pennsylvania now. Each of the healthiest towns has a focus upon one or more of those services; each offerer of services has sought to differentiate itself in order to appeal to a specific market.

The old rules, upon which this landscape was built, are past. Industrial production is no longer important except as a base-line source of income to support the critical mass of a town. Accessibility is also not important in the same sense that it was. The automobile has flattened all small relief in the transport surface. Big roads are important, but businesses and institutions need no longer be right next to the highway — let alone right next to the railroad or the river. Yet this new landscape is built within the context of the old, the newly growing towns are resettlements, or embellishments upon, existing towns.

Danville is a fair example of the transformation of a town's economy to survive the loss of manufacturing. Danville is seat of Montour County, the smallest county in Pennsylvania. The town prospered with wealth from iron production. The thin black stone in some of the buildings is the limonitic iron ore from the hills to the north, the same deposit that supported iron furnaces in Glen Iron, and also in Bellefonte, Milton, and Bloomsburg. Iron production began in 1840, using charcoal. Later iron for railroad rails was made here with anthracite, in the biggest such operation in the state, and Reading Railroad acquired the factory. But the Danville plant never made the transition to steel production, and the business died.

By happenstance a large regional medical center — Geisinger — grew in this small town, which already had a State Hospital for the mentally ill. Montour County now has the highest proportion of M.D.'s in the nation. The town's elegant, underpriced housing and its scenic location only three-and-one-half hours from New York make Danville both a highly acceptable place for doctors to locate, and an attractive location for central Pennsylvanians to visit for tertiary health care.

- Follow Rt. 54 through Danville, through the gap in Montour Ridge; turn left on Rt. 642 one mile south of Interstate 80; continue through several small towns to Pa. Rt. 45.**

Northeastern Pennsylvania is a textbook example of the effects which come after the construction of a major highway into an inaccessible region. I-80 was completed through this area twenty years ago, following no preexisting route as it cut across difficult wilderness. The value of what almost all people do in central Pennsylvania has increased because of that road. Miners can sell more coal, manufacturers can ship to more markets, retailers can support more stores, and universities can attract more students. Land is worth more because more people can commute to or vacation in any given spot. People now commute entirely across New Jersey on I-80, driving from homes in the Poconos to jobs in New York City. More jobs are available in the region as well. The jobs are relatively unattractive, but any job is welcome to many here.

The employment impact has been especially strong here where the Interstate crosses the major north-south axis. A large number of warehouses, motel complexes, and other highway-related businesses have grown up. Light manufacturing, such as new specialty paper mills and computer wiring assemblers, have also been moving in along the Susquehanna.

- Turn left and follow Rt. 45 to the West Branch of the Susquehanna; enter Lewisburg across the bridge; leave the bus at 2nd & Market (the Lewisburg Hotel) to rejoin it at the parking lot off Market St. between 5th and 6th Sts.**

Like many of the towns in central Pennsylvania, Lewisburg was founded by a German. Ludwig Derr laid out the town in 1785. The "Lewis" in Lewisburg is an Anglicization of Ludwig; the street names — St. Catherine, St. Mary, St. George — are mistranslations of streets named after his children — Strasse Katrina, Strasse Maria, Strasse Georg. Derr built a saw mill and a grist mill at the site. Lewisburg is still a local center for handling wood and grain two hundred years later: a furniture factory is one of the town's biggest employers.

Growth was always slow for Lewisburg although the town is the natural outlet for the rich Buffalo Valley through which we travelled this morning. Most transport routes have been located on the other side of the river. When the canal went through, Lewisburg immediately built a "cross-cut canal" from Montandon (about under the current path of Rt. 45) to link up; when the railroad was built beside the canal in 1855, Lewisburg built a long covered bridge for a spur line. By these means the town remained connected to Buffalo Valley behind it and moderately well connected to the rest of the world downstream.

Lewisburg has grown more-or-less continuously toward the west for two centuries now. The progression of architecture from the river along Market St. is the town's chronology. The compact old brick and stone houses by the river along Water St. were built in the 18th Century by store keepers and millers. The bulky Federal buildings from the early period of commercial growth stretch from Front St. to Second St. The Hotel was built in 1831, two years before the canal arrived. Other buildings were homes for grain merchants and the schoolmaster. The wealth and interaction that the canal, and later the railroad, brought induced the relative exuberance of the older buildings around Lewisburg's diamond, from Second to Fourth Sts. Classical Revival architecture is rare for residences in Pennsylvania, but clubs, banks, churches, and the courthouse are all done in elegant imported styles. The University at Lewisburg — now Bucknell — was started in 1846 in an austere Baptist version of a Greek Revival building.

