This paper begins by examining the history of disability payments to disabled workers, specifically disability payments to coal workers. Efforts by the United Mine Workers of America made mine health and safety an issue in the 1960s, and continuing liberalization of the law continued through the 1970s. The identification of coal miners with disability is compounded by geographical and cultural barriers. Currently underscoring disability as a social construct among underground miners is the declining regional economy and rising unemployment, brought on by technological improvements in mining. The paper examines research about the effects of early health intervention among underground coal miners and describes other studies of physical disability in Appalachia. All cited research supports the same general finding: disability is part of an Appalachian life pattern, a natural consequence of work occurring before old age. It is common for work to be punctuated with periods of temporary disability and to end in disability retirement. The uncertainty of mining as long-term employment makes benefits such as Social Security and Workers' Compensation a necessary station in the career course. There can be no solution to disability if disability itself is a solution to narrow socioeconomic choices. Only long-term improvements in basic education and the economy would reduce work disability patterns. (TES)
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As noted in an earlier article:

The term disability is relative and elastic, molded in usage by cultural, social, economic, and political circumstances.... Disability is [a] relativistic concept, referring to nothing sui generis. [1]

Yet, since the late 19th century, definitions of disability have been sought as Western governmental bodies have adopted social insurance programs to address the needs of disabled persons over and beyond poverty alone. [2]

Beginning in Prussia under Bismark, the concept of disability became linked to monetary compensation for persons unable to work because of accidents and sickness or old age. This "model" compensation scheme spread across Europe. In the United States, federal and state governments moved more slowly and irregularly in addressing disability. Until 1911, practices in caring for the disabled differed from community to community with no semblance of any system. [3]

In 1911, the first state workers' compensation laws were passed in Wisconsin and New York, marking the first step in the emergence of a uniquely American disability system blending private, state, and federal obligations and responsibilities. The first component of the workers' compensation system rested on the philosophy that the government's role was limited to the states individually legislating minimum industrial standards, overseeing the obligation of employers paying injured workers some portion of pre-injury wages, and seeing to it that the worker received some medical attention. There was a great deal of discretion left up to employers as how to meet this obligation. By 1920, all but three states had workers' compensation in some form.
With the Social Security Act of 1935, states received federal funds for the relief of indigent dependent children whose parents were unable to work, often because of disability; also elderly adults, and blind persons. The concept of disability was thus linked to public welfare. Unemployment insurance also began to meet some temporary disability needs by paying benefits to workers unable to work for specified time periods. Then after two decades of federal planning and Congressional debate, in 1956 Social Security Disability Insurance was added to the Social Security system to allow a disabled worker to receive a pension before reaching retirement age. Entirely federally administered, Social Security was built on both employer and employee contributions. Unlike workers' compensation, coverage of disability under Social Security did not differentiate between whether or not disability arose out of a proveable work-related injury or disease, but it did require the test of an impairment preventing "substantial gainful activity."

Established in between the times of the first state workers' compensation programs and the later federal Social Security disability program was the federal-state vocational rehabilitation program. While originally intended to relate closely to workers' compensation programs and later intended to relieve any untoward financial impact of long-term disability costs on Social Security, it, of all disability programs, has been subjected to interest group politics both internally - e.g. state agencies creaming the less severely disabled to show program success and thus gaining more federal dollars - and externally - e.g. forceful lobby efforts of the United Mine Workers of America (described later), the blind, and other disabled groups, most recently those with severe neuromuscular disabilities seeking independent living. The fed-
eral state vocational rehabilitation program most clearly demonstrates how "public policy runs counter to the intentions of the policy maker,"[4] because the program did not develop in close relationship to either workers' compensation or Social Security.

Beyond the humanitarian intentions of policy makers, utilitarian goals have become welded to disability in any context: (i) benefit entitlement for individuals who can meet disability criteria, according to regulations, especially when a local, regional, or national economy is poor and (ii) political clout for groups invested in the resource management for persons who are disabled or deemed to have disabilities. Beyond its origin in the western world as a legal and bureaucratic construct related to inability to work either on a temporary or a permanent basis, disability has become an important social construct involving politics, economy, labor relations, and family relations.

Underground Coal Mining and Work Related Disability

Underground coal mining has always been an inherently dangerous occupation from its early picking and shoveling days to the automated mining of today. Contributing to fatalities and injuries have been roof falls, cave-ins, gases, dust, low seams requiring tortuous body positioning; now machine noise and machinery that can - and does - sever body parts. While underground coal-miners are not a disabled group per se, they have become politically identified as at high risk for disability.

