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THE FUTURE OF WORK AND DISABILITY:
POLICY AND SCENARIOS

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE
UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
POLITICAL SCIENCE
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Aloha kākou! Mahalo nui loa to so many beings who made the completion of this project possible. Most of all, I want to say thank you to all the persons with disabilities, their parents, siblings, friends and advocates who have shared their lives, knowledge, wisdom, criticisms, humor and accomplishments with me. Without them, I would have never dared to start this journey. There are also some special thanks to my co-workers and former co-workers who supported me through this process, especially Clara, Debbie, Kim and Joakim. Thanks go to the Department of Political Science at the University of Hawai'i at Mānoa and East-West Center for funds to study here and participate in research elsewhere as well.

Aloha pumehana to my family and ‘ohana who have tolerantly watched and supported me. I thank my mother and grandmother who prayed endlessly for my success. Elizabeth and Vee, thank you for all the positive thoughts and perpetual enthusiasm. Janice and Leolani, my hula sisters, deserve thanks for sharing my journey. I am thankful to participate in hula and have learned to focus. Mahalo to my Kumu and his Kumu for sharing. Finally, I thank John for holding me capable. Aloha ʻoe.
ABSTRACT

Tremendous change is occurring in the United States. Societal support for individuals who cannot work or do not display the capacity to participate as working members in our communities has diminished rapidly in the last decade. No longer are there guarantees of extended financial assistance, long term benefit programs, monies for training, or even goodwill for those who do not work and live independently.

The future of vocational rehabilitation, disability and work can be approached in many ways. At one extreme policy, social programs, public perspectives and the economy could be seen as "fated," interacting and producing a situation beyond the control of anyone. Conversely, from a futures research perspective, the future can be approached as a creative process. Relationships between vocational rehabilitation, disability and work can be examined with a purpose, dedicated to fostering choice, and empowering individuals to strategically direct their efforts to meet a dynamic design of what they would prefer. This dissertation is dedicated to assisting people to consider alternative futures so that they might have an impact on the future to come, by acting in the present.

This dissertation is a futures research study of vocational rehabilitation, disability and work, concluding with the creation of many scenarios. Initially current models, definitions and measures of disability are examined. A review of rehabilitation history describes how disability has been constituted in the past.
and how vocational rehabilitation services have measured efforts to serve persons with disabilities. Conventional expectations for the future of disability follow. Probable and possible alternate images of society and how work and disability could be constituted in the future are examined. The project concludes with a discussion of scenarios and their place in the process of planning. Suggestions for their subsequent use are also made.
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A short way to outline futures research is to say that it is the study of the present from a point of view of a special interest in comprehending the future. The object of futures research (in the sense of making observations) is thus the present, not the future, as one might think (Mannermaa, 1988, p. 280).

1.1 Dissertation Focus

Tremendous change is occurring in the United States. Societal support for individuals who cannot work or do not display the capacity to participate as working members in our communities has diminished rapidly in the last decade. No longer are there guarantees of extended financial assistance, long term benefit programs, monies for training, or even goodwill for those who do not work and live independently. Economic crisis at all levels of government seems sufficient reason to abandon past programs, even in the face of a growing population of persons requiring help. Legislators now ponder if support for the poor and disabled will be available only in times of plenty. One Hawai'i state legislator asked, "What good is it if we are fiscally sound but morally bankrupt?" (Yuen, 1996).

Programs that are primarily federally funded, such as vocational rehabilitation which assists persons with disabilities to find employment and increase their independence, also face uncertainty. The 1992 Amendments to the Rehabilitation Act of 1973 were enacted to improve and expand the services so persons with disabilities could secure employment and increase independence. In many states not everyone with a disability who applies for
services is served quickly. Consequently, vocational rehabilitation agencies have initiated a process which sets priorities for service, the order of selection, to serve the most severely disabled. In Congress, new measures have been introduced to roll all vocational employment and training programs into a one-stop shopping approach to service. Planning is confused in this atmosphere of uncertainty and federal guidelines promote only a three-year time horizon for planning efforts.

How can the future of such programs be explored with respect to these uncertainties? Many articles in rehabilitation (Kolk, 1995; Seelman, 1994; Groce, 1992; McFarlane, 1992; Strully, 1992; Nicholls, 1991; Brown, 1990; Leung, 1990; Shontz, 1989; Whitehead, et al., 1989) and conferences (Graves, 1991; Walker, et al., 1991) purport to examine the future of vocational rehabilitation, but do so on a very limited basis. Most of these articles examine the history of events, trends and individual influence but spend very little time speculating about the future. Godet points out, "carrying out analysis of the past, . . . can amount to two-thirds of the investment of time in a futures study" (1987, p. 49, his emphasis). A few researchers, primarily from public health, have begun to examine changing social structures and society (Riley, 1994; Strauss, Bahnson and Speidel, 1993; Albrecht, 1992; Gellert, Kooiker, and Neumann, 1991) but do not extrapolate to discuss the future in the longer term. Futurists have invested time in exploring health futures (Bezold, 1995; Bezold, 1993; Bezold, et al., 1993; Peck, 1995; Hellman, 1991) but have not focused
specifically on issues of disability and rehabilitation. No other study exists which examines the future of rehabilitation, disability and work using scenarios to examine the challenges and opportunities that lie ahead. This investigation is the beginning of such a dialogue about the future and making choices.

Research in disability tends to be oriented to at least one of the goals of prevention, rehabilitation, and equalization of opportunity to promote the full participation of disabled persons in social life and development (United Nations, 1983). Roughly corresponding to these three goals are three respective phenomena — the presence of sequelae, the inability to perform certain activities, and disadvantage (World Health Organization, 1986) (Brown, 1991, p. 1).

1.2 Overview

Albrecht states that the United States is a post industrial, capitalist society and it embraces an ideology of free markets and enterprise. Resources are abundant, labor supplies are adequate and the public performs the job of consuming. "Patriotism and the moral worth of the productive worker" are two strong underlying values in this society (Albrecht, 1992, p. 48). Yet, there is a dilemma (Stone, 1984). While the society values work, it also acknowledges that everyone cannot secure a job. Long-standing policies offer some benefits to people who cannot support themselves for a short period and are unemployed. A separate set of policies determine support for those who cannot participate in the work force and are therefore, disabled. But policy does not assist everyone. Many are unemployed, not disabled, not receiving benefits and still in need. Categorical resolutions have failed to resolve this predicament. Looking into the future, there are questions about disability. How
will aspects of society and disability change? Can policy be developed to meet the challenge of these changes? How does exploration of the future explore the need for services such as vocational rehabilitation?

The word "handicap" actually was derived in part from an image of someone with a cap in hand. As most people are probably aware by now, "handicap" is no longer acceptable to use when referring to an individual with a disability (ADA Compliance Guide, 1994a, p. 8).

1.3 The Dilemma of Distribution

Market economies rest upon the horns of a dilemma. Deborah Stone describes a model society that has only two distributive principles: work and need. In The Disabled Society, she juxtaposes the conflict between economics and the underlying value of a political entity or community. Society's members are expected to perform work and, if possible, produce extra. The extra bit provides an opportunity for the working individual to exchange, sell or give away a product (i.e., generally, goods and services) as well as save it for the future. In this way, society members can profit from individual effort or improve the public good as a whole by sharing with those who are not capable or self-sufficient. However, at any given time, an individual may not be able to provide for him/herself due to the vagaries of the work available in imperfect labor markets. Stone suggests that at the foundation of any society, or the community, is an understanding of mutual responsibility among members. Those in need must be provided assistance. It is the determination of who is in need that is the crux of the dilemma: how shall society help individuals who cannot provide for themselves without undermining the economic principle of
distribution related to work performed (Stone, 1984, p. 15-16)? Stone examines this theme at more length in *Public Policy or Paradox*. How are individuals in a society to reconcile issues relating to community values (morality and ethical responsibilities) and the demands of a market economy based on efficiency (achieved through a system that promotes individual utility maximization, or a strict economic discussion of policy decisions)?

Economists in the 18th century -- Malthus, Adam Smith and David Ricardo, the fathers of modern economics -- inherently theorized that no one in a capitalist market would be motivated to work if all the goods and services one needs or desires could be achieved without work (Haas, 1992, p. 16-17). Even Marxists concede that the denial of material goods in socialist societies acts as sufficient coercion to convince individuals to sell their labor or work. The ideal economic system that promotes the greatest amount of work to be performed and opportunities to save (as capital for the future) would be only work based. However, the capitalist economic system is imperfect, a sea of markets with lags and transitions which create disruptions on all levels of government and in individual lives. The situation is further confused because it expands the horizon of what is a "need" and can require refining the ability to distinguish between a "desire of the heart" and a "necessity" (Stone, 1984, p. 16-17).

The greatest tension in the market based, economic system is not control over capital but between consumption and saving. In the short term, an individual will maximize his/her consumption today (and reduce savings for
tomorrow), particularly if there is a system to sustain them in difficult times. On the other hand, saving requires constraint from consumption now to deal with potential or possible future economic downturns or changes which require investment (i.e., retooling an industry or reeducating the work force for new technology). In this situation the individual suffers the uncertainty of knowing how the savings will be distributed. Will there be personal benefit in the future derived from sacrificing consumption now? Economists refer to this problem as moral hazard. Moral hazard is defined as a situation in which an individual is insured against a negative outcome. Whether the individual or another party insures the person is not important. The result is the person is less likely to avoid actions that lead to that negative outcome.

Stone concludes that this is the fundamental distributive dilemma when the system of need and work exist together. Boundaries can only be set when society creates rules to clarify who is subject to which system and how that system works or distributes its benefits. No natural boundaries or definitions are inherent in the work- or need-based system. The boundaries are inventions of society, subject to re-engineering given mutating social conditions at that time and place, (e.g., culture and historical context circumscribe the rules, therefore the boundaries).

A successful resolution of the dilemma will have certain general characteristics, but every particular resolution is designed by politics, not by some universal logic (Stone, 1984, p. 17).
History provides many examples of rules for assisting those who are perceived to be in need outside the realm of disability discussions. Policy implemented programs to provide compulsory education for all children in the United States, ability tracking, desegregation and the current legislation outlining treatment and expectations of people with disabilities (i.e., the 1991 Americans with Disabilities Act). These are rule-based prescriptions derived to help those in need.

Distribution based on need is the system of last resort. A rule based system, or categorical resolution, of which work is but one gauge, attempts to discern when need should displace other rules as a means to determine distribution of resources to society members. Kin relationships, client-patron systems, resource ownership, military hierarchies, civil service, or religious affiliations are other examples of formal and informal rule based systems that allocate goods and services. There are many measures in these systems to decide whether a person is worthy of support from the group or relationship. Need has also been tied to disability in various reincarnations and transformations according to the economy, social beliefs or cultural attitudes and technology available (Minow, 1990, p. 29). Often the idea of need has related to an individual's ability to work. But there are other models.
By assuming that individuals with a disability can only function as a drain on society, it further assumes that investment in such individuals—investments in health, in education, in jobs, in all aspects of life, are poor investments—and hence a lower priority or no priority at all (Groce, 1996 p. 18).

1.4 Public Concepts of Disability

Stone (1984) points out that public conceptions of disability rely on either a sociology or economics approach. The sociology perspective is that disability stems from being sick with a chronic illness. It is assumed that people with disabilities define themselves as disabled and search for services to improve their disability. Stone (1984, p. 142) wrote, "In general, levels of education, income, ethnic background, and social class have been shown to influence what people think of as 'medical problems' and to influence their propensity to seek medical care or advice." Popular conceptions of illness are narrower than that of the professional medical care providers. Sociology models do not explain why and how popular conceptions of disability are broader than the official definitions.

On the other hand, economic models describe a simple welfare-maximizing individual who defines him/herself as disabled when the benefits of that role are greater than working. Benefits are measured in quantitative terms: money from employment versus unearned benefits, earned versus grants for health insurance benefits, or the unemployment rate and likelihood of employment. More difficult to measure qualitative measures such as psychic returns from working or not, are not parts of the equation. However, this model
is limited in understanding the public concept of disability. The exact calculus of a personal decision is neither explicit nor expressed.

Stone (1984, p. 143) concludes that "Disability, as one of the major categories defining the boundary between the work and need systems, is an essential part of the moral economy." Social programs, particularly social insurance programs, aim to promote social justice. Policy programs of this type are used to buffer individuals in the society from economic risk and technological change, to even out the periods of change so that everyone benefits from the disruptions associated with structural changes in the economy. Policy and social programs react to change which already has taken place. It is a dynamic process. Even as the economy changes, social programs change, and the profile of those who benefit from the programs change. There may be indications that the moral base is changing too.

1.5 Conclusion

The future of vocational rehabilitation, disability and work can be approached in many ways. At one extreme policy, social programs, public perspectives and the economy could be seen as "fated," interacting and producing a situation beyond the control of anyone. Conversely, from a futures research perspective, the future can be approached as a creative process. Relationships between vocational rehabilitation, disability and work can be examined with a purpose, dedicated to fostering choice, and empowering individuals to strategically direct their efforts to meet a dynamic design of what
they would prefer. This dissertation is dedicated to assisting people to consider alternative futures so that they might have an impact on the future to come, by acting in the present. "The future is too important to be left to the experts" (Dator, 1987, p. 99). It is the responsibility and privilege of each member of society to anticipate and help create the future. Every futurist hopes to empower other individuals to participate in this process in some small way.

This project is a futures research study of vocational rehabilitation, disability and work concluding with the creation of many scenarios. Initially current models, definitions and measures of disability are examined. A review of rehabilitation history describes how disability has been constituted in the past and how vocational rehabilitation services have measured efforts to serve persons with disabilities. Conventional expectations for the future of disability follow. Probable and possible alternate images of society and how work and disability could be constituted in the future are examined. The project concludes with a discussion of scenarios and their place in the process of planning. Suggestions for their subsequent use are also made.
CHAPTER 2
MODELS OF REHABILITATION:
THEORY, POLICY
AND FUTURES IMAGES

Without a cogent theory underlining it, the rehabilitation profession lacks a clearly articulated, unifying philosophy; a conceptual framework; a more easily recognizable identity; and consensus on valid outcomes, models and processes (Arokiasamy, 1993a, p. 78).

2.1 Theories, Maps and the Future

A review of current theories is an essential part of examining the future of any policy issue from a futures research perspective as shown in Figure 2.1 (Dator, 1987, p. 98). Other chapters provide information about important trends and events that influence vocational rehabilitation to create future images and possibilities. Models and theories provide a context by which to evaluate these trends and events to anticipate and explore options for the future.

The importance of theory is myriad. Theory differentiates, circumscribes and delineates the rehabilitation professions (Gritzer and Arluke, 1985). Theory can create a common basis from which to provide and empirically evaluate rehabilitation services (Arokiasamy, 1993a). Theory can provide the world view, paradigm or ideology (Wagar, 1991, p. 34) underlying a policy program. Theory can be an attempt to describe consciously the construction of the normative link between policy and government programs. Conversely, those programs can be evaluated as outward and visible signs of community values which citizens hope to set up or realize (Stone, 1984; Stone, 1988). Theories provide maps and contexts from which to examine, anticipate
and explore options for the future. As such they contain values, basic assumptions about how things work and simplifications of complex events and processes (Wagar, 1991, p. 34).

![Dator's Future Theory Model](image)


Figure 2.1 Dator's Future Theory Model

From these maps or theories, can emerge social technologies:

"reliable set[s] of procedures . . . designed to produce an effect on socially important behaviors of relevant participants under a variety of real-life conditions" (Fawcett, et al., 1984, p. 147). Vocational rehabilitation is, using Hughes' terms, a social technology derived from prescriptive political theory (Wagar, 1991, p. 34). It is one of many human resource services provided to reduce personal and public expenditures due to disability and enhance individual independence and status by helping the disabled individual to find a
job. The program operates in a seemingly perpetual atmosphere of scarce and
carcer resources (Fawcett, 1984, p. 147), in an age of government policy
epitomized by a desire to eliminate ineffective or "overly costly" public services.
It is crucial that human resource policy goals are explicit and provide clear
tasks to service programs. To assure continued government funding,
evaluation must show the program and policy to be effective, quite probably in
a shifting political environment (Wagar, 1994, p. 63). The nation has seen a
plan for the Reinvention of Government Plan to more recent offers for a
Contract With America, within the space of about two years. Well-defined
theory can be empirically tested to produce techniques with predictable results
(Arokiasamy, 1993a). For example, a formula could suggest that if a given
amount of money is spent, then a certain number of individuals would be
guaranteed successful rehabilitation outcomes.

In the best of all possible worlds, theory could assist consumers and
practitioners alike, to assume an anticipatory stance from which to approach the
future. Policy is a means to allocate (how to use) and distribute (who uses or
benefits from) public funds or resources in a market economy, and promote the
community's will (Sagoff, 1988, p. 57; Albrecht, 1992, p. 304). This
differentiates the values people hold as citizens, distinct from economic roles
and preferences as consumers.

Stephen Marglin mentions the disparities in "preference maps" in his
discussion of the economics of the environment:
The preferences that govern one's unilateral market actions no longer govern his actions when the frame of reference is shifted from the market to the political arena. The Economic Man and the Citizen are, for all intents and purposes, two different individuals. It is not a question, therefore, of rejecting individual ... preference maps; it is, rather, that market and political maps are inconsistent (Sagoff, 1988, p. 54).

While it might be possible to explore economic policy implications combined with political preferences, evidently political questions of equity, justice and fairness may not meet the economic market prerequisites of establishing a logical and practical policy. Whatever the social policy -- health, safety, environmental, or others -- Sagoff concludes that it is a useless pastime to pit equality against efficiency when discussing social policies. "The goals of social regulation are based in public values and are found in legislation" and regulation (Sagoff, 1988, pp. 59-60). Values link theory and policy. They are the foundation of images of future. If underlying values can be examined and understood, then citizens can examine their "responsibility to the future as much as ... [assume] a responsibility for the future" (Sagoff, 1988, p. 63).

I think the answers [to conflicts between ourselves in roles as consumers and citizens] have something to do with the insecurity many of us feel when we find ourselves without "neutral" theories and criteria against which to evaluate political, ethical, and aesthetic positions. It's scary to think about problems on their own terms; it's easier to apply a methodology; it's even more tempting to think about the problems raised by the methodology or to investigate the theory itself (Sagoff, 1988, p. 68).
2.2 No Single Theory, No Single Path

Each political actor and stakeholder brings a different perspective to the arena of policy creation, implementation and possible evaluation. Generally these actors, seen in Figure 2.2, can be grouped into the categories of:

- vocational rehabilitation professionals -- educators, researchers and practitioners both private and public, and their professional organizations (for example, the National Association of Rehabilitation Counselor Administrators),
- medical rehabilitation professionals -- private profit and nonprofit businesses, public health professionals,
- the three branches of government -- executive, legislative and judicial,
- government officials (from the National Institute of Disability Rehabilitation Research, Social Security, the Department of Education, the Department of Transportation, the Equal Employment Opportunity Commission, the Department of Justice, etc.),
- consumers with disabilities, their families, advocates and organizations, and
- the public.

Each set of actors has a world view. That world view contains implicit values that dictate the possible paths for action or intervention and policy results. Best practice or standards of practice suggest the proper road for the most effective vocational rehabilitation procedures. There are many micro-maps: policy is to
provide solutions to specific problems experienced in the past. Rehabilitation conferences, professional leadership groups and networking attempt to explore the diversity of the possible futures. Conference proceedings document some of these discussions about the future. With ever-increasing and complex challenges awaiting vocational rehabilitation practitioners and persons with disabilities, piecemeal attempts at policy cannot meet opportunities and challenges evident now and emerging for the future.

2.3 Rehabilitation Professional Theory Abounds

Rehabilitation is typified as an offshoot of educational and psychology, with some claims to a more generic base. The profession enjoins an eclectic...
collection of techniques. Rehabilitation is, "Unlike other professions," both as "a profession and as a specific field of activity within the arena of health and human services" because it evolved from legislative mandate during this century (Arokiasamy, 1993a, p. 77). Arokiasamy notes, "legislative mandate and practical need has contributed to making rehabilitation a pragmatic, technique-driven profession without a sound theoretical base" (1993a, p. 77). He laments, quoting Greenwood who wrote in 1957, that there is not a "systematic body of theory" which can distinguish the rehabilitation profession "from other groups of skilled workers," (1993a, p. 77). Arokiasamy would like a "macro" map developed from a single inclusive theory to chart the future of rehabilitation.

Unlike Gritzer and Arluke, Arokiasamy paints a bleak picture of the future without an effectual theory of rehabilitation. The field of practice could splinter, degenerating "into an ever growing list of turf conscious sub-specialties, having its ability to justify its worth in the increasingly hostile environment of growing health care costs compromised, and lacking a definitive character that can hold the profession together in the face of rapidly emerging future trends" (Arokiasamy, 1993a, p. 78). A cogent theory of rehabilitation would create "a clearly articulated, unifying philosophy; a conceptual framework; a more easily recognizable identity; and a consensus on valid outcomes, models and processes," (Arokiasamy, 1993a, p. 78) or a more successful means of forecasting the impact of future rehabilitation services and policy impact.
There are three domains of rehabilitation theory: vocational rehabilitation practice, education and research. From these spring "numerous models, paradigms, systems, conceptual frameworks," and sundry "approaches" to rehabilitation (Arokiasamy, 1993a, p. 78). A brief summary of some theories and models is presented in Table 2.1. Subcategories of model investigation exist, including: supported employment, rehabilitation engineering or nursing, and case management among many others. Only one system, Cottone's Systems Theory, is mentioned as attempting to create a "cogent, cohesive, and comprehensive" rehabilitation theory (Arokiasamy, 1993a, p. 78).

Table 2.1 Some Theoretical Foundations for Rehabilitation Models and Theory

<table>
<thead>
<tr>
<th>Autonomy/wholistic approach</th>
<th>Person-environment congruence model</th>
</tr>
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<tbody>
<tr>
<td>Comprehensive service delivery system</td>
<td>Phenomenological approach</td>
</tr>
<tr>
<td>Crisis-motivation model</td>
<td>Philosophy-theory-practice continuum</td>
</tr>
<tr>
<td>Developmental model</td>
<td>Planned social change framework</td>
</tr>
<tr>
<td>Ecological model</td>
<td>Practitioner skills model</td>
</tr>
<tr>
<td>Empowerment model</td>
<td>Psychomedical paradigm</td>
</tr>
<tr>
<td>Functional limitations classification model</td>
<td>Sociological approach</td>
</tr>
<tr>
<td>Helping process model</td>
<td>Systematic eclecticism approach</td>
</tr>
<tr>
<td>Impairment-disability-handicap model</td>
<td>Systems theory</td>
</tr>
<tr>
<td>Independent living model</td>
<td>Systems approach to vocational assessment</td>
</tr>
<tr>
<td>Interactional model</td>
<td>Technical eclecticism</td>
</tr>
<tr>
<td>Interdependence model</td>
<td>Theoretical model</td>
</tr>
<tr>
<td>Minority group model</td>
<td>Unified adaptation to disability</td>
</tr>
</tbody>
</table>

Source: Arokiasamy, 1993, p. 78.

Arokiasamy postulates a theory for rehabilitation with trepidation. The depth and breadth of the responsibility of suggesting premises and principles, defining terms, selecting values and ethics to embrace, and, specifying the relationship between professional or practitioner and client to promote, are great
endeavors. He notes the tempocentricity of societal attitudes and language which also play a part in the creation of a complete theory. The strength of his discussion resides in the research questions at the conclusion of the paper. Unfortunately, he does not, nor do most models assist, explore these issues:

Which of the models is most efficacious and under what conditions? . . . What are the current outcomes of rehabilitation? Are current outcomes fiscally, socially or politically valid? Which of the competing overall goals of rehabilitation mentioned in this article is most appropriate (Arokiasamy, 1993a, p. 91)?

Hershenson and McAlees, separately, reply to Arokiasamy's article.

Hershenson (1993, p. 101) admits to quibbling with some aspects of the Arokiasamy suggestions.

The elusiveness of a commonly agreed-upon theory base suggests the possibility that rehabilitation may not be a unitary field. . . . Therefore, perhaps the failure to develop a theory of rehabilitation reflects the fact that the various constituencies that use the term, do so with different meanings or emphases as a specialty label or as a justification for seeking funding, and so define it in their own image (Hershenson, 1993, p. 99).

The multiple codes of ethics described by Arokiasamy may also be a result of this duplicity of constituencies that are not united. Most interesting is the question whether the "field is too new and too fluid to have its identity foreclosed" (Hershenson, 1993, p. 99). Futures researchers address this question to their field of inquiry!

McAlees recasts this question. He suggests the lack of unity and proliferation of diverse methods and philosophical positions signifies a great vitality in the field rather than fragmentation. Unification of theory will probably
not impact the future of rehabilitation efforts. McAlees (1993, p. 102) states, it is social, economic, political and advocacy factors that will hold sway. From a futures research perspective, these factors and influences are more generally reliable reference points from which to examine construction of the future. His recommendation is to approach the theory issue with more caution.

The lesson of history is not that we should try to find unifying principles from predetermined bodies of data. . . . Rather than precommitting ourselves to a unification theory of rehabilitation, maybe we should simply do the best theoretical work we can and let the chips fall where they may. . . . [Arokiasamy's] proposed "theory of rehabilitation" is primarily based on legislative, advocacy and professional values and expectancies. Attempts to go deductive may fail, in part because of insufficient data. Perhaps we still need to stay at a more inductive level a bit longer (McAlees, 1993, p. 103).

2.3.1 Theory and the Future

Rehabilitation theories construct an understanding of the relationship between work and disability. Models of intervention or rehabilitation assume certain goals for persons with disabilities and suggest appropriate interventions to attain these goals. Program models carry and promote certain values and philosophy. Models aid in anticipating the future. They suggest events and people to watch, trends to track, resources to use, and the gains and losses to be incurred.

A single theory or model of rehabilitation could be a boon to the profession. Arokiasamy wants to avoid the "contradictions and paradoxes" of multiple theories which lead to an "us-them" split between practitioner and client or person with disabilities" (Arokiasamy, 1993a, p. 78). McAlees alludes to the
negative impact of embracing a single, well-articulated but faulty theory. While one established theory may lend legitimacy to a single approach to the future, it could also propagate an incorrect and useless "mind map" (Schwartz, 1987). Models and theory can effectively forget or silence groups of individuals, delegitimating their concerns. A robust theory which recognizes a paradigm shift (Ridgely, 1992; Walker, 1992) could create a flexible mental map of the future, providing many advantages. Sultz (1991) makes this point effectively: ambiguity of purpose and ambivalence toward measures of performance can be decreased. Conflicts of principles and contradictions of goals can be minimized so that a policy road to travel can be chosen, not randomly assumed. Walker (1992, p. 12) notes that multiple ways of knowing can create political will and empower a common vision of change, rather than precipitate "political drama."

An examination of program evaluation methods and effectiveness is in order.

The manner in which the facility determines that its programs and services are effective and efficient as well as goal oriented is closely allied with the rationale for program evaluation (Roberts and Roberts, 1992, p. 18).

2.4 Rehabilitation Program Evaluation and Effectiveness

The longstanding goal of vocational rehabilitation programs is to assist persons with disabilities to secure employment or increase independence by improving activities of daily living. It is assumed that from a job, all good things flow. Another longstanding goal is to contain the public cost for providing these services. Inevitably, all Vocational Rehabilitation program efforts are measured
against these standards. However, the focus has been weakened by changes in federal standards.

2.4.1 **Historical Measures: Successful Rehabs**

In the Weiss study of vocational rehabilitation, an administrative assistant for a state agency discusses the focus of rehabilitation service in the early years.

Between 1921 and 1973, rehabilitation administrators got into the rut of accounting for successful rehabs. We kept clients that were less expensive to close. That way we spread our funds out further to cover more clients who could be rehabilitated. In a sense, we just complied with what the system rewarded (Weiss, 1986, p. 83).

By the mid-1970s preselecting individuals who were expected to gain employment and become "successful rehabs," the process of "creaming" was instituted.

Community rehabilitation facilities were stymied by this change. The organizations lost reliable employees, damaging the ability to meet contracted work deadlines or quotas because the work-ready clients moved on to jobs more quickly. Community facilities worked with more severely disabled individuals who were less productive. They were bidding for work from industry in a more competitive, uncertain economy. Weiss (1986, p. 86) quotes a community facility administrator voicing his frustrations:

*Our policy has always been to take any handicapped client who needed training or just a place to work. Sure it’s costly, who said it wasn’t? But we as rehab professionals create the problems. We sell the notion that all handicapped people can*
become happy and independent. But that's a lie. So many severely disabled people can never work productively or independently. Then what should we do? Throw them in the streets because we can't show a successful rehabilitation? It was never the workshop's purpose to pay people enough to be independent. Workshops must be inefficient operations. We take people industries don't want. What do we get for it? Problems from the state agency for not performing miracles, a bad image in society because any institutions that have unhappy people have bad societal images.

None of the vocational rehabilitation administrators have told us, we want peace, we want realistic services, we want to share your resources. They all have wanted only success stories, to help us with our fiscal records. . . . they have their own agendas and goals which are not related to helping handicapped people.

This difference in perspectives, between community service providers and state vocational rehabilitation agencies, created a severe strain that persists today (Brandt, 1995a).

Through work, we find our status in life (Ridgely, 1992, p. 18).

2.4.2 Public Perspectives, Government Response

By the end of the 1970s, the general public scrutinized workshops more. According to an article published in the Wall Street Journal by Freedman and Keller (Weiss, 1986), workshop or community rehabilitation facilities were reported to exploit persons with disabilities by paying less than minimum state or federal wages. Equipped with a Department of Labor certificate, resubmitted at least annually, a sheltered worker would be paid in proportion to the amount of work performed compared to a nondisabled worker doing the same job. It was estimated that as many as 200,000 individuals' earnings were affected by
this system of payment. Weiss reported that the Department of Labor staff acknowledged insufficient resources or personnel were in place to investigate possible violations of the system regularly. In addition, the law was characterized as "fuzzy" for these community rehabilitation agencies which functioned "not [as] industries and . . . not welfare agencies, [but] . . . doing the work of both" (Weiss, 1986, p. 88).

By the end of the 1970s Congress wanted greater accountability in the politically turbulent period following Watergate. The Government Accounting Office was asked to step in and provide regulations defining and requirements for performance standards for vocational rehabilitation programs. State vocational rehabilitation program administrators were a bit fed up with the federal government directives and these standards, seen in Table 2.2. The Rehabilitation Services Administration program standards and measures, established by the Berkeley Planning Associates in 1972, became advisory, not mandatory. However, regional Vocational Rehabilitation (VR) offices were given a new role -- as watchdogs over state programs. Recurring problems identified by VR offices then included (Weiss, 1986, p. 114):

- insubstantial services provided,
- poor case documentation,
- "inadequate benefits" from program services to clients, and evidence that the Social Security Disability Insurance Program was not cost effective.
### Table 2.2 RSA Standards and Measures for Program Evaluation

<table>
<thead>
<tr>
<th>Standard</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extent to which program is serving eligible target population</td>
<td>1a Annual number of clients [State population (100,000s).]</td>
</tr>
<tr>
<td></td>
<td>1b Number of severely disabled clients served [Number clients served]</td>
</tr>
<tr>
<td>2. Achievement of desired objectives and cost benefit</td>
<td>2a Total agency expenditures [Number of competitively employed status 26 closures]</td>
</tr>
<tr>
<td></td>
<td>2b Total agency expenditure [Number status 26 closures]</td>
</tr>
<tr>
<td></td>
<td>2c Benefits Costs</td>
</tr>
<tr>
<td></td>
<td>2d Benefits - Cost</td>
</tr>
<tr>
<td>3. How many successfully served and increase over time</td>
<td>3a Number status 26 closures [Number status 26 + 28 + 30 closures]</td>
</tr>
<tr>
<td></td>
<td>3b Number status 26 closures in current year - Number of status 26 closures in previous year</td>
</tr>
<tr>
<td>4. Clients ability to become economically self-sufficient</td>
<td>4a Number of status 26 closures-weekly earnings &gt; minimum wage [Number status 26 closures]</td>
</tr>
<tr>
<td></td>
<td>4b Average weekly earnings of competitively employed status 26s [Average weekly earnings other employees in state]</td>
</tr>
<tr>
<td>5. Impact of Vocational Rehabilitation on clients</td>
<td>5a Number competitively employed status 26s [Number all status 26s]</td>
</tr>
<tr>
<td></td>
<td>5b Number competitively employed status 26s with hourly earnings &gt; federal minimum wage [Number of noncompetitively employed status 26]</td>
</tr>
<tr>
<td>6. Vocational gains at termination of Vocational Rehabilitation services</td>
<td>6a (\sum) Closure earnings - (\sum) referred earnings (all status 26s) [Number status 26s]</td>
</tr>
<tr>
<td>7. Retention of Vocational Rehabilitation benefits</td>
<td>7a Number status 26 with earning at closure who retained or increased earnings at follow-up [Number status 26s with earnings at closure, survey follow-up]</td>
</tr>
<tr>
<td></td>
<td>7b % status 26s w/ public assistance as primary support at follow-up [% of status 26s at closure with public assistance]</td>
</tr>
<tr>
<td></td>
<td>7c Noncompetitively employed status 26s retaining functional and life skills at closure [Number noncompetitively employed status 26s, survey follow-up]</td>
</tr>
<tr>
<td>8. Consumer satisfaction with services</td>
<td>8a Number closed clients surveyed satisfied with overall [Vocational Rehabilitation experience] [Number of closed clients surveyed]</td>
</tr>
<tr>
<td></td>
<td>8b Number of closed clients satisfied with counselor [Number surveyed]</td>
</tr>
<tr>
<td></td>
<td>8c Number satisfied with physical restoration [Number surveyed]</td>
</tr>
<tr>
<td></td>
<td>8d Number satisfied with job training services [Number surveyed]</td>
</tr>
<tr>
<td></td>
<td>8e Number satisfied with job placement [Number surveyed]</td>
</tr>
<tr>
<td></td>
<td>8f Number of status 26s judging services useful in obtaining job/homemaker situation or in current performance [Number of status 26s surveyed]</td>
</tr>
</tbody>
</table>

The present system was designed on a flow-through model, with the idea that people who are disabled would, whenever possible, progress from one level to the next, all the while gaining skills and self-sufficiency. In practical terms, this is almost wholly unrealized. For many people with disabilities, these theoretical steps along a continuum have lead to a dead end, with little hope of their moving out of them (Usdane, 1993, p. 31).

2.4.3 Accountability and Quality

In the early 1990s there was a growing momentum to roll various aspects of vocational rehabilitation service provision into a coordinated package. Attempts to evaluate previous success were questioned. For example,

Over the last two decades, there have been phenomenal increases in overall disability-related public expenditures and, at the same time, an increasing sense of doubt about the value of existing programs.

According to the Enhanced Understanding of the Economics of Disability (EUED) report, the "body politic" had had "grave doubts about the efficacy of vocational rehabilitation; and rehabilitation spending has declined as a result" (Rehab Brief, 1990, p. 1).

New quality service measurements have been instituted (Owens to VR Directors, memorandum, 1993). The call went out for "ongoing," "proactive" needs assessment, often focused on "what should be"(Witkin, 1994, p. 23). Planning centered around measures of clear outcomes is receiving more attention (United States Government Accounting Office, 1993; Roberts and Roberts, 1992; Gibbs, 1991; The Region V Study Group, 1991a and 1991b). However, it is easier to meet the requirements of the new directives than to make recommendations or implement remedies or program changes to address
problems that hinder service to the customer (Brandt, 1995b; Anderson, et al., 1992; Gradel, 1991, p. 44).