Lewisburg is now doing quite well by itself. Of all the towns in the region, Lewisburg has been most successful in profiting from historical-ness. Lewisburg had nice buildings to begin with and Lewisburg is open enough and sleepy enough to have been spared significant downtown destruction in the 60's. The University was probably the catalyst for the town's current growth. What was most important in the success of this town is that Lewisburg found itself to be the most livable place in an increasingly dismal region, and has benefited more for its relative attractiveness than for any absolute qualities. Because of its shops, its trees, and its college town flavor and functions, Lewisburg attracted the wealthy and mobile people of the region: doctors from Geisinger, managers from Weis grocery chain, shoe manufacturers, lawyers, and salesmen from the whole region. And that appeal is self-perpetuating; the town becomes more attractive as more wealthy people live here.

The reordering of central Pennsylvania's landscape in the rest of this century, as the traditional sources of wealth continue to dry up, will follow the model of Lewisburg. The advantages of towns are now esthetic or perceptual advantages, and the benefits of those advantages are relative to nearby towns, not relative to the entire national manufacturing apparatus. It is style, not resources that will select the growth poles for the 21st Century.

- Leave Lewisburg on Rt. 45 west; turn right in three miles on Johnson Mill Rd.; continue to Buffalo Crossroads; turn left on Pa. Rt. 192.**

Union County presents a well-isolated example of rural development in Pennsylvania. The land we see is the product of a long history of conflicting demands on the landscape, between farms, non-farm residences, businesses, and recreation.

Farmers value prime soil, flat land, water, and contiguity to other farm land. Much of the center of the valley fits this requirement, and is in dairy farms. Within and around that region are clusters of Old Order families. Needing to be together

because the difficulty in travelling by buggy or bicycle, these families are arrayed around a church or a school. They favor more diverse areas with smaller farms (i.e., hilly areas).

The success of recent nonfarm housing shows best in the most highly visible places: next to roads~ on scenic hills, and on hillsides of marginal (i.e., cheap) land. Farms continue to maintain a hold on much of the prime farmland because adequate nonprime farmland exists to siphon off development. Low-income, non-farm rural residents live on the shalier parts of Pennsylvania valleys. In another region these folks might be called hillbillies or rednecks. The use of the land *is* very familiar from the upland South: houses dispersed along smaller roads, rambling assemblies of buildings and outbuildings\ little attention to the appearance of the homestead from the road, a tendency to accumulate disused objects in the yard and on the porch.

A rural model of business depends on habitual customers to maintain a sufficient level of commerce. Rural car garages, Mennonite greenhouses and harness shops, country bars, and Mom & Pop grocery stores dot the countryside and illustrate this form. The success of these establishments is largely dependent upon the owner's friendships and reputation, not on the traffic out front. Churches are businesses in away, and some of them resemble those stores. Small, personality-oriented, evangelical churches are scattered across the land, unlike the more institutional churches in towns.

Much land in Union County is dedicated to recreation. Extensive areas of river and stream floodplain are thick with summer homes for people from nearby cities. There are also eight or nine commercial campgrounds in the county. Some of this development is supported by the temporary influx during deer season, when the woods are alive with drunken men with weak hearts and high power rifles. Hunting season *is* the major event of the year to many Pennsylvania men, and it provides millions of dollars in revenues and sales to counties like Union. But much of the recreational development, especially the campgrounds, seems to be a spill-over from the congested Poconos. Union County has become an element of the northeastern U .S. regional vacationing trade.

Follow Rt. 192 and Rapid Run into the State Forest lands; twelve miles of road passes up a long valley, through a gap, past Raymond B. Winter State Park.; thereafter Rt. 192 follows the axis of Brush Valley for its entire length, ending about where the valley does.

Brush Valley is a branch of Nittany Valley, twin to Penn Valley across Brush Mountain to our south, which we followed east this morning. Brush Valley is one of about five nearby remote limestone valleys being colonized by Old Order Amish from Lancaster County, and from Kishacoquillas Valley to the southwest. These Amish communities are among the most highly conservative societies in the United States.

The Amish are bewildering to tourists and students, who are mislead by the theological rhetoric that one hears about them into interpreting their conservatism as a product of their religious society, rather than as the reverse. Theology — what the Bible does or doesn't say — is extraneous to understanding the Amish. The Amish are a group that has chosen a specific relation between technology and society, and uses a theology to enforce it. The central thesis of Amish society is that material and personal good is subservient to social good. All choices in life should be made to maximize the integrity of the patriarchal family.