In the mid-20th century, the United Mine Workers of America (UMWA) pushed for miners' entitlement to rehabilitation. John L. Lewis, president of
the UMWA worked closely with primary officials in the Social Security Administra-
tion to set up the UMWA's Welfare and Retirement Fund in 1946, and federal officials worked for the Fund after that. One of the Fund's major goals was to provide medical and rehabilitation services to injured miners, services that prior to the Fund's establishment had been left up to mine owners and company doctors since mines were remote from centers of medical care.

One of Lewis's first dramatic uses of the Fund was for the rehabilitation of paralyzed miners. Fund officials sent doctors and public health nurses into the hills, and they found miners who had lain bed-ridden for years. On stretchers they were brought out of the hollows to roads then taken by ambulances to local hospitals, then taken on cots to train stations to wait for trains taking them to rehabilitation hospitals - Henry Kessler's in New Jersey, Howard Rusk's in New York, Kabat-Kaiser in California.

The continued focus of the UMWA on its most disabled miners brought it in conflict with the federal-state vocational rehabilitation program that wanted to focus on "better material." The Fund officials lobbied and pressured federal agents to provide more dollars to state vocational rehabilitation agencies for union miners. Rehabilitation was not the only goal, however; once the miners were accepted into the public program, the financial burden of caring for the miners was shifted from the private sector UMWA Fund. The pressure worked, and during the 1950's it is reported that the "coal mining states developed larger and more advanced rehabilitation programs than other states." This link between rehabilitation and disability promoted by the UMWA influenced Congress in the 1950's when it debated and then passed the
Social Security Disability Insurance. As one researcher has pointed out, however, the much lobbied for UMWA rehabilitation program probably was not as dynamic and efficient as portrayed publicly, or the union would not have had to lobby as hard as it did.[7]

The UMWA did not immediately lobby with any vigor for coal mine health and safety, however, when that became an issue in the 1960's. Ralph Nader having achieved victory over the auto industry and unsafe cars, turned to the coal industry. To the industry's poor safety record, Nader added a new charge: dust exposure leading to occupational disease in miners. Nader's charge was based on a Public Health Service Report containing estimates that 10 percent of active miners and 20 percent of inactive miners had lung disease. At the grass roots level the charge was supported by an outspoken West Virginia physician I.E. Buff who unremittingly attacked the coal industry and the dangers of dust exposure in the mines. It was Dr. Buff who coined the term "Black Lung." The UMWA, however, was unmoved, by either Nader's or Buff's pronouncements.

Then on November 20, 1968, a Consolodation Coal Company mine exploded in Farmington, West Virginia, entombing 78 miners. The Farmington disaster brought the issue of coal mine safety to the floor of Congress. Subsequent Congressional debate and action are well documented.[8,9] Nearly one year after the mine explosion, both the Senate and House had bills on the floor for coal mine health and safety, each containing provisions for the compensation of "coal workers' pneumoconiosis," each, however, restricting compensation to "complicated pneumoconiosis" based on medical testimony. The bill that emerg-
ed from the conference committee ignored this area of agreement, deleting references to "complicated" from the legislation, thus allowing for far broader coverage. After some sharp disagreement in the House regarding the integrity of the conference process, the bill passed and then passed in the Senate, and Title IV of the 1969 Coal Mine Health and Safety Act became a federalized workers' compensation program for miners who were or would become totally disabled because of pneumoconiosis and to dependent survivors of miners who died from the disease.

The 1970's saw a liberalization of the law. Union lobby now joined an active grass roots lobby and coupled with powerful and well-placed Congressional support gained amendments to the original legislation allowing for presumptive respiratory disability based on number of years spent in coal-mining; a positive X-ray was no longer necessary. Then came the most liberal version of the program with amendments passed in 1978. The new amendments mandated a review or reprocessing of all claims previously denied. "Miner" was redefined to include any worker in or around a coal mine. Continuing work, even continuing work in a coal mine, could not be used to refute a disability claim.

Regarding the outcome of the liberalization of the Black Lung Program during the 1970's, one writer has observed that "...the hundreds of thousands of successful beneficiaries actually exceeded the wildest possible goals set by the program's supporters in 1969."[10] Another writer observes: "Through a classic confluence of interest group politics and public relations, the Black Lung Program mushroomed into a billion dollar a year permanent federal program."[11] Both writers note that in many ways the Black Lung Program re-
sembeded a pension program responsive to social need. During the decade following the Coal Mine Health and Safety Act, automation of the mines produced significant reductions in manpower requirements. Unemployment in mining counties was increasing; some mine owners were moving toward operating non-union mines. To qualify for black lung benefits became the goal of many miners.

Characteristics of Appalachia

The sociopolitical identification of coal miners with disability is compounded by geography and culture. In the United States much of the underground coal mining is located in Appalachia, a mountainous region running from northeast Alabama and northwest Georgia up through southwest South Carolina, eastern Tennessee, eastern Kentucky, West Virginia, and southwestern Pennsylvania. Within that area, the bulk of the coal mining is in Kentucky and West Virginia.