Other efforts to erase the boundaries between the fields of rehabilitation are evident. Consortiums of state rehabilitation agencies, research and training center staff and university educators examine rehabilitation concerns, exemplifying the strength of combining good research and good practice in a continuum of service (Region V Study Group 1991a and 1991b; Doueck and Bondanza, 1990, p. 123). Issues of the proper professional training and education (e.g., human resource development of vocational counselors and staff in private and public agencies) to produce the desired outcomes are returning to the fore (Pacinelli and Patterson, 1990; Doueck and Bondanza, 1990).

Setting standards and assessing performance has often lacked the force of law. Owens provided historical background on standards and evaluations development (Owens to VR Directors, memorandum, 1993). "Standards were developed in the 1970s and 1980s in response to . . . evolving legislative requirements" (Owens to VR Directors, memorandum, 1993). The Rehabilitation Act of 1973, Section 401(b) required that continuing or increased funding be granted only if standards for program evaluation related to achieving directives of the Act. The tie between funding and the Act was cut by 1978 amendments to the Act and the Secretary of Education was not required to set standards for evaluation. By 1984 RSA worked with the Council
of State Administrators of Vocational Rehabilitation to prepare and field test a set of standards. Berkeley Planning Associates was contracted to revise these standards before implementation. Section 14 in the 1984 amendments recommended but did not mandate use of these standards. Consequently compliance was not tied to funding or sanctions (Owens to VR Directors, memorandum, 1993).

Prior to the 1986 changes in the Rehabilitation Act it was clear that basic services could achieve client placement: "assessment, restoration, counseling, training, and placement of the individual in a job consistent with his/her assessed potentials and limitations" (The Region V Study Group, 1991a, p. 1). Now the definition of "work" has assumed the appearance of a continuum of service. Distinctions are made between competitive employment, transitional employment, supported employment, sheltered employment and unemployment (Schalock, McGaughey and Kiernan, 1989). Although these services exist, there is some question whether all meet the spirit and intent of recent ADA legislation and have a "role in any comprehensive rehabilitation system" (Kregel, 1992, p. 53). Independent living services are also offered by vocational rehabilitation programs, separate from those funded by private or nonprofit agencies. The mandated emphasis to serve persons with more severe disabilities and "order of selection" criteria (Carrington to Region IX Staff Directors, memorandum, 1994) being generated and implemented in states may play havoc with the emphasis on efficiency and cost containment (Mowbray,
1992, p. 405). Vocational rehabilitation services are being tweaked to reflect a move to services that do more than simply provide employment.

Emphasis is returning to program evaluation. Two basic systems for evaluation in human services exist: the goal-attainment model or the systems model (Roberts and Roberts, 1992, p. 19). Program evaluation lauds effectiveness (program output, client outcomes, probability and duration of employment) and efficiency (relative costs to achieve program results per client or per outcome) (Roberts and Roberts, 1992; Wood and Steere, 1992; Kregel, 1992; Gibbs, 1991; Olander, Walker and Prazak, 1990). Definitions and data to measure are debated but no one method of research and data analysis rules. More data sources are needed to evaluate particular programs (Roberts and Roberts, 1992, p. 22). No one approach should be prescribed for exemplary service (Olander, Walker and Prazak, 1990, p. 18). For newer vocational rehabilitation programs (e.g., supported employment), effectiveness measures are clouded by eligibility criteria issues, efforts to develop service delivery methods and program standards (Kregel, 1992, p. 54) and misuse of the available data (Szymanski, 1991, p. 116). Research practitioners who examine supported employment, have mystified and excluded both service providers and customers. As a result, these groups have failed to use or have misused the results of research studies because the results deter application to policy, planning and programming or are invalid due to sample size (Szymanski, 1991, pp. 117-121).
More attention to reexamining the obvious is occurring:

Traditionally, the VR program has been justified in economic terms as a "good investment." Supporters claim that the costs of providing services to persons with disabilities are more than balanced by rehabilitated clients' improved employment levels and earnings. However, such claims have usually been based on analyses of the short-term data collected by the state VR agencies. Few studies have examined long-term outcomes.

... Little is known about how the long-term impact of the program varies for subgroups of clients who differ in type and severity of disability, or in other background characteristics (United States Government Accounting Office, 1993, p. 49).

Theobald cautions about the limitations of human service program evaluation:

(a) where value judgments are involved in setting standards, content validity is reduced; (b) there is no empirical evidence that reliance on program standards produces effective human service programs; (c) evaluation tends to be limited to those criteria that can be easily manipulated [e.g., quantitative rather than qualitative data]; and (d) universal standards become ends in themselves, replacing individual programs, goals and objectives. As previously suggested, more than one measurement method may be necessary to assess not only diverse program objectives [i.e., examine the relationship between program efforts and program effectiveness] but performance over time (Roberts and Roberts, 1992, p. 22).

Kregel points out that philosophical and ideological arguments are becoming the screens for sifting out program effectiveness. "We simply do not know which service technologies are most effective (both in terms of outcomes and costs) for individuals with various types of disabilities" (Kregel, 1992, p. 53). How persons with the most severe disabilities can be served with the best results has yet to be discovered, or possibly, developed.
Legislative mandates for program evaluation and standards were included in Section 106 of the 1992 amendments to the Rehabilitation Act of 1973. Seven general principles were provided and five categories of "possible evaluation standards were listed" (Owens to VR Directors, memorandum, 1993). Most of the measures are closely related to the Berkeley Planning Associates standards and measures in Table 2.2. New areas of investigation remain quantitative: timely service delivery and more specific attention to the rehabilitation rates for persons with severe disabilities. Service quality will examine placement with attention to possibilities for career advancement potential, integration in work environment, and comparisons of pre- and post-service work hours and wages.

There is some resistance to incorporating qualitative investigation of service quality and impact with quantitative data analysis (Brandt, 1995b; Shea, 1992b, p. 785; Lutfiyya, 1992; Walcoff & Associates, 1992, p. 34). Defining and operationalizing measurements such as integration, independence and quality of life (DeStefano, 1991, p. 103) are often left to individual state vocational rehabilitation office officials. Consumer satisfaction, (Patterson and Marks, 1992) responsiveness and service to customers (Gradel, 1991), and choice (Schaller and Szymanski, 1992) are considered important, to provide quality services but discussed only as philosophical and ideological issues (Kregel, 1992). Program evaluation methods frequently exclude the use of open-ended questions that can assist in policy-making (McKillip, Moirs, Cervenka, 1992;
Brandt, 1993). This type of questioning is essential to defining assessment measures in the consumers' own words. Participatory research efforts are furthered when the persons interviewed, not the researcher, define concepts used in the assessment Brandt, 1995b; Collett, 1994/95b; Miles and Huberman, 1994, pp 9-10; Strauss and Corbin, 1990, pp 21-22).

2.4.4 Unclear Relationships and Developments

Recent developments measuring effectiveness and the impact on the system of service are unclear. Traditionally, certain performance measures of government vocational rehabilitation services and community rehabilitation facilities funded by the federal monies and some measures of consumer satisfaction and benefit retention have been tracked. Yet other perplexing questions remain, related to examining the relationship among these agencies and people served. Reduced resources and people's expectations for better, individualized services have increased the imperative to streamline and upgrade the service system (Brandt, 1995b). Usdane (1993, p. 31) comments that the roles and responsibilities among the actors -- government, private business, community rehabilitation agencies, consumers and other citizens -- reflect an "old model of day service" in which the client was to "fit." Programs that "provided the closed mesh between individual needs and the capacity of a given service to respond to those needs" were selected. He says that limited public funding has created a type of "batch-processed" delivery system that cannot keep up with "the elastic needs of people." The result, Usdane
concludes, is that people "fall through the cracks and receive services ... poorly suited to their needs or, worse, no services at all."

In the short term, several challenges to the system are apparent. The strained working relationship between the community rehabilitation facilities subcontractors and the state vocational rehabilitation agencies need improvement. Community rehabilitation facilities are encouraged to function as businesses responsive to consumers and less as charities. Older, traditional rehabilitation facilities have not embraced this new philosophy, potentially limiting future government funding. Without these monies, the community rehabilitation agencies may reduce service quality in the short run and fail in the long run.

Transitioning students with disabilities from high school to adult services is a recent issue. Community rehabilitation facilities may fail to participate in this task without funding specific to the task. These same agencies may be resistant to moving young adults directly to jobs integrated into the community to sidestep the stigma attached to the organizations. Past investments in physical facilities make old practices difficult to abandon. Schools are more responsible for finding or providing vocational rehabilitation services if other agencies fail to provide assistance. It is questionable whether community rehabilitation organizations will participate in providing these services without a financial incentive from Vocational Rehabilitation agencies.
Consumer involvement was evident in the 1960s (Deakin and Wright, 1990) and has emerged in regulations again. Federal regulations mandate consumer participation in the evaluation process, not just as survey respondents (Owens to VR Directors, memorandum, 1993). There are many roles in which a consumer can participate: respondent, participant, research project member, network member, advocate, collaborator, reviewer, translator and coauthor to name a few (Prime Study Group, C. 1993, p. 44). Typical of this new focus is the model for planning and implementation in Figure 2.3.
However, agencies and organization have shown resistance to including persons with disabilities in roles that direct the service provided (Brandt, 1994; Fawcett, et al., 1984). The service delivery system institutionalizes and can perpetuate myths about persons with disability (Holmes and Karst, 1990). The system creates a stress on the vocational rehabilitation counselor to treat the client as a disability, discrediting their participation in the rehabilitation process as equal partners and diminishing their own self worth. While state vocational rehabilitation agencies may train staff to guard against these attitudes, private rehabilitation agencies may lack monies or time to provide the training.

Historical convention may inhibit a change in attitudes. Agencies traditionally promoted the idea that they were worthwhile charities which helped needy people. In the community work place there are "mythologies of disability" fostered through popular media. Nierenberg (1991) pointedly details popular work and disability related myths about people with disabilities. They are assumed to have low productivity, less physical endurance and a greater need for sick time, increased insurance requirements, and high accommodation costs. A recent Harris Poll of employers shows these "facts" to be false (Kilborn, 1992; Nierenberg, 1991; Douglas, 1991, 154-5). "Myths, stereotypes, and generalizations about disability may not be used as the basis for employment" (Golden, 1991, p. 20), but it is evident these faulty perceptions do have an impact (Nierenberg, 1991).
The enactment of the landmark Americans with Disabilities Act (ADA) was the beginning of a new era for disability policy. It also marks the end of an era. The era that is ending is one characterized by ideals, enthusiasm, and determination, and a notable lack of data (Walcoff & Associates, 1992, p. 3).

2.4.5 Effectiveness, Discrimination and the ADA

Walcoff & Associates (1992, p. 3) state that the ADA was established to promote four basic ideals: equal opportunity, full participation, independent living and economic self sufficiency. The legislation was created with full awareness of the need to balance the language of essential rights and yet not threaten the economic health of the nation. Under the law it was stipulated that any accommodation for a person with disabilities: be readily achievable, create no undue economic hardship, be a reasonable or economically affordable adjustment, and not create undue hardship. Carrying out a dream of a better, more compassionate society that advanced the concept of persons with disabilities as possible employees and consumers with economic power was "not a zero sum game" (1992, p. 13). Education and negotiation were to be the precursors to any litigation or compensation.

More recently the need to assess the knowledge and need for further public and employer education has been recognized. These entities can support, assure funding for training and offer employment opportunities, or they can present a very large barrier to persons with disabilities who attempt to secure employment. People hoped discrimination would decrease following the implementation of the ADA, because Title II reinforces the efforts of persons
with disabilities to secure employment and participate in the community (Kregel and Tomiyasu, 1994, p. 166).

Accommodation could decrease the national benefits to and costs for persons with disabilities. President Bush and Congress seemed to accept the cost savings for the inclusion of persons with disabilities provided by the National Council on Disability in 1989. An estimated $60 billion was to be saved annually for expenses on entitlement, education, training or rehabilitation programs. Additionally, revenues of $200 billion would be gained in tax revenues, expenditures for consumer items by persons who are disabled, and the expenditures of private, nonprofit organizations and family supports for persons with disabilities (Cook, 1991, p. 458). The President's Committee on Employment of Persons with Disabilities calculated that $246 billion in costs could be saved if the ADA was implemented and discrimination was eliminated. Justin Dart said that passage of the ADA could move the United States away from the possibility of creating "an economic and moral disaster of [a] giant, paternalistic welfare bureaucracy" (Cook, 1991, p. 459).

Preliminary polls and research regarding the impact of the ADA find businesses' response and public awareness of the Act to be lacking. The business press and publications such as The Wall Street Journal, Forbes Magazine, The Nation's Business, and The New York Times, have repeatedly noted that the ADA is "costly" or a means for assuring employment for lawyers (Douglas, 1994, p. 155; Hendricks, Dowler and Judy, 1994, p. 174). Larger
businesses have been sensitive and gone to lengths to be ADA compatible. Smaller companies are making considerably fewer attempts to meet requirements. Many small businesses do nothing and hope they will not be caught (Douglas, 1994, p. 154; West, 1994, pp. 12-13; Kregel and Tomiyasu, 1994, p. 166). In addition, small employers are unsure how to find technical assistance to obtain accurate information about the Act (Kregel and Tomiyasu, 1994, p. 166; West, 1994, p. 10). Local governments and elected officials lack awareness of, or ignore, ADA requirements and implementation (West, 1994, p. 19; Douglas, 1994, p. 156).

Most complaints (28,000) were filed with the Equal Employment Opportunity Commission (EEOC) under Title I of the ADA, relating to work covering the period of July 1992 to May 1994 (West, 1994, p. 17). By December 1994, the EEOC had a backlog of more than 96,000 charges pending, yet its staff was reduced between 1980 and 1994. About half the complaints related to discharge and 25% related to failure to provide reasonable accommodation (West, 1994, p. 18; ADA Compliance Guide, 1994b, p. 6). Complaints to other enforcement agencies -- the Department of Justice, the Federal Communications Commission and the Department of Justice -- were at least an order of magnitude less. Of 29,720 complaints, 12,830 or 43% of the complaints were resolved by the EEOC between July 26, 1992 and September 30, 1994 (West, 1994, p. 19). Only 1,174 complaints achieved settlement (ADA Compliance Guide, 1994, p. 6) or about 7% of the total (West,
1994, p. 19). West (1994, pp. 19-21) explains the results. Most were resolved for administrative reasons or for "no cause." Backlogs are increasing over time, leading to more requests for a "right to sue" letter rather than waiting for EEOC assistance and add to the already clogged court system. Generally critics of the complaint process characterized it as "complex, time-consuming, bureaucratic and frustrating."

Public attitudes about persons with disabilities and the ADA are "mixed." West reports that a 1993 Harris poll found 41% of U.S. citizens were aware of the ADA. Roughly the same percentage of persons with disabilities is aware of the ADA (40%). The percentage is up 16% from a survey completed in 1991 (Harris and Associates, 1994, p. 14). Most persons with a disability (49%) do not believe that the ADA will make a difference in their lives (Harris and Associates, 1994, p. 14). In an undated reference, West reports that 92% of the public believe more people with disabilities should have jobs, but only 56% think that monies should be spent to make the country more accessible (West, 1994, p. 2). A Harris poll from 1991 documented that the public felt that persons with disabilities were discriminated against with respect to equal pay for equal work (45%) and equal opportunity in employment (66%) (Harris and Associates, 1991, p. 42). By 1994, many persons with disabilities (35%) polled by Harris reported an inability to work due to disability or health problems than in 1986 (29%) (Harris and Associates, 1991, p. 36). Involving the general citizen in these decision-making processes regarding program effectiveness is a
challenge that Deakin and Wright (1990, Chapter 1) recommend for the greatest impact. Citizens pay the bill for public policy implementation. Given the seeming disparity in public expectations for persons with disabilities to engage in work, and the ability of these individuals to work, it would appear that the general citizen is unaware of barriers that block the way to employment.

The mood of the public may change in the future. With the Clinton administration and a Republican lead Congress, Washington power now opposes many kinds of federal regulations, particularly unfunded mandates (i.e., the Clean Air Act, the Safe Drinking Water Act, and, the ADA). Although Speaker of the House, Newt Gingerich, did vote for the ADA, he characterizes it as an example of "compassion excess" (Rumpel, 1995, p. 3). Three of the 28 House of Representative members who voted against the ADA in 1990 now hold important positions within the House: Majority Leader, Majority Whip, and Chairperson of the Ways and Means Committee. Outside Congress, Cato Institute writers, editors from The Wall Street Journal, representatives of the National Federation of Independent Business, state governors and local mayors are making strong appeals to end unfunded mandates (Rumpel, 1995; Americans with Disabilities Act, ADA Compliance Guide, 1995, pp. 1–4).

Legislation to cut unfunded mandates was passed in early 1995. The legislation requires state and local governments to establish programs and assume responsibilities for federal statutes without full federal funding. The results of a survey of governments sponsored by the U.S. Conference of
Mayors documents the strain public officials face in performing these duties (Rumpel, 1995). City officials provided highly charged criticisms that may sway public opinion against ADA implementation, primarily due to costs. An example of these criticisms is seen from a survey from Lompac, California:

*The Americans with Disabilities Act places illogical, unreasonable demands upon city government and local business and property owners. The ADA is structured in a way which does not allow reasonable interpretation and implementation at the local level. Besides creating unreasonable financial burdens for local government and property owners, the ADA creates an administrative burden which affects an organization's ability to provide for the needs of the community* (Rumpel, 1995, pp. 3-4).

The ADA, as well as other constitutional and civil rights laws and regulations were excluded from the risk assessment and cost benefit analyses to be performed on unfunded mandates in 1995. However, disability leaders are concerned about the attack on the ADA. They are gearing up to put a more positive spin on public and legislators' views of the ADA and other disability legislation (Rumpel, 1995, pp. 4-5; President's Committee, 1995, p. 2). Even if the ADA and other tools for equality are not dismantled outright, their effect may erode over time (*Americans with Disabilities Act, ADA Compliance Guide, 1995, p. 4*) without policing and enforcement. It could be that the time to dream dreams a la ADA have come and passed.

2.4.6 *Rehab: Is It Worth It?*

Vocational and medical rehabilitation professions stem from a dual philosophy aiming to both reduce public and private costs, and give society the
appearance of being just and open to all citizens. Both medical and vocational rehabilitation professionals hope to create a map for persons with disabilities so that they can move from being a recipient of public funds to become a taxpayer via the provision of rehabilitation services. How well the road is laid and traveled can be measured by service efficiency and cost effectiveness. The economic focus in medical models encourages injury prevention or reduction so that the individual avoids injury or can work again. As we have seen, vocational rehabilitation models veer to discussions of efficiency measures to demonstrate that these services are worthy of continued funding (Hill, 1991).

The economics of disability will continue to be of the utmost interest as future monies for federal programs are assumed to be scarce. Additional measures of efficiency and effectiveness will probably be discussed. Consumer empowerment may fall victim to the cost cutting ax under the auspices of government program accountability to the public. To survive, rehabilitation must show its worth in a "dynamic rehabilitation system" (Region V Study Group, 1991b, p. 7). Practitioners, academics and consumers realize they live in a challenging, changing world but often use tried and true thinking or historic precedent to strategize for the future. In the next section, recent rehabilitation policy models will be examined for their approach to the future.

2.5 Recent Medical Rehabilitation Models

Today the fields of medicine and vocational rehabilitation are separate but they share a deep, common history. However rigid the "line of demarcation
between the medical and vocational aspects of rehabilitation" (Gritzer and Arluke, 1985, p. 39), there are still very strong ties and expectation for cooperation in providing holistic rehabilitation for a person with disabilities. Physicians still diagnosis disability and determine individual eligibility for vocational services. Federal funding for vocational rehabilitation is located in the federal area of education but research funds are generated from the department of health (NIDRR). Models of rehabilitation service are based on political-economic theories. They are based on a natural growth model that supports capitalism and encourages looking at people with disabilities as a human resource or human capital (Kirchner, 1987, p. 40).

Although medical rehabilitation and vocational rehabilitation are considered separate fields, many philosophical commonalities are reflected in outlooks and expectations for results. Medical determination of disability for entry to services is a long standing tradition for disability services and benefit programs, including vocational rehabilitation. This historical legacy reinforces the idea that a scientific approach can be and is best applied to solve social problems to promote efficiency. It is easy to see that reliance on a scientific model, using quantitative data and measurable outcomes, has resulted in a service system that aims to improve the quality of life for disabled individuals through achievement of specific standards.

Economic efficiency has been and continues to be an important measure for both medical and vocational rehabilitation. Service efforts are
reviewed via economic efficiency measures (such as cost per client served) and comparisons of individual economic resources pre- and post-service (i.e., income). This model of service efficiency is being contested. Persons with disabilities and other groups have emerged with a separate agenda and interpretation of the relationship between work and disability. This will be discussed in Chapter 5.

Three recent models from a medical rehabilitation research approach from respected medical authorities are presented:

- the Centers for Disease Control and National Council on Disability,
- the U.S. Department of Health and Human Services, and more recently, the
- United States Pharmacopeial Convention.

The traditional, still strongly held belief in the medical community is that issues confronting persons with disabilities stem from their functional limitations. Two recent, national reports exemplify this perspective. These models purport to examine "the disabling process" and employ a systems approach to the rehabilitation process, yet clearly ignore social, vocational, interpersonal or spiritual issues traditionally examined in vocational rehabilitation. Another model proposes a "healthy" perspective. It promotes a proactive approach to medicine. However, the measures of health are ultimately examined using measures that count the unhealthy and the cost associated with the illness.
Figure 2.4 The Disabling Process Model (Disability in America)
The final method of examination reviews an examination of the future influenced by private business interests applied to medical issues.

2.5.1 The Process of Disability

The Centers for Disease Control and National Council on Disability report, *Disability in America*, transcends the traditional medical model because it "addresses the needs of people with disabling conditions after those conditions exist and after they have been ‘treated’ and ‘rehabilitated.’" Preventing further complications, blocking the "pathology from becoming impaired, impairment from becoming functional limitations, functional limitation from becoming disability, and of these conditions from causing secondary conditions" is the key to improving the individual quality of life. But, as seen in Figure 2.4, the model does not include any mention of an individual, only areas of risk that can result in possible disability and influence the quality of life. The model is rooted in the present, examining past and current trends in injury, developmental disability, chronic disease and aging, as well as secondary conditions of primary disabilities. No discussion of how the concept of disability has changed and will continue to change is included. No reference is made to legislative and cultural definitions of disability. The proposed methods of eliminating disability are from an academic- and private business-based pinnacle of unbiased objectivity. There is no discussion of possible institutional need for modification and possible resistance to changing the current system of health provision and costs. At essence, the report promotes prevention for
system-wide economic benefit. Prevention can decrease the alternate costs for additional health care expenditures, lost productivity, work-site modifications, income supplements, retraining and emotional wear and tear on family and friends of the person disabled.

One member of the committee, Deborah Stone, did not concur with the committee's views and wrote a dissenting opinion of the report. She felt that the report suffered on two fronts. First, the quality of the report was poor and narrow, but touted to be comprehensive. The recommendations were not controversial, "ritual calls for more leadership, professional training, data collection, research and public education." Second, the project funders sculpted the effort to fit their agenda, namely "more jobs for educated, middle class, mostly disabled people." The committee responded that Dr. Stone lost opportunities to clarify issues because of her limited participation in the group process during the creation of the report. Her views were further dismissed because it was acknowledged the report did not reflect her primary personal concerns and recommendations (Pope and Tarlov, 1991, pp. 328-329).

2.5.2 Medical Rehabilitation Research and Disability

Prior to 1990, Congress requested a framework to guide the efforts of the National Center for Medical Rehabilitation Research (NCMRR) and other agencies funding medical rehabilitation research. The field of rehabilitation science was further defined and research opportunities developed. The Advisory Board on Medical Rehabilitation Research (NAMBMRR), established
by the National Institutes of Health (NIH), provides direction and guidance to NCMRR which operates under the auspices of the National Institute of Child Health and Human Development or NICHD, another NIH sponsored agency. A report was produced by bringing together more than one hundred scientists, practitioners, and consumers with expertise in the field of medical rehabilitation research in June 1990. The resulting 1993 report, Research Plan for the National Center for Medical Rehabilitation Research, promote improved individual functioning through better medical treatment options. Daily activities for people with disabilities could be improved with the help of new technology and devices. In this way the rehabilitation sciences would contribute to improving the function and enhancing the quality of life for persons with disabilities.

Two models are drawn from this report. The first model, seen in Figure 2.5, shows factors that impact disability when discussed as a health issue. The person with a disability is viewed through a particular lens. Disability implicitly creates functional limitations that result in economic costs to the society, the person, their families and communities. The person with the disability adapts using the rehabilitation process that can occur any time between birth and until death. Disability alleviated by rehabilitation will result in different outcomes according to the individual. The model emphasizes the use of "outcome measures" to gauge the physical functioning, particularly how aging causes further deterioration. Social relationships, life activities and community life and
the quality of these interactions during the life span of an individual are also
given attention in this model.

Figure 2.5 The Rehabilitation Process: A Systems Approach (National Center
for Medical Rehabilitation Research)

The second model, seen in Figure 2.6, details the proper domains of
science relevant to subsequent medical rehabilitation research:

pathophysiology, impairment, functional limitation, disability and society
limitations. These factors surround the disabled person and the rehabilitation
process, denoting the constraints the person encounters. The model reinforces
the image that a person with a disability has limited options for life rather than
focusing on the potential for achievement and the invention of possible
opportunities.
Models attempt to acknowledge the importance of the human being who is disabled. They seek to discuss the complex factors that influence the person's life and provide evidence of barriers or supports in the given environment. Quality of life is noted as an important factor to measure. However, issues of rehabilitation continue to be discussed from either a scientific or economic viewpoint. Only passing notice is given to legislative changes, particularly the ADA. More attention is concentrated on the "life activity" limitations for 35-43 million individuals with disabilities. Disability is estimated to cost somewhere in the range of $170 billion dollars annually. Efforts to control or reduce new incidences of disability by using available
research information are limited in scope. The key to the future, as seen in this report, is to prevent injury, reduce disability and therefore, decrease the associated costs. No recommendation is made to expend funds so that individuals can be empowered to gain productive jobs and increase their independence.

Development of the report, *Research Plan for the National Center for Medical Rehabilitation Research*, was more inclusive than the previously discussed effort. Some participants were well-known figures in the Independent Living Movement (discussed in chapter 4), who have personal experience with disability (i.e., Judy Heumann and Lex Frieden). The group was a more diverse cast of characters than the *Disability in America* publication (i.e., physicians, directors of advocacy or organizations for persons with disabilities, academics, and representatives of research centers and government agencies). Personal comments and life experiences of persons with disabilities are included in the text. Sometimes these excerpts highlight the report's findings and, at other times, seem superfluous. Surprisingly, the report underscores the needs of persons with disabilities, not their abilities to participate in society despite their disabilities. It fails to acknowledge that from a long term, holistic perspective, barriers can be visible (example: physical structures), or invisible (example: stigma, public attitudes about people identified as disabled) and change over time. For instance, the concepts of "empowerment," "fostering excellence," the use of "new" technology (i.e., computer-assisted devices to monitor treatment
effectiveness, better statistical tools, large historical data bases, effective and
timely distribution of information to individuals and their families), and efforts to
distinguish between rehabilitation and habilitation are new to the field of
rehabilitation. These beliefs and technologies are currently important. They
have a recognized role in shaping the future of rehabilitation and peoples' lives
over time. But these terms will mutate, fall from fashion, and be renowned as
stepping stones leading to new concepts just as Wolf Wolfenberger's idea of
"normalization" was dismissed after setting trends in the early 1970s. Current
technologies will be overshadowed by the development of newer devices. The
ensuing conceptual weaknesses stem from the conventional medical and
economic philosophies underlying the models.

The health of a people is measured by more than death rates. 
Good health comes from reducing unnecessary suffering, illness, and
disability. It comes as well from an improved quality of life. Health is thus
best measured by citizens' sense of well-being. The health of a Nation is
measured by the extent to which the gains are accomplished for all the
people (U.S. Department of Health and Human Services, 1990, p. 6).

2.5.3 The Quest for Healthy People

The Healthy People program was an outgrowth of the United Nations
Health Cities program. The report, Healthy People 2000, clearly references the
next millennium as a magical point in time, a "turning point" which connotes
positive change. As opposed to the professed fatalism at the start of the
twentieth century, the next century can be approached with more confidence.
Both scientific knowledge and common sense were melted to shape this report.
The report is a national *blueprint* -- not to be confused with a vision or image of the future -- for health. It does not discuss social, economic, educational or infrastructure problems that also impact health and rehabilitation. The general set of instructions promises to provide, if followed, cooperation among several players and institutions, preventing economic waste. The report states:

*Despite the overall health improvements achieved as a result of preventative interventions, the Nation continues to be burdened by preventable illness, injury, and disability. In 1960, the share of the Gross National Product (GNP) going to medical services was 5 percent. It is estimated to reach nearly 12 percent in 1990. Lost economic productivity attendant to illness and early death compounds the impact of this problem, so that in 1980 the total costs of illness and early death equaled nearly 18 percent of GNP. Injury alone now costs the Nation well over $100 billion annually, cancer over $70 billion, and cardiovascular disease $135 billion.*

*Sophisticated technology for the diagnosis and treatment of disease conditions has outstripped society's ability to pay for it. Many of these expenses are avoidable.* [A reference is made to Table 2.3 that follows.] (U.S. Department of Health and Human Services, 1990, p. 5).

The general approach incorporates the following steps in its investigation and recommendations. First, the data must be gathered and analyzed for changes in trends and to clear up any misconceptions about interpretation of historical data and findings. This review recognizes the impact of "unexpected" factors like HIV infection, air and water quality, toxic substances accumulation, solid waste production and global environmental changes on human health. However, the issues cited are no longer "emerging" issues. Due to the report's backward looking stance, emerging issues (i.e., not yet suspected or at the fringes of proper discussion in health circles or scientific
investigation) are not baselined for potential impact. Cooperative efforts among many players nationwide would set measurable goals and objectives to attain by the year 2000. Responsibility rests with the individual, the community, the family, health officials, government bureaucrats and politicians, and the media (U.S. Department of Health and Human Services, 1990, pp. 85-88). However, the report does not discuss how to incorporate members of society who have been disenfranchised, for example, persons who are homeless (Baum and Brunes, 1993). Growing numbers of these citizens may be anticipated in the aftermath of federal, state and local government social service and program cuts.

The chosen goals promote positive health and protect individuals from disease, infirmity and injury. Quantitative measures of success are chosen (Table 2.3). Prevention efforts would be put in place, monitored to provide data to baseline health, evaluate the results of prevention, and calibrate "common health status indicators" (U.S. Department of Health and Human Services, 1990, p. 79). This vision of healthy people decreases preventable death and disability, increases the quality of life, and decreases the disparity of health status across various ethnic or geographic populations.

Finally, the synergy created by this national, cooperative effort to promote a general, healthy vision of the future has several concrete goals. These are: decreasing preventable death and disability; increasing the quality of life; providing equitable health status for various ethnic populations; and,
Table 2.3 Economics of Selected Treatment for Preventable Conditions in the United States, Circa 1990

<table>
<thead>
<tr>
<th>Condition</th>
<th>Overall magnitude</th>
<th>Avoidable intervention</th>
<th>Cost per patient(^t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart condition</td>
<td>7 million with coronary artery disease 500,000 deaths per year 284,000 bypass procedures per year</td>
<td>Coronary bypass surgery</td>
<td>$30,000</td>
</tr>
<tr>
<td>Cancer</td>
<td>1 million new cases each year 510,000 deaths per year</td>
<td>Lung cancer treatment  Cervical cancer treatment</td>
<td>$29,000  $28,000</td>
</tr>
<tr>
<td>Stroke</td>
<td>600,000 strokes per year 150,000 deaths per year</td>
<td>Hemiplegia treatment and rehabilitation</td>
<td>$22,000</td>
</tr>
<tr>
<td>Injuries</td>
<td>2.3 million hospitalizations per year 142,000 deaths per year 177,000 persons with spinal cord injuries</td>
<td>Quadriplegia treatment and rehabilitation  Hip fracture treatment and rehabilitation Severe head injury treatment and rehabilitation</td>
<td>$570,000  $40,000  $310,000</td>
</tr>
<tr>
<td>HIV Infection</td>
<td>1 - 1.5 million infected 118,000 AIDS cases (as of January 1990)</td>
<td>AIDS treatment</td>
<td>$75,000 (lifetime)</td>
</tr>
<tr>
<td>Alcoholism</td>
<td>18.5 million abuse alcohol 105,000 alcohol-related deaths per year Regular users: 1 - 3 million, cocaine 900,000 IV drugs 500,000 heroin 374,000 drug-exposed babies</td>
<td>Liver transplant  Treatment of drug affected baby</td>
<td>$250,000  $63,000 (5 years)  $10,000</td>
</tr>
<tr>
<td>Drug abuse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low birth weight baby (LBWB)</td>
<td>260,000 LBWB born each year 23,000 deaths each year</td>
<td>Neonatal intensive care for LBWB</td>
<td>$354,000 (lifetime)</td>
</tr>
<tr>
<td>Inadequate immunization</td>
<td>Lack of basic immunization series: 20-30%, aged 2 and younger 3%, aged 6 and older</td>
<td>Congenital rubella syndrome treatment</td>
<td></td>
</tr>
</tbody>
</table>

Source: U.S. Department of Health and Human Services, p. 5 from various sources, compiled by the Office of Disease Prevention and Health Promotion.

* Noted: examples other than interventions may apply.

\(^t\) Except as noted, these are representative first-year costs. Non-medical costs such as loss.
creating a nationwide network of professionals and citizens, private and public organizations working together to advance this vision. Productive citizens would achieve and maintain maximal levels of individual functioning and better quality of life (U.S. Department of Health and Human Services, 1990, p. 6).

How is disability viewed in this perspective? Table 2.3 displays a monetary assessment and total cost of disability in the United States. According to the U.S. Department of Health and Human Services (1990, p. 5), prevention is cheaper than sophisticated technology required for diagnosis. Treatment has outstripped society's ability to pay for it. This is a common "rational economic man" prescription for policy. Congenital or birth defects, developmental disabilities and other types of disability should be avoided due to cost and the impact of the unhealthy conditions noted (U.S. Department of Health and Human Services, 1990, p. 14). This system promotes a professionally-directed and cost minimization vision of a future, ignoring alternative possibilities given the same information. What is described is a standard, if fatalistic, image of the future. The report is not open to possible unexpected events or dramatic changes in perceived trends.

2.5.4 Futurists Drawn to Health Care Broadly

Two publications by noted health futurists were published in the early 1990s: Health Futures in the Late 20th Century (Bezold, et al., 1991) and 2020 Visions: Health Care Information Standards and Technologies (Bezold, et al., 1993). Both publications provide thoughtful discussions on futures studies and
the use of scenarios to study longer term changes in society. The publications recommend alternatives for current health policy, offer stimulating discussions of technology at the disposal of future health systems, and contribute to the discussion of plausible and probable health futures. These presentations are provided by professionals with longstanding interests in health or futures studies, and each has a particular focus on a specific aspect of health. *Health Futures* carefully draws from an international group of authors and their previously published papers and articles to examine future images, often on a national or global scale. The book, *2020 Visions*, provides an in-depth study of health care information and technologies for exploring optimal health care delivery systems. Means to promote health and protect the public described in four basic scenarios (Bezold, 1993, p. viii). See Figure 2.7.