The results are predictable from the goal. Amish society maximizes the cost of interaction outside the group, by choosing rural life, by hindering travel, and by dressing and speaking differently from the non-Amish (the "English"). Amish society maximizes the value of large families by choosing unmechanized agrarian occupations. Amish society maximizes the intensity of land use, with those large families, to maximize the proximity to and interaction with other Amish.

Brush Valley shows the material relations of Amish society, and its success. Eight year old boys drive teams of giant mules to pull a corn harvester — powered by an acceptably small Briggs and Stratton engine — through the bucolic countryside. Amish society has isolated itself from the temptations of modernity for three hundred years. Amish society continues to expand in number and area in the face of increasingly strong economic and moral competition from the rest of America.

Rt. 192 ends at Centre Hall; jog left on Rt. 601 for two miles, then right to rejoin Rt. 45 west at Old Fort; retrace the morning trip, to U.S. Rt. 322; turn toward Oak Hall and follow the State College Bypass to the first traffic light; turn left on ~t. 26 and travel to University Drive exit; turn right on University Drive.

State College is one of the purest college towns in America. Town and college were coeval and have been uncomfortably inseparable ever since, like grumpy Siamese twins. The college was started in what was rural isolation in 1855, and was subsequently developed as a Morrill Act land grant university. The center of town and of college has always been at College Avenue. Across it the commercial and the academic aspects of the community have watched each other for over a century, as the institution grew from a one-building Farmer's High school to a huge research university, and the town's population kept near perfect pace with the student enrollment.

Town and school have both been transformed mightily by the changes in American education since World War II. The needs and capabilities of the modern researcher came to support related industries — consulting firms, programmers, and

information services. And the incomes of university students and staff have been increasing faster than inflation. Because of these kinds of growth, and in the absence of any serious competition, State College emerged as the regional growth pole for an area extending 60 miles in every direction. The town is now usurping urban functions from a growing sphere of medium size towns — shopping, wholesale trade, newspaper circulation, and radio, for example. After a hundred years, State College has finally grown beyond the university; it is finally growing faster than the university. This is the same pattern of economic success we say in Lewisburg' and Danville — a service in a town renders it an acceptable place to live, and the town thus attracts population and then a variety of other amenities. State College now has about 40,000 residents and 35,000 students.

This highway serves the politically most intense use of any highway in central Pennsylvania — it connects the Pennsylvania state capital with the Penn State football stadium. (Each home football game brings 54,000 people to town, who spend \$3,000,000.) As a wholly new road, the bypass makes a clean incision across the growing margins of State College. In sight of a scatter of 1960s and 1980s developments as we leave Rt. 45 and the southeastern access, the bypass travels diagonally through corn fields and quarries to Rt. 26, the older eastern access much closer to town. State College has expanded almost non-stop since 1945, as is obvious from any approach to town. Since that time the town has been projecting suburbs of the current mode off into the corn fields, and then filling in around them with the next style, enveloping small towns as it grows.

Rt. 26 parallels Spring Creek and the road to Bellefonte. Centre County's thoroughly eclipsed former metropolis. This was the original access to State College, and the first road to undergo strip development. It still shows some of its past dignity in a few elegant houses and farms, and the limestone Centre Furnace, where iron production was started in 1792.

The university owns much of the land north of Rt. 26, part of a swath of land it owns through the middle of the growing town. Compared to commercial development, the university's use of the land is less intense and more erratic (freshman dorms are a thirty minute walk from campus, but the golf course is five minutes from the President's office). This provides open space near much of the densest part of town, but also spreads development miles further from town to the north than would otherwise be the case.

University Drive traces the ragged frontier of the eastern limit of academic and administrative buildings. Beyond are agricultural and research facilities, housing, and sports fields. The student population of Penn State exploded in the sixties. The university administrators (who knew how to extrapolate an exponential curve if not when) built a block of dorms out beyond the sheep barns in 1965, dorms still not visible from any classroom building. Off-campus housing for students became more sought-after as the dorms became less attractive, and red brick apartment blocks grew up at the seams of the urban fabric — behind the supermarket, over-looking the sewer plant, down-wind from the dump. Rent in State College is second highest in the state, behind only downtown Philadelphia.

After the looping turn by the stadium, the road travels obliquely past the center of campus, with the stately professorial homes on the right and a jumble of Sixties and Seventies academic buildings on the left. We return to a landscape familiar to us all-

Follow University Drive as it curves west, bringing us back to Atherton St.; turn left and travel three blocks to the Trailways Station.