The mountainous nature of the region naturally restricts mobility and social interactions. Clay roads are common, and become mud roads in the winter and spring. Original settlers sold off the wealth of timber and mineral rights, thus only the top clay soil and rocks remained for any ownership. Then mining companies came in and bought up much of the land. The company towns have now gone, except for rows of identical small houses in some places, and trailers in which many miners live are now often placed on rented land. Intellectual and cultural resource within the population is comparatively diminished, and educational opportunities and resources are circumscribed. Deprivation is a way of life in many of the hollows along the creek branches.
of Appalachia and has been sensitively described in detail by a nurse anthropologist.\[12\]

If one who has been born and bred and worked in Appalachia becomes disabled by injury or disease, function which has always been limited anyway is simply further limited. Within this geographical, cultural, and social context, disability does not controvert a pattern of life as it does in more mainstream middle-class America, but seems to magnify all the restrictions inherently present.

Currently underscoring disability as a social construct among underground coal miners is the declining economy of the region in terms of unemployment brought about by mechanization of mining. In 1976, there were 9,050 mining jobs in the leading coal producing county in West Virginia; in 1986 there were 2,760.\[13\] Unemployment in that county is over 25 percent. Weekly workers' compensation disability benefits are almost $100 more than unemployment benefits. Thus the awarding of disability benefits following injury or dust or noise exposure in the mines has become a matter of increasing controversy between workers and their employers. Despite the rich coal seams and the efficiency of machine mining, some coal employers are finding the costs of disability impeding their ability to do business. Among enlightened coal employers, there is increased interest in intervening in what has been described elsewhere as "the disability process"\[14\] following injury.
A controlled demonstration project was undertaken by the West Virginia Workers' Compensation Fund to assess the cost-effectiveness of early intervention among underground coal miners having back injuries resulting in time lost from work. The intervention consisted of a rehabilitation nurse making a health and psychosocial evaluation of injured workers within a week or two after injury followed by a nurse and a counselor providing guidance to workers deemed at risk for extended disability and coordinating primary care, specialty, and physical therapy services. Unexpectedly, the findings from the study are not statistically significant and do not support this early intervention approach. These findings counter other research and policy supporting early intervention and raise questions regarding why this approach failed to reduce the length and cost of workers' disability. Certain factors external to the intervention itself may help to explain the findings.

First is the depressed socioeconomic condition in the geographical area from which the study sample came. Several small mining companies operating at the time of the study have closed, and two of the larger companies have closed mines and reduced personnel. There are few alternative employments in region.

Second is the intimidation of health care providers by union officials and attorneys who are hostile toward overt return-to-work treatment interventions. When confronted by staff involved in the early intervention study, a local hospital administrator responded, "We can't be known as an organization supporting a group that gets people back to work."
Third, 47% of miners whose back injury had resulted in their entering the study had had previous injuries, and 30% had previous partial disability awards as a result of injury meaning that according to medical judgement, they had permanently lost a certain percentage of normal body function. These injury rates can be interpreted at two levels: first, to verify that coal mining is a high risk occupation; second, to show that for an individual miner injuries and aggravations of previous injuries can make disability part of the pattern of life.

Other studies have addressed disability in Appalachia. In 1952, Wiesel and Arny described "miners' syndrome" after studying 100 coal miners in Harlan County Kentucky.[18] The syndrome was characterized by numerous somatic complaints, a passive dependent attitude, a lack of anxiety with rationalizations of being exposed to "bad air," hard work, and "nerves being run down." The researchers found both advantages and disadvantages to the then extant UMWA Welfare and Retirement Fund and noted that it fostered dependency and a chronic invalid reaction.

Cook in assessing psychosocial barriers to rehabilitation in Appalachia in 1967 concluded that many individuals who live in the restricted geographical and social environments, the hollows and valleys and small rural mining towns, have adapted to restriction and confinement, both of which are also elements of disability.[19] Cook noted dependency as a significant factor "that inhibits restoration to productivity," and that dependency is particularly evident among coal miners in Appalachia who have over decades had two major authority figures: the company and the union. First, the company
provided not only work for the miner, but his house and the script for food and clothes at the company store. With the development of the UMWA, the miner transferred much dependency to the union for advocacy. In both cases, however, autonomy and self-direction have been inhibited.