Both books promote a healthy outlook on the future (Bezold, *et al.*, 1991). These publications provide strong efforts to produce health care literature that explores several future options. The two greatest complaints are that rehabilitation and the link to work are not covered in these health futures extensively. Additionally, the scenarios are limited to plausible or probable images of the future. Out-of-the-ordinary visions of the future, those with a low probability of occurring but great impact if present, are not discussed. The possible impacts of new, powerful technologies, political, economic or cultural changes are also not discussed. The authors circumscribed the stories told to match their professional expectations. However, it is the more bold scenarios
that challenge mind sets, assist in exploring the possibilities more critically, and serve to evaluate the flexibility of current policy or policy. For example, recent changes in Cold War rhetoric and related political economic, political and cultural consequences stemming from this continuing evolution of events, should be powerful reminders to everyone concerned with domestic or foreign policy that the conventional framework is best examined with enthusiasm and curiosity to prepare for the future.

So, the future, inevitably full of ignorance, failure, and chaos, is nonetheless bright — if we learn to accept the challenge to question our way out of ignorance, rise like a phoenix from the embers of failure, and thrive on chaos (Witte, 1991, p. 13).
2.6 Issues of Interest and Innovation

Change, not the status quo, is the norm for curious and adaptive people. Small pockets of researchers investigate rehabilitation from different perspectives and defy the "status quo" thinking of previous rehabilitation research and practice. Many of these efforts concentrate on issues of medical rehabilitation that interconnect on a broader level with vocational rehabilitation. As Albrecht (1992, p. 37) points out, "The cumulative evidence suggests that all societies have impairments; conceptual models for identifying, interpreting and treating disabilities; and elaborated social policies toward the persons with disabilities." All too frequently, models limit the venue to be explored or bypass the exploration and focus on creating measures of effectiveness by which to evaluate policy.

To explore the connection between work and disability, it is necessary to investigate the possible, probable or plausible and preferable. Marlys Witte, M.D. provides some rules of thumb for learning from ignorance (see Table 2.4). Another useful model from which to base one's approach is Gary Albrecht's encompassing model for disability patterns in society (see Figure 2.8).

In the spate of papers and discussions promising to discuss possible images of the future, most are reflections of the past or present situation, summarized with a quick final reference to the prospects of the future (Policy Research Institute and Project HOPE, 1985; England, Amkraut, and Lesparre, 1987). However, there is a small and growing body of literature which question
Table 2.4 Rules of Thumb to Learn From Ignorance

- View ignorance as positive.
- Honestly admit one's own ignorance with feelings of comfort.
- Explore areas of ignorance with motivation, enthusiasm and curiosity.
- Confront and research the unknown with self-confidence.
- Assume an active, rather than passive, approach to learning about science.
- Practice constructive skepticism: recognize the limits of so-called knowledge and commit to questioning all knowledge.
- Be humble about all personal and professional knowledge.
- Acknowledge "fallibilism": the view that any hypothesis can be wrong.
- Recognize the need to revise: commit to revising any hypothesis on the basis of future evidence.
- Maintain an open mind: be willing to entertain rival hypotheses.
- Question authority with confidence, whether it be textbooks, teachers or experts.
- Uphold your integrity: the Socratic ideal of the inner and outer self being one.
- Maintain a sense of humor.


the status quo perception of the single or only plausible futures. These pieces of discussion fall into the grand scheme of Albrecht's model.

Aspects of the social organization realm are being explored. Data or statistics are needed to examine and reform the health system (or vocational rehabilitation system), to assess, explain, predict and evaluate systems' performance, and to create knowledge from information (Feinleib, 1993, p. 1206). Ideologies -- disease-based or health- or wellness-based, in the clinic or community (Shea, 1992b), seen as rural or urban systems of care (Hanson, 1991), from the idea of health as a human right or not (Susser, 1993), including persons with disabilities in planning or not (Disabled Persons Bulletin, 1990), and discussing societal values as part of policy (Sultz, 1991; Nakajima, 1990; Hellman, 1991) -- are being described and debated.
Having studied several disability issues abroad, it is no surprise that the Albrecht model incorporates many issues that other international workers view as important to the creation of disability. History, the impact of culture, political-economic, or demographic (specifically epidemiological) factors (World Health Forum, 1994; Gellert, Kookier, and Neumann, 1991, p. 183; Hellman, 1991; Duncan, 1991) and technological improvements (Hellman, 1991; Roland, 1991a and 1991b; Walker, B., 1992; Drexler, 1986 and 1991) are increasingly explored for their impact on the future. Sometimes the scenarios about possible futures are not always positive, particularly at the international level (World Health Forum, 1994; Duncan, 1991).
Biological factors and the environment are receiving more attention. The impact of greenhouse gases or climatic change (Doll, 1992), situations of scarcity such as safe water sources (Platt, 1996; Duncan, 1991), and vectors for newly recurring "old" diseases like tuberculosis (World Health Forum, 1993) or newer diseases such as AIDS (Gebbie, 1994) and their impacts on populations of individuals are being examined. The increases in environmentally connected diseases like lead poisoning, asthma, multichemical sensitivity (Hilleman, 1991) or general environmental degradation due to human activities such as war (Duncan, 1991), are being tracked and anticipated impacts.

Albrecht (1992, p. 47) acknowledges many established and respected rehabilitation professionals with disabilities publishing in the rehabilitation field when he writes, "Disability and impairment are a product of our environment and choices." In a visual summary of Hahn's (1994, 1988) observations, seen in Figure 2.9, note how the choice of paradigm leads directly to policy solutions. Changing the context of the issue leads to different resolutions.

Although the Albrecht model does not specify the importance of time and change, his book, The Disability Business, provides information about changes over time (e.g., how roles for people with disabilities have changed, how work roles impact disability rates, etc.). His model is implicitly dynamic, showing many factors interacting to create disability patterns in a society. New terms are being created to express changing patterns, frequency, importance
Figure 2.9 Hahn Model of Paradigms and Solutions

and distribution of disability or "epidemiologic transition" (Frenk and Chacon, 1991, p. 173). The time for disease to travel great distances decreased dramatically in the past century (Pannenborg, 1991). Conceptually, these factors are linked together to form a new universe of understanding in Figure 2.8.

2.7 Rehabilitation Questions

So what has become apparent in this chapter? Conventional thinking is still guided by changes in legislation that retroactively recognize changes already in place or ideals that may never be achieved. There is an apparent split between the political ideologies and values driving policy and the economic measures of policy program evaluation, resulting in conflicts between equity and efficiency. Abandoning this framework and accepting that the systems are separate, and yet could work hand-in-hand, might be useful in exploring possibilities.
Models for the holistic examination of the future of rehabilitation are thus far limited but advancing in complexity. Albrecht's model could be developed further to create an adaptive model for future examination of disability in society. Methods for assessing the future tend to evaluate current programs and not explore the possible changes in the next twenty years. Policy and programs tend to react to issues in the past, not anticipate issues related to changing terminology and perceptions of disability. Participation in planning acknowledges that participation of consumers is worthwhile, but occurs at a slow rate.

2.7.1 Building Maps for the Future in Rehabilitation

Policy programs for persons who are disabled assume, for the most part, a retroactive stance. The programs attempt to promote economic growth but limit individual harm, and operate primarily from the viewpoint of the former generation. Stone (1984, pp. 143-4). comments:

Social programs . . . seek to protect individuals against the risks of economic and technological change in order that the society as a whole will have the benefits of economic growth. They do not try to prevent social change or, more specifically, prevent the causes of the conditions that drive people to need insurance benefits (youth, age, widowhood or disability). Rather, they close barn doors after horses have left. The compassion for the individual built into social programs counterbalances the devil-take-the-hindmost attitude toward individual misfortune characteristics of both market economies and broad social movements. Thus, social programs are designed to enforce standards that promote socioeconomic change at the same time as they mitigate individual difficulties.
Walker (1992) comments, in her article, "Rehabilitating a Philosophy of Rehabilitation," that the field of rehabilitation may be in the midst of a paradigm shift. She points out that the current paradigm of rehabilitation rests on outdated models of thought and assumptions. She implies that the old map will not help assist society's rehabilitation programs to create a just and humane society by helping persons with disabilities to attain employment. Although on a less grandiose level than Albrecht, she suggests reexamining relationships among factors, particularly "the assumptions of the positive nature of work and the existence of communities" (Walker, 1992, p. 17). She points out the limitations of the current paradigm for work:

- Structural unemployment is evident in many nations -- paid employment may not be a requirement for a healthy economy.
- Future work may require that the worker be itinerant, hired briefly to perform high-level skills, and then move on.
- While vocational programs extol the need to be community based, this paradigm may be unworkable. Current demands on families require dual-incomes, heavier work loads and longer work weeks and leave little time for either family or community (i.e., shared responsibilities among citizens to alleviate problems) (Walker, 1992, p. 17).

While these trends may appear to be inevitable, they are not.

Walker (1992, p. 18) further suggests that one model, one theory or one paradigm from which to work from may be insufficient. Being open to
differences means creating new ways of exploring the future, or in futures terms, to be aware of alternative futures.

In the following chapter, measures of disability, disability prevalence and the connection between disability definitions and work will be explored. Revelations about and problems with current methods of data collection for persons with disabilities will be examined.
CHAPTER 3
PREVALENCE OF DISABILITY: DEFINITIONS, NUMBERS, AND WORK

Language use is fundamentally a social activity. Words and sentences are merely the props people need as they engage in the social activity – whether it is gossiping, telling stories, arguing, transacting business, or courting. In each of these activities, the participants have social goals, and language is just one means they have for reaching them (Tanur, 1992, p. 16).

3.1 What's In a Name: Definitions as Resolution

In the United States, the concept of disability is multidimensional by consensus. The vast terminology and numerous measures demonstrate the complexity and room for inconsistency when discussing any issue related to categorical resolutions (Ficke, 1992). For example, a discussion of work and disability may lead to a conversation about independent living needs or functional capacities. Living skills supplement and reinforce an individual's capacity to successfully maintain employment over a longer period. However, for the purposes of this dissertation, these measures will deviate little from a discussion of work-related statistics to contain my subject.

Lack of a single definition for disability is not peculiar to the United States. The World Health Organization proposed the International Classification of Impairments, Disabilities, and Handicaps (ICIDH) to clarify terminology,

\[^1\] For example, two measures discuss activities of daily life that impact a person's ability to be functionally independent. The first measure, the Activities of Daily Living (ADL) measures the ability to: 1) bath; 2) dress; 3) use the toilet; 4) transfer in and out of a bed or chair; 5) do housework; and 6) eat (or feed one's self). Another measure used to determine personal independence is the Instrumental Activities of Daily Living (IADL). This measure incorporates the previous six measures and also includes the ability to: 1) handle personal finance; 2) prepare meals; 3) shop; 4) travel; 5) do housework; 6) use the telephone; and 7) administer medication (Frontczak, 1994, p. 10).
promote comparisons among nations, and reveal an "array of disability experiences to aid in establishing policy, service agendas, and eligibility requirements." As a "conceptual framework," the ICIDH hopes to internationalize the study of disability as a health issue by developing general formats for surveys and evaluations. The ICIDH plans to explain policy options, presumably for prevention, appropriate rehabilitation and to eliminate the ills associated with disability (reduced income, poor quality of life, isolation, etc.). Brown sees the ICIDH as a framework and not, "a method for standardization, a research tool to code data, or a classification of persons or disability aids" (Brown, 1991, pp. 1 and 5). A summary of ICIDH definitions is seen in Table 3.1.

ICIDH definitions are generally not employed by United States surveys and services. Acceptance of this ambiguity is apparent from a fact sheet about people with disabilities. It begins, "There are many different ways of defining and counting people with disabilities" (President's Committee on Employment of People with Disabilities, no date, p. 1). But the need to identify and count the number of individuals with disabilities or who cannot work is clearly important. Lasswell observed that who gets what, when, and how is inextricably tied to clear definitions that categorize a resolution to distribution in a society and are the foundation for the conception and implementation of public policy (Haas, 1992, pp. 64-66). Albrecht (1992, p. 49) states, "During the past 150 years, both demographic and epidemiologic transitions have had marked effects on
Table 3.1  Summary of WHO International Classification of Impairment, Disability and Handicap Definitions

<table>
<thead>
<tr>
<th>IMPAIRMENT</th>
<th>DISABILITY</th>
<th>HANDICAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition in the context of health experience</td>
<td>Any restriction or lack (resulting from an</td>
<td>A disadvantage for a given individual, resulting from an impairment or</td>
</tr>
<tr>
<td>Any loss or abnormality of physical, psychological or anatomical structure or function</td>
<td>impairment) of ability to perform an activity in the manner or within the range considered normal for a human being</td>
<td>disability, that limits or prevents the fulfillment of a role that is normal (depending on age, sex, social and cultural factors) for that individual</td>
</tr>
<tr>
<td>List of two digit categories or dimensions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Intellectual</td>
<td>1 Behavior</td>
<td>Survival roles -- scaled</td>
</tr>
<tr>
<td>2 Other psychological</td>
<td>2 Communication</td>
<td>1 Orientation</td>
</tr>
<tr>
<td>3 Language</td>
<td>3 Personal care</td>
<td>2 Physical independence</td>
</tr>
<tr>
<td>4 Aural</td>
<td>4 Locomotor</td>
<td>3 Mobility</td>
</tr>
<tr>
<td>5 Ocular</td>
<td>5 Body disposition</td>
<td>4 Occupation</td>
</tr>
<tr>
<td>6 Visceral</td>
<td>6 Dexterity</td>
<td>5 Social integration</td>
</tr>
<tr>
<td>7 Skeletal</td>
<td>7 Situational</td>
<td>6 Economic self-sufficiency</td>
</tr>
<tr>
<td>8 Disfiguring</td>
<td>8 Particular skills</td>
<td>Other -- not scaled</td>
</tr>
<tr>
<td>9 Generalized, sensory and other</td>
<td>9 Other activity restrictions</td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losses or abnormalities that may be temporary or permanent, and that include the existence or occurrence of an anomaly, defect or loss in a limb, organ tissue or other structure of the body, including the systems of mental function ... represents exteriorization of a pathological state, and in principle reflects disturbances at the level of the organ</td>
<td>Excesses of deficiencies of customarily expected activity performance and behavior, may be temporary or permanent, irreversible or reversible, progressive or regressive ... may arise as a direct consequence of impairment or as a response by the individual, particularly psychologically, to a physical, sensory or other impairment ... represents objectification of an impairment, and as such reflects disturbances at the level of person ... concerned with abilities, in the form of composite activities and behaviors, that are generally accepted as essential components of everyday life</td>
<td>The value attached to individual situation or experience when it departs from the norm ... a discordance between the individual performance or status and the individual's or member group's expectations ... represents socialization of impairment or disability, and as such reflects consequences for the individual -- cultural, environmental, economic and social -- that stem from the presence of impairment or disability ... arises from failure to conform to the expectations or norms of individual's universe ... occurs when there is interference with ability to sustain what might be designated &quot;survival roles.&quot;</td>
</tr>
<tr>
<td>(Note: &quot;Impairment is more inclusive than disorder&quot; in that it covers losses, e.g., loss of a leg is an impairment, but not a disorder.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

the incident of disability . . . and the health policies of the nation." Work
limitations and daily life activities are the most frequent measures of disability
for adults (Albrecht, 1992, p. 50).

An article by Frontczak (1994b) discusses the importance of disability
definitions with respect to government statistics. He (1994b, p. 5) compares the
broad definition of disability provided by the World Health Organization:

\[
\text{... any restriction or lack (resulting from an impairment) of ability}
\text{to perform an activity in the manner, or in the range, considered normal.}
\]

to that of the Americans with Disabilities Act (ADA):

\[
\text{... (a) a physical or mental impairment that substantially limits}
\text{one or more of the major life activities of such individual: (b) a}
\text{record of such an impairment: or, (c) being regarded as having}
\text{such an impairment.}
\]

Standardization may be occurring. The Fair Housing Act Amendments and Air
Carriers Access Act use the ADA definition, as does the revision of section 504
of the Rehabilitation Act of 1973. Public Law 100-407 (or "Tech Act") and the
ADA address disability as a continuum, with general and specific measures of
disability across several dimensions (LaPlante, 1993).

Frontczak (1994b, p. 6) notes the definitions focus on the existence of a
"disabling impairment (i.e., blindness, paralysis, deafness)" and, separately, "the
existence of an activity limitation (i.e., ability to read standard print, to walk, to
understand human speech) that results from an impairment." The definitions
coincide because they count deficits and identify how the person can be "fixed,"
a typical medical paradigm. Using chronic conditions as a basis for measurement (such as *The International Classification of Diseases, Injuries, and Causes of Death*, in its 9th revision or the ICD-9 in 1992) is promoted by the World Health Organization. The ICD groups individuals by type of disability and then measures disabling effects (Ficke, 1992). Frontczak is quick to point out that if definition and measurement by impairment or condition are the rule, the results are useless outside a medical paradigm and policy investigation. The use of this type of information is limited because there are negative connotations attached to the individuals with disabilities. Also, it does not deal with more nebulous categories of psychological, emotional or mental disabilities. Finally, the numbers do not address individual need (Frontczak, 1994b).

Frontczak concludes with several salient points. Public policy views functional limitations as the key to policy. Individual residence, employment, lifestyle and expectations combine with disability to result in specific functional limitations. Yet, policy makers' interests are quite limited.

*Policy makers are more interested in knowing how many people cannot work due to any work-limiting condition rather than how many people have a specific condition that may or may not keep people from working given their particular circumstances. So when using disability statistics, don't look for lists of people tabulated by condition. Such data can be found by activity limitation studies [which] . . . are by far the norm* (Frontczak, 1994b, p. 6).
It is clear that surveys implemented in the United States measure disability in several ways. Contextual variables, such as work and social roles, disability duration, age norms, societal views about particular impairment, statistical considerations, and methodologies for impairment, functional limitations, and disability evaluation, all influence how disability is assessed in the United States (Brown, 1991, p. 5).

3.2 Assumptions

Examining who and how statistics are gathered, provides insight into the incongruities of policy as it relates to work and disability. Defining the issue and its measures dictates both the boundaries of the policy problem and possible solutions. Numbers matter in this forum. Statistics drive policy decisions. Once the definitions are set, people are counted and projects or programs carried out and evaluated for impact.

No single agency in the United States is responsible for the compilation of disability statistics. Organizations which collect primary sources of information reside in many government departments. Frontczak (1994b, p. 5) points out,

Given limited resources, an agency examines only what it needs to and nothing more. Consequently, complete pictures must be pieced together from the variety of sources that share a partial interest in [the subject of disability].

The advantages of using many definitions of disability may lie with funding. If funds for one policy and its programs or projects decrease, others may survive. Diversification of data may avert extinction.

No unifying Disability Policy Agency or U.S. Department of Disability exists. Estimates are assembled from a montage of separate data sets to
construct a picture of the whole. Table 3.2 provides a list of government agencies that compile the bulk of the statistics used in discussions of disability issues. Three departments of the federal government -- Commerce, Education, and Health and Human Services -- collect information through general surveys or service programs designed to assist persons with disabilities. Statistical data from the 1980 census has been used to allocate funds for programs ranging from vocational rehabilitation and education, transit systems, employment services to programs for persons who are elderly and have special needs. The Technology Related Assistance for Individuals with Disabilities Act, Public Law

Table 3.2 Government Sources of Information on Disability

<table>
<thead>
<tr>
<th>U.S. DEPARTMENT OF COMMERCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureau of the Census</td>
</tr>
<tr>
<td>• Census of the Population</td>
</tr>
<tr>
<td>• Current Population Survey (CPS)</td>
</tr>
<tr>
<td>• Survey of Income and Program Participation (SIPP)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. DEPARTMENT OF EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation Administration</td>
</tr>
<tr>
<td>• Vocational Rehabilitation Program Data</td>
</tr>
<tr>
<td>Office of Special Education Program</td>
</tr>
<tr>
<td>• Special Education Program Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Center for Health Statistics</td>
</tr>
<tr>
<td>• National Health Interview Survey (NHIS)</td>
</tr>
<tr>
<td>Health Care Financing Administration</td>
</tr>
<tr>
<td>• Medicare and Medicaid Program Data</td>
</tr>
<tr>
<td>Social Security Administration</td>
</tr>
<tr>
<td>• Supplemental Security Income (SSI) and</td>
</tr>
<tr>
<td>• Social Security Disability Insurance (SSDI)</td>
</tr>
<tr>
<td>• Program Data</td>
</tr>
</tbody>
</table>

Source: Frontczak, 1994b, p.6.
100-407, mandates a "consumer-responsive, comprehensive statewide program of technology-related assistance for individuals with functional deficits or disabilities." The number of persons with disabilities is required to plan and implement efficient programs. Other regularly administered surveys -- the census, the Current Population Survey (CPS), the Survey of Income and Program Participation (SIPP) or the National Health Interview Survey (NHIS) -- "differ in accuracy, precision, disability content, and frequency" (LaPlante, 1993, pp. 1-2).

3.2.1 **Possible Room for Error**

Assumptions that underlie survey methods are as important as the numbers gathered. Sampling (estimates made from a portion of, not the entire, population) and nonsampling errors (vague definitions, imprecise wording allowing interpretation of questions, position of questions in the questionnaire, "recall error, incorrect responses," collection or processing data errors, or issues related to estimation) determine the accuracy of the survey reports (LaPlante, 1993, pp. 1-2). Disability, already recognized as a fuzzy term, is left to the individual interviewed to self-report or to be identified by proxy -- an individual who is familiar with the disabled person reports. Stone cites studies from 1966 and 1973 to contrast self-defined disability with the criteria for a benefits program. Public conceptions of disability are broad, less clear than social policy and probably more diverse (Stone, 1984, p. 142). Despite recognized
limitations, results from national surveys are used to provide insight into
disability issues across the nation and on a state by state basis.

Program data derived from federal service programs such as Social
Security (i.e., Medicare and Medicaid), state Vocational Rehabilitation, or
Special Education are necessary for state program planning. However, this
information does not mirror either the general state or national population.
Survey data is most important in measuring the impact on the number and
extent of non-participation in employment by U.S. citizens.

It is still true, as it was in 1986, that "not working" is perhaps
the truest definition of what it means to be disabled (Business Week,
May 30, 1994, special advertising section).

3.3 Work, a Primary Concern

National surveys (census, CPS and NHIS) attempt to define disability
so that it measures work disability. The SIPP measures functional limitation
sand severity of limitations. Knowledge of these limitations is instrumental or
necessary in readying for or being available for work, but not specifically a work
disability measure per se. The national census and CPS measure work
disability as a health condition that prevents an individual from working or limits
the work which can be performed. The NHIS measures activity limitations in
"major activity" which are standard for a given age group. Work limitations are
considered for individuals who are 18 to 69 years of age (LaPlante, 1993, p. 3).
3.3.1 Incidence of Disability

Consider survey results of work disability provided in Tables 3.3 and 3.4. The year results were reported and the method for reporting numbers is different. Definitions were not provided for measures of work disability. Deciphering the basic data for one table is difficult. Comparison of one table to the other is so confusing that it is impossible.

Table 3.3 shows that 252 million, non-institutionalized people of all ages live in the United States and 19% of the population who is of working age do not have a job. This is a much higher percent than generally reported as actively seeking work and reported as unemployed (6%). Perhaps this includes students and people engaged in work in the home. Nineteen percent of the total, non-institutionalized population have some type of disability. The 19% of the population with "any" disability show a greater rate of unemployment — 24%. About half the people with any disability state that they have a severe disability (24 million or 10% of the total population). Participation in the work force for a person with any disability is slightly greater (24% to 19%). However, it is persons with a severe disability who are most often unemployed (77%).

What accounts for the large unemployment figures for individuals reporting any or severe disability? Martynas Ycas suggests changes made in the surveys of persons with disabilities conducted by the Social Security Administration: the 1966 Survey of Disabled Adults, the 1972 Survey of Health and Work Characteristics and the 1978 Survey of Disability and Work may be
Table 3.3 Survey Findings on Number of Persons with Disability and Work Disability Circa 1991 & 1992

<table>
<thead>
<tr>
<th>U.S. Population, Working Age</th>
<th>With No Job, Working Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Non-institutional, all ages)</td>
<td>(15 to 65 years of age)</td>
</tr>
<tr>
<td>No disability</td>
<td>203 million 81%</td>
</tr>
<tr>
<td>Any disability</td>
<td>49 million 19%</td>
</tr>
<tr>
<td>Severe disability</td>
<td>24 million 10%</td>
</tr>
<tr>
<td>Total</td>
<td>252 million 100%</td>
</tr>
</tbody>
</table>


Important. Apparently these surveys were discontinued. While the surveys were similar in size, sample and concepts or definitions and attempted to study the "current state of the disabled population," the author urges caution in interpreting the results. Changes made in subsequent surveys reflected policy interest at the time of the survey and "the experience of previous surveys" (Ycas, 1991, p. 176).

Examining various sources of data, Ycas (1991, p. 180) found a "trend toward concentration of disability . . . not necessarily accompanied by a comparable increase of persons with more specific and narrowly defined limitations. Rather, some completely disabled persons today have the characteristics of persons who would have reported a lesser degree of disability in decades past." Subjective factors which influence self-definition of disability may be the crux of interpreting these numbers. Adult males have an established trend of withdrawing from the labor force, especially as they age. Struggling to maintain a role as a worker may be passé. The trend is less
evident for women, possibly because they are moving into the work force more
during this period.

*The marked trend toward early retirement can easily be seen as part of a cultural shift in which personal identity is not so closely tied to economic factors. A possible concomitant trend would be for persons who have difficulty working [i.e., persons with a disability] to give up the effort and consider themselves to be "completely unable" to work (Ycas, 1991, p. 182).*

Persons with disabilities may be following a general cultural trend.

Table 3.4 compares work disability reported by several surveys. The census is the most precise. It is conducted every ten years and provides estimates on work disabilities in all fifty states and the District of Columbia. It does not report childhood disability for persons who are less than 16 years old. The NHIS and CPS are the largest national surveys and are conducted continuously. The CPS provides state statistics but is less precise than the census. Estimates of labor force characteristics and limitations in work role are the focus of the CPS. The NHIS measures disability in conjunction with social activities (in the community or recreation events, etc.) and "major roles" individuals play at various ages in their lives. Neither the NHIS nor CPS is used to generate annual estimates of disability. Before drawing conclusions about disability numbers and impact on work participation, the NHIS and CPS must be evaluated with census data for accuracy and precision (LaPlante, 1993). Table 3.4 shows some comparisons of aggregate disability rates among the various surveys described. Rates of work disability are not so incongruent
Table 3.4 Work Disability of U.S. Citizens as Measured by Various Surveys

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Census*</td>
<td>85.2</td>
<td>81.5</td>
<td>41.6</td>
<td>39.6</td>
<td>43.6</td>
<td>41.9</td>
</tr>
<tr>
<td>Current Population Survey*</td>
<td>--</td>
<td>81.3</td>
<td>--</td>
<td>31.7</td>
<td>--</td>
<td>49.6</td>
</tr>
<tr>
<td>National Health Interview Survey¶</td>
<td>--</td>
<td>95.2</td>
<td>--</td>
<td>43.3</td>
<td>--</td>
<td>51.8</td>
</tr>
</tbody>
</table>

* (People aged 16 to 64)
¶ Three year average (1988-1990)

as to question any of the survey results individually.

Table 3.3 reports twice as many people with a disability as estimates given in Table 3.4 for 1990/1991. Table 3.3 notes that 19% of the national population has any type of disability and Table 3.4 estimates only 8.15% have any sort of disability for 1990. It is unclear whether this difference can be accounted for because Table 3.3 information pertains only to persons who are not institutionalized and Table 3.4 is for all households.

3.3.2 Factors Influencing Ability to Work and Disability

LaPlante (1993) has studied quantitative data regarding persons with disabilities extensively. He reports that disability is highly related to socioeconomic (wealth, educational attainment); cultural (gender, age, racial and ethnic composition, social beliefs, family structure); and, environmental factors (built and natural). These findings apply to persons with disabilities who live outside institutions. Generally the information shows that "work disability
has a high, direct correction with age and minority status, and a strong inverse relationship with education and income" (Ficke, 1992, p. 33).

Conditions vary widely throughout the 50 states and the District of Columbia. Results from the 1993 LaPlante study show that in 1980, 85.2 people per thousand (aged 16 to 64, living in households as opposed to institutions) had some work disability. The highest rates for the top five states, all located in the southern U.S., varied from 127.3 to 107.6. By 1990, the pattern of disability remained highest in the south but showed a slight decline in the national rate. The national rate of "some work disability" dropped to an average of 81.5 per thousand from 1980 to 1990. This follows a substantial decline in disability rates from 1970 to 1980. Given survey assumptions, disability rates decreased over time although the incidence of disability continues to be quite high in some parts of the nation. Additional analyses of the data from these surveys provide other indicators relating to the relationship between disability and one's ability to engage in the work force.

3.3.3 Socioeconomic Factors and Disability

Work disability rates drop considerably as the years of education completed increase (see Table 3.5). Ficke (1992, p. 35) notes that education and work disability are influenced by several demographic measures. The causal level of how much schooling is attained may be affected by the disability, so the relationship with work disability is not clear.
Table 3.5 Working Age Individuals with a Disability and Years of Schooling

<table>
<thead>
<tr>
<th>School completed:</th>
<th>Working Age Population in 1988 With disability</th>
<th>Severe disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 8 years</td>
<td>29.7%</td>
<td>23.4%</td>
</tr>
<tr>
<td>8 years</td>
<td>24.6%</td>
<td>16.8%</td>
</tr>
<tr>
<td>9 to 11 years</td>
<td>17.7%</td>
<td>11.6%</td>
</tr>
<tr>
<td>12 years</td>
<td>8.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>13 to 15 years</td>
<td>7.5%</td>
<td>3.2%</td>
</tr>
<tr>
<td>16 to 64 years</td>
<td>3.8%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Source: Ficke, 1992, p. 34.

Stork and Thompson-Hoffman (1991, pp. 29-30) compare several studies from 1989. Between 25% and 35% of students with disabilities dropped out of school before completing special education or a high school program. The dropout rate for youths who are able-bodied ranges from 14% to 18%. Students in special education with a severe disability do not graduate. In comparison with non-disabled youth, few special education students go on to participate in post-secondary education or training. In the year following exit from high school, some special education students attend a vocational or trade school (8.1%), take part in a two-year or community college (6%), or a four-year college or university (2.1%). When grades are examined, clearly special education students do not succeed as well as their able-bodied peers.

Education increases the likelihood that a person with or without a disability is employed part- or full-time. Employment rates for all individuals with a disability are less than able-bodied peers with a similar education level. A person who is work-disabled, with less than a high school education and
between 25 and 64 years of age, has a much greater propensity for unemployment. Persons in that age bracket without a disability have an employment rate of 55% for a full-time job. For persons with a disability the rate is 9.7%.

"Income data from all major surveys show a great disparity between earnings and income of disabled persons compared with nondisabled persons" (Storck and Thompson-Hoffman, 1991, p. 31). This type of financial measure is best measured using both individual and family incomes to reveal the impact of wages and salary paid to the worker with disabilities. Simple discussions of family sources of incomes conceal earnings variation among people with work disabilities (Ficke, 1992, p. 34).

Table 3.6 Working Age Individuals with a Disability and Poverty

<table>
<thead>
<tr>
<th>Income to Poverty Level</th>
<th>Persons 16 to 64 Years Old, 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Any disability</td>
</tr>
<tr>
<td>Less than 1.00</td>
<td>21.9%</td>
</tr>
<tr>
<td>1.00 to 1.24</td>
<td>17.8%</td>
</tr>
<tr>
<td>1.25 to 1.49</td>
<td>13.4%</td>
</tr>
<tr>
<td>1.50 to 1.99</td>
<td>11.3%</td>
</tr>
<tr>
<td>2.00 and over</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

Source: Ficke, 1992, p. 34.

Another measure of income disparity is measured by income, despite employment or participation in the labor force. The poverty ratio seen in Table 3.6 reported by the Census Bureau from CPS data, is a comparison of family income to the official poverty threshold. A number that is less than one means the family income is below the poverty level. A number greater than two (twice
the poverty threshold) is considered a "comfortable" income for a family. This measure has particular significance as it pertains to disability and poverty.

Ficke (1992, p. 35) stated that for 1988,

Twenty one point nine percent of the population 16 to 64 years of age were below the poverty level had a disability, compared to 5.6 percent of the population with family incomes at least twice that level (a ratio of two or more). The near poor, those with family incomes between 1 and 1.24 times the poverty level, had a work disability rate of 17.8 percent. Calculated another way, 28.2% of persons with work disability have family incomes below the poverty level as opposed to only 94% of those without a work disability, nearly a threefold difference.

3.3.4 Cultural Factors and Disability

Many cultural factors interact with disability and impact employment. Employment rate differences are well documented for persons who are able-bodied and those who are disabled. Table 3.7 shows some of these differences classified by gender. Labor force participation rates are much higher for persons who are able-bodied: 88.9% for men and 69.5% for women. Rates are considerably lower for persons with disabilities: 35.7% for men and 27.5% for women. The percentage of individuals who are able-bodied and employed full time is much greater also. Unemployment rates for persons with disabilities show no difference while those for persons who are not disabled are slightly distinct.

As early as 1982 there has been discussion of a "double burden" of discrimination on women who are disabled (Menz, et al., 1989). Society puts more stock in beauty as a measure of a woman. Visible impairment has more
impact. Disability "interferes with women's traditional role as caretakers and supports of men" (Baldwin and Johnson, 1994, p. 5). Studying labor market discrimination of women with a disability is more difficult than analyzing discrimination about blacks, Hispanics, or women. It is clouded by three factors: "(1) the effect of impairment on productivity, (2) the variation in negative attitudes across different impairments, and (3) the relationship between disability-related and gender-related discrimination" (Baldwin and Johnson, 1994, p. 2). Therefore, the authors were thorough in their examination and included other interrelated factors that influence the employment of women with disabilities (i.e., education, union involvement, functional limitations). They concluded that the brunt of discrimination for women with disabilities is gender-related and is no more "intense" than that encountered by women without disabilities. In 1992 all women's annual earnings were 70.6% of all men's earnings. In 1979, all women earned about 59.7% of men's annual earnings (Facts on Working Women, 1993, pp. 1-2). While there has been a steady rise in women's earnings, the change in the earnings ratio has been slow. The reasons for this may include differences in women's skill level, measured in

<table>
<thead>
<tr>
<th>Disability</th>
<th>In labor force</th>
<th>Employed full time</th>
<th>Unemployment rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Males</td>
<td>35.7%</td>
<td>88.9%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Females</td>
<td>27.5%</td>
<td>69.5%</td>
<td>13.1%</td>
</tr>
</tbody>
</table>

Table 3.7 Labor Force Participation by Disability Status and Sex

experience and education, and the price of obtaining skills, and technological changes (Facts on Working Women, 1993, pp. 3-5). However, the issue is probably far from settled as it pertains to women with disabilities. This study was only the second of this type. The authors note a need to use a "richer data set" and suggested examining wage differences for the effects of racial or ethnic discrimination also. This is a state of the art data analysis. Much is left to be done.

The study of disability and ethnicity has received little attention. Surveys do not report ethnicity in detail. For example, Belgrave and Walker (1991, p. 29) report only three categories in the 1988 CPS data: white, black and Hispanic. Rehabilitation utilization rates are lower for African Americans. This is related to the use of public transport for medical appointments and the distance of facilities from their home neighborhood. In addition, attitudinal beliefs may foster low utilization rates.

Leung (1993) questions whether racial and ethnic minorities with disabilities are being served well by vocational rehabilitation agencies for a myriad of reasons. The lack of data is appalling, particularly with an obvious change in demographics in the United States. Various reasons are suggested that might limit minority participation in vocational programs, including: possible inherent prejudice, bias, or racism; education (e.g., literacy); "cultural views of self-help and government programs" and; lower economic class (Leung, 1993, p. 6). Comparisons across ethnic groups are "unwieldy or impossible" (Storck
and Thompson, 1991, p. 25). The prevalence rates of disability for some groups, specifically Asian and Pacific Islanders, are so much less than national estimates, they cry out for further examination (Leung, 1993, p. 8). These populations have been excluded from research and little effort has promoted their inclusion. When the data has been collected, they are rarely in a form that is "usable" or "effective" for policy discussion. Individuals from these groups are frequently employed in jobs that are physical and dangerous. Consequently, they may have a greater potential need for vocational rehabilitation services.

Culture has no single definition. However, it is recognized that it creates obstacles to effective service. The greatest barrier to service is a lack of personnel who are fluent in the language of the person being served. More difficult to overcome are issues of "learned, shared patterns of beliefs, values, attitudes and behaviors characteristic of a society or population" (Fitzgerald, 1992, p. 38). As Fitzgerald comments, the rehabilitation culture is not always shared by persons served from other countries. The challenge of "diversity" or "difference" (popular references to serving persons from diverse groups) can mingle with other factors: aging (Burton, Dilworth-Anderson and Bengtson, 1991) or specific populations such as persons with developmental disabilities (Kuehn, 1993).

Groce and Zola (1993, p. 1049) identify three reasons why cultural beliefs impact the success or failure of rehabilitation. What must be understood
are: the beliefs underlying the cause for the disability; the expectations for survival; and the perceived social role for persons with disabilities in the society. The idea of culture impacting service is relatively new and community rehabilitation programs have not been investigated well with respect to this consideration.

Further complicating the complex issue of providing "culturally competent" (Walker, 1991) rehabilitation is the policy of documenting an "increasingly heterogeneous population" (Lott, 1993, p. 222). The Census classifies residents by sex, property and race. Lott acknowledges these categories are constructed based on whom a nation decides to include or exclude as "officially recognized ethnic groups." Traditionally the United States census focused on skin color and blood quantum to categorize individuals, while Canada's groupings reflected the origins of its immigrants. Other nations are more interested in "secondary ethnicity," -when groups with an ancestry from one geographic area, migrate to another and maintain a separate identity from the culture in which they are situated. The present international trends in documenting ethnicity are to portray the diversity of society accurately, demonstrate implementation of policy recognizing multiculturalism, and measure discrimination and disadvantage (ibid.). This is not explicitly stated in U.S. policy. The reason is unclear.

Statistical Directive 15, issued by the Office of Management and Budget in 1978, was the most recent policy to alter collection and reporting of federal
data. Categories changed before and will change again (Lott, 1993). The directive establishes five standard categories under which all other groups will fall in order to increase consistency and comparability, to assess "policies of inclusion" (Lott, 1993, p. 225). Immigrants to the United States may find the usefulness of the old framework limited. Other limitations are that:

These categories are neither mutually exclusive nor comprehensive. They are time- and policy-specific. They describe a heterogeneous society that is becoming even more diverse. Diversity and greater numbers within these major categories strongly suggest more specific data by subgroups, particularly in various geographic regions of concentration (Lott, 1993, p. 228).

Federal policies are not distinct. They contaminate each other. It is suspected that changes in federal guidelines for Census data will impact programs receiving federal funds.

Other changes can also be anticipated. Acting administrator for the Substance Abuse and Mental Health Service Administration, Elaine Johnson, made comments in 1993 addressing the need to change the U.S. outlook on service and develop cultural competence. She urged programs to "abandon that outdated notion of a melting pot. It is more effective to celebrate diversity and community while striving for cooperation, collaboration and understanding" (Associated Press, 1993).

While medical programs, particularly those sponsored by the United Nations, show a growing body of literature on differences in service to persons with disabilities and the impact of culture, ethnicity and other factors
instance, see Omar, 1994; Kuehn, 1993; Groce and Zola, 1993; Fitzgerald 1992; Osborner, 1992; Burton, Dilworth-Anderson and Bengtson, 1991; Walker, 1991; Ingstad, 1990), few were performed in vocational rehabilitation. Much is to be done in the future to correct this lack of data and institute more effective policy for persons who are minorities and disabled.

If living alone is assumed to be a measure of isolation, persons with disabilities are more vulnerable. Results from the NHIS are shown in Table 3.8. Obviously, there is a higher incidence of individuals with a disability living alone (i.e., widowed, separated, or divorced) and having a limitation of some type. For persons who are married or who have never married, major limitations affect less of the total population.

**Table 3.8 Individuals with a Disability, Marital Status and Activity Limitations**

<table>
<thead>
<tr>
<th>Marital status:</th>
<th>Total population (Millions)</th>
<th>Any activity limitation</th>
<th>Major activity limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Married</td>
<td>108.6</td>
<td>16.0%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Never married</td>
<td>32.2</td>
<td>10.9%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Widowed</td>
<td>12.8</td>
<td>40.4%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Divorced</td>
<td>10.9</td>
<td>22.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Separated</td>
<td>3.6</td>
<td>22.2%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Under age 18, any status</td>
<td>62.7</td>
<td>5.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Unknown</td>
<td>0.8</td>
<td>14.8%</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Source: Ficke, 1992, p. 34.

The 1984 SIPP results report persons with a functional limitation were more than twice as likely to live completely alone as individuals without limitations (21.4% compared to 9.1%). The percent of individuals living alone or with non-family members increases with severity of functional limitation (Ficke,
Highest incidents of overall work disability and severe work disability are found among the widowed, separated, divorced, married and those who have never been married (in ascending order). Those who have never been married tend to be younger in age (Storck and Thompson, 1991, p. 28).

The CPS often provides the most detailed information on the ability to work. This data, provided in Table 3.9, report the growing percentage of total and severe disabilities as individuals age. If a person with a disability is between 55 and 64, the individual is four times more likely to have a disability than someone aged 25 to 35 (McNeil, et al., 1991, p. 158). The disability rate is even higher for the same groups with a severe disability.

Table 3.9 Working Age Individuals Who have a Disability and Severity

<table>
<thead>
<tr>
<th>Age range:</th>
<th>Working Age Population in 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With disability</td>
</tr>
<tr>
<td>16 to 24 years</td>
<td>3.8%</td>
</tr>
<tr>
<td>24 to 34 years</td>
<td>5.6%</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>7.1%</td>
</tr>
<tr>
<td>45 to 55 years</td>
<td>10.3%</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>22.3%</td>
</tr>
<tr>
<td>Total (16 to 64 years)</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

Source: Ficke, 1992, p. 34.

3.3.5 Summary: Cross Impact of Factors and Disability

While the data seem to stand alone in their interpretation, this series of short discussions indicates that a single factor is rarely responsible for a
disabled person's ability to be employed or the impact of limited participation in the labor force. Without a better understanding of the interactions among factors, many hurdles preventing participation in the work force may be ignored. Yet, these inadequate and limited statistics are translated into numbers that are used to create policy and fund programs. Federal fiscal budgets will be considered in the next level of examination.

If you are receiving Social Security Disability Insurance or Supplemental Security Income (SSI) disability benefits but still want to work, this booklet provides information to help you treat your disability as a "bridge," not the end of the road. The decision to work and earn as much as you can is yours, of course. However, many people see their work as more than just extra cash. They cite the satisfaction they get from overcoming a disability through their abilities, making new friends, and getting back in the mainstream. Most find that their earnings gradually increase to the point where they are better off working than not working (Social Security Administration, 1994).

3.4 Disability in the Context of Seeking Assistance

Policy directs the formation of many entitlement programs that provide income support and medical care for persons with disabilities. Work or rehabilitation programs, in contrast, help them to train for or return to work or reduce or remove the effects of disability. These programs tend to be mutually exclusive: if the employment program or the corrective measures can assist the person to join the work force, the entitlement programs cannot be used. The Impact of the President's FY 1995 Budget on Program for People with Disabilities, by the Consortium for Citizens with Disabilities details federal entitlement programs which pertain to services for persons with disabilities. This is seen in Table 3.10. Funds spent in 1993, 1994 and the proposed and
### Table 3.10 Program Budgets for People with Disabilities, Selected Years

<table>
<thead>
<tr>
<th>Federal year</th>
<th>Appropriated</th>
<th>President Request</th>
<th>CCD Recommends</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEPARTMENT/Program (Vocational):</strong></td>
<td>(Millions of U.S. Dollars)</td>
<td>(Millions of U.S. Dollars)</td>
<td>(Millions of U.S. Dollars)</td>
</tr>
<tr>
<td><strong>ADA (Not assigned)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>DEPARTMENT OF HEALTH AND HUMAN SERVICES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment related</td>
<td>8642.9</td>
<td>10901.0</td>
<td>10597.2</td>
</tr>
<tr>
<td><strong>DEPARTMENT OF AGRICULTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment related</td>
<td>2860.0</td>
<td>3210.0</td>
<td>3564.0</td>
</tr>
<tr>
<td>Farmers with Disabilities</td>
<td>1.8</td>
<td>2.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>DEPARTMENT OF EDUCATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment related</td>
<td>2964.5</td>
<td>3119.7</td>
<td>3312.4</td>
</tr>
<tr>
<td>Vocational Grants to States</td>
<td>1879.7</td>
<td>1974.2</td>
<td>2029.4</td>
</tr>
<tr>
<td>Carl D. Perkins Act, Applied Tech</td>
<td>1169.5</td>
<td>1176.3</td>
<td>1124.9</td>
</tr>
<tr>
<td>Natl Institute Disability, Rehab Res</td>
<td>67.2</td>
<td>68.1</td>
<td>66.2</td>
</tr>
<tr>
<td>Rehabilitation Training (Staff)</td>
<td>39.6</td>
<td>39.6</td>
<td>39.6</td>
</tr>
<tr>
<td>Supported Employment (Severe)</td>
<td>32.3</td>
<td>34.5</td>
<td>37.4</td>
</tr>
<tr>
<td>Special Demonstration Projects</td>
<td>30.5</td>
<td>30.5</td>
<td>32.5</td>
</tr>
<tr>
<td>Secondary Education, Transition</td>
<td>21.9</td>
<td>21.9</td>
<td>24.0</td>
</tr>
<tr>
<td>Projects with Industry</td>
<td>21.6</td>
<td>22.1</td>
<td>22.1</td>
</tr>
<tr>
<td>Services for Deaf Blind Children</td>
<td>12.8</td>
<td>12.8</td>
<td>12.8</td>
</tr>
<tr>
<td>PAIR, CAP (Protection &amp; Advocacy)</td>
<td>11.8</td>
<td>15.1</td>
<td>15.3</td>
</tr>
<tr>
<td>Post Secondary Education</td>
<td>8.8</td>
<td>8.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Innovation, Expansion Grants</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Technical Assistance, Community</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>DEPARTMENT OF TRANSPORTATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment related</td>
<td>1807.0</td>
<td>1692.0</td>
<td>1690.0</td>
</tr>
<tr>
<td>Federal Transit Grant</td>
<td>2182.0</td>
<td>2226.6</td>
<td>2649.7</td>
</tr>
<tr>
<td>Rural, Small Community Transit</td>
<td>112.2</td>
<td>133.9</td>
<td>158.6</td>
</tr>
<tr>
<td>Vehicle Purchase</td>
<td>48.6</td>
<td>58.7</td>
<td>61.1</td>
</tr>
<tr>
<td><strong>DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment related</td>
<td>5992.0</td>
<td>6159.9</td>
<td>7149.3</td>
</tr>
<tr>
<td><strong>DEPARTMENT OF LABOR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Training Partnership Act - States</td>
<td>2447.5</td>
<td>2570.8</td>
<td>2810.8</td>
</tr>
<tr>
<td><strong>INDEPENDENT AGENCIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment related</td>
<td>4.8</td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Corporation, National &amp; Community</td>
<td>n.a.</td>
<td>285.0</td>
<td>492.9</td>
</tr>
<tr>
<td>Small Business Administration</td>
<td>11.7</td>
<td>9.6</td>
<td>0.0</td>
</tr>
<tr>
<td>President's Committee on Employment</td>
<td>4.3</td>
<td>4.3</td>
<td>4.4</td>
</tr>
<tr>
<td>Javits-Wagner-O'Day Act</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Purchase from Blind/Severe Disability</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Grand total</td>
<td>30378.0</td>
<td>33785.0</td>
<td>35912.0</td>
</tr>
<tr>
<td>Work related total</td>
<td>8107.0</td>
<td>8698.0</td>
<td>9594.0</td>
</tr>
</tbody>
</table>

recommended for 1995 show that programs with some vocational benefit are about 26% of any given federal year budget. Programs with vocational services are italicized. Not every program marked by italics is strictly vocational in focus. This is acknowledged to be an overestimation of monies spent providing direct vocational rehabilitation services or which devote a portion of the given budget to promote or obtain employment of persons with disabilities. This estimate provides a back-of-the-envelope estimate of the importance of work and its relationship to disability. Most of the programs are lodged within the Department of Education.

Monies spent on entitlement programs (see Table 3.11) provide minimal financial support to persons who are not employable or lack of employment due to disability. However, the total amount of funds devoted to entitlement programs is much greater than the funds spent for vocational rehabilitation or employment. Consider: actual funds spent on entitlement programs for 1993 totaled $287,307 million, rehabilitation programs appropriated merely $30,378 million and vocational programs were $8,107 million. The Presidential request for rehabilitation programs in 1995 is $35,912 million (with $9,594 million for vocational programs). Entitlement programs for the same year were proposed to cost $350,361 million. SSI and SSDI are the most important entitlement programs for a person with a disability. These large ticket items, falling under the auspices of the Department of Health and Human Services, assure eligibility for medical insurance (i.e., Medicaid or Medicare) or food subsidies (i.e., food
Table 3.11 Expenditures on Entitlement Programs for Persons with Disabilities, Selected Years

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(Millions of dollars)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSDI</td>
<td>34641</td>
<td>38075</td>
<td>41620</td>
<td>41620</td>
<td></td>
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<tr>
<td>SSI</td>
<td>22642</td>
<td>26706</td>
<td>28437</td>
<td>28437</td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>130553</td>
<td>143651</td>
<td>156228</td>
<td>156228</td>
<td></td>
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<tr>
<td>Medicaid</td>
<td>75774</td>
<td>87156</td>
<td>96388</td>
<td>96373</td>
<td></td>
</tr>
<tr>
<td>Food stamps</td>
<td>23697</td>
<td>27046</td>
<td>27688</td>
<td>27688</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>287307</td>
<td>322634</td>
<td>350361</td>
<td>350346</td>
<td></td>
</tr>
</tbody>
</table>


Other cash transfer programs not discussed here include private insurance (payments paid to injured individuals from policies purchased by them or their employer), indemnity (worker's compensation programs that recompense workers injured during employment), and income support (funds given to individuals who can show they have insufficient resources or veterans of the war who need a pension). For the year 1986, Hill (1991, pp. 215-216) estimates that these programs added another $64 billion dollars to disability transfer payments.

A discussion of these entitlement programs, their definitions of eligibility and factors which impact eligibility are important considerations of how society determines who is in need and deserving of assistance due to disability.
In the United States, there appears to be . . . dissatisfaction with the uniformity and scope of the definitions of disability and the methods of identification of disabled people (Brown, 1991, p. 1).

3.4.1 Benefits for Disabled Who are Unemployed and Unemployable

Stone (1984, pp. 69-71) points out that the "evolution of the concept of disability" in the United States has always been discussed in the "context of expansion of an existing program." The Railroad Retirement program, Civil Service disability or veterans' pensions, state Workers Compensation programs, collective bargaining and private insurance contracts sold commercially have provisions for disability, as well as the federal Social Security system in place, providing a framework for disability insurance. Implementation of disability insurance was problematic because regulation of the program relied on defining and certifying disability. The legislators, administrators of the program and citizen advisory council members realized and commented upon the potential for constant expansion of the program and the associated increase in cost.

Housed under the Department of Health and Human Services are three important programs. Programs that provide minimum income and federal-state medical insurance for people with disabilities (among others) are: Medicare, SSDI, and SSI. These government programs seek to ameliorate certain effects of disability, primarily the lack of income and health coverage (Hill, 1991, p. 212). Social Security for the aged was implemented in 1935. The SSI program, SSDI, covers people with disabilities. It was initiated in 1957.
SSI has three general eligibility categories that cover persons who are aged, blind or disabled. Ficke (1992, p. 146) explains that to be eligible for either SSDI or SSI requires that an individual cannot "engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period not less than 12 months." Further, "The impairment must be of a degree of severity that renders the individual unable to engage in any kind of substantial gainful work that exists in the national economy, regardless of whether such work exists in the immediate area in which he or she lives, or if a specific job vacancy exists for that person, or if he or she would be hired upon application for the work." When SSDI beneficiaries reach the age of 65, they become eligible for benefits for the aged. Non-work income such as private insurance, pensions, or savings' income does not impact SSDI benefits that are based upon previous employment. SSDI benefit provisions recognize "the disparity in earnings between males and females and younger versus older workers" (Ficke, 1992, p. 146). Only those who are low income are eligible for SSI income. As individual employment income increases, benefits decrease accordingly.

Since the inception of the SSDI and SSI (for persons who are blind or "permanently and totally disabled") programs, the number of applicants who were awarded benefits has shown, at times, dramatic variation. This can be seen in Figure 3.1. Because the population of the United States...
Figure 3.1 SSDI and SSI Awards Over Time, Selected Years

Figure 3.2 Change in SSDI and SSI Awards from Previous Year, Selected Years
has grown steadily during this period, the percentage change in awards (see Figure 3.2) is considered a more useful indicator than the number of awards granted.

Researchers discussing these trends have not reached consensus in the interpretation of the numbers available. There can be vigorous divergence of opinion even when examining similar data. For instance, Ycas (1991) states there have been three patterns or waves of awards granted for both programs. From 1957 to 1970 a steady increase, averaging about 8% a year, resulted in the widespread perception that the disability programs were "out of control."

McNeil, Franklin and Mars (1991) suggest that the time trends showing rapid growth during 1965 to 1987 should be interpreted with caution. The number of applicants and the individuals who decide what constitutes a disability influence the number of awards granted. This was a period in which the working population became aware of the disability programs.

From 1975 to 1982, Ycas finds an average decrease in awards of almost 12% a year. McNeil, Franklin and Mars state that between 1977 and 1987, the number of persons awarded SSDI benefits has been "fairly stable," after a growth period between 1965 and 1977.

Ycas sees a third phase from 1982 to 1987 -- after which data was not available -- which seemed to signal a "modest" increase in awards of about 7%. More recently published research by Bowe (1994), also covers this period and more recent years. His research describes a system characterized by a
backlog of applicants and an escalating number of individuals applying for assistance. Nonetheless the summary by Ycas (1991, p. 166) still rings true. 

Several findings are worth noting: (1) there has been considerable year-to-year variation; (2) the variation is not random but reflects systematic trends extending over many years; (3) on the other hand, there is no single long-term trend. Instead, awards have undergone several waves of growth and decline.

In spite of some overlap in the coverage, the programs generally serve "different populations and have quite different eligibility criteria for factors other than disability determinations" (Ycas, 1991, p. 168). Changes in the number of awards reflect changes in the number of persons in the labor force who were becoming disabled. Coverage expansion, benefit increases, and the development of new programs during the 1970s influenced the increased number of awards granted to persons with disabilities. Ycas does not consider that the life span of persons with congenital disabilities or the survival rates for some types of injuries (i.e., spinal cord and head injuries) has also improved over the last 20 years and may contribute to the number of persons who are disabled. Survey data for persons served by SSA suggest that if people are more willing to perceive themselves as disabled, they will apply for disability benefits.

Disability pensions began as a limited program but have grown to major importance in the federal budget. As of 1994, about five million people receive SSDI. This includes workers under age 65 who are disabled, under the definition above, and 37,000 adults who were disabled during childhood. SSDI
is also granted to 663,000 adults who qualify for Old Age and Survivors Insurance who were disabled during childhood and about 73,000 widows and widowers who are disabled. Those who qualify for SSDI benefits also receive Medicare after two years of coverage. SSI provides funds to about 5.4 million individuals: those who are aged, blind or disabled (4.4 million have a disability or are blind) and to about 770,000 children in low-income families whose disabilities are comparable in severity to those of adults (5.1 of 5.5 million or about 94%). SSI eligibility also means that recipients in almost all states will receive health care services through Medicaid.

Cost estimates show some variation in the price tag to provide these programs. The amounts provided in the report by the Consortium for Citizens with Disabilities (CCD) may be high due to conflicting information sources or confusion about the exact federal year under consideration. Consider another estimate by Bowe (1994). Using 1992 SSA figures, he estimates that the annual cost of SSI for Federal Year (FY) 1993 is about $20 billion a year. Medicaid costs more than $79 billion. CCD reports appropriated funds totaling $130.6 billion for FY 1993 for Medicare, $22.6 billion for SSI, and $34.6 billion for SSDI. Income taxes (i.e., "general revenues") fund SSI. Federal contributions alone in FY 1992 totaled $19 billion. Supplementing this is billions of more dollars contributed by the individual states, totaling an estimated 19% of state budgets. His findings suggest 83% of the individuals receiving funds from SSI are adults and children with disabilities. Sixty-seven percent of the
$19 billion federal funds in FY 1993 will pay benefits to 3.6 million adults ($12.7 billion). Seventeen percent of the funds will go to half a million children with disabilities. Bowe (1994, p. 2) states that SSI recipients "seldom receive more than poverty level incomes . . . [while also qualifying for] Medicaid, and frequently also food stamps and eligibility to live in subsidized housing." CCD (1994, p. 30) reports that current federal maximum payments of $446 per month for an individual and $669 per month for a couple are 73% and 82% respectively of the official federal poverty level. Thirty-seven percent of the adults with disabilities who collect SSI, Bowe reports, also receive SSDI (about five million individuals who are less than 65 years old). Eligibility for SSDI means that the beneficiaries can receive Medicare (a federal medical program for persons who are elderly).

Just as there are strengths and weaknesses to survey data, program statistics have faults. Program eligibility criteria are reflected in enrollment numbers, not disability. Factors such as the size of the low income population, the work history of persons in the labor force at a given time, and current law affect who may apply. Information provided by the data collected by one program rarely allows for use by other programs or necessarily even for program evaluation. Data, such as race, may be missing completely. It is also recognized that enrollment in programs will overlap and make an unduplicated count of a population impossible. On the other hand, program counts of persons with a disability may be discounted without sufficient consideration to
their positive aspects. The counts can "provide a rough measure of incidence," based on individual medical assessments that are considered objective. Additionally, "the operational definition of disability which [program criteria] implicitly implement is particularly relevant to measuring the social cost of disability" (Ycas, 1991, pp. 162-3).

Program data document increased participation in disability services. In comparison, various U.S. government survey results show a steady work disability rate. Individuals who report a work-disability in survey interviews tend to report a complete disability although the disability characteristics are not necessarily more specific or narrowly defined according to Ycas. Self definition is apparently the key to the issue. Surveys require self definition of disability and limitations. Program definitions may lead people to identify themselves as disabled also. These phenomena may measure the number of people who could seek services but do not, for reasons other than the eligibility requirement, compared to the number who seek services.

Ycas suggests that the greater volatility in programs can be explained by several factors. First, programs granting awards measure the incidence of disability, while survey data document the prevalence of disability. Second, "program-specific factors can confound data on disability" (Ycas, 1991, p. 181). Ycas believes that minor adjustments in eligibility criteria and changes in national administrations do not explain the rapid increase and decrease in awards. However, she felt that program administrators' attitudes about
providing awards might be the greatest influence. Public awareness and participation in other disability programs have changed over time, particularly among individuals in minority groups. This could result in increased numbers of program applications. Finally, subjective perceptions of disability have impacted participation. As discussed previously, able-bodied men are more willing to withdraw from the work force. This may simply be a cultural shift impacting work patterns (Ycas, 1991, pp. 181-2).

Bowe (1993, p. 1) states emphatically:

_The bottom line is employment. When people with disabilities work, they pay income and other taxes. They stop receiving entitlement benefits while they are employed. Special educators, rehabilitation counselors, employers and disability activists need to work together to help beneficiaries leave aid rolls for payrolls — and other never to enroll on aid rolls at all._

One federal program has the primary responsibility for assisting adults with disabilities to join the labor force: Vocational Rehabilitation.

### 3.5 Vocational Rehabilitation

Vocational rehabilitation (VR) was conceived at the beginning of the century in the United States. This disability program is essentially "corrective" in intent. "Corrective responses are designed to enhance the individual's ability to return to work and to reduce or to remove the effects of an individual's impairment. Provision of training through vocational rehabilitation, sheltered workshops [now considered as isolating], programs for job accommodation, and
employment subsidies, for example, involve corrective responses" (Hill, 1991, p. 214).

3.5.1 Program History

Vocational Rehabilitation has incrementally added to its list of persons eligible for service. "Vocational rehabilitation, as a public system of services available to civilians, has evolved from 1917 to 1982 through over 15 federal legislative acts and amendments" (Weiss, 1986, p. 43). From 1982 to the present, another five pieces of legislation critical to vocational rehabilitation were implemented. Weiss continues, "These laws have progressively added to the definition of clients eligible for services as well as the expenditures and structure of state agencies empowered to provide these services." Two of these programs' initial tasks were to serve troops injured during World War I or laborers injured in industrial accidents. Veterans returning from the war with physical impairments were often provided with physical restoration and artificial limbs. Those with paraplegia usually died after only a few weeks or months. Workers' compensation referrals received vocational retraining in the first part of the 20th century also. Individuals who were impaired while building the United States infrastructure (e.g., mining ores or timber, building railroads, or other heavy industry endeavors), were included in the service agenda by the 1940s. After World War II, persons who were mentally retarded were included in the mission of Vocational Rehabilitation. The accelerated thrust for
deinstitutionalization during the 1970s brought pressure on Vocational Rehabilitation to serve persons with chronic mental illness.

As technology broadened the life span for individuals with disabilities, political acceptance of various disabilities such as polio and tuberculosis branched out. Because people now survived epidemics and "high-prevalence diseases," there were more requests for and initiatives to gradually expand the diversity of services and the range of clientele served by programs. Throughout the history of rehabilitation there was a need for the creation of a critical mass before persons with any given type of disability could be served, or programs funded, to provide services.

Advocacy efforts by volunteer organizations have helped and hindered public perceptions of persons with disabilities. Legislation has changed the perception of the roles of persons with disabilities and their capabilities. Service was mandated for persons with more severe disabilities under The Rehabilitation Act of 1973. More recently, implementation of the ADA in 1992 gave a new flavor to all services for persons with disability, couching it in civil rights language. "The passage of the American with Disabilities Act (ADA) has focused increased attention on the issue of work disability. ADA's provisions for reasonable accommodation and safeguards to limit discrimination against persons with disabilities, already required of federal funds recipients, will now extend to virtually all employers" (Ficke, 1992, p. 32).
Vocational rehabilitation services are no exception. Draft regulations of the 1992 Amendments to the Rehabilitation Act of 1973 provide Congressional intent.

Sec. 100. (a)(1) Congress finds that -
(A) work -
(i) is a valued activity, both for individuals and society; and
(ii) fulfills the need of an individual to be productive, promotes independence, enhances self-esteem, and allows for participation in the mainstream of life in America;
(B) as a group, individuals with disabilities experience staggering levels of unemployment and poverty;
(C) individuals with disabilities, including individuals with the most severe disabilities, have demonstrated their ability to achieve gainful employment in integrated settings if appropriate services and supports are provided;
(D) reasons for the significant number of individuals with disabilities not working, or working at a level not commensurate with their abilities and capabilities, include -
(i) discrimination;
(ii) lack of accessible and available transportation;
(iii) fear of losing health coverage under the medicare and medicaid programs under titles XVIII and XIX of the Social Security Act (42 U.S.C. 1395 et seq. and 1396 et seq.) or fear of losing private health insurance; and
(iv) lack of education, training, and supports to meet job qualification standards necessary to enter or retain or advance in employment;
(E) enforcement of title V and of the Americans with Disabilities Act of 1990 (42 U.S.C. 1210 et seq.) holds the promise of ending discrimination for individuals with disabilities; and
(F) the provision of vocational rehabilitation services can enable individuals with disabilities, including individuals with the most severe disabilities, to pursue meaningful careers by securing gainful employment commensurate with their abilities and capabilities.

Barriers that have stopped persons with disabilities from engaging in employment have had dramatic effects on their ability to participate as full members of society and secure other benefits associated with having a job. If
some impacts of disability and the associated discrimination can be alleviated and assistance is provided, then these individuals can be expected to strive for and gain employment, even careers. Society and the disabled individual will benefit from participation in the work force.

Service to persons with disabilities is restricted and continues to evolve. Legislation and administrative guidelines are explicit about who can be served.

Disability can impose significant costs on the individual and society. With the onset of a potentially disabling condition, an individual experiences both economic and psychic losses as he or she faces restricted choices. The individual can incur increased medical costs, lose income, and face societal prejudice. Society may lose the output of an otherwise productive worker and use resources for medical care and rehabilitation (Hill, 1991, p. 209).

3.5.2 Vocational Rehabilitation Definitions

The Vocational Rehabilitation program, premised on the ADA definition included in section 504 of the Rehabilitation Act of 1973, draft regulations state:

Sec. 7. For the purposes of this Act:

(B)(A) Except as otherwise provided in subparagraph (B), the term "individual with a disability" means any individual who (i) has a physical or mental impairment which for such individual constitutes or results in a substantial impediment to employment and (ii) can benefit in terms of an employment outcome from vocational rehabilitation services provided pursuant to [ . . . specified titles] of this Act.

(B) Subject to subparagraphs (C), (D), (E), and (F), the term "individual with a disability" means, for purposes of sections 2, 14, and 15, and [ . . . specified titles] of this Act, any person who (i) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment.
The regulations define who is excluded from coverage: persons who are homosexual, bisexual, transvestites, pedophiles, exhibitionists, voyeurs, individuals with gender identity disorders not resulting from physical impairments, or other sexual behavior disorders who have no other disability. Also disqualified are individuals who are compulsive gamblers, kleptomaniacs, pyromaniacs or individuals with psychoactive substance use disorders resulting from current illegal use of drugs. Any individual who currently has a contagious disease or infection or who is an alcoholic will not be considered disabled if the infection or disease causes the individual to be a threat to the health or safety of others or is the basis for the individual's inability to perform the duties of the job. On the other hand, persons who are HIV positive can be served by vocational rehabilitation.

After defining these service constraints (or the map of possible disabilities), Section 7, (26) of the 1992 Amendments to the Rehabilitation Act of 1973 states that the physical or mental impairment must comprise or result in a "substantial" impediment to employment or "substantially limits one or more major life activities." Therefore, the disability must manifest in a fashion which can be documented, limit at least one major life function, impact employability yet leave the person capable of benefitting from services to be employable. Service is not required for individuals who believed to be potentially harmful to others.
Severity, or lack of it, can be a consideration in services rendered.

Section 12 of the 1992 Amendments to the Rehabilitation Act of 1973 requires that "implementation of an order of selection for vocational rehabilitation services under section 101(a)(5)(A) [be instituted] if such services cannot be provided to all eligible individuals with disabilities who apply for such services."

Each state agency devises the order of selection to be used, in conjunction with a federally mandated volunteer advisory board called the Rehabilitation Advisory Council or a commission with more supervisory capacities. Some states have already put a plan of service priority into action as early as 1991, following the designated guidelines. Justification for this action includes statements such as:

*In order to assure that those individuals with the most severe handicaps are selected for services on a priority basis, the Order of Selection for services is in effect. The Order of Section is imposed because resources do not permit services to be delivered to all eligible clients. . . . The Division has served increased numbers of persons with severe disabilities over the past several years. Personnel and financial resources do not permit the Division to serve all persons who apply for services (Carrington to Region IX State Directors, 1994).*

Another unidentified state plan notes similar concerns, shortages of funds and staff, which limit the agency's ability to provide services to all who might be eligible. A few states moved out of order of selection by 1995. Hearsay suggests that the system was too cumbersome to administer or counter productive to consumer satisfaction and the image of Vocational Rehabilitation.
However, about half the states were involved in order of selection based service provision as of 1996.

Definitions of severity of disability are not consistent from state to state but frequent references to certain components to be appraised are mentioned. Higher priority may be given to persons with more functional limitations or with some minimum number of "substantial functional limitations." For example, a loss of performance in at least three of a list of nine areas (i.e., mobility, communication, self-care, self-direction, work tolerance, work skills or interpersonal skills) would constitute a greater need for service. Injury that occurs while executing the duties of public service jobs that can be hazardous such as public safety officers (police, military or civil defense worker, or firefighter) also plays a strong role in being determined worthy of receiving high priority for service. Persons with multiple disabilities are granted a higher priority. A final aspect to be considered is whether vocational rehabilitation is expected to provide "multiple vocational rehabilitation services over an extended [but not defined] period of time" (Carrington to Region IX State Directors, 1994). Examples of priority of selection show three to five categories of severity, often accompanying expectations of numbers of individuals to be served, and estimates about the number of persons to be rehabilitated. Order of selection is most often important when services are purchased but also impacts the provision of unpaid services. While many order of selection impacts are
unclear, it will increase the complexity of service and generate dissatisfaction among those not served.

3.5.3 Measures of Service

Vocational rehabilitation program measures are commonly presented in many ways. Program measures can inform decision-makers about who is being served, either over time or in the current year. Demographic data, maintained by the Rehabilitation Services Administration under the Department of Education for Vocational Rehabilitation clients and that available from national surveys already discussed, allow comparisons of certain characteristics of persons with disabilities with each other or their able-bodied peers. State efforts to measure customer satisfaction are less often available on a nationally reported basis. National rehabilitation research efforts have focused on reporting efforts to better prepare staff to service persons with disabilities or certain sectors of this group (e.g., ethnicity). A wide array of factors is considered to measure economic effectiveness to justify monies spent. A few measures concentrate on the types of and effects of service to the individual, but most are concerned with evaluating the adequacy of the system to alleviate the impacts of a disability: an inability to get and maintain a job. There is no single measure of effectiveness of vocational rehabilitation services. A small selection of current measures will be examined.

Overall there are differences in the applicant pool for VR services and the population of persons with disabilities who are in the work force for the
United States as reported by the 1988 RSA Case Service Reports, the 1984 SIPP, and 1983-85 NHIS percentages respectively. The percentage of men applying for and accepted for vocational rehabilitation services is higher (58%) than the "work-limited" population of men (48%), while the percentage of women accepted (43%) is less than the general work-limited group of women (52%). Persons over the age of 44 tend to be under-represented when compared with the broader work-limited population (17% compared to 58%, given limited data on the latter group). The United States Government Accounting Office (1993, p. 34) concludes, "Thus, there is mixed evidence that groups . . . considered more 'difficult' to rehabilitate are also less likely to apply to the VR program than their numbers in the general work-disabled population might suggest."

There is evidence that the amount of monies spent for services vary among ethnic groups. Evidence of discrimination is inconclusive (e.g., cannot be supported or rebutted). Many factors that impact the ability of persons with disabilities to engage in employment are examined in vocational rehabilitation service effectiveness.