Ludwig in 1982 described the common affliction of "nerves" and resulting disability among individuals, both men and women, in Appalachia. "Nerves" appears to be

...a conglomerate term to encompass chronic anxiety without panic, mild depression without despair, neurasthenia without malaise, a smattering of hypochondriasis, and a surfeit of illness behavior, all superimposed on passive, dependent individuals with borderline normal intelligence and exposed to profound socio-cultural deprivation.[20]

Horton looked at patterns of illness in an Appalachian community in 1984 and noted:

In this area of Appalachia [Lincoln County, West Virginia], disability is not experienced as it would be in the general middle-class United States, as a sharp insulting surprise. Disability is not only inevitable, but it inevitably accompanies age. As one informant explained, that it is not a matter of 'if' you'll be crippled, only 'when.'

Human bodies, 'poor flesh at best,' are not presumed to function well, especially as they grow older. An invading set of ailments - 'arthritis' (arthritis), 'sugar' (diabetes), 'highblood' (hypertension) - are expected by the age of forty. As with injuries, these disorders are judged to be irremediable and irreversible. Even fit, healthy, hardworking young males are resigned to being 'past it' by their thirtieth birthday.[21]
Horton further speculates that back pain among men and headaches among women may be somatoform disorders, with belief in their inevitable occurrence as the pathogen. [22]

These separate studies, unrelated to one another, all support the same general finding: disability is part of an Appalachian life pattern before old age.

Discussion

In light of the studies just cited and the politics of disability relative to underground coal mining, one can conclude that in central Appalachia work and disability are related concepts with disability perceived as a natural consequence of work. It is common for work to be punctuated with periods of temporary disability and to end in disability retirement.

At a systems level, disability is well supported. The Black Lung Program, while modified by amendment in 1981 to limit a number of the liberal provisions of the 1970's amendments, was by no means "completely reformed." [23] It remains a quasi-pension program retaining essentially lenient definitions and procedures. In the broader system of workers' compensation, when permanent total disability occurs as the result of the combined effects of a work-related injury and a pre-existing impairment from injury or disease, benefits to cover the pre-existing impairment portion of total disability may be paid out of special set-aside funds. This method of disability coverage is prominent in the two Appalachian coal mining states of West Virginia and Kentucky. The employer is held responsible only for benefits related to
the subsequent work-related injury. Thus an employer can use pre-existing impairment as a way to dismiss any protracted litigation over a claim and to contain any future disability loss for one worker, and a worker can gain an honorable retirement. The question of whether the worker is truly totally disabled from work is relatively unimportant.

In other cases, Social Security benefits can be the next step after Workers' Compensation. And for many persons deemed unable to be gainfully employed for 12 months or longer, because of physical impairment, but who cannot claim a work-related injury, Social Security benefits may be the only recourse. West Virginia according to the most recent data available has 74 disabled worker beneficiaries per 1,000 insured workers, the highest rate in the nation and quite significantly higher than the national average of 35 disabled workers per 1,000 insured workers. Kentucky's rate of 48 disabled worker beneficiaries per 1,000 workers, while considerably below West Virginia's rate, is still higher than the national average.

What possibilities are there for change? First, it is clear that in West Virginia geography, high risk occupations (timbering and glass manufacturing in addition to mining), politics, and economy together with disability benefit administration systems backed by liberal court decisions can make disability a station in the career course, rather than an adverse interruption or an adversity to be mounted. In a region where the economy is limited and educational levels are low, vocational rehabilitation is generally not a promising alternative for disabled workers who have worked in heavy labor. Early intervention in the course of disability may be more promising, but the lack of
cost-effectiveness in one research project leaves some doubt. It would seem that only long-term improvements in basic education and the economy would reduce work disability in Appalachia. Ludwig from a study of Social Security Disability recipients in Kentucky, has observed:

Any long-range remedy will have to be directed toward prevention both in the very young and future generations. In the education arena, special programs would have to be constructed for predisposed children at the pre-school and elementary school levels to make learning a more exciting process and to broaden their intellectual horizons....

The presumed end product of this educational process will be psychologically minded individuals who can recognize the contributions of interpersonal and personal problems and their frustrations in resolving them to the distressing symptoms they experience.... Instead of a fatalistic world view of accepting their lot in life, social activism must become a credible alternative. [25]

Ludwig's solution through an improved educational process, however, cannot be realized without an economy that offers individuals job and career alternatives, that gives them a sense of control over their circumstances. Without economic options, disability is a solution to unavailable or dissatisfactory jobs with both legal and bureaucratic accommodation of compensation. The Black Lung Program is the quintessential realization of such a solution. There can be no solution to disability if disability is itself a solution to a limited socioeconomic environment.
REFERENCES


2. The "poor law" in England in 1601 first established secular and legal obligations beyond religious and moral to help individuals in unfortunate circumstances.


4. ibid. p. 67


6. ibid. p. 242

7. ibid. p. 244


22. ibid. p. 653

23. Barth, op.cit. p. 258.