As seen in Table 3.12, the annual average number of individuals served has risen over time, peaking (given the limited data on more recent years) in the period from 1970 to 1979. However, this data does not provide a complete picture of the mandates of the Vocational Rehabilitation program. Another very crucial aspect to discussing personal and program characteristics
Table 3.12 Annual Average Number of Individuals Served and Rehabilitated by State Vocational Rehabilitation Agencies

<table>
<thead>
<tr>
<th>Fiscal period</th>
<th>Persons Served (Thousands)</th>
<th>Persons Rehabilitated (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950 to 1959</td>
<td>236.0</td>
<td>66.0</td>
</tr>
<tr>
<td>1960 to 1969</td>
<td>471.0</td>
<td>143.0</td>
</tr>
<tr>
<td>1970 to 1971</td>
<td>1,135.0</td>
<td>311.0</td>
</tr>
<tr>
<td>1980 to 1981</td>
<td>962.0</td>
<td>232.0</td>
</tr>
</tbody>
</table>


of persons with disabilities participating in rehabilitation services and their outcomes is the growing distinction between those labeled as having a disability which is "severe" or "most severe" as opposed to non-severe for purposes of being served under order of selection (McNeil, et al., 1991, p. 153). In the more distant past, rehabilitation service agencies were accused of "creaming." Creaming occurs when "selecting persons with lesser physical impairments (or less-stigmatized impairments) who are the 'cream' of the disabled population; obviously it can also mean selecting persons whose nondisability characteristics give them a better chance on the job market" (Kirchner, 1987, p. 40). Recent comparisons of persons who are severely disabled with those who are not severely disabled show, on average, less than 5% difference in the percentage of clients participating in a given category of service (United States Government Accounting Office, 1993). More persons deemed to have a severe disability receive adjustment training, training which helps the client to adjust to a particular situation impeding his or her ability to work. Severity also varies with
disability type. Some groups, such as people with hearing impairments or invisible disabilities such as epilepsy, are considered traditionally underserved (Corthell and Yarman, 1992, p. 5, 21).

Another means of examining the dimensions of work for persons with disabilities is to compare them with their able-bodied peers. This comparison excludes all individuals who are not employed. Professions for persons with and without a work disability show a wide variation among certain occupational groups. Persons with disabilities are less likely to be engaged as managers or professionals as an occupation than are men and women without a disability. Men with disabilities are less likely to work as operators, laborers and fabricators or performing service work than men without disabilities. They are slightly more likely to work in technical, sales or administrative support work. Women with disabilities are more frequently employed in service occupations and jobs as operators, laborers or fabricators than women without disabilities. Unlike their male counterparts, women with disabilities are less likely to be employed in technical, sales or administrative support positions (Ficke, 1992, pp. 36-37). There is, however, a striking similarity between the work in which able-bodied and disabled men are employed compared to the work in which able-bodied and disabled women are more likely to be employed.

For the year 1988, Table 3.13 shows the occupation of persons rehabilitated by vocational rehabilitation services nationwide. The categories of employment diverge from the occupations used by the U.S. Bureau of Census
Table 3.13 Persons Rehabilitated by VR Agencies, National Totals, Federal Year 1988

<table>
<thead>
<tr>
<th>Placement Occupation</th>
<th>Severe disability</th>
<th>Non-severe disability</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Percent of total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td>25.9%</td>
<td>31.9%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Service</td>
<td>22.5%</td>
<td>23.9%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Clerical</td>
<td>14.2%</td>
<td>15.4%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Professional</td>
<td>12.4%</td>
<td>15.1%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>10.7%</td>
<td>4.3%</td>
<td>8.7%</td>
</tr>
<tr>
<td>All other</td>
<td>7.2%</td>
<td>1.2%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Sales</td>
<td>4.8%</td>
<td>5.5%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>2.3%</td>
<td>2.6%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Total number:</td>
<td>147,044</td>
<td>66,905</td>
<td>213,949</td>
</tr>
</tbody>
</table>


for the Current Population Survey. Categories of employment not included in the previous graphic for the general population are the "homemaker" (8.7%) and industrial (27.8%) categories. Ficke (1992, p. 152) also notes, in an explanation of the table that "Those with a severe disability were also frequently placed into sheltered workshops or unpaid family work neither of which is considered a traditional occupation." By current standards that emphasize integration of the person with a disability into community settings, neither placement would be seen as favorable. The placement "shelters" the person with a disability from interaction with others other than the family or provides a protected environment with restricted options (i.e., the sheltered workshop).

Therefore, comparisons among categories of service, types of disability and with able-bodied peers abound. These measures attempt to determine
whether service is fair and equitable among persons with disabilities. They assure that persons with disabilities receive the help they need to enter the job market. As policy mandates and legislation change, these measures will change too.

Likewise, the growing financial commitments for supported employment by other service agencies, particularly mental health and mental retardation/developmental disabilities agencies, suggest that employment is increasingly viewed as a valuable outcome by agencies who often have not concerned themselves with vocational outcomes. Although it may be premature to project the full impact upon these service agencies, it appears clear that community-based employment services will continue to grow in acceptance (Kregel, et al., 1989, p. 291).

3.5.4 Financial Resources

Federal expenditures for disability expenditures are reported by one team of authors to have decreased 25.6% between 1975 and 1985 in real terms (Dean and Dolan, 1991). More recent reports circa 1991 calculate the total expenditures for persons with disabilities aged 18 to 64 rose in real terms between 1970 and 1986 (Hill, 1991, p. 211). However, the cost of transfer programs and medical care showed expanding budgets. Simultaneously direct services shrunk after a high in 1979 (ibid.).

One immediately apparent result of future decreased budgets is that persons with more severe disabilities will be expected to be served despite diminished funding. Persons with severe and profound mental retardation, long-term mental illness, traumatic brain injuries, cerebral palsy, autism, sensory impairment or other multiple disabilities may require more program money per individual to serve or services over a longer period to rehabilitate.
As public attitudes and resulting legislation changed, funding has followed. Traditionally persons with more severe disabilities were considered inappropriate, and therefore ineligible, for vocational rehabilitation services. But this has changed, particularly with the initiation of order of selection. The opportunity to integrate individuals into community employment settings and achieve increased wages should be possible even for those with the most severe disabilities (Kregel, et al., 1989, p. 294). One recent example of this thinking is the development of supported employment programs. The Developmental Disabilities Act Amendments of 1984, the Americans with Disabilities Act of 1991, and the 1992 Amendments to the Rehabilitation Act of 1973, Title 3 and 6, reinforce service to persons who are considered more severely disabled. Supported employment pilot programs bloomed in the mid-1980s to meet the challenge of serving persons with more severe disabilities and are now accepted parts of federal funding. "The goal of the supported employment movement is straightforward -- to use new and existing rehabilitation technology to enhance the economic self-sufficiency of a large group of citizens who previously were unable to earn meaningful wages" (Kregel, et al., 1989, p. 283). In other words, everyone is expected to contribute to one's own support if possible.

Cobbling together funds from many sources to provide services is an imminent challenge to vitalize this reality. The complexity of actual funding is provided when examining the results of an early study of supportive
employment by Kregel, Shafer, Wehman and West (1989). Twelve sources of funds were reported for supported employment in twenty-seven states (see Table 3.14).

Table 3.14 Sources of Funding for Supported Employment Programs

<table>
<thead>
<tr>
<th>Federal Rehabilitation Services Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Title III, RSA funds to state VR agencies</td>
</tr>
<tr>
<td>• Title VI, Part C, Rehabilitation Act of 1986</td>
</tr>
<tr>
<td>• Title I of the Rehabilitation Act, Basic State Grant Program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-RSA federal and state generated funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Title I state matching funds</td>
</tr>
<tr>
<td>• General revenue funds from the state for vocational rehabilitation programs</td>
</tr>
<tr>
<td>• State and federal Title XX monies</td>
</tr>
<tr>
<td>• Title XIX or Medicaid waivers</td>
</tr>
<tr>
<td>• Job Training Partnership Acts</td>
</tr>
<tr>
<td>• State departments of education or Developmental Disabilities Planning Council</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unspecified sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Interagency transfers from agencies serving persons who are blind</td>
</tr>
<tr>
<td>• Federal grants</td>
</tr>
<tr>
<td>• Private funding from charitable agencies</td>
</tr>
</tbody>
</table>

Although the categories of disability have become more restrictive (i.e., who can apply for Vocational Rehabilitation services), and the philosophy of who is able to support themselves has grown to include nearly everyone, services and funding have not successfully moved all persons with disabilities into the mainstream work force. As reported earlier in this chapter, there is evidence that greater numbers of citizens are applying for benefits due to disability.
The assignment of citizens into the work-based and need-based distributive system remains a highly political issue that is not readily resolved by the creation of formal administrative schedules or the delegation of decisions to the medical profession (or any other technical experts). Thus, there is a constant struggle over the boundaries, which manifests itself in shifting pressures for expansion and contraction of the disability category (Stone, 1984, p. 140).

3.6 Do Definitions Assist In Finding Solutions?

Work related definitions of disability are found in much legislation, government sponsored and conducted surveys, and programs that compensate individuals because they are unable to work. In the United States there is a multitude of measures to define and determine the boundaries of disability. Stone points out that this type of "categorical resolution" must perform certain functions. First, it must provide a rationale so that people can be assigned to either the work-based or the need based distributive system. Each system has rules of allocation nested within it, so it must be clear to which system the individual must answer. If a citizen leaves the work-based system, he or she must be in philosophical agreement with fundamental assumptions about human nature and justice in the need-based system. As we have seen, one assumption is that work is good. Another is that being economically self-sufficient is an achievable goal for (almost) everyone given the current philosophy of legislation and program funding. But this begs the question of why so many people continue to leave the work based economy and what can be done about this in the future.
Second, categorical resolution require a "validating device." This standard or test serves the purpose of determining when a person should be excused from participating in the work-based system and given social aid. The device asks two questions. Are the needs of the person in question being met? And, is there a valid reason the person in question cannot participate in work or is in need? It should be objective and avoid any chance of manipulation by the person being judged. Examination of the use of medical professionals to function in this role, the impact of their thinking on vocational rehabilitation services and the development of their own spin on rehabilitation will be examined more closely. The questionability of objectivity and manipulation by all parties in a political venture is worthy of some consideration and will be further examined in the next two chapters.

The final assumption of a "good resolution" is that it maintains the dominance of the primary system of distribution and acknowledges that giving social aid should be considered (Stone, 1984, p. 21). Again, one must question whether the current system of distribution will remain in effect over the longer run. While Stone acknowledges that changes in the economic system have created a different system of meeting needs, a feudal system as opposed to a market or capitalist system, she does not explore what implications further change in the economic or political system might mean for the relationship for work and disability.
Disability is a most important policy concern. Aside from the toll it takes on affected persons and their family members, disability is the cause of vast productivity losses and billions of dollars in social expenditures. Whether these burdens are growing or diminishing, and by how much, is of great interest. How to answer this question involves a number of complex issues (Ycas, 1991, p. 161).

3.7 Conclusion

In keeping with the United States multi-dimensional character of defining disabilities, it is obvious that the current system does not meet Stone's requirements for a successful categorical resolution for determining and identifying who is disabled. It is also evident that further exploration of the interactions among complex factors (i.e., economic, political, environmental, technological, cultural/social, the impact of administrator mandates or a leader's visions) would benefit the system. Analysis techniques other than examination of simple historical data and legislation is needed to adequately investigate the future of work and disability.

The next chapter will discuss the history of vocational rehabilitation. It will investigate broad forces that shape the context of disability and vocational rehabilitation. Past solutions to the dilemma of putting a person with a disability in the work force will be detailed.
"Rehabilitation" is a vague and poorly delineated concept, and its concrete aims subject to a fair degree of variation. It has included physical training as well as vocational education, concrete surgical repair and correction as well as psychotherapy (Gritzer and Arluke, 1985, p. xx).

4.1 Overview

To set the stage for examining the present and moving toward a discussion of the future, there must be discussion of the past. In this chapter, there will be a discussion of influences, events and visionary leaders that impacted the creation of specialized training and assistance for securing employment for persons with disabilities.

The fundamental political-economic model employed to justify the creation of the special roles of medical service providers is still valid for examining the "caring" professions today. This natural growth model of change presumes that accumulated knowledge and technological innovation "naturally" advances "progress" and promotes the evolution of service. This is an optimistic theory of social change. More knowledge and technology assure better service to and care for persons with disabilities. Society is assured that, given the proper opportunities, all people with disabilities have an excellent chance of regaining previous skills and finding a job. It is prudent to invest in rehabilitation so that persons with disabilities can return to economic self-sufficiency.
Jockeying for the right to provide vocational services for persons with disabilities was a process that started before the turn of the 20th century. Over time small groups of medical providers set criteria for professional licensing and specialization. This process occurred more rapidly as the century unfolded, spurred by the large number of wounded soldiers returning from the World Wars, a growing number of workers injured in industrialization and survivors of epidemics such as polio. Innovations in technology and theory about disease transmission reduced morbidity and mortality for persons with disabilities. Changes in federal funding for services and new philosophical attitudes about service availability were also important in establishing the field of vocational rehabilitation.

Political prescriptions, economic factors and advances in technology are constant influences on vocational services. A well-rounded perspective on the field of rehabilitation will also include the impact of leaders or visionaries and their actions. These individuals were crucial to the development of a separate field of service and the philosophy by which service is provided. New legislative regulations currently focus on additional measures of service and may direct the future direction of these programs.

This chapter details how the federal government has centralized and standardized services, set the criteria for, and licensed professionals who provide rehabilitation services. Federal legislation provides funding and
promotes the use of technology to rehabilitate the disabled individual to reenter the world of work.

[In the health care field [one] must consider the kinds of relationships that exist among specialties. ... [These] mechanisms [which presuppose an ordering of the interrelationships] are thought to be necessary to provide patient care in a coordinated, nonfragmented manner by different specialties (Gritzer and Arluke, 1985, p. 2).

4.2 The Medical Profession and the Emergence of Vocational Rehabilitation

Physicians were not always revered and respected citizens of the community, nor were they considered scientifically trained, knowledgeable professionals with specialized training. A unified medical profession, now recognized and condoned by the American Medical Association, had humble beginnings.

Organization and specialization allowed unification and had other advantages as well. Gritzer and Arluke provide a provocative examination of many factors that developed the current system of medical and vocational rehabilitation specializations and suggest a rationale for these developments. They examine economic, cultural, political as well as the impact of influential leaders in the development of the current rehabilitation system.

The emergence of vocational rehabilitation derives from circumstances primarily in the early 20th century. It was shaped by historical events such as the industrial revolution and World War I and II. A changing economic outlook in post-world war planet prompted a need to reexamine the possible
contribution of disabled individuals. Labor resources were scarce. Additionally, the government needed to fulfill an obligation to provide veterans opportunities for work after their return from war. Capitalism promoted the use of the natural growth model, economic efficiency measures, and promoted sorting out work specializations to fit market niches. Medical tools for objective diagnosis and advancements in medical treatments for epidemics and previously terminal ailments or injuries that increased survival rates were important technological advances impacting the situation. Several visionary leaders wielded political influence and contradicted conventional wisdom about treatment for persons with disabilities (for example, Dr. Elliott Brackett, Dr. Joel Goldthwait, Dr. Howard Rusk, Frank Krusen, and Mary Switzer to name a few historical figures). Political partisan maneuvering among public and private organizations and professional groups expanded rehabilitation services and legitimized their right to providing services. The American Medical Association and its recognized professional subcategory groups legitimized medical professionals. The American Red Cross, the Federal Board for Vocational Education, military divisions for medical treatment of injured soldiers, and the U.S. Public Health Service all vied for the opportunity to serve persons with disabilities during and after the war. In the wake of these people, organizations and events were cultural and political impacts. Society changed its opinion about the need for the services to persons with disabilities. The resulting federal legislation and policy record the ideals and expectations of the nation. What resulted were vocational
rehabilitation programs for Veterans, Worker's Compensation programs, and
Vocational Rehabilitation programs for persons with disabilities. The focus here
is strictly on programs for persons with disabilities generally. These influences
and events will be discussed briefly.

4.2.1 Impacts of Industrialization, World Wars, and Volunteer Agencies

Industrialization and the World Wars increased the number of
individuals with disabilities in the United States. One author estimates that
more than 500,000 individuals were disabled by vocational injury during the
process of industrialization of the nation. Approximately an additional 14,000
individuals were estimated to be disabled each year due to dangerous industrial
situations. Reform organizations such as the Federation for Associations for
Cripples organized around this issue, advertised the problem and proposed
solutions (Gritzer and Arluke, 1985, p. 38). Employers were encouraged to pay
for insurance that would assist workers who were temporarily or permanently
disabled. The rationale for change was not so much humanitarian as
economic. Industrial accidents were part of the cost or "human overhead" of
industrialization. Small, periodic payments for industrial accident insurance
were preferable alternatives to the risk of unpredictable and considerably large
payments by companies to injured workers granted in court proceedings. A
further cultural shift in society's perspective on injury occurred. "In the rhetoric
of the new [social] programs, accidents could no longer be attributed to worker
carelessness, any more than they could be attributed to employer
negligence" (Stone, 1984, pp. 97, 99). The employer in this case was often a large factory or corporation that made it difficult to affix blame. Individual responsibility for becoming injured or sick decreased. Disability was no longer attributed to personal moral shortcomings.

Empirical understanding of the link between infectious disease and individual responsibility resulted in greater numbers of individuals avoiding epidemics or surviving formerly terminal illnesses and had other effects too. Specifically, there were more individuals with disabilities who would demand services. The polio epidemics in the 1940s and 1950s added thousands to the ranks of the disabled in the United States. The number of individuals with disabilities made it impossible to hide them all in back bedrooms (Trieschmann, 1987, p. 2). More generally, "The metaphor of infectious disease shaped public thinking about the nature of all illness" including persons with chronic, noninfectious mental and physical problems who were most of the people considered disabled (Stone, 1984, p. 96). Because the theory was treated as a magic bullet and extrapolated beyond its capacity to explain these problems, extending "beyond the bounds of empirical demonstration of its validity," government sponsored service to persons with disabilities were more acceptable (ibid.).

With the injured workers excluded from employment in the national economy, by May 1919 approximately 123,000 soldiers returned from war partially or totally disabled (Gritzer and Arluke, 1985, p. 39). World War II
added to the growing ranks of persons with disabilities. By "mid-1943, legislative steps had been taken to create a bureaucracy for rehabilitation of the war wounded and utilization of the civilian work force in a time of labor shortage" (Gritzer and Arluke, 1985, p. 92).

Groce discusses the impact of private initiatives to serve persons with disabilities in her book, *The U.S. Role in International Disability Activities: a history and a look towards the future*. One of the earliest organizations to serve persons with disabilities was the Cleveland Rehabilitation Center, established in 1889 to serve children. The first organization with an international perspective was the Red Cross Institute for the Crippled and Disabled (now the International Center for the Disabled), established in 1917 to serve wounded soldiers, but soon incorporated the civilian population. Often the organizations acted as clearinghouses for information or advanced the treatment for persons with disabilities.

A very important aspect of the establishment, development and growth of these non-government agencies is discussed briefly by Groce. Following World War I, many local, regional and national organizations to serve sub-populations of persons with disabilities developed as advocacy groups and societies for the improvement of services. No government agency safety net was in place for persons with disabilities. These agencies filled a vacuum in services. Unlike European predecessors, the unsurpassed number of voluntary organizations in the United States did not work in tandem with government
agencies, nor did they supplement attempts at centralized government planning. Legislative recognition for the need for services and partial funding came after the organizations were developed. Groce (1992, p. 21) states, "Most of these private voluntary organizations grew out of a sense of civic duty and were supported by religious denominations or were linked directly or indirectly to hospitals or institutions."

The evolution of this strong system of voluntary organizations and decentralized approach to disability issues has several legacies. However, the system's past presents some problems that plague the system even today. "'Helping the disabled' continues to be defined as a valid charitable act -- a good deed" (ibid.). Although these organizations provide services, act as a business and earn other state and federal funds, they are seen primarily as charities. The recipients of services -- persons with disabilities -- are seen as objects of charity, perpetuating the image of a person in need. The agencies become stigmatized and stigma granting as well.† "Organizations were often pitted against one another in the competition for monies, slowing the free exchange of ideas and innovations" (ibid.). Fragmentation of services and disservice to persons with disabilities continues as agencies fight for scarce

† In recent research completed interviewing staff in Hawai'i's community rehabilitation facilities this view was reported. "The government should be aware that its funding can reinforce the helper/helpsee relationship [between community rehabilitation agency and the person with disabilities] because the organization can be recognized as receiving public monies. Clients associated with [these kind of] agencies known to receive public monies are stigmatized too" (Brandt, 1995a, p. 4).
Appeals to the public for funds have lead to a system which created the "poster child." Pity, not respect, is the basis for the contribution. In revulsion to this portrayal, groups like "Jerry's orphans" have been spawned (Thomas, 1993). Groce states that a positive aspect of many private and voluntary organizations is that they initially and continuously have a strong voice in local and national policy issues. They have a forceful impact on public attitudes about persons with disabilities. However, typically, due to their reliance upon these same policy makers and program administrators to parley grants and allocations for services, their voices can be muted. With the direct link between the service and paying customers broken, the public and even vested stakeholders in services (persons with disabilities and their families) find that the organizations are "rarely directly accountable" for their actions or service quality (Groce, 1992, p. 22).

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2 Again, examples of this phenomena have been documented for community rehabilitation facilities in Hawai'i. "Clearly, state agency contracts for services differ according to the funding agency. Methods for cost are not explicitly differentiated between supportive employment and competitive employment measures. Cuts in funding to penalize [community rehabilitation facilities] for underutilization of contract slots was a concern. Due to the number of contracts, one agency pools all income and allocates a certain percentage to various programs: for persons who are developmentally delayed, those served for Vocational Rehabilitation, and those served for Mental Health. [These are the major sources of funding for vocational rehabilitation services in the state.] Relating the cost of service to the monies paid for services becomes more complex due to the mixing of funds. . . .

"[R]eimbursement by the state was estimated to be as low as 50% of the costs of providing services to 'just about' covering costs. . . . Vocational Rehabilitation was said to have "set the amount for each successful closure" at about $7000. . . . (Estimated costs from one agency to another . . . can vary by as much as $10,000 between the high and low estimates according to another administrator.)" Competition can be fierce (Brandt, 1995a, p. 13).
Overall, more attention to persons with disabilities is generally due to the increasing number of persons recognized as disabled. While some social stigmas were reduced (i.e., personal responsibility for disability), new stigmas were created. The system evolved in the aftermath of World War I and II. The aftermath was not anticipated by those who, with very noble intentions, created these organizations.

Physical medicine entered the decade as a marginal segment and exited as a formally recognized specialty claiming expertise in "scientific management" of workers who provided rehabilitation services, not only through physical measures but through vocational, educational, and social ones as well. Rehabilitation work was incorporated as a core task within the context of war and its aftermath (Gritzer and Arluke, 1985, p. 119).

4.2.2 Creating a Market and Vying for a Share

Business management and organizational theorists have studied the historic development of specialization in work. "A particular group of workers becomes joined together around a common occupational title and attempts to gain more or less exclusive right both to the title and to the right to specialize in the performance of a specific set of tasks associated with it. Only professional and sometimes technical workers today, along with those in crafts, have the capacity to organize what Max Weber called 'social closures,' or 'shelters, in the labor market that protect their titles and their job rights" (Gritzer and Arluke, 1985, p. xiv). Those who cannot organize are at the mercy of the company employing them. Not only can these groups create a social shelter, but they can elevate their stature and increase their economic benefits as well.
Divvying up the market has many advantages but is not always easy to attain. The medical professions interested in expanding their markets through the war effort, did not consider the grab for power being made by vocational rehabilitation counselors in the civilian sector. Part of the failure of the physicians to capture control of civilian rehabilitation may be due to occupational rigidity of these medical groups.

Studying various social and political processes via the natural growth model, Gritzer and Arluke describe how electrotherapists (moving through the title of physiotherapists, to physical therapy physician to the more current persona -- physiatrists) and orthopedic surgeons suffered setbacks and accomplished successes in attempting to establish medical specializations during the world wars. Before World War I, both industrial physicians and orthopedic surgeons were acknowledged as experts in providing service to persons who were injured or disabled. Electrotherapists disdained this service, opting to provide acute care rather than serve patients with chronic conditions. Throughout the wars, electrotherapists and orthopedic surgeons vied for the privilege of providing vocational rehabilitation services not only to injured soldiers but to expand their realm of service to civilian populations and ultimately failed.

Industrial physicians were hired by companies in the early 20th century to provide immediate care for persons involved in work incidents resulting in injury. Workers' compensation laws enacted just prior to World War I gave this
group the impetus to move into new services: injury prevention, health protection and guidance for people returning to employment in the private sector after "reconstruction services" to maintain their "productive ability." Having secured a market seeking their services, they showed no interest in securing additional war clientele.

The periphery of any field is that which is open to expropriation and flexible enough to generate opportunities. As new or emerging medical specialties, both electrotherapists and orthopedic surgeons attempted to make market gains from the wars. Their strategies and results were quite dissimilar. Electrotherapists attempted to secure a market share through social and political processes. Organizational efforts and ideological foundations differentiated electrotherapy from other "heroic medicine" (i.e., surgery) by emphasizing its "modern scientific approach from that of the dissident sects." In this way it defined a distinct commodity for market identification (Gritzer and Arluke, 1985, p. 16). It created "social unity through a common language . . . [to] standardize electrical nomenclature," essentially instituting a professional jargon (Gritzer and Arluke, 1985, p. 37). The boundaries of the profession were linked to a "modern technology," the use of electricity. Pre-existing "natural" therapies were also used but less appealing to minds interested in "progress." At one point, the group attempted a take over radiology in its infant stage. The reasoning ran that both groups were modern technologies and should be bound together. Professional "scientific" committees were established, journals and
conferences were developed to emphasize this new knowledge and technology and its proper use.

Electrotherapists used medical claims to scientific foundations as a potent formula for legitimating its power. The average physician, had little knowledge of the electrotherapy field upon certification. The electrotherapist had to show this type of therapy had a "rational explanation of methods" and could demonstrate "the appearance of scientific research" (Gritzer and Arluke, 1985, p. 25). The practitioners acquired licenses to provide legal protection for their practice and strengthened their claims for exclusive practice due to their special medical expertise (e.g., use of the proper battery for the medical procedure). This move effectively reduced competition for this sector of the market by appealing to concerns about ethics (Gritzer and Arluke, 1985).

During the first World War, physiotherapy was institutionalized in the Medical Department of the Army. "The war also marked the first time physical modes of treatment were focused specifically on injuries and chronic disabilities" (Gritzer and Arluke, 1985, p. 58). However, the physiotherapists did not create a war-preparedness committee until 1917. They commanded no control or definitive direction over any specific aspect of the reconstruction and care of soldiers wounded in the war. They acted only as advisors in the use of physiotherapy techniques and methods. Due to the ambiguity of their situation and the demand to serve as advisors, their position in rehabilitation services was decided by forces external to their control. Ultimately this group created a
small, specialized pocket of control in the Medical Department of the Army but only in a supportive role, not to diagnose or prescribe treatment. "Control over diagnosis and treatment . . . contested and renegotiated in civilian hospitals after the war . . . remains an unsettled issue [even] today " (Gritzer and Arluke, 1985, p. 52).

Orthopedic surgeons made their bid for service to this sector using a different strategy because of historically different relationships with people with disabilities. By 1912 the organization had firmly established a distinct market commodity, emphasizing the surgery procedures, and was officially recognized as a section in the American Medical Association (Gritzer and Arluke, 1985, pp. 40-41). During the first world war, several influential leaders came from among the ranks of orthopedic surgeons: Joel Goldthwait and Elliott Bracket. Goldthwait established the first clinic for adults who were "crippled," championed the cause of special education and vocational training for children who were disabled, and preventive measures by orthopedic surgeons. He chaired the AOA committee that assisted in the war effort. The committee officially provided workers and equipment to treat soldiers in orthopedic hospitals during the war. As Goldthwait's committee saw it, somewhere between 75% and 80% of the estimated 100,000 wounded soldiers might need orthopedic surgery. This opportunity for expansion bolstered their ranks. They managed a "competitive" team of medical practitioners and provided a variety of therapies to restore functioning of the war injured and put in place preventive
measures (e.g., foot exercises and proper posture so the rigors of the field could be reduced).

By July 1917, the AOA was prepared to offer their services to the surgeon general. By August 1917, Elliott Bracket headed the newly created Division of Orthopedic Surgery in the Medical Department of the Army. Bracket founded the Industrial School for Crippled and Deformed Children in 1893. He worked with Goldthwait to advance the dominance of orthopedists in the care of soldiers in specially developed rehabilitation hospitals. Other physicians who anticipated a share of the reconstruction efforts in new hospitals, did not care for this idea. The field fostered development of assistants to the profession to which patients were referred for therapies prescribed by the orthopedic surgeons: reconstruction aides and the evolution of other allied occupations (i.e., physical therapists and occupational therapists).

Crisis events, such as war, can lay open the possibility for social change. Gritzer and Arluke argue that orthopedic surgeons were very influential in widening the concept of their work to include health education and vocational rehabilitation. What is more important, they promoted a modern vision and rationale for vocational rehabilitation.

Orthopedic surgeons also questioned, on humanitarian and economic grounds, the "old idea" of discharging a disabled soldier to civilian life without being occupationally "reconstructed." War cripples could "become happy, productive, wage-earning citizens, instead of boastful, consuming, idle derelicts." More specifically, orthopedic surgeons maintained that their expertise should find out the disabled soldier's medical and mental limitations for his previous occupation and suggest specific training to overcome
these limitations. The new conception of orthopedic surgery, claimed Goldthwait, "should cover conditions as they exist in time of peace as well as time of war," and be applicable to "that great body often spoken of as the industrial army." The "great war," remarked one member of the Orthopedic Advisory Council, was necessary to arouse orthopedic surgeons to a sense of responsibility for the "purely civil cripple" who for so long had been ignored (Gritzer and Arluke, 1985, pp. 43-44).

The message is clear. People with disabilities can and should be expected to be productive members of society. Engaging in work is a necessary condition for happiness and should be expected of all citizens. No one was excluded, whether injured soldier or any other person with a disability. The responsibility to do one's part did not end with the war. The nation was engaged in a new economic war and none could shrug off their responsibility to be part of that great "industrial army."

Other groups wanted a piece of the enlarging rehabilitation pie too. The U.S. military promoted a similar message by using patriotic images of impaired soldiers to rouse public sentiments of pride and proclaim these injury survivors to be "noble." This viewpoint was typical in a magazine published by the Division of Physical Reconstruction, Carry On. American Red Cross secured the right to provide recreational therapy during the war and saw room for expansion after the war's completion. Other private organizations and public agencies, such as Public Health, "moved rapidly to support new programs to rehabilitate soldiers as part of our 'national debt' and speed their re-entrance into civilian life." The organizations realized the opportunity to expand
programs after the war to serve industrial accident and chronically ill patients (Gritzer and Arluke, 1985, pp. 57-58). Orthopedic surgeons successfully stimulated new expectations for persons with disabilities, but could not control the political aspects of securing the right to provide vocational rehabilitation services. They won some battles but lost the war.

Medical practitioners lost the ability to expand into vocational rehabilitation services with the passage of the Vocational Rehabilitation Law of 1920. A civilian agency, the Federal Board for Vocational Education, was given primary responsibility for this new field. At a conference in July 1918, a broad array of military and civilian agencies gathered to reconcile efforts to divvy up the rehabilitation process. Military authority maintained control of physical restoration for persons who were disabled during the war and the right to diagnose disability. The Federal Board of Education was granted dominance over vocational education for civilians, with "public status and administration of the program," ending a dispute that had surfaced in 1918 (Gritzer and Arluke, 1985, p. 47).

Even after passage of the Vocational Rehabilitation Law of 1920, medical practitioners exerted pressure to create and control vocational rehabilitation. During World War II, the divisions between the medical specializations and rehabilitation were more pronounced. However, an institutional re-linking of the medical and vocational took place, recognized in the 1943 Vocational Rehabilitation Law because the original Vocational
Rehabilitation Law of 1920 did not mention medical services (Gritzer and Arluke, 1985, p. 50). Before the 1940s, occupational and physical therapy and vocational rehabilitation had peacefully coexisted. After this, conflicts began to emerge. The "third phase" of medical rehabilitation was further fragmented by the development of the Veteran's Administration programs. More specialized occupations materialized: educational and manual arts therapy. Vocational rehabilitation has never been subsumed by medical practitioners. The primary link between the fields is an underlying agreement in philosophy or desire to move the individual with disabilities into an economically gainful activity using scientifically proven, effective techniques and technology.

4.2.3 Technology and New Frontiers

Claims of scientific approach and new technologies for diagnosis ultimately won the physicians the role of gatekeeper at the entrance to rehabilitation services and social benefit programs for all persons with disabilities. They legitimate or deny individual claims of disability. Stone (1984, pp. 99-107) documented historical measures (i.e., social technologies) developed by governments to assure an objective distinction between those who would not work and those who could not work were possible. Government officials and a physician or surgeon might visit and observe families. They would report the state of members' health or invent experiments so that cheaters (people not interested in working) would reveal their real motives. This is similar to the "workhouse test" set in place by the 1834 Poor Law.
Reform of England. This type of "revelatory sign" is an underlying foundation for standards for social insurance benefits even today: if one applies for some types of disability or welfare benefits, the agency receiving the request automatically submits notification to the state vocational rehabilitation agency requesting services for the individual. Or, in another instance, if one is unemployed, periodic reports to the unemployment office provide evidence of continued willingness to seek and be available for employment to receive benefits.

The final validating device was the adversarial test. This challenge is standard today for individuals who have been injured on the job. Depending upon the depth of the pockets of the employer, liability suits make the process of seeking compensation for wrongful injury potentially long and expensive for a worker to pursue. The reasoning goes that these conditions dissuade injured workers from pursuing "frivolous suits" (Stone, 1984, p. 103).

New technology aids diagnosis and prescription or validates clinical judgements about disability separate from patient self-reports of disability and uncovers artful acting by the patient. Medical examinations using this technology were quite popular because they were seen as non-intrusive, as opposed to observations in the home by professionals. Persons submitting to the examination did so voluntarily, creating a therapeutic context for the interaction. The review is clearly part of an eligibility test with trappings, made more acceptable because it involves a relationship between a physician and
Conflict has been reduced by using clinical judgements. Medical practitioners consciously advanced "an image of decision based on pure, objective, unbiased expertise" (Stone, 1984, p. 107). What is rightly seen as a political decision has been depoliticized by the apparent use of science. The process also satisfied the physicians' desire to stay in the rehabilitation loop.

Germ theory mitigated the historical relationship between disease and individual responsibility. Factors or agents external to the individual were responsible for diseases (such as anthrax, diphtheria, gonorrhea, hook worm, influenza, leprosy, malaria, pneumonia, plague, tuberculosis, or typhoid fever). This created a new cause and effect relationship that invalidated other beliefs for disability. These developments debunked ideas that disease was attributable to individual sin (spiritual) or an "imbalance of 'humors' or fluids in the body" (mechanical) (Stone, 1984, p. 92). Evidence that cholera outbreaks were related to contaminated water sources, for example, created a new role for the federal government. New demands for public health measures and immunization programs evolved despite contrary theories for disease transmission or educational solutions as the proper remedy. "The new theory of specific etiology, with its denial of individual responsibility for disease, profoundly challenged the existing social structure, and in particular, the boundary between work and need" (Stone, 1984, p. 94). Persons with infectious diseases were no longer denied civil rights or treated as paupers.
because they were reliant upon public assistance. Concurrently persons with disabilities were granted a no-fault status.

Though only given passing consideration by most authors, other types of technology have also impacted the occurrence of or need for vocational treatment for persons with disabilities. New hazardous machinery that drove industrialization increased the possibility of injury (Stone, 1984, p. 97). The concept of safety standards was not in place nor implemented until after expository books and articles described the conditions of work places. New drugs (sulfanilamides and antibiotics) reduced the initial complications of some disabilities like infection and reduced mortality rates allowing persons with some disabilities to live "normal" life spans (Trieschmann, 1987). New cultural expectations were being created in the society about life with a disability simply because people were surviving injury, birth disabilities and the consequences of war. During these changes, the federal government became a "critical arbitrator" although it did not have power over medical rehabilitation expertise and personnel (Gritzer and Arluke, 1985, p. xix). While capturing a market to serve, or more altruistically, attempting to provide an effective system of service to persons with disabilities, recognized leaders in the fields of medical and vocational rehabilitation defined new expectations and roles for people with disabilities.
4.2.4 Visions that Transformed

Leaders, persons in administrative positions or head organizations involved and influential in policy, are an important but sometimes overlooked piece of the jigsaw puzzle of public policy metamorphosis. These individuals contrive new concepts of their profession and advance ideologies legitimizing work specialization (Gritzer and Arluke, 1985, p. 164). The idea of dominant leaders playing a critical and purposeful role in devising and directing strategies for policy is discussed concerning rehabilitation in the Weiss book, *The Management of Change: Administrative Logics and Actions*. Linstone, describes policy actors in his book, *Multiple Perspectives for Decision Making: Bridging the Gap Between Analysis and Action*. He points out that the charismatic leader can have impact on two fronts: pursuing and implementing policy related to a personal vision and by creating an organizational culture and myths to reflect personal beliefs (Linstone, 1984, Chapter IV). In summary, the single individual can be a powerful actor with respect to policy.

Certain individuals are recognized for their historical impact on the budding field of vocational rehabilitation from it inception. Joel Goldthwait and Elliott Bracket advanced the idea that persons with disabilities should and can participate as part of the work force. Not only were these men apparently dedicated to the inclusion of persons with disabilities in society, but they attempted to meet another end: to expand the domain of their profession and exclusionary practice. Although their attempts to corner vocational rehabilitation
service provision were stifled, they succeeded in legitimizing the provision of services to more than just disabled soldiers returning from war. Service was expanded to workers disabled by their jobs in industry. As decades have rolled past, more and more persons with disabilities have been included in the ranks of those to be served. New groups of rehabilitation professionals have been attracted to these green pastures. New professions have sprung, flowered and left areas seeded so that other expertise could erupt in their wake. Not the least is the vocational rehabilitation counselor, or more recently, the evolution of the rehabilitation engineer.

Howard Rusk, an internist interested in rehabilitation from experiences in World War II, had a great impact on physical medicine and "profitable use of convalescent time" (Gritzer and Arluke, 1985, p. 91). He promoted the idea of abandoning extensive periods of rest for more active pursuits for rehabilitation. At the turn of the century, activity after surgery and mobilization was not commonly prescribed.

The call for a civilian program for vocational rehabilitation was enhanced by the labor shortage taking place by 1943. Rusk saw that professionals in vocational rehabilitation could dissociate from vocational educators by developing a program to rehabilitate injured individuals returning from the war for the Veteran's Administration. He built his program within the Army Air Force by making important institutional connections and creating pressure for extension of military rehabilitation programs. He used the
assistance of powerful friends: Eleanor Roosevelt and Bernard Baruch who could lobby President Roosevelt. Baruch entreated the President to sign an order requiring all military personnel discharged to engage in various rehabilitations: physical, psychological, prevocational, resocialization and vocational (Gritzer and Arluke, 1985, pp. 93-94). Simultaneously, programs for civilians with disabilities were handed over to state administrators and separate programs for persons who were blind. The market had been successfully split between the civilian and military concerns, to the benefit of Rusk's profession. One of the strongest messages advanced by the Baruch Committee or physicians of physical therapy was the supremacy of medical oversight, scientific diagnosis and well-organized treatment.

During the "golden days" of empire-building in the Medical Department, the early postwar years, President Truman also sought out Rusk for advice. Truman hoped Rusk could influence General Omar Bradley's perspective on service before his assumption of duties as head of the Veteran's Administration. The Baruch Committee was dissolved in 1951 after physiatry was recognized as a specialty by the AMA. However, even during its peak, it was difficult for Rusk to draw an audience of his peers to advance his ideas. Often he would retitle his presentation to fool other physicians into attending his lectures (Gritzer and Arluke, 1985, pp. 145-146).

Rusk was a contemporary and close associate of the visionary, Mary Switzer. Both individuals took advantage of Cold War politics to advance the
importance of American participation in international rehabilitation efforts. The New York Times sponsored a column for Rusk. He wrote, "America's participation in international rehabilitation projects has furthered our foreign policy through the dramatization of the high values we in a democracy place upon dignity and the work of the individual" (Groce, 1992, p. 61). Funding for international projects in rehabilitation has been inconsistent, favoring those nations with suitable political attitudes and depending upon the winds of foreign policy. More recent thinking about international aid and development funding promotes the restriction of development aid to nations that do not include persons with disabilities, similar to promoting programs that incorporate women into development efforts. It may be the foundation for the justification of promoting a call for every nation to create ADA-type legislation in other nations as well (Hoffman, 1994a and 1994b; Duncan, and Conly, 1992).³

The final leader of note emerged from the civilian rehabilitation field. So strong was her vision that it has carried through to recent years. In the welcoming remarks to the 1990 conference entitled, "Human Resource Development: Rehabilitation Challenges for the Nineties," the president of the National Council on Rehabilitation Education addressed the crowd:

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³ A single quote by Justin Dart, President's Committee on Employment of People with Disabilities, typifies this type of perspective. "The USA has adopted a law that is recognized as an international model in terms of human and civil rights: the Americans with Disabilities Act (ADA). This law underscores the principles of self-advocacy, accessibility, independence and empowerment of people with disabilities. These are the principles we want to export . . . we don't want to spend one penny towards paternalistic policies in other countries" (Duncan and Conly, 1992, p. 1).
In many ways, this Conference is "A Dream Come True." For example, approximately seven to eight years ago a number of us in this room were among a group of rehabilitation's leaders who were trying to design and conduct a "Think Tank" to focus on rehabilitation's future. It had been recognized that a new way, a better, a futuristic way of human resource development in the field of rehabilitation needed to be designed. But, unfortunately, our "Think Tank" never materialized. Thus, for many of us in this room, this Conference is a dream come true. In 1954 when Ms. Mary Switzer, Dr. Jim Garret, and other rehabilitation leaders worked with the 83rd Congress in hammering out Public Law 565, which was the landmark legislation for the "Golden Era of Rehabilitation," it was the intent to develop a national, synergistic human resource development program that would meld together research, education and professional practice. The goal was to assure that when an individual with a disability went to a state-federal vocational rehabilitation agency for services, that individuals would be served by a rehabilitation professional who had the best knowledge, skills and expertise that research, scholarship and technology could provide. Thus, given the goals of this Conference, this . . . is in many ways "Mary's dream come true" (Pacinelli and Patterson, 1990, pp. 4-5).

Switzer was appointed Federal Director of the Vocational Rehabilitation in 1951 and remained in that position until 1970. She awoke the "awesome power of the triumvirate -- state vocational rehabilitation agencies, rehabilitation facilities and RSA [Rehabilitation Services Administration]" and pioneered the use of community rehabilitation facilities to serve increased numbers of persons with disabilities (Hansen and Perlman, 1992, p. 8). Groce (1992, pp. 54-61) said Switzer had skills and abilities that made her a powerhouse: prior personal and professional contact with national and later, international rehabilitation leaders. She was an effective administrator and selected capable key personnel. She was also known for her ability to speak with persuasion and
strategize. Those in Congress respected her for her ability to lobby for issues and secure funding. She motivated others to cooperate to build her vision of broadening state and federal mandates to serve persons with disabilities and promote the input of consumers. Legislative results from some of these efforts can be seen in Table 4.1.

One of her first and most important actions was to work with national and state vocational rehabilitation organizations to promote the growth of vocational rehabilitation programs (even under Eisenhower) and pass the 1954 Hill-Burton Act. Rusk worked with her to push this legislation through Congress. This bill was the cornerstone of a new vision of service. It established funding for community rehabilitation facilities, allowing persons with more severe disabilities, or being released during deinstitutionalization efforts in later years, to be provided with vocational training without an explicit assumption of competitive employment as a goal. Individuals with developmental disabilities were given an opportunity to work and train in organizations specially developed to work with them. The traditional, uneven split between federal and state funds was established in this act (75% federal and 25% state). She stewarded the separation of vocational rehabilitation programs from vocational education boards, moving state and local vocational rehabilitation programs to new heights of autonomy.

In 1967 she worked with the Health, Education and Welfare secretary to create a new umbrella organization to house Lyndon B. Johnson's social
### Table 4.1 Chronology of Public Vocational Rehabilitation Federal Legislation
Prior to Agency Autonomy

<table>
<thead>
<tr>
<th>Year</th>
<th>FEDERAL ACTION OR LEGISLATION</th>
<th>ACTION</th>
<th>IMPACT</th>
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<tbody>
<tr>
<td></td>
<td>War Risk Insurance Act</td>
<td>Grant rehabilitation to wounded soldiers.</td>
<td>No specification of who would do work nor commitment of funding.</td>
</tr>
<tr>
<td>1917</td>
<td>Federal Board for Vocational Education</td>
<td>Conducted a study for Congress. Argued for public status and administration of vocational rehabilitation program. Opposed surgeon general plan for military control except at physical cure phase.</td>
<td>Successfully questioned authority of surgeon general, countering with plan for civilian vocational experts to advise on variety of issues, including person’s occupation and job placement.</td>
</tr>
<tr>
<td>1918</td>
<td>Soldier Rehabilitation (Smith-Sears) Act; Public Law 65-178</td>
<td>Rehabilitation for soldiers only.</td>
<td>Federal Board for Vocational Education administered funds for vocational rehabilitation programs authorized for soldiers disabled in war.</td>
</tr>
<tr>
<td>1920</td>
<td>Smith-Fess Act</td>
<td>Civilians allowed to receive vocational rehabilitation.</td>
<td>Service limited to persons “disabled” by physical defects or infirmity.</td>
</tr>
<tr>
<td>1920</td>
<td>Civilian Vocational Rehabilitation Division instituted</td>
<td>Administrative authority for vocational rehabilitation within the Federal Educational Board.</td>
<td>Different state bodies governed vocational rehabilitation programs, often vocational education boards.</td>
</tr>
<tr>
<td>1933</td>
<td>Federal Board for Vocational Education transfer to Department of Interior</td>
<td>Commissioner of Education became responsible for Federal Rehabilitation Service (under a new name).</td>
<td>Vocational rehabilitation granted some administrative independence at federal level.</td>
</tr>
<tr>
<td>1935</td>
<td>Social Security Act</td>
<td>National Rehabilitation Association lobbied for permanent authorization for annual vocational rehabilitation grants to states from federal government.</td>
<td>Permanent authorization for annual grants to states. Annual commitment of $1,038,000 and additional $102,000 for administration of program.</td>
</tr>
<tr>
<td>1939</td>
<td>Amendments to Social Security Act of 1935</td>
<td>Amendments authorized additional funds for annual state grants to programs.</td>
<td>Commitment of $3.5 million for annual state grants instituted.</td>
</tr>
<tr>
<td>1943</td>
<td>Office of Vocational Rehabilitation created</td>
<td>Despite changes in responsibility of federal administrative agency managing agencies, same federal rehabilitation director in office from 1921 to 1943.</td>
<td>Director’s stability encouraged political coalition building to support legislation; maintained viability and visibility of the program on the federal level.</td>
</tr>
<tr>
<td>1943</td>
<td>Vocational Rehabilitation Act Amendments (Barden-LaFollette Act) Public Law 78-113</td>
<td>Expand scope of vocational rehabilitation program.</td>
<td>Provide any services necessary to persons with mental retardation, emotional disability or physical disability to render person “fit to engage in a remunerative occupation” (Weise, p. 46).</td>
</tr>
<tr>
<td>1954</td>
<td>Vocational Rehabilitation Act Amendments (Hill-Burton Act) Public Law 83-585</td>
<td>Increased federal funding to states for programs and monies to establish, alter or expand rehabilitation facilities and workshops.</td>
<td>Open workshop experience to person with more severe disabilities (“lower level” according to Weise) vocational training schools not serving. Initiated construction and upkeep of sheltered rehabilitation facilities.</td>
</tr>
<tr>
<td>1965</td>
<td>Vocational Rehabilitation Act of 1965</td>
<td>Increased funding for a variety of program efforts. Altered federal funding to states.</td>
<td>Increased funding for further development of sheltered facilities; research and innovation projects. 75% of federal funds allocated to state programs to be met with 25% state match. State agencies of a certain size could administer vocational rehabilitation programs, granting some autonomy.</td>
</tr>
</tbody>
</table>

services for his vision of the Great Society: Social and Rehabilitation Services. Switzer was appointed to command this new organization that housed vocational rehabilitation services. Vocational rehabilitation funding grew from a mere $23 million in 1954 to a total of $700 million in 1971 and emerged as a large, powerful and very visible organization at the federal level under her supervision. "In effect, vocational rehabilitation had become an institution and a model social service delivery system during this period, a system that was applied to a wide range of disabilities," (Weiss, 1986, p. 47). Specifically the idea of rehabilitating individuals in correctional institutions and applying for welfare services became quite popular. Individuals with a history of criminal behavior or culturally disadvantaged were served by vocational rehabilitation programs for a period of time in the 1970s. Later these individuals became ineligible for services unless they had a primary diagnosis of a severe disability. With changes in the political administration in Washington, D.C., Switzer was forced to retire in 1970 and died within the year due to an advanced cancer (Groce, 1992).

Groce (1992, p. 54) notes the appeal of Mary Switzer's vision:

Switzer's program began to attract attention because, although a small program, it encouraged individuals with disabilities to become self-sufficient. Studies found these "restored taxpayers" returned $10 for every one that had been invested in their rehabilitation. The program, in short, produced results in an era when taxpayers were becoming increasingly critical of large and, to some, apparently wasteful social programs. Its success was seized upon by politicians who regularly used it as an example of a productive public program that justified the expenditure of tax dollars.
Persons with disabilities are still expected to assume all the rights and responsibilities of any other citizen when they secure a job today. A recent newsletter from the Hawai‘i Vocational Rehabilitation staff states that vocational rehabilitation should be "the agency of choice for persons with disabilities who seek independence and integration into society through employment" (Shim, 1993, emphasis added). Government agencies are expected to move clients down the path of self-sufficiency and decrease demands on public coffers.

Switzer's vision is still acknowledged, even revered, for its ability to direct service after more than twenty years. This is a strong statement about the possible impact of a single human being on a system of service. As private and public vocational rehabilitation service providers now gather to face new "challenges presented by the ever changing needs of people with physical and mental disabilities," Switzer's words and thoughts are exhumed as a source of inspiration and continuing vision (Hansen and Perlman, 1992, p. 8). Groce (1992, p. 55) acknowledges,

Under a different administrator, perhaps, none of these programs and exchanges would have taken place. The effective funding of a whole range of programs and professional exchanges that comprised much of the core of the United States rehabilitation efforts from 1950 through the 1970s is directly attributable to Mary Switzer's vision and foresight.

While it appears clear in hindsight which leaders have impacted a particular policy or government program, theory makes it clear that the study of
leadership is not intended "to predict, but to understand and explain social phenomena from an individual, action perspective" (Weiss, 1986, pp. 23-24). Spotting the leaders of a movement who will have lasting importance is a difficult proposition. Although important, this factor may be less useful in gauging future changes in vocational rehabilitation services.

Politics and power can give us a feeling of discomfort. They are rough, unsystematic, untidy — especially in comparison to the analytical techniques (Starling, 1988, p. 435).

4.2.5 Political Prescriptions and Legislation

Federal legislative acts and amendments capture the evolution of public vocational rehabilitation services (Weiss, 1986, p. 43). Legislation documents the success of rehabilitation visionaries, rehabilitation organizations, and consumers to incorporate, implement and institutionalize their values and philosophy. Legislative acts document how organizations are created. Organizations, in turn, are shaped by many forces. Employees and administrators influence how organizational functions are carried out. On a very broad level, Congress and the public oversee the results of the programs. As Starling (1992, p. 55) points out, organizations are not "the sum of personalities, or belief systems, of the individuals who occupy or run them. The training, traditions, routines, and incentives of organizations can actually order individual behavior." The Bush administration appointee to the commissioner of the Rehabilitation Administration Services and product of the vocational rehabilitation services, Nell Carney (1990), acknowledged at the beginning of
her term that "realistically . . . although the bureaucracy can't always be changed, ways exist to work within it" (Leung, 1990, p. 14).

Legislation implemented after federal autonomy of vocational rehabilitation as an agency is furnished in Table 4.2. Carney (1990) briefly reviewed the history of vocational rehabilitation. Initially vocational programs were state-federal government efforts given annual, temporary funding. In 1923, thirty-six states participated in the program. By 1930, forty-four states were involved. Permanent funding was granted during the Roosevelt administration in 1935, under the Social Security Act. Extended funding was achieved due to the lobbying efforts of the National Rehabilitation Association, an organization of professionals and consumers in state and national levels (Weiss, 1986, pp. 44-46). The year 1954 was "revolutionary." Funding was added to provide rehabilitation training for professionals in federally funded universities. Research was seen as an avenue to expand opportunities for persons with disabilities and improve the quality of services. During this period persons who were "severely handicapped" were given priority for services, swelling expectations for service and, in effect, expanding programs with additional funding. Carney highlights the decade of the 1960s in terms of programs and funding increases, the addition of Rehabilitation Services Administration (RSA) central and regional offices and duties, and implementation of the Project with Industries program -- all which accompanied state/federal vocational program expansion.
Table 4.2 Chronology of Public Vocational Rehabilitation Federal Legislation
Post Agency Autonomy, 1960-1978

<table>
<thead>
<tr>
<th>Year</th>
<th>FEDERAL ACTION, LEGISLATION</th>
<th>ACTION</th>
<th>IMPACT</th>
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<tbody>
<tr>
<td>1967</td>
<td>Amendments to the Vocational Rehabilitation Act of 1965</td>
<td>Federal allotments for vocational rehabilitation program. Creation of RSA (Rehabilitation Services Administration), federal management program (with regional offices) for vocational rehabilitation.</td>
<td>1969 allotted $500 million and $600 million in 1970. RSA to research and publish procedures, assist states to operationalize legislation from Congress and monitor implementation.</td>
</tr>
<tr>
<td>1968</td>
<td>Creation of umbrella agency, Social and Rehabilitation Services</td>
<td>Reorganized vocational rehabilitation program housing full array of social service programs.</td>
<td>Vocational rehabilitation arrives as &quot;larger, powerful, [and] visible&quot; agency at the federal level (Weiss, p. 47).</td>
</tr>
<tr>
<td>1968</td>
<td>Vocational Rehabilitation Amendments of 1968</td>
<td>Federals/state split for program funding changes; new levels of funding authorized for rehabilitation facilities. New responsibilities for state agencies.</td>
<td>Federals/state split now 80%/20%. More money for creation and development of rehabilitation facilities. State agency administrators interpret and implement federal legislation.</td>
</tr>
<tr>
<td>1970</td>
<td>Development Disabilities and Facilities Construction Act of 1970</td>
<td>Persons with developmental disabilities (mental retardation, epilepsy, cerebral palsy, etc.) were to be served at facilities built to accommodate them.</td>
<td>New domains and responsibility for vocational rehabilitation. Program recognized as &quot;institution and model [of] social service delivery system&quot; (Weiss, p. 47).</td>
</tr>
<tr>
<td>1973</td>
<td>Rehabilitation Act of 1973</td>
<td>Persons with severe disabilities given priority for services. Private, non-profit rehabilitation facilities expand influence and role in legislation. Client rights enlarged. Affirmative action and non-discrimination are activated. State administrators given new charge and responsibilities at local level.</td>
<td>Severity of disability not defined in legislation. 100% mortgage insurance to cover construction authorized for private rehabilitation facilities. Vocational rehabilitation counselor must develop and jointly agree on client rehabilitation plan. State administrators interpret and implement new, vague directives, with expanded services delivery (Weiss, p. 49).</td>
</tr>
<tr>
<td>1978</td>
<td>Amendments to the Rehabilitation Act of 1973, Title II creation of National Institute for Disability and Rehabilitation Research; Title V Rights and Advocacy; Title VII, Independent Living &amp; Developmental Disabilities Amendments (Public Law 95-602)</td>
<td>Mandate to serve persons with no potential for remunerative employment; independent living services became a program mandate. Created a system in each state to protect the legal and human rights of individuals with disabilities ineligible for assistance programs.</td>
<td>Increased funding, totaling more than $1 billion for 1979. Creation of the Department of Education and within it, the Office of Special Education Rehabilitation Services to administer vocational rehabilitation. Remarriage of vocational rehabilitation with education at a federal level.</td>
</tr>
</tbody>
</table>

Carney, unlike Gritzer and Arluke, sees vocational rehabilitation as a system that is politically detached from medical rehabilitation. There is no question of vocational rehabilitation is a separate and independent agency with its own goals and service emphasis. Similar to Gritzer and Arluke, Carney (1990, p. 7) uses terms which emphasize the "expansion of services." She envisions the creation of new programs to accompany evolving philosophical changes in best practices, consumer empowerment and civil rights. The field has "forward movement and growth." Unlike Weiss who uses a historical organizational change model describing periods of growth, stability, critical or turbulence and cutback for the phase of the organization now, Carney continues to embrace a natural growth model vision of vocational rehabilitation. Other rehabilitation professionals and academics delve into the meaning and interpretation of legislative impacts, particularly during the 1970s. Carney maintains an official view of the vocational rehabilitation program in her role as administrator. Carney's (ibid.) perspective is summarized in the end of the article:

Seventy years of hope, seventy years of success, a seventy-year history that could not have been written without the determination of millions of Americans with disabilities is also a history that could not have been recorded as a success without the dedication of thousands of rehabilitation professionals and support workers. It is a story that could not have survived decades without the caring and generosity of the U.S. Congress and the commitment of various administrators. It is a story that could never be told without the full participation of the states, facilities, communities, universities and the private sector. . . .
[But given the great challenges of the 1990s] the prevailing principles of individualization, flexibility and systemic approaches which have kept Vocational Rehabilitation alive and healthy for seventy years will remain unchanged. . . . The foundational principles on which the program was built and has operated will live on: they will never die as long as we are a free nation made up of people who care about one another and who care about the health, welfare and future of America. There is more to be done, and we have the collective will, the knowledge and the tools to do it.

Carney's wrap-up leaves no doubt that the future will only lead to more, better, increasingly successful, and complete services. She (ibid.) promises, "Comprehensive rehabilitation and independent living programs which lead to the pursuit and attainment of employment, independence, and integration into the community [which] will be needed just as much by new generations of disabled Americans as in the past."

4.2.6 Summary

Gritzer and Arluke (1985, p. 159) point out that the natural growth model is a type of manifest destiny model of examination that means accepting "the present structure and domain of rehabilitation medicine could not have been otherwise." Given other circumstances, the field of rehabilitation would not be as it is today, particularly the split between medical and vocational rehabilitation. The unique events (e.g., the wars, the technology, the leadership, the generally accepted theory of social change, legislation, or social and cultural precepts) which synchronously occurred in history must be acknowledged as critical to the emergence of various medical specialties and
the subfield of vocational rehabilitation as separate practices. As they drew the history of medical rehabilitation, they acknowledged the possibility of alternative pasts that might have resulted from different events or decisions, leading to alternative presents and futures. However, when rehabilitation is generally discussed, the success of its programs seems inevitable. The program is presented as a virtual beacon of hope to persons with disabilities, as will be discussed in the next section.

From a glimmer of hope to a successful end comprehensive rehabilitation program, from a 750 thousand dollar allowance to a 1.5 billion dollar annual budget, from a demonstration project to a formula-based nationwide program, the state/federal vocational rehabilitation program spans seven decades providing hope, training, employment, opportunity, independence, and empowerment for millions of Americans with disabilities. Offering full integration and participation for people who might otherwise have been forced to stand merely in the shadows of life, this successful partnership between the state and federal government has withstood political, social, and economic change (Carney, 1990, p. 6).

4.3 The Continuing Evolution of Vocational Rehabilitation

Vocational rehabilitation is often nested within the broader field of health policy, but originally tied to education as evidenced in the original name - the Federal Board for Vocational Education. Despite fears that vocational rehabilitation was actually a cover for socialized medicine, a longtime pariah to Congress, vocational rehabilitation was given the freedom to "disassociate from educational conceptions of their work, and to stress the individualized and therapeutic nature of their service. The creation of the Office of Vocational Rehabilitation in September 1943 was a symbol of, and a means for furthering, the separation of vocational rehabilitation from control by educators" (Gritzer
and Arluke, 1985, pp. 92-93). Educators focused on routine training in a structured approach, often in more institutional settings. Schools and classes were seen as the training grounds for entry to the marketplace. Vocational rehabilitation advocates veered from this approach, stressing community involvement. Inter-agency contact and cooperation were the means to create an individualized plan that would lead to job placement (Weiss, 1986, p. 44).

Early models of vocational rehabilitation began, for many groups of individuals with physical impairments, in veterans' hospital settings during and following the World Wars. Over time other populations of persons with disabilities who were institutionalized in some sort of hospital or clinical setting became eligible for services. For example, two decades ago, clients who were mentally ill worked in segregated settings in hospital facilities and paid piece rate for work performed. Controlled studies showed that these programs were ineffective in terms of successfully allowing individuals with mental illness to move into community employment. During the 1970s, sheltered workshops, programs at mental health centers and centralized community service sites were established to improve the success and integration of individuals to the community. These settings were often segregated. Cook, Jonikas and Solomon (1992, p. 7) call this the first "wave" of community vocational service models. While service was often praised as individualized, it was oriented to serving groups of individuals with similar disabilities in settings that were in, but
often not of the community. Workers with disabilities were separated from
able-bodied workers. Individualized "group" plans of service resulted.

4.3.1 **Continuing Legislative Mandates**

Now these older community rehabilitation facilities, federally sponsored
work contracts and vocational rehabilitation programs are falling into disfavor
given the path-clearing direction of the civil rights legislation, the Americans with
Disabilities Act. The kernel of philosophy for this legislature originates from
Section 504 of the Rehabilitation Act of 1973. (See Table 4.3.) More recently,
the 1992 Amendments to the Rehabilitation Act of 1973 requires:

- employability, full inclusion and independence in the community for all
  persons, particularly those with severe disabilities, are not to be
  excluded from service without due consideration,

- stresses consideration of individual career goals and meaningful choice
  of the job selection by the individual,

- recognizes the need to remove barriers to employment for women and
  minorities with disabilities,

- encourages family involvement (at the behest of the individual served),

- acknowledges the special needs young adults with disabilities in the
  process of "transitioning" to the world of work and adult services.

These ideas butt heads with programs and best-practice concepts established
and institutionalized in earlier decades. Old habits die hard.
Table 4.3 Chronology of Public Vocational Rehabilitation Federal Legislation
Post Agency Autonomy, 1980-1992

<table>
<thead>
<tr>
<th>Year</th>
<th>FEDERAL ACTION, LEGISLATION</th>
<th>ACTION</th>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Vocational rehabilitation exempted from block grants</td>
<td>Reagan intention of returning federal legislated entitlement programs to states, thereby reducing government involvement in people's lives failed.</td>
<td>&quot;The vocational rehabilitation program... has operated and continues to function in a highly uncertain federal and fiscal environment&quot; (Weiss, p. 50).</td>
</tr>
<tr>
<td>1984</td>
<td>Developmental Disabilities Act</td>
<td>Supported employment services for people previously considered &quot;unemployable&quot;</td>
<td>Inclusion, integration of persons with severe disabilities in workplace</td>
</tr>
<tr>
<td>1986</td>
<td>Amendments to the Rehabilitation Act of 1973</td>
<td>Increased focus on independent living, on persons with severe disabilities, provision of rehabilitation engineering services, and elimination of barriers</td>
<td>Begin needs assessment to establish baselines, examine trends, changes in state-federal accomplishment, determine efficacy of approaches. Broaden service. Train staff to serve persons with severe disabilities.</td>
</tr>
<tr>
<td>1988</td>
<td>Technology-related Assistance for Individuals With Disabilities Act (Public Law 100-407)</td>
<td>Federal funds are authorized to states to plan and develop consumer-responsive state-wide programs of technology-related assistance to persons with functional deficits or disabilities.</td>
<td>Provide assistive technology services and devices. Develop systems for dissemination of information. Establish/enhance training, technical assistance, public awareness, state plans. Clarify benefits and costs.</td>
</tr>
<tr>
<td>1990</td>
<td>Americans with Disabilities Act</td>
<td>Civil rights mandate for persons with disabilities.</td>
<td>Equal access to employment, public facilities, transportation, and telecommunications. No single agency responsible for monitoring or policing.</td>
</tr>
<tr>
<td>1992</td>
<td>Individuals with Disabilities Education Act (Public Law 101-476)</td>
<td>Mandates that students, by at least 16 years old, must have statement of transition services in the individual education plan (IEP) at school.</td>
<td>Transition is a coordinated activity promoting a process from student to adult activities and services in the community. The school must initiate a planning meeting.</td>
</tr>
<tr>
<td>1992</td>
<td>Rehabilitation Act Amendments of 1992</td>
<td>Interagency collaboration increased, eligibility criteria redefined, more information on the individualized written rehabilitation plan (IWRP), and services are expanded.</td>
<td>It is presumed that any individual can benefit from vocational rehabilitation services (&quot;presumptive employability&quot;) and more individuals with severe disabilities can their economic goals.</td>
</tr>
</tbody>
</table>

Sources: Prime Study Group, c. 1993, p. 23; LaPlante, Hendershot and Moss, 1992, p. 2; Weiss, 1988; and The Region V Study Group, 1991a, p. 31
Consider one example. The private non-profit agencies, NISH (originally something like the National Industries for the Severely Handicapped, it is known only by the acronym today) and the National Industries for the Blind, assist community rehabilitation programs to participate in Javits-Wagner-O'Day (JWOD) Program. JWOD was established almost fifty years ago and appears dated in the wake of revolutionary changes in the advancing second wave of rehabilitation legislation. JWOD's administration, the Committee for Purchase From People Who Are Blind or Severely Disabled, "decides which products and services the Federal Government will buy from nonprofit agencies employing people with disabilities . . . and determines the fair market prices to be paid for these items" (Milkman, et al., 1993, p. 8). These special federal contracts -- considered quite lucrative, stable and potentially long-term -- often were awarded to sheltered workshops. However, these contracts do not encourage integration and inclusion of persons with disabilities in the community as prescribed in more recent rehabilitation legislation. Contradictions of this type have yet to be ironed out as the 1992 Amendments to the Rehabilitation Act Amendments of 1973 are implemented.

4.3.2 Educational Influences

Vocational rehabilitation has been reunited with educational training. Funding comes through the Department of Education. The 1990 conference focused on developing human capital, primarily the rehabilitation professionals, to meet rehabilitation challenges in the 1990s (see Pacinelli and Patterson, 161
William Emener (1990, p. 5), president of the National Council on Rehabilitation Education, eloquently points out some contradictions in the system that addresses the "dreamers and doers" in the field of rehabilitation.

I invite all of you . . . in accepting the challenge of looking beyond the thoughts of "What's in it for me?", looking beyond "Next year's [federal] priorities," looking beyond "Next year's funding cycle," and looking beyond immediate and obvious limitations and problems [i.e., brushfires to be dealt with each day while providing services]. I invite you to accept the challenge of envisioning, designing and building a better model of human resource development for our state-federal vocational rehabilitation program. Let's seize this golden opportunity to build a human resource development program for rehabilitation that will assure, by the year 2000, that when an individual with a disability goes to a state-federal vocational rehabilitation agency for services, that individual will be served by our "best."

Another participant at this same education conference pointed out that after review of rehabilitation education and training in the decades of the 1960s, 1970s and 1980s, the resulting research, discussion and rhetoric had changed very little. Rehabilitation professionals chant the same mantra, a constant debate, a litany of the same questions. Vocational services are "standing still" amid much change (McFarland, 1990, p. 21).

4.4 Conclusion

If, as Representative Gingerich points out, the United States has a third wave economy and a second wave government bureaucracy, then surely the rehabilitation system and organizations that serve people with disabilities are
awash in the first wave of rehabilitation. The second wave approaches, and the third wave is too distant on the horizon to see clearly.

One reason for the lag in approaching waves is an important contradiction in the system to be discussed: the yardstick by which the program or service system is determined a success or failure. The emphasis of the new legislated goals are to examine quality as measured by personal satisfaction or growth during the process of service. However, the typical measures tying vocational rehabilitation services to the market economy of the nation, attempt to show a person with disabilities moving from the ranks of those who collect benefits to the esteemed position of wage earner. The big question is, "Did the person become employed or not?" The conundrum of service effectiveness pits quality of life versus quantity of services and the consumer's wishes versus public expectations and expenditures.
CHAPTER 5
CONVENTIONAL VIEWS OF THE FUTURE

"Ahe pau ka ike i ka hālau hoʻokahi.
All knowledge is not taught in the same school (Pukui, 1983, p. 24).

5.1 Introduction

Prior chapters explored factors impacting the past and present of rehabilitation. Before discussing possible futures, conventionally held beliefs about the future are examined. Generally, the vision of the rehabilitation extends forward no more than ten years and, as is true for most U.S. policy and planning, is "based on the assumption of fairly optimistic futures" (Grover, 1988, p. 524). Conventional futures are espoused by Rehabilitation Services Administration personnel, government officials and well-established rehabilitation professionals. More recently persons with disabilities moved from beings who are acted upon to critics, collaborators and creators of different conventional vision of the future. The official picture is muddied by controversy.

Concepts and ideas can help us get from one place to another, to move closer to a vision of a society in which people with . . . disabilities assume their place alongside their nondisabled peers. The concepts that have dominated the field of . . . disabilities for nearly two decades are giving way to a new set of ideas . . . [and] will set a direction for the future (From Being in the Community to Being Part of the Community, 1988, p. 13).

5.2 Conventional VR Images of the Future

A small cadre of rehabilitation professionals, persons with disabilities, parents and advocates attempt to wrestle with possible rehabilitation futures. They scrutinize policy alternatives and generate possible solutions to unsatisfactory or inefficient service. They attempt to identify changes in
underlying tenets of rehabilitation and respond with new measures of service. A few individuals venture suggestions to rehabilitate rehabilitation (Walker, 1992).

The profession of rehabilitation was deeply influenced by World War II and the need to help returning veterans. It developed and grew, with the vision of Mary Switzer, and the impact of historical forces such as the New Deal and the Great Society. Now, during a time of decreasing resources, it faces a new challenge, getting ready for a world which is believed to be changing more rapidly than ever before (Brown, 1991, p. 17).

5.2.1 The Official Future of Rehab and Work

Schwartz states that researchers do a valuable service when they expose, "The Official Future." This scenario contains, 

"The set of implicit assumptions behind most institutional policies: that things will work out okay tomorrow once the proper people get into power and put their policies into effect. The "trickle-down theory" was exactly such an Official Future: "By cutting taxes for high-income groups, the wealth will trickle down in employment to the poor." Most Official Futures often turn out to be mere propaganda; but everybody in an organization subscribes to them almost unconsciously (Schwartz, 1991, p. 211).

This type of scenario is also called the surprise-free, reference or trend scenario (Masini, 1993, p.93). Vocational rehabilitation, and rehabilitation in the broader sense, have official future stories. Government policy documents and hearings, professional journals and meetings, proceedings from conferences, advocacy organization newsletters and recent books are good sources of information about the official future.

Often official futures of rehabilitation describe some aspect of rehabilitation history, discuss progress made, generate a few recommendations
about improvements and conclude with a vague reference to the future. For example,

_The 1990's will be a decade of labor shortages (Mirga, 1985), a development that should only serve to improve opportunities for people with disabilities to enter the workforce. A window of opportunity currently exists that has not been present in our society at any previous juncture (White and Bond, 1992, p. 20)._ 

Individuals who receive attention for visions counter to the prevailing wisdom are rare. Goldberg (1992, p. 7) describes the criticisms of Simon Olshansky. Olshansky was "prophetic" in the Old Testament Biblical style and never trained as a rehabilitation professional. He debunked the traditional model of the single counselor and the solitary client. Instead he pointed to the complex and interacting social service system of welfare, worker's compensation, job placement system, medical complex and labor market that affect vocational rehabilitation options. He saw the system as dynamic, "constantly in flux and responsive to social, legislative, and economic needs" *(ibid.)*. The unfortunate result of his outspoken criticism was public shunning for years by some rehabilitation professionals and accusations of slandering "the rehabilitation leadership" (Goldberg, 1992, p. 8). Few individuals can sustain a questioning or critical attitude in this type of atmosphere.

No individual has achieved the stature of Mary Switzer or provided such a compelling vision of rehabilitation. Instead leaders scattered about the rehabilitation field. Justin Dart (1988, p. 9) is the former Commissioner of
Rehabilitation Services Administration in 1992. He is well known for his contributions as leader in the independent living movement (discussed later in the chapter). He commended several individuals for their contributions to "human rights and productive independence for people with disabilities" during a national conference discussing future rehabilitation. Tom Bellamy, Ethel Briggs, Eunice Fiorito, Judy Gillom, Vernon Hawkins, Evan Kemp, Pat Morrisey, Jay Rochlin, Harold Russell, and Sylvia Walker represent several professional aspects of rehabilitation. They are established, well-published academics, or members of a national council on issues related to persons with disabilities. They might work for Rehabilitation Services Administration providing national guidance to state vocational rehabilitation offices. These individuals bear a positive message to other rehabilitation professionals. Their writings emphasize vocational rehabilitation as a reputable field of specialization that successfully assists individuals to secure employment and increase independence. Their work has brought to the fore projects that deserve special attention, research efforts and funding: aging, service to minorities or persons with severe disabilities, the need for supported employment and independent living programs. The visions are piecemeal, admittedly limited in applicability, and focus on the near term policy use. There is a strong appeal to a universal spirit of improving society through provision of specialized service to a particular group of people who are disabled.
The role of the disability press is to record and preserve our present and our past. It exists to speculate about our future. And its role is to point out the relevancy each has to the other. . . . Unlike most minority groups, we do not have our own culture and traditions. But we do have a past and we should learn about it and feel pride in the accomplishments of our forebears and we should feel anguish about how badly our people have been treated. There are parallels to both in our future (Irvin, 1994, p. xiv).

5.2.2 Visions from Experience

Establishment of the independent living (IL) movement created a foundation for persons with disabilities to gain a voice in rehabilitation. The IL movement grew from the civil rights, deinstitutionalization and consumer movements of the 1960s and 1970s (Crewe & Harkins, 1983, p. 327). Its roots have been traced back to the final years of the polio epidemic during the 1950s. Over time persons with disabilities have identified themselves as consumers, created social and political organizations, built constituencies and promoted leaders and spokespersons from among their ranks. These consumers have spoken out against discrimination and taken control of issues to influence social policy. Successful coalitions among groups of individuals with disabilities continue to be forged.

Initial attempts at legislation to institutionalize independent living were unsuccessful. In 1957, and again in 1961, a bill for independent living was unsuccessfully introduced in Congress. Several nonlegislative efforts were more successful. Publications for persons with disabilities, beginning with the defunct Rehabilitation Gazette to the more recent Disability Rag and Mouth, communicate the successes and hardships encountered by individuals with disabilities to an international community. The Rehabilitation Gazette is
acknowledged to have encouraged discussion of controversial, emerging issues such as "rights," disability and sexuality, and aided in the identification of Post-Polio syndrome (Groce, 1992, p. 93).

In 1978 Congress gave the commissioner of Rehabilitation Services discretionary power to fund IL centers after testimony by Ed Roberts (Shapiro, 1993, pp. 72-73). By 1985, 298 programs were involved in the IL Research Utilization Project, one in every state (Groce, 1992, p. 94). The 1992 Amendments of the Rehabilitation Act of 1973 firmly institutionalized IL services through federally funded IL centers. Service must embody:

\[
\text{a philosophy of consumer control, peer support, self-help, self-determination, equal access, and individual and system advocacy, in order to maximize the leadership, empowerment, independence, and productivity of individuals with disabilities, and the integration and full inclusion of individuals with disabilities into the mainstream of American society (Title VII, Chapter 1, Part A, Section 701).}
\]

By 1993, three hundred centers were established. In 1994 the National Council on Independent Living (NCIL) offered training nationally to consumers and professionals who sit on the federally mandated Statewide Independent Living Councils. NCIL effectively lobbied for advisory or managing councils composed primarily of consumers, for both federally funded independent living programs (Section VII) and vocational rehabilitation programs (Section 1), discussed in the 1992 Amendments.

As opposed to the traditional, institutional approach (see Table 5.1), the IL model presupposes that all people with disabilities have a right to a life as
Table 5.1 Traditional and Independent Living Paradigms Contrasted

<table>
<thead>
<tr>
<th>Medical Model &amp; Rehabilitation Paradigm</th>
<th>Independent Living Paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition of problem</strong></td>
<td></td>
</tr>
<tr>
<td>Physical or mental impairment; lack of vocational skill (in the VR system)</td>
<td>Dependence upon professionals, family members and others; hostile attitudes and environments</td>
</tr>
<tr>
<td><strong>Locus of problem</strong></td>
<td></td>
</tr>
<tr>
<td>In the individual (person needs to be &quot;fixed&quot;)</td>
<td>In the environment; in the medical and/or rehabilitation process itself</td>
</tr>
<tr>
<td><strong>Solution to the problem</strong></td>
<td></td>
</tr>
<tr>
<td>Professional intervention; treatment</td>
<td>1. Barrier removal</td>
</tr>
<tr>
<td></td>
<td>2. Advocacy</td>
</tr>
<tr>
<td></td>
<td>3. Self-help</td>
</tr>
<tr>
<td></td>
<td>4. Peer role models and counseling</td>
</tr>
<tr>
<td></td>
<td>5. Consumer control over options and services</td>
</tr>
<tr>
<td><strong>Social role</strong></td>
<td></td>
</tr>
<tr>
<td>Individual with a disability is a &quot;patient&quot; or &quot;client&quot;</td>
<td>Individual with a disability is a &quot;consumer&quot; or &quot;user&quot; of services and products</td>
</tr>
<tr>
<td><strong>Who controls</strong></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>&quot;Consumer&quot; or &quot;citizen&quot;</td>
</tr>
<tr>
<td><strong>Desired outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>Maximum self-care (or &quot;ADL&quot; [activities of daily living]; gainful employment in the VR system)</td>
<td>Independence through control over ACCEPTABLE options for everyday living in an integrated community</td>
</tr>
</tbody>
</table>

similar as possible to that of nondisabled peers. Individuals have the right to
grow up in a family, fulfill education goals, and attain greater independence
during adolescence and young adult years. They can expect to secure work in
a chosen field, have personal relationships with others and establish a family.

Groce (1992) drew together a primer on persons who assisted in
creating visions of the future for an international rehabilitation movement. Many
important leaders with and without disabilities -- including Mary Switzer and
Howard Rusk -- are reviewed in, The U.S. Role in International Disability
Activities: A History and a Look Towards the Future. The book was critiqued as
having "serious limitations": a need to provide proper referencing, unspecific
policy recommendations, and the need for a "good copy editor" (Vachon, 1993,
pp. 37-38). Vachon (1993, p. 38) charged the book to be "politically correct"
but also commented,

> Clearly different standards governed disability efforts in the
> past, but presumably future values will differ from those we
> hold today. Kindness alone suggests we respect the
> accomplishments of our forebears, whatever their
> limitations, particularly if we wish any respect for our own.

Change over time is accepted as inherent -- the heart of examining the past
and present for perspective on the future.

Transmutation has occurred. Disability rights activists are critical o who
wields voice and therefore power. Judy Heumann (Levy, 1988, p. 27) stated,

> We are looking to take away power from nondisabled
> leaders and put it into disabled people's hands. Otherwise,
> the myth of the hopeless, helpless cripple will persist. In
> Germany, in fact, the disability rights movement does not
permit nondisabled people to join. I for one, support this principle. We should stop apologizing for wanting power.

This debate is also seen in the professional meetings of the Society for Disabilities Studies. Some members argue that teachers without a visible disability should not instruct courses in "disability studies" or policy courses related to disability. If nondisabled or apparently able-bodied persons continue to head discussion of disability issues, the field may be "ghettoized" or continue as a "shadow field," not truly reflecting the experiences of persons with disabilities (Brown, 1994c, p. 17; Zola, 1994, pp. 17-18). Disability studies are not yet an academic field, but are accepted as a subject of inquiry "on the frontier of knowledge, growing stronger in a time when academia is questioning its own future" (Zola, 1994, pp. 20-21). Zola (1994) saw the field as a multidisciplinary inquiry possessing vitality. Its social and personal relevance in and out of the university could decolonize and reconstruct the intellectual map, similar to the effect of minority or feminist studies (Seelman, 1994).

Groce (1995) would not suggest any individuals with disabilities as leaders of visionaries who will influence the future. Instead, she referred me to Shapiro's book, No Pity (1993). The book provides examples of inspired thinking and action by persons with disabilities. Shapiro interviewed many individuals who contributed to the independent living movement. Single individuals and dedicated groups of individuals can influence the future and that unity provides the strength to impact policy and the future. The only reference to any group of "young turks" in the field was provided by Gini Laurie in the
1979 issue of Rehabilitation Gazette. She noted William Bean, Fred Fay, Lex Frieden, Judy Heumann, Ed Roberts and David Williamson (Groce, 1992, p. 94). Most of these individuals were apparently physically disabled.

Current IL leaders are making calls for action in such areas as international development aid. They want to guarantee that persons with disabilities participate in development programs, are assured human rights, and benefit from international aid provided by the United States (Hoffman, 1994b, p.8; Seelman, 1993a, p. 36). Efforts to discuss, coordinate and cooperate internationally on disability issues has been a longstanding effort by some disability leaders (Groce, 1992, pp. 107-116). The World Institute on Disability, founded by Heumann and others, provides cross-cultural investigation of advocacy, roles and employment of persons with disabilities and related programs, policies and practices (Hoffman, 1994b; Ideas Portfolio IV, 1992).

In addition disability leaders write and lecture about a wealth of other issues: ethnic/racial cultures, communities of experience, and the evolution of a political culture of disability (Yamada, 1993; Seelman, 1993b; Shapiro, 1993; Zola, 1993; Finger, 1993; Albrecht, 1992). They lobby for the right to speak for themselves and control images about persons with disabilities. Specific commentary on vocational rehabilitation activities or employment is less often separated from independent living issues. Often the discussion is focused on the individual's environment more globally. This is an interesting contrast to the specialization of service focus by rehabilitation professionals.
A consumer in the marketplace is a customer with personal control in making choices. . . . In contrast, the disability consumer was simply that: one who consumed. The pocketbook was usually held by someone else (Owen, 1992, p. 6).

Indeed, the language of consumerism, with its focus on the position of individuals in a marketplace of goods and services, has obvious limitations in relation to services which are essentially organized on the basis of collective provision for common needs and not as responses to individual consumer demands and power in the market (Deakin and Wright, 1990, p. 9).

5.3 The Reemergence of the Consumer

Efforts to identify and include consumers to participate in public policy and choice of government-funded programs dates back to the late 1960s and early 1970s (Prime Study Group, 1993; Deakin and Wright, 1990). The right to be involved and practice self-determination has been strengthened in the 1990s with passage of the ADA (Owen, 1992). Vocational rehabilitation consumer issues straddle many topics: emergence of the consumer; use of information and consumer rights; and consumer-friendly service (In the Mainstream, 1994; Czerlinsky and Chandler, 1993; Edwards, 1993; Declich, 1993). Service should be consumer responsive, actively including individuals to create partnership "of the consumer with the agency or counselor" (In the Mainstream, 1994, p. 14; Gradel, 1991, p. 43). Networking, collaboration, coalition building with and incorporation of "consumers as decision-making partners in the planning, delivery, and evaluation of services" are all appropriate roles for people with disabilities (McFarlane, 1992, p. 5; OSERS News in Print, 1990, p. 10; Deakin and Wright, 1990). These newly acquired roles are expected to be standard in the future.
In a post-ADA age it is essential that consumers of rehabilitation services be treated with the same concern accorded those within the broader marketplace. . . . Disability issues merit fresh analysis and orientations as the nation moves into a post-ADA age and prepares for the next millennium. If . . . the ADA is to become reality, society and the general public are required to begin viewing disabilities as a normal part of human experience (Owen, 1992, p. 6).

Over little more than two decades, the IL movement and philosophy have infiltrated and impacted vocational rehabilitation. Alternative measures of effective service reflect consumer opinion and participation. Choice and self determination are important yardsticks by which to measure service (Collet, 1994/95b; Edwards, 1993; Schaller and Szymanski, 1992; Deakin and Wright, 1990; Patterson and Marks, 1992; Interstate Research Associates, 1988; Ward, 1988; Mitchell, 1988). Quantitative measures are less often de rigueur, and considerable more interest is given to qualitative examination of issues to assess the impact of policy or service (Race, et al., 1994; Sundram, 1994; Edwards, 1993; Ralph and Clary, 1993; Lewis, et al., 1992; Lutfiyya, 1991; Bogdan and Taylor, 1990; Zola, 1983). Research is encouraged to incorporate volunteers and professionals with disabilities. They direct needs assessments, selection of program performance measures, evaluation of programs or cooperatively assessing services with the agency staff. There are many "how to" books devoted to participatory research. Research now promotes a consumer view of history, legislation, impact and investigation of prevalent paradigms, as is seen in Table 5.2 (Prime Study Group, 1993, p. 23).
Table 5.2 Consumer Perspective of Legislative Events

<table>
<thead>
<tr>
<th>YEAR</th>
<th>KEY ATTITUDES / IMPACTS</th>
<th>LITERATURE / LEGISLATION</th>
<th>PARADIGM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1918</td>
<td>Rehabilitation for soldiers only</td>
<td>Soldier Rehabilitation (Smith-Sears) Act; Public Law 65-178</td>
<td>Vocational</td>
</tr>
<tr>
<td>1920</td>
<td>Recognition of need for rehabilitation of citizens other than soldiers</td>
<td>Civilian Rehabilitation (Smith-Fess) Act (Rubin &amp; Roessler, 1987)</td>
<td>Vocational</td>
</tr>
<tr>
<td>1943</td>
<td>Persons with mental illness, mental retardation or physical restoration are recognized as rehabilitation recipients</td>
<td>Vocational Rehabilitation Act Amendments (Barden-LaFollette Act) Public Law 78-113 (Wright, 1980, p. 139)</td>
<td>Restoration &amp; Expanding Definitions of Disability</td>
</tr>
<tr>
<td>1954</td>
<td>Experts and research to develop expertise are needed. Special places (i.e., facilities) are needed to fix special people</td>
<td>Vocational Rehabilitation Act Amendments (Hill-Burton Act) Public Law 83-565 (Wright, 1980, pp. 141-142)</td>
<td>Deficits Fixed by Experts</td>
</tr>
<tr>
<td>1973</td>
<td>Persons with severe disabilities need services</td>
<td>Rehabilitation Act of 1973</td>
<td>Civil Rights, Inclusion</td>
</tr>
<tr>
<td>1978</td>
<td>Quality of life is discussed as a human right</td>
<td>Amendments to the Rehabilitation Act of 1978, Title VII, Independent Living &amp; Developmental Disabilities Amendments (Public Law 95-602)</td>
<td>Whole person, Self determination</td>
</tr>
<tr>
<td>1984</td>
<td>Supported employment services for people previously considered &quot;unemployable&quot;</td>
<td>Developmental Disabilities Act</td>
<td>Inclusion in workplace</td>
</tr>
<tr>
<td>1984</td>
<td>Consumers participate in evaluation of independent living services</td>
<td>Comprehensive Evaluation of Independent Living Services</td>
<td>Consumer-responsiveness</td>
</tr>
<tr>
<td>1986</td>
<td>Increased focus on independent living, on persons with severe disabilities, provision of rehabilitation engineering services, and elimination of barriers</td>
<td>Amendments to the Rehabilitation Act of 1973</td>
<td>Whole person across settings</td>
</tr>
<tr>
<td>1988</td>
<td>Technology is the great equalizer</td>
<td>Technology-related Assistance for Individuals With Disabilities Act (Public Law 100-407)</td>
<td>Technology Interventions for Inclusion - All Ages</td>
</tr>
<tr>
<td>1990</td>
<td>Equal access to employment, public facilities, transportation, and telecommunications</td>
<td>Americans with Disabilities Act</td>
<td>Empowerment: Rights and Legal Remedies</td>
</tr>
<tr>
<td>1992</td>
<td>It shall be presumed that an individual can benefit in terms of an employment outcome from vocational rehabilitation services (presumptive employability)</td>
<td>Rehabilitation Act Amendments of 1992</td>
<td>Full inclusion</td>
</tr>
</tbody>
</table>

A small group of researchers incorporate a consumer mentality into rehabilitation services as an approach to examining the future. Two examples are Mary Jane Owen, who is a rehabilitation professional with a disability, and the Turnbulls of the University of Kansas Beach Center, parents of a young adult man who is disabled.

Owen (1992) paints a rare, positive image of the rehabilitation future: as people live longer and get assorted impairments they continue to participate in society and enjoy their lives. The distinction between those who are disabled and able-bodied fades -- no more second class citizens. Eligibility requirements for service will relax and more rehabilitation services will be delivered without stigma and fear. She (1992, p. 5) suggests, "the rehabilitation field might evolve toward creating opportunities for the many in finding better ways to maximize their potential," not just find jobs. Assistive technology, defined very broadly "may come to be viewed as conveniences for anyone."

The final part of the Owen paper discusses challenges to the traditional views held in rehabilitation. Service provider positions will be filled by those who will be rehabilitated. "Unrealistic dreams of physical perfection" will be replaced by the realization that disability is common place and a "rehabilitation mindset becomes essential in every aspect of society" (Owen, 1992, p. 9). Previously limited supplies of specialized rehabilitation products will reappear as common and affordable products. Everyone will make choices and have the right to experience risk. People will be allowed to "be angry as they learn to
acknowledge their vulnerabilities" and consider this reaction to be healthy (Owen, 1992, p. 10). The educational system will acknowledge and target a "full range of communication skills," including American Sign Language and patterns of braille as appropriate for scholarly study (ibid.). She notes that humans lack high-impact plastic bodies because we are genetically conditioned to vulnerability, obliged to "form communities and gather in mutual aid" (ibid.). She continues, "It is possible that mutual vulnerability is an asset in terms of the total community" (Owen, 1992, p. 11). This is possibly the clearest positive image of rehabilitation in the future reflecting in professional literature.

The Turnbulls have promoted a futures perspective on service, advocating for including parents and family as consumers in decisions and policy matters effecting family members with disabilities. A short paper by Rud Turnbull (1992) presented provides a glimpse of future trends in federal-state-local government relationships as they could impact persons with disabilities and their families.

Some families are "jet setters," with a great capacity to examine history, assess the present realistically and be optimistic about their capacity to anticipate and influence the future (Turnbull, 1992). "Jet laggers" are families who have followed the rules that professionals handed to them and patiently accept the current set of affairs. Somehow both sets of families must become politically active. Political activity gives them power to reform policy. Second, political activity will help them meet the emerging challenges global, national
and international changes impacting religions, political groups and individuals. This is the "powershift" Toffler describes. In this future environment, the control of knowledge, violence and money will have distinct advantages. Turnbull recommends empowering families to impact change using an outcome-based -- not the current process-oriented -- framework. He commends the communitarian approach to selecting values and creating policy. To his original paper he added a memorandum of an earlier paper with "fifty-nine specific recommendations covering thirteen areas of public policy," all of which would "help families" (Turnbull, 1992, p. 25). Turnbull has taken consumers, provided a theory for anticipating the future and derived specific public policy recommendations.

Another parent and professional, Jeffrey Strully (1992) has taken the concept of dreaming dreams a la Turnbulls and examined it in an international context. He compared the ability to create desirable futures on behalf of children with developmental disabilities in the U.S. and Australia. The simple comparison examines questions basic to examining the future on a broad, individual scale. He (1992, p. 1) asks, "What is a desirable future and how can I achieve [it]? What is the role and function of human services in helping to achieve a desirable future? Is it possible for people with the highest support needs to achieve a desirable future? Is it realistic?" This short report discusses similarities in family desires to see children incorporated into the community and the lack of services to achieve those goals, particularly for
individuals with greater needs. There are interesting differences in the philosophical beliefs about change and systems. The common conclusion is that professionals working in the system need to provide more support for families, both listening and helping, to achieve the dreams. This type of reasoning has already borne some fruit. Transition services for the students leaving high school now employ the use of visioning to plan for the future (Moery, 1993; Frazier, 1993; Wehman, 1991). From contact with families in my research, the y are disappointed with the results of the transition process. Even for the best of self advocates, the process is trying.

These examples speak from a rare combination of experience, training and philosophical insight. Unfortunately it is still rare for consumers' active participation in creating the future. Day-to-day service delivery leaves little room for sharing dreams. Normally, rehabilitation professionals are too busy planning for the next budget cut and putting out local "brushfires" to engage in anticipating the future.

People with disabilities are in the midst of a similar struggle . . . confounded by some special circumstances that mitigate against the easy development of either a disability pride or culture. While most minority group members grow up in a recognized subculture and thus develop certain norms and expectations, people with chronic diseases and disabilities are not similarly prepared (Zola, 1993, p. 167).

5.3.1 Evolution of a New Constituency?

From the viewpoint of the person with a disability, consumers have not yet arrived. While vocational rehabilitation service providers discuss consumers as a group, the constituency is still in dispute. The number of groups that
advocate for persons with disabilities has grown dramatically since the
beginning of the 20th century.

Significant expansion has occurred in the number of self-
help and mutual support groups for all types of individuals
and all types of problems, including serious mental illness.
There are now more than 500 self-help groups with national
offices and a national network of mutual help centers; state
self-help clearinghouses and state self-help centers now

For instance, the Alliance for the Mentally Ill (AMI) was organized in the 1970s.
By the early 1990s there were approximately nine hundred local and state
affiliated chapters and eighty thousand individual members. Mowbray (1992, p.
406) stated that these chapters acted as support groups for families.

However, the opinions of an advocacy group for and individuals with
any particular disability may vary widely. For example, the parent group from
Oregon, Mothers from Hell, has gained respect for their tactics of "going toe-to-
toe with school boards . . . and winning" appropriate educations for their
children with disabilities (Mouth, 1995, p. 2). On the other hand, articles in the
consumer publication, the Disability Rag, paint a very different picture of parent
involvement in advocacy organizations. One woman writes, satirically:

By far the most dangerous (and most believed by other
disabilities and nondisabled people) of those who claim to
speak for the "mentally ill" is a group of organized relatives
of persons who use, have used, or have been used by the
mental health system. I will call them the Control-Freak
Parents from Hell (CFPH) . . . comprised of parents of
labeled people who have sought refuge in a cult-like belief
in No-Fault Brain Disease . . . [and they] love forced
"psychiatric treatment" and push lock-em-up and

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drug-em-up laws in every state. . . . Psychiatrists and pharmaceutical companies (who, not coincidentally, give large amounts of money to Control Freak Parents from Hell) love CFPH for obvious reasons (Williams, 1995).

Some advocacy groups still use names or images that inspire pity for persons with disabilities. In the early 1990s, Jerry Lewis received substantial negative attention for his production of Muscular Dystrophy Association (MDA) annual telethons and airing his personal opinion of his "Kids." The telethons reinforced the stigma attached with the disease. Lewis' portrayal of persons with muscular dystrophy (MD) "outraged disability rights advocates nationwide -- in a way little else has" (Johnson, 1994a, pp. 121-122). Other organizations, sensitized by these criticisms, incorporated persons with disabilities into fund-raising telethons to discuss independence issues. MDA continues much as before. An unorganized group of individuals now refers to itself as "Jerry's Orphans," to designate their disapproval of "condescending paternalism" (Johnson, 1994a, p. 122). In subsequent years they have continued their protest (Incitement!, 1993, p. 4).

There are greater numbers of volunteer, advocacy or self-help organizations that apply political pressure. However, there is no consensus of thought. All persons with disabilities do not speak with one united voice.

Our [persons with disabilities'] cause is not served by divisions among ourselves, and yet those divisions go very deep. When those of us in the psychiatric survivor community look from the outside at the political accomplishments of people with physical disabilities, the groups look impressive and united. But as we begin to work more closely together, and I believe such unity is essential,
it's clear that among the various groups of people with physical disabilities there are major divisions and arguments (Chamberlin, 1995).

Zola bemoaned this tendency to place "emphasis on differences rather than similarities" noting that granting privilege to make one disease or disability more "tragic" than another ignores the "common disenfranchisement and . . . common oppression" (Levy, 1988, p. 27). Shapiro stated, "The disability rights movement spanned a splintered universe" (1993, p. 126). At least one group, the National Blind Federation (NBF) has exhibited a decidedly, "Include us out" attitude (Levy, 1988, p. 28). Before passage of the ADA, NBF withheld support for the legislation (Shapiro, 1993). Despite this reactive stance, most disability groups are advancing the idea that there is strength in numbers, unity of voice viewing themselves as a minority group.

Criticism specific to vocational rehabilitation in the alternative press, exemplified by The Disability Rag or Mouth, is sharp. The depth of personal frustration shown is not documented in standard state or federal evaluations of vocational services. Vocational services provision can tax the most skilled and empowered consumer. Golfus wrote of his experience as one of two hundred consumers his counselor served. While acknowledging the counselor was excellent compared to her peers, services were chaotic and nerve-racking.

I have to live and run my life on the basis of things that go through her and her office. I have to go through an unbelievable amount of uncertainty about my future and my life -- just plain worry and uptightness -- because of her inability to answer phones or return calls. Every time she doesn't return a phone call, she's disconfirming me -- she's
given me the message, "You don't exist" (Golfus, 1994, p. 171).

He questioned the basic motivation of those providing services, calling them "do gooders," who perform their work by manipulation. The system of service places control outside the individual, decreasing independence, belittling self-worth and denying any skills an individual may possess.

In another article Golfus compares the status of the trained professionals to the consumer:

_They assigned me to this woman who got me one job interview in the months and months I worked with her -- and that was for an internship at a TV channel that I'd already won a big national award for. She never seemed to know who I was._

_But Mojo says it's catch twenty-two if you question your do-gooder types. If you ever question them, then that's what's wrong with you. They are like a protected priesthood. They're beyond being always right -- they can't be questioned. They're trained professionals and "We're only trying to help you" (Golfus, 1995, p. 17)._  

This type of critique of power between client and practitioner questions the very foundations of service delivery. Traditional iterative modifications to vocational rehabilitation agency procedures or services will not suffice.

On another level, Bill Bolte (1993) discusses the "disability hierarchy." He finds similarities between the social norms of the able-bodied and the disabled minority that lead to inequitable funding among groups of persons with disabilities. He questions the tradeoff parents and persons who are mentally
retarded make when the sole goal is to meet that societal norm of having a job. These individuals fill the need for "unquestioning, non-unionized, low paid service workers in the Reagan-Bush economy . . . work programs . . . underwriting cheap floor sweepers and toilet cleaners for retailers" (Bolte, 1993, p. 27). He (ibid.) ends the article with a chilling prediction:

Without organizing, the Americans with Disabilities Act will have no discernable effect on the mainstreaming of more severely disabled people. Because the ADA covers so broad a group, the less disabled people (and those with disabilities less "disturbing" to able-bodied society) will end up being hired; employers will point to these people to prove that they don't discriminate. People with mental retardation will be in the menial positions; people who require only minimal physical modifications will round out the quotient. In a decade we will still see the same people unemployed -- despite figures which will swear things have gotten better.

With the assistance of persons with disabilities, recognized and legitimized as consumers, the possible positive consequences of current trends and the potential for negative aspects of the status quo are significantly clearer.

5.3.2 Warning from an Elder

Wolf Wolfenberger was an important voice in the call for "normalization" when persons were deinstitutionalization in the 1970s. This ideology has a new name and face -- social role valorization -- and new descriptors to fit the current philosophical bent and broaden the appeal of the philosophy. Midley (1996, p. 74) summarizes these points:

People with disabilities, and all 'disadvantaged' groups, should be able to live as 'normal' a life as possible. . . . Many groups in society are devalued, and the way services
are provided to them often reinforces this devaluation by treating them in inappropriate, degrading or humiliating ways. In addition, services tend to isolate people with disabilities from the rest of the community, and present an image of them to others as either abnormal or deviant.

Perhaps more important, Wolfenberger (1991) has been writing an autobiography. He has worked in the field of mental retardation for thirty years. This article describes changes that have occurred, old problems that are still around, and new problems that have arrived. Improvements, he says, have come from "imagination and a humane attitude." Old problems that linger include the belief that institutions are still needed. People with disabilities are still isolated. School programs have low expectations. Little, except supported employment, has changed in the "least competent human service sector;" vocational rehabilitation. New megatrends affect the lives of persons with mental retardation. The value shift inherent in change in trends is what Wolfenberger characterizes as "modernism." There has been no decrease in the total proportion of "dependent, competency impaired, or societally devalued persons" despite the proliferation of social services. "Technologization," or the increased use of technology in all aspects of life, has only succeeded in increased complexity. The scope of these changes is often frightening to persons employed in social services according to Wolfenberger.

The gem of his writings is a recent, insightful article entitled, "A Personal Interpretation of the Mental Retardation Scene in Light of the 'Signs of the Times'" (Wolfenberger, 1994). It offers a glimpse of the world in the future
for "vulnerable people." Apparently Wolfenberger is not disabled and refuses, for undisclosed reasons, to use "people-first" language required by the policy journals in which his articles were published. This piece pushes the discussion he began in 1991.

Two forces propel society into future. One is cheap energy in the short run. The second factor is tumultuous change in values and world views because of modernization (Wolfenberger, 1994, p. 19). Society based on these forces has five basic characteristics. Materialism or an obsessive lust for material objects grips the members. The human individual has been elevated almost to the point of idolatry, a belief that began during the Enlightenment, and signals a turning away from spirituality. Without these moral constraints there is an increased sensualism that results in an "entitlement attitude" and leads to the inability to occupy one's self. Material and sensual needs must be met now and there is no commitment to prosperity.

The dangers which lie ahead for persons with disabilities are quite dire. Legal and legitimate deathmaking of persons with disabilities (abortion of fetuses suspected of having a disability, psychoactive drugging, capital punishment, etc.) are big threats. Heightened risk to this population is evident due to societal upheaval, especially when the era of cheap energy ends and the technology-driven culture collapses. Possible military dictatorship may result from society's fall and the impact on persons with disabilities are speculated to be serious.
Wolfenberger also discusses the opportunity to act as responsible human beings in the face of these threats. First, we can reject decadent lifestyles and stop bleating optimistic messages in the face of these new, harsh realities. Government and other related authorities must no longer be trusted or relied upon for subsistence. Only creation of "extra-structural safeguards," voluntary and personal associations with and for persons with disabilities, can protect devalued populations and weather these changes. He ends the article counseling that these safeguards are insufficient but are the "right thing to do."

There will be other measures to implement as well. And finally, he (1994, p. 33) reminds the reader,

Furthermore, anyone who takes a stand against the culture of modernism will be taking a stand of contradiction against his or her culture and its power structures. Such a person will have to be prepared to pay a heavy price.

The capacity of the vocational rehabilitation system has been a hallmark of its success during the past two decades and will serve the field regardless of the job placement model adopted (White and Bond, 1992, p. 20).

5.4 The Future Economy, Work and Disability

There are some common threads in the rehabilitation professional and consumer discussions about the number of individuals with disabilities to be served, possible directions for the future U.S. economy, and possible work. Other assumptions about this complex system lead to conflicting conclusions.
Without a clearly delineated, consensually agreed upon definition, it is difficult, if not impossible, to conduct meaningful research, argue for resource allocation, assess service impact, or develop appropriate assessment and intervention strategies. In developing a definition to describe a group, there will always be a loss of information regarding the individual. On the other hand, for purposes of large-scale research, policy development, project administration, etc., it is critical to be able to describe general population characteristics (Long and Clark, 1992, p. 1).

5.4.1 Incidence of Disability

As the baby boomer generation ages, dramatic increases in the number of individuals with disabilities are expected. Graves (1991, p. 2) stated that as many as 33 million people in the U.S. had a disability in 1991. By the year 2000, 41 million may be disabled and by 2010, 47 million. Other forces, "advances in technology, increased access to services, treatment of curable diseases as well as other factors" may reduce the proportion of minority individuals with disabilities (ibid.). By 2010 about half of all families will have a member who has undergone gene therapy to avoid disability (Kiernan and Lynch, 1992, p. 13). There is little dispute that America's population is aging and will probably experience a greater incidence of disability (Corthell and McAlees, 1991; Holland and Falvo, 1990). Persons disabled as they age, or who have chronic health problems, will retire earlier from the workforce. They may also suffer a loss in independence and autonomy if they require institutionalization, further increasing care costs (Corthell and McAlees, 1991).

Little attention is given to the lack of consensus regarding the types of disability that might emerge or become more prevalent. Whether this is due to insufficient numbers (i.e., a large "enough" constituency to lobby for attention)
or the difficulty in serving these individuals is unclear. Consider multiple chemical sensitivity (Hilleman, 1991), also known as "environmental illness, . . . chemical allergies, 20th century illness, sick building syndrome, and total allergy syndrome" (Turtle and Clark, 1990, p. 14). Vocational rehabilitation research and service to these individuals are limited because there is no clear medical name, definition or assessment of this condition (Turtle and Clark, 1990, pp. 39-47). Debates surround its existence and incidence. Single chemicals are acknowledged to have adverse effects on individuals' health but little research has been done on combinations of chemicals (Turtle and Clark, 1990, p. 35). A study in 1989 noted that one out three employees with chemical sensitivities cannot secure accommodation at work to insure a non-polluted environment (Turtle and Clark, 1990, p. 46). As an invisible disability, it may be that "chronic unemployment among the chemically sensitive population may be partially due to society's failure to recognize the disability and accept it" (Turtle and Clark, 1990, p. 56). The individual affected may face a dilemma:

The person is unable to work, yet doctors, psychiatrists, vocational counselors, and other professionals often testify that the client is able to work, not realizing that suggested occupations are often highly toxic and unsuitable . . . The person may attempt to work, experiencing one failure after another. Unable to maintain employment, he/she is also unable to collect financial support of any sort (Turtle and Clark, 1990, p. 57).

The vocational rehabilitation counselor is told that "the individual is often an expert on his/her illness. . . . Such expertise can served as a useful
means to gain knowledge about the topic" (Turtle and Clark, 1990, p. 61). At the same time, the counselor is warned that if a client is well read on their illness, the individual may be "too knowledgeable on the topic," therefore capable of faking good or bad results on the Chemical Questionnaire that measures illnesses or combinations of illnesses (Turtle and Clark, 1990, p. 63).

In a society with much technology and the later stages of industrialization, chemical use is unprecedented in all aspects of life. Research is slowly documenting the impact of what was previously considered innocuous substances such as secondhand cigarette smoke. But it seems that when one cancer causing substance is removed from a commonly used product -- tetraethyl lead in gasoline which protects car engines against "knocks" -- another equally lethal chemical is suggested in its place -- MMT or methylcyclopentadienyl manganese tricarbonyl (Regush, 1992). Direct links between single and combinations of chemicals and health risks are expensive and difficult to isolate. Reports do note a population at greater risk or already hypersensitive to some products. It is estimated that 5% to 15% of the U.S. population react to synthetic substances or common household products. The leading chronic diseases for children are allergies and asthma (Turtle and Clark, 1990, pp. 4-5). From 1982 to 1986 the mortality of individuals aged five to thirty-four with asthma has increased 6.2% (Targonski, et al., 1994, p. 1830). While rehabilitation experts find this disability difficult to serve, it is potentially here to stay without major revisions in lifestyle or environment.
Health and health care has evolved with industrialization, the rise and demise of the welfare state (Declich, 1993). Documenting disability -- its occurrence, extent and possible epistemology -- has increased dramatically over the last twenty years. However, studies document "the absence of a comprehensive, nationwide, active surveillance system for occupational disease and injury" (Bresnitz, et al., 1994, p. 1786). Without this kind of system, efforts to design, implement and evaluate prevention and intervention programs have had limited effect (Bresnitz, et al., 1994). Other types of records, registries, medical records, or death certificates act as proxies for this information.

Despite a lack of exact data about the past, public health professionals can see that many health issues persist. Even diseases seemingly of the past have not been controlled with modern technologies and medicine such as tuberculosis (Buskin, et al., 1995). As the speed of international travel has increased, the pace at which diseases travels exposes more people to fatal or severely disabling diseases (Garrett, 1994, pp. xi-xii). In a quest for new recreation spots or pursuits, business ventures or to fight wars, individuals encroach upon previously remote areas that are suspected of dispersing once remote diseases or viruses (Garrett, 1994, pp. xi-xii; Woods, 1992). New epidemics -- notably AIDS, hepatitis and other sexually or blood born diseases -- have emerged. Obviously microbes are mutating faster than cures are developed (ibid.). And there is no end in sight.
Stress, technology and chemicals in our workplace or homes or proximity to former work and waste sites have had unexpected, unanticipated results on lives (Herbert, 1994; Geschwind, 1992; IPCS News, 1992). Clear linkages between changes in the natural environment due to chemical use to produce agriculture to feed the ever increasing population and diseases have been documented (Garrett, 1994; Badan, 1993; Last, 1991). Opportunities for congenital defects, injury or disability have increased. The urban environment is a well-documented site for diseases related to poverty, unsanitary sewage, contaminated drinking water and food, air pollution, overcrowded housing, noise, homelessness, and violence that hold the potential for death or disability (Coleman, 1994; Garrett, 1994; Grandjean, 1991; Hopkins, 1991). The complex interaction of many influences may result in difficult to diagnose or repair diseases or disabilities.

National governments are loathe to contribute funds to make much needed changes in the health care system in the U.S. (Sultz, 1991), much less contribute to health infrastructures, immunize or feed children, or end civil strife in distant countries that show no immediate economic pay back (Garrett, 1994; Nakajima, 1991). Pharmaceutical companies have no incentive to provide vaccines for individuals who cannot pay for the service (Garrett, 1994). Garrett (1994, pp. 411, 615) states that without concerted efforts among human beings in a one-village world, drug resistant bacteria, viruses and parasites are on the rise. Humans are left holding the losing hand. Healthy People 2000 notes
those who are at greatest threat in the future are persons who are
"disadvantaged economically, educationally and politically" (Sultz, 1991, p. 420).
Policy does not seem up to meeting the challenge to provide success in health
care provision or reducing disability.

Uncertainty surrounds what the disability criteria may be used in the
future to qualify for disability benefits or eligibility for services. Conceivably, the
criteria may grow with the influx of new diseases, overpopulation, poor living
conditions and general stress resulting in mental illness (Okpaku, et al., 1994).
On the other hand, other factors may decrease the incidence of recognized and
documented disability. For instance, "Disability criteria may eventually change
as opportunities for work increase" (Okpaku, et al., 1994, p. 1791) and attitudes
about the normalcy of disability mutate recognizing able-bodiedness as a
transitory phase in one's life (Zola, 1989).

Disability research expands the understanding of disability. Three basic
paradigms of disability have been identified. Disability as an individual problem
or personal tragedy, as a social construction found in attitudes and prejudices,
or as a social creation embedded in "institutions, organization and processes
that constitute society in its totality" (Oliver, 1993b, pp. 64-65). Persons with
disabilities argue for theory that incorporates:

A flexible view that does not discount history and [allows
for] the possibility of very rapid change . . . to look at
cohorts defined not by age or historical events alone, but as
generations of thought and acknowledgement of changing
needs and visions. . . . A balanced view must also look at
Rather than continuing to document the abnormalities of persons with disabilities, there is room to focus on abilities and functions in planning and policy development (Seelman, 1993, p. 45).

Embracing a more holistic perspective, Albrecht (1992, Chapter 2) provides an excellent overview of the increasing incidence of impairment in the U.S. and birth of the rehabilitation industry to serve this population. Included is a brief description and analysis of the production of disability in different types of societies (seen in Table 5.3 and 5.4). It is disappointing that he does not speculate about possible future societies and the production of disability. Nor does he provide policy suggestions to meet the challenges presented by the changing nature of disability (Albrecht, 1992, p. 317).

With these new outlooks on disability, (un)employment of persons with disabilities is rephrased and reoriented. The resulting minority theory of disability encourages a philosophy that promotes self-determination, "people taking control, without undue external influence, over what affects their lives," in their society and environment (Ward, 1988, p. 2). This theory examines power, recognizing disability as "a product of interactions between individual and environment . . . [with] the fundamental restrictions . . . located in the surroundings that people encounter rather than within the disabled individual" (Hahn, 1988, pp. 39-40). From this perspective, persons with disabilities are no longer liminal or marginal but shift as different levels of disability are
### Table 5.3 Production of Disability in Hunter-Gatherer and Pastoral, Nomadic Societies

<table>
<thead>
<tr>
<th>Aspects of Society</th>
<th>Hunter-Gather</th>
<th>Pastoral, Nomadic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Limitations on food, low density use of land, resources</td>
<td>In hospitable to cultivating plants, desert area, droughts, etc.</td>
</tr>
<tr>
<td>Economy and political structures</td>
<td>Forage, hunt for economic survival. Little economic surplus, cannot transport</td>
<td>Herding animals, economic surplus, very mobile</td>
</tr>
<tr>
<td>Work</td>
<td>Hunt or gather</td>
<td>Different roles, traders important</td>
</tr>
<tr>
<td>Warfare</td>
<td>Not discussed</td>
<td>Skirmishes over grazing rights</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>Small group, egalitarian</td>
<td>Emergent stratified society</td>
</tr>
<tr>
<td>Population group</td>
<td>Small bands, about 40 people</td>
<td>Not discussed</td>
</tr>
<tr>
<td>Technology</td>
<td>Low technology</td>
<td>Not discussed</td>
</tr>
<tr>
<td>Cultural norm of members</td>
<td>Expectation to share everyone equal</td>
<td>Different roles, differing value of roles</td>
</tr>
<tr>
<td>Incidence/prevalence of disease</td>
<td>Contact with many others for trading, greater possibility</td>
<td>Epidemics due to poor sanitation, overcrowding, transmission of animal diseases to people</td>
</tr>
<tr>
<td>Limits to infection, transmission of disease, within group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possibility of impairment or disability</td>
<td>Dependent upon group relationship to: environment, available technology, resources, exposure to external threat</td>
<td>More prevalent. Possible due to: schistosomiasis, malaria, gastrointestinal diseases, measles, malnourishment, traumatic injuries from warring</td>
</tr>
<tr>
<td>Perspective on impairment, disability</td>
<td>Contextual. Either: personalistic, based on magic or religion (difficult role), or naturalistic, based on science (full integration expected)</td>
<td>Examples in Christian and Moslem past: * almsgiving or direct care. Dramatic impact if impairment, disability result in immobility of person</td>
</tr>
</tbody>
</table>

Source: Albrecht, 1992, pp. 36 - 47.
Table 5.4 Production of Disability in Agrarian Society and Industrial Society

<table>
<thead>
<tr>
<th>Aspects of Society</th>
<th>Horticulture, Agrarian</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Technological transformation by humans, creates new hazards</td>
<td>Ravage natural environment. Industry creates new hazards. Pollution of environment via industrialization: air, water, land, food.</td>
</tr>
<tr>
<td>structures</td>
<td>Surplus generated. Settled, move occasionally. State develops</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>Division of labor</td>
<td>Complex divisions of labor, more specialization</td>
</tr>
<tr>
<td>Warfare</td>
<td>Common, steal rather than produce own goods</td>
<td>Protracted wars, kill millions, triage on battlefield less common, more live after injury</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>Complex social relationships</td>
<td>Complex, stratified relationships</td>
</tr>
<tr>
<td>Population group</td>
<td>Begin urbanization</td>
<td>Exacerbated urban density</td>
</tr>
<tr>
<td>Technology</td>
<td>Slash and burn for cultivation. Food production tools, fertilizers</td>
<td>Greater numbers, complexity of technologies, results often unknown or not well understood</td>
</tr>
<tr>
<td>Cultural norm of members</td>
<td>Development of specialists, inequality, lineage system begins</td>
<td>Stratification from very poor to very wealthy</td>
</tr>
<tr>
<td>Incidence/prevalence of</td>
<td>Not discussed</td>
<td>Greater exposure at home due to overcrowding, at work due to hazardous conditions. Smoking, alcohol or drug use, numerous sexual partners, diet, job stress increase illness, impairment and disability</td>
</tr>
<tr>
<td>disease</td>
<td>Limits to infection, transmission of disease, within group</td>
<td></td>
</tr>
<tr>
<td>Possibility of impairment or</td>
<td>More prevalent, less equitable among society members. New vectors: irrigation and malaria; travel and trade transmit communicable, infectious disease</td>
<td>Access to means of production and capital determine disease, impairment, or disability experiences</td>
</tr>
<tr>
<td>disability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perspective on Impairment,</td>
<td>Not discussed</td>
<td>Four areas: workplace, environment, war and life-style. Poor, women, children, foreign or illegal workers bear brunt in workplace.</td>
</tr>
<tr>
<td>disability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Albrecht, 1992, pp. 36 - 47.
experienced (Albrecht, 1992, p. 75). No longer can society create a group of individuals who are "socially dead," ostracized, reliant on special provisions and the goodwill of others for finances because they cannot engage in work (Finkelstein, 1993). Public policy can level the playing field by careful consideration of zoning, architectural codes, administrative rules for social institutions, statutes, ordinances and other types of law that exacerbate exclusion and incidentally increase the number of persons who are disabled by definition.

A typical adult devotes over 25 percent of his/her life between the ages of 25 to 65 to work. The decision how to spend that time is critical... How does a person make the "right" career decision, one that enhances the quality of a complete adult work life, ensures continuing growth and challenge, and provides sufficient economic reinforcement to live comfortably (McFarlane, 1992, p. 3)?

5.4.2 Economic Outlook

There is considerable disagreement about the economic outlook and the need for workers. Some find there will be a shortage of labor, or a sufficient number but different kinds of entry level jobs and room for advancement due to job turnover and a reduced labor force (Kiernan and Lynch, 1992; Campbell, 1991; Suazo, 1991; Corthell and McAlees, 1991). Many reference the Work 2000 report to note there will be too few jobs to go around due to a sluggish economy but do not comment on the impact on persons with disabilities seeking employment (Siska, 1994a and 1994b; McFarlane, 1992; Turnbull, 1992). One report states that a factory of the future will use robots and computerization and could result in "a permanent loss of
about 300,000 manufacturing and manufacturing support jobs . . . based on trends in the automobile industry" (Gleason, 1986, p. 16). Unskilled and semi-skilled jobs, good alternatives for workers disabled by injury, will disappear (Gleason, 1986).

The shift from an industrial to a technological society or Information Age is well established (Campbell, 1991; Nicholls, 1991). The U.S. government Handbook on Careers 1994-1995 (Department of Labor's Bureau of Labor Statistics, 1994) reinforces common wisdom that jobs will be available in the health and business services industries and will require a very skilled and highly educated work force (Reich, 1991; Suazo, 1991). Current education and job training systems will not meet these needs, particularly if technology continues to change rapidly and competition from abroad for those jobs continues (Suazo, 1991). Kiernan and Lynch (1992, p. 12) embrace the America 2000 report and note that lifelong learning will assist individuals with disabilities to fulfill their roles as citizens, and engage in "productive employment in our modern economy." Relocation may be required to secure jobs (Kiernan and Lynch, 1992; Bush, 1991). More education will be required: strong skills in math, reading, writing, communication and post-high school training in science or engineering (Galvin, 1986; Gleason, 1986). The National Science Foundation is offering special scholarships for persons with disabilities to gain science degrees. It is difficult to foresee how, for example, persons with mental disabilities might meet the requirements for these jobs.
Uncertainty about the prospects for diversification of the economic market make it difficult to project where other new jobs will be created (Gleason, 1986).

*A careful reading of labor market economics and trends strongly suggests that in the future job placement will be even more demanding and problematic... The level of aggregate demand in the economy thus determines how far down the labor queue employers will reach to meet their personal needs* (Galvin, 1986, pp. 40-41).

A few reports acknowledge that better research on employment trends of persons with disabilities and labor market trends may be important and largely ignored by rehabilitation professionals (From Being in the Community to Being Part of the Community, 1988; Galvin, 1986; Kiernan and Lynch, 1992; Munro, 1991). Retraining for new jobs is an anticipated need (Brown, 1990, p. 18). "On average, an employee will work for ten different employers during his/her work histories," requiring more frequent training and time spent in education (Kiernan and Lynch, 1992, p. 14). The need to produce flexible workers may stretch the concept of accommodation to include able-bodied individuals (Brown, 1990, p. 18).

The impact of global work trends and employment are barely touched upon as they relate to persons with disabilities. A few international comparisons of competitive employment, vocational rehabilitation and government policy suggest some policy options not in use (i.e., quota systems or "affirmative industries" which employ disabled workers but do not provide rehabilitation services) or those that have been used but have a transitory
nature such as government grants, tax credits to employers, and government wage subsidies (Bordieri and Comninel, 1987). Funding for international research funded by NIDRR primarily resides with the World Institute on Disability out of Oakland since the last round of funding. Given the philosophical roots of that institution in the IL movement, employment research issues will probably be downplayed in future research. The United Nations has produced very brief references to alternative futures for persons with disabilities but without sufficient detail to discuss employment (Nathanson, 1991).

Today, however, the nature of the workforce population is rapidly changing. Most notably, the number of younger workers is in a period of decline and it is expected that a greater proportion of the population who is older will leave the workforce due to disability and early retirement (Corthell and McAlees, 1991, p. 27).

5.4.3 Ability to Serve VR Clients

It is rarely discussed, but of great interest, when underlying assumptions about service shift. Previous chapters describe who has been served, not served, or not served well. Unfortunately, even conferences billed as investigating future issues often return to old subjects: the implications of realized legislation; accuracy of job forecasts produced in the past; how to develop and incorporate multicultural approaches or assistive technology in service; and methods for collaboration with parents, youths and minorities to empower them as leaders and increase their participation in the vocational rehabilitation setting (Walker, et al., 1991; Walker, et al., 1988).
Generally, programs that exist are assumed to continue in the future. For instance, supported employment programs have grown considerably. From the program's beginning in 1986 to 1992, the number of people served was estimated to exceed fifty-two thousand (Simmons and Flexer, 1992; Downing, et al., 1992). Supported employment programs place, train and provide ongoing support for individuals with severe disabilities and are seen to provide "numerous examples of creative alternatives to traditional training and placement" (White and Bond, 1992, p. 20). Supported employment is selected for a single individual as opposed to other options for placement that might be used more in the future but already exist: work enclaves, work crews, entrepreneurial and transition programs (Kiernan and Lynch, 1992). There has even been successful service to three thousand migratory workers with disabilities in 1985 (Brown, 1990). Will these programs be sufficient and necessary to serve future populations of persons with disabilities?

Reform or service change discussion occurs. Efforts to investigate and document "what works" to secure employment and the means to develop opportunities for entrepreneurship are discussed (Chrzanowski and Saunders, 1994; NationsBank, 1994; Siska, 1994a). Community rehabilitation agencies are anticipated to act as entrepreneurs, assisting their clients to develop "transferable jobs skills rather than . . . narrow specialization" (White and Bond, 1992, p. 17). Agencies will define and initiate new businesses, assume risk, and reap the profits (Hansen and Perlman, 1992; White and Bond, 1992;
Whitehead, Davis and Fisher, 1989). For older community rehabilitation facilities with philosophical roots dating back several decades, this will be a very new direction and possibly a terrific struggle (Brandt, 1995a).

The authors fail to suggest that persons with disabilities become entrepreneurs. Rather, GoodWill and Easter Seals are cited as demonstrating the ability to grow horizontally and vertically to meet the needs of clients (White and Bond, 1992). Rehabilitation professionals and other related specialists are expected to assist small businesses of the future to employ persons with disabilities. However, the engines of growth powering the future American economy will not be created by persons with disabilities (ibid.).

Calls for different measures of effectiveness are emerging. Turnbull suggested teaching individuals they have the "right [to] skill-development that leads to independence, productivity and integration" (1992, p. 5). Kiernan and Lynch (1992, p. 16) state that measures of employment success should be reconceptualized.

*Employment retention must be viewed not as a measure of remaining at a specific job but, rather as maintaining a positive work history, thus acknowledging job change. True measurement of employment retention reflects the maintenance of a level of employment.*

Measures reflecting quality of life and work will replace traditional documentation of program success (Kiernan and Lynch, 1992, p. 17). Rather than "objective" professional determination of job placement success, the individual will provide feedback at a specific point in time about his/her
situation. Czerlinsky and Chandler (1993, pp. 41-42) provide a six-axis measure to examine service. Measures of service and analyses are both qualitative and quantitative.

- **Consumer participation and responsibility for the work plan.**
- **Service provider responsibilities are defined.**
- **Service provider shows evidence of empowering consumer and avoids typical biases in service.**
- **Appropriate service techniques are employed by service providers.**
- **Qualitative measures of service provider respect, honesty and genuineness are developed.** And,
- **Measures of confidentiality and ethics while providing services are determined.**

Individuals must be retrained for new jobs of the future. "On average, an employee will work for 10 different employers during his/her work histories," requiring more frequent training and educating (Kiernan and Lynch, 1992, p. 14). Producing flexible workers may stretch the concept of accommodation to able-bodied individuals (Brown, 1990, p. 18). The rehabilitation professional faced with this brave new world of rehabilitation will require additional training. To employ quality measures of service, rehabilitation professionals must develop new skills and competencies (Pacinelli and Patterson, 1990). Specifically, the placement specialist should "retool" to insure he/she provides flexible and judicious delivery of "incentives, choice, customer service, and value-added strategies" that aid in job placement (White and Bond, 1992, p. 20). Owen (1992) suggests the entire system needs to be overhauled to suit the evolving circumstances under which service is provided.
More general federal programs require reform to improve effectiveness (In the Mainstream, 1994, pp. 14-15). Vocational rehabilitation programs are lauded for encouraging consumer-friendly language and attitudes (In the Mainstream, 1994, p. 14). Special education is receiving more pressure from parents -- whose roles have been enhanced -- to be inclusive of the children with special needs and assist in pushing children to "reach their full potential in the world of work" (In the Mainstream, 1994, p. 15). Walker and Heffner (1995b) discuss roles for community-based advocacy groups to advocate for safety and wellness programs. This type of work can educate people to avoid injury or illness and disability or return to work more quickly. Their efforts could dispel the misconception that there is a lack of qualified workers who are disabled to fill jobs for business. Small businesses, ranging in size from ten to forty-nine employees, need a push to hire persons with disabilities compared to national companies (employing more than ten thousand). Dispelling common myths or stereotypes held by small business staff would aid in placing individuals with disabilities as new hires more effectively.

Many of our services are contingent on both legislative mandates and funding. Legislation simply reflects a mix of both scientific knowledge and public opinion. However, by the time services are funded, the body of knowledge has changed (Fifield, interview, page 3).

5.5 Government Funds and the ADA: Contradictions and Spin

Two well-accepted forces create counter pressures on service delivery. First, government funds are assumed to be scarce. Second, the ADA legislates equal rights and accommodation -- and these are thought to cost money.
Until this nation understands that people with disabilities have
equal rights and responsibilities, we will continue to carry the intolerable
burdens of prejudice, paternalism, and pity; and full employment will be
impossible (Dart, 1988, p. 11).

Effective change will not come through the courts. In the face of
this resistance, we must continue our efforts to educate and influence with
a sense of vision (Walker and Heffner, 1995a, p. 19).

5.5.1 Promise and Possibilities: Legislation

At the beginning of the 1990s, there was considerable discussion about
a new paradigm of rehabilitation services that would encourage local control
deregulation, and federal-state partnerships. Major legislative milestones for
vocational and other rehabilitation services (e.g., IL and assistive technology)
are the ADA and the 1992 Amendments to the Rehabilitation Act of 1973.
Competing efforts that may impact service are the unfunded mandates
legislation (Rumpel, 1995) and possible consolidation of federal work and job
training programs into a single block grant (Owen, 1995b).

The 1992 Congress began the 1992 Amendments to the Rehabilitation
Act of 1973 with a very strong statement.

Sec. 2. (a) Findings.- Congress finds that -
(1) millions of Americans have one or more
physical or mental disabilities and the number of Americans
with such disabilities is increasing;
(2) individuals with disabilities constitute one of
the most disadvantaged groups in society;
(3) disability is a natural part of human
experience and in no way diminishes the right of individuals
to -
(A) live independently;
(B) enjoy self-determination;
(C) make choices;
(D) contribute to society;
(E) pursue meaningful careers; and
(F) enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of American society;
(4) increased employment of individuals with disabilities can be achieved

Since the inception of the ADA, nationally significant cases and legal trends have been tracked (In the Mainstream, 1995; West, 1993/94). Case studies are also being published (Siska, 1995b). Title I was hoped to allow persons with disabilities traditionally "locked out" of employment to enter the workplace. However,

[The] vast majority of EEOC complaints have been initiated by current employees with back impairments. The proportion of back pain cases on the EEOC's disability discrimination docket rose from 14.7% at the end of 1992 to 18.6% as of August 31, 1993. Meanwhile, complaints of discrimination based on blindness dropped to 3.3% of the total at the EEOC (Walker and Heffner, 1994b, p. 3).

Recommendations for future implementation of the ADA are mixed. The National Council on Disabilities (1995) roundtable discussion of the ADA, Title I resulted in calls for more education to correct ongoing misunderstandings about the law. Information must be gathered on aspects of the Act specific to certain disabilities. The relationship between the Act and the Medicaid program, as well as union contracts, should also be explored.

It must be proved to employers that there are economic benefits associated with complying with the ADA. Accommodation insuring a person with disabilities who wants to work, can be done with minimal cost. In 1994,
Sears produced a report documenting these types of results and returned to profitability too (Blanck, 1995, p. 8). However, the studies are new and the information is not common knowledge among persons with disabilities or business people. A clear vision that promotes hiring persons with disabilities because it is good business not, "the insidious welfare equivalent of 'making work for others,'" must be shared with understanding and compassion, that "they" could be "us" in the blink of an eye (Walker and Heffner, 1995a, p. 19). Research on past civil rights legislation shows that, for instance, Afro-Americans are no better off in many respects than before the legislation (Morin, 1995; Freeman, 1987). There is no blueprint to implement successful civil rights legislation. In the current political atmosphere, it may be tough going. Recent changes in Congressional control and the resulting "Contract with America" exacerbate the strain of conceiving a vision of an equal and just system that includes persons with disabilities. Fears run high that the ADA could be gutted. Disability rights advocates are rallying inactive troops, documenting the positive influence of the ADA on individual lives, and creating an organization styled after the AARP for persons with disabilities (Walker, 1995). Leaders hope to create a counter spin to suggestions that compliance with the ADA is too expensive. This belief is part of the backlash found in reports by the U.S. Conference of Mayors in 1993, the Cato Institute, the Wall Street Journal and the National Federation of Independent Business according to Rumpel (1995, p. 2).
Priority setting can be a painful and divisive process, but it is a necessary activity — particularly in time of resource scarcity (Bosin, 1992, p. 33).

5.5.2 Into the Abyss of Scarcity

"No frills" government-funded human resource programs have been advocated since the Reagan administration. State vocational rehabilitation programs have been directed to devote service efforts to persons designated as "unserved" or "underserved" and are moving to implement "order of selection" if there are more eligible clients than can be served. Priority in this system goes to persons "most severely disabled," as determined by the number of functional limitations and needs for listed services. In the summer of 1995, the House drafted legislation proposing consolidation of federal work force programs that provide vocational training and employment. All in all, one hundred sixty-three federal programs and fourteen federal agencies are anticipated to be consolidated into a "comprehensive, effective and efficient system of workforce preparation and development" introduced by Representative Goodling and McKeon (Owens, 1995c).

Attention to the unserved or underserved has been given attention for about a decade. There is no clear description of persons who are unserved or underserved. Using Rehabilitation Services Administration definitions and standards as the starting point, it can be determined whether particular populations of persons with disabilities "have access to and effective assistance from rehabilitation services" (Corthell and Yarman, 1992, p. 5). If the nature of the disability is unique, access to social interaction or employment is skewed by
social stigma and misunderstanding or accommodations are frequently unavailable, the label may apply (Corthell and Yarman, 1992). Ethnicity may play a part in underservice (Leung, 1993; Duarte and Rice, 1992; Walker, et al., 1991; Walker, et al., 1988). Providing proof of need is noted to involve "considerable effort" (Corthell and Yarman, 1992, p. 8).

Scarcity of resources is the foundation for order of selection. Section 12. (d) of the 1992 Amendments to the Rehabilitation Act of 1973 states:

[R]egulations regarding the requirements for the implementation of an order of selection for vocational rehabilitation services under section 101(a)(5)(A) [are to be promulgated] if such services cannot be provided to all eligible individuals with disabilities who apply for such services.

Individuals coming to vocational rehabilitation will be evaluated, assessed and appraised of the determination of severity of disability. Great uncertainty surrounds the selection process and only careful evaluation of program implementation can adequately determine the impact of this policy.

Reducing cost in a time of scarce funds is a top priority. The costs of the federal-state guaranteed minimum income and medical insurance projects (SSI, SSDI, Medicare or Medicaid) are potential back-breakers for the federal government. Sixty percent of domestic federal disbursements in Fiscal 1993 were for entitlement programs and grants for Medicaid, family support payments, and housing (but excludes debt service). Grants, benefits, and subsidies totaled $892.7 billion -- a 7.6% increase over expenditures for fiscal year 1992 (McArthur, 1994). Major spenders are reported in Table 5.5.
Table 5.5 Major Federal Outlays in Fiscal Year 1993

<table>
<thead>
<tr>
<th>Grants (billions of dollars)</th>
<th>Direct Payments (billions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Human Services</td>
<td>Health and Human Services</td>
</tr>
<tr>
<td>23.7</td>
<td>Social Security Administration</td>
</tr>
<tr>
<td>Transportation</td>
<td>22.2</td>
</tr>
<tr>
<td>Civilian retirement and disability</td>
<td></td>
</tr>
<tr>
<td>Housing and Urban Development</td>
<td>19.1</td>
</tr>
<tr>
<td>Unemployment compensation</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>15.7</td>
</tr>
<tr>
<td>Military retirement and disability</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>34.9</td>
</tr>
</tbody>
</table>


The Goodling/McKeon proposal suggests all the programs, currently costing about $20 billion, could be served better if each state would submit a single State Plan covering four Manpower Training Block Grants. Each state would determine the methods to deliver service, means to determine eligibility and how to assess the needs of persons with disabilities. The state governor has discretionary power to designate separate units for Vocational Rehabilitation and Service to the Blind. Local Workforce Development Areas would be established by the governor, with the intent that the "one stop career centers" would be located conveniently for most of the population. There would be other considerations too. A Local Workforce Development Board would contain a person with a disability or representative but most members would be from local businesses, business organizations and trade associations. This board would develop strategic plans, provide policy guidance for the grants and devise performance measures. The Board will be responsible for identifying jobs in demand and the training needs of the local labor force to match that demand. The most apparent concession to serving special needs of persons
with disabilities is the opportunity to request a written plan for the provision of services and the choice of using a voucher to obtain vocational rehabilitation services. Payment of the voucher would occur after service delivered results in "reasonable accordance with the outcome designated" (Owens, 1995b). Much of this conversation among rehabilitation professionals is taking place on CSAVR RehabNet. More general public conversation is quite limited.

Policy has not caught up with the reality of efforts to have people with disabilities go back to work and get ongoing supports. The . . . health coverage . . . in effect, lock[s] people into wanting to stay on the disability rolls (In the Mainstream, 1994, p. 14).

5.5.3 The ADA Spin on Scarce Services

Legislation does not stand alone -- there is cross pollination. Individuals anxious to reduce federal spending targeted have identified the ostensible contradiction of providing funds to persons with disabilities too disabled to work and the ADA philosophy.

Disability is defined, under both SSI and SSDI, by reference to the ability to work. This has generated the mindset that now leads so many SSI and SSDI recipients to pattern their lives so as to meet these requirements. That is exactly the opposite mindset that the Americans with Disabilities Act, the Rehabilitation Act, and the Individuals with Disabilities Education Act seek to foster (Bowe, 1993, p. 4).

The SSI system currently drags under the weight of a huge backlog of applicants. The number of individuals applying for assistance escalates and is anticipated to increase as the dropout rate among special education students grows and considerable disincentives for persons to move into employment develop. Requests for increases in payment are continual pleas to legislators.
The system has created a mindset that people with disabilities should show they cannot work, not on possibilities to work (Bowe, 1993, p. 3). But these trends may be changing.

Social Security Administration implemented a long term plan to be completed by the year 2000. The program's new attitude is evident in the 1993 publication. Individuals are urged to "treat your disability as a 'bridge,' not the end of the road" (United States Department of Health and Human Services, Social Security Administration, 1993). Changes will be made in the program so that requests will be processed quickly, service comprehensiveness will increase and complexity will decrease. The system will be consumer-oriented and friendly, yet it will "separate the wheat from the chafe" more efficiently.

In a similar vein, Bowe's (1993) basic premise is that law now considers "virtually" all persons with disabilities capable of employment. Technology is the crux. Restoration techniques and rehabilitation technology, both high- and low-technology devices already available, should improve the possibilities of working. Transportation, housing, communication and other barriers are insignificant because distance learning technology can leapfrog inclement weather and even communication limitations due to deafness, blindness, or learning disabilities. Distance learning can "convince [persons with disabilities] that their rights, including those granted by the 1990 Americans with Disabilities Act will be protected" (Bowe, 1993, p. 2). Therefore, the ADA will eventually defeat long-standing barriers of prejudice and stigma associated with disability.
Further, persons with disabilities require education and job training to qualify for above-minimum wage jobs and set the course for a successful career. A job with a salary greater than $17,000 a year -- about $8 an hour -- should include a "good health-care benefits" package to create solid interest in work. A "good education," may not be the "appropriate one" that federal laws mandate. Transition services should begin at age fourteen to reduce the 40% drop out rate of disabled students. The current economic situation is a "jobless" phenomena which will not last -- future economic recovery should generate "large numbers of good jobs" (Bowe, 1993, p. 4) in areas such as information services, leisure, and health care for the elderly population.

SSI and other such programs have outlived their usefulness and must conform to the civil rights amendments and create coherent national policy for a "post-ADA era" (ibid.). These pre-empowerment programs should conform to "new realities." Advocates and others concerned with persons with disabilities should focus on "helping people with disabilities to become self-supporting through work," not supporting measures that stop them from working (Bowe, 1993, p. 3). The substantial-gainful activity test, which provides proof that an individual cannot work, should be eliminated. Individuals should be asked to attempt work. A definite limit of no more than three years of support should be established and combined with other measures to encourage employment, similar to those that assist people to move off the welfare rolls after two years. Only individuals with "severe" disabilities would be exempt. Existing
nondiscrimination laws related to employment should be implemented and
government funding should increase job training for SSI recipients. "SSI offers
a safe harbor, a time during which people with disabilities receive federal
subsidies while engaged in intensive job preparation" (Bowe, 1993, p. 4).

This analysis seems to ignore many realities for persons with
disabilities. Availability of technology does not insure funding or training about
its use. A system of seamless, coordinated counseling and guaranteed
financial assistance for education and training for empowered and informed
individuals with disabilities who know exactly what they wanted to do might
insure that everyone works. But, the current employment system doesn't work
for persons without disabilities. Full employment may be the general citizen's
expectation (Dart, 1988, p. 10) but it has never been a government mandate.
The strength of prejudice toward persons with disability, even by government
officials and politicians in the United States, may be severely underestimated
(Brandt, 1995a). The magnitude of the unemployment problem may be
understated and prospects for future jobs overstated. Even Bob Dole,
Republican Senator from Kansas commented:

In 1986, 33% of disabled Americans worked; in 1994, this
figure is 31%. That's right, over the past eight years
employment among people with disabilities has not
improved. Other recent findings are . . . equally
discouraging. According to a Census Bureau report
released last year, only 52% of people with disabilities were
working, including only 23% of those with a severe disability
The 1980 census documented that one in seven working age adults had a disability (Douglas, 1991, p. v). It was calculated that efforts to equalize employment for persons with disabilities, similar to nondisabled persons, by the year 2000 would require that an additional eight million people acquire employment. The National Organization on Disability president called for a "more achievable" goal of employing an additional two million persons with disabilities (ADA Compliance Guide, 1995, p. 7).

5.5.4 Philosophical Outlook on Legislation

The history of rehabilitation is mirrored in legislation (see Table 5.6). Initially these efforts defined society's responsibility for persons with disabilities. More recently the role of the courts has evolved to rule not only on constitutional and civil rights but determine intervention strategies (Albrecht, 1992, p. 112). Accounts of disability are found in the Bible and Roman law and more recently, recorded as part of the disability movement (Shapiro, 1993; Groce, 1992) that there are paradigm shifts in societal attitudes regarding persons with disabilities and perceptions about what they can do. Courts now rule in several venues: eligibility for benefits, clarify levels of disability and severity, and discrimination against persons with disabilities in the workplace (Albrecht, 1992, pp. 113-115). As rehabilitation grew to become an industry, programs specifically created to serve a small and easily defined group (i.e., injured soldiers returning from war) have grown to include "general, wide-ranging programs for almost all types of disabilities and age groups . . .
Table 5.6 Legislation of Importance to Independent Living

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930s</td>
<td>Social Security Act implemented</td>
</tr>
<tr>
<td>1953</td>
<td>Eisenhower (President's Committee on Employment of the Handicapped)</td>
</tr>
<tr>
<td>1956</td>
<td>Forerunner of IL resolution at National Rehabilitation Association</td>
</tr>
<tr>
<td>1957, 1961</td>
<td>Unsuccessful Congressional bill for IL</td>
</tr>
<tr>
<td>1968</td>
<td>United States Architectural Barriers Act</td>
</tr>
<tr>
<td>1969</td>
<td>International symbol of access</td>
</tr>
<tr>
<td>1973</td>
<td>Rehabilitation Act, esp Section 504</td>
</tr>
<tr>
<td>1974</td>
<td>United Nations Expert Meeting on Barrier Free Design</td>
</tr>
<tr>
<td>1975</td>
<td>Education for All Handicapped Children Act, PL 94-142</td>
</tr>
<tr>
<td>1978</td>
<td>Development Disabilities Amendment</td>
</tr>
<tr>
<td>1978</td>
<td>Protection and Advocacy Services</td>
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<tr>
<td>1988</td>
<td>Air Carriers Access Act</td>
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<tr>
<td></td>
<td>Fair Housing Amendment Act</td>
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<tr>
<td></td>
<td>Individuals with Disabilities Education Act (IDEA)</td>
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<td></td>
<td>Technology Act</td>
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<tr>
<td>1990</td>
<td>Americans with Disabilities Act</td>
</tr>
<tr>
<td>1992</td>
<td>Amendments of the Rehabilitation Act of 1973</td>
</tr>
</tbody>
</table>

focusing on persons with disabilities as whole persons with rights to equal participation in various settings across their lifetimes, as opposed to persons with defects to be corrected by experts" (Prime Study Group, 1993, p. 22).

However, Albrecht (1992, p. 113) notes, a disproportionate amount of power is still held by professionals: legal, medical, social science and government policy. The power of the individual citizen is nonexistent.

Critiques of rehabilitation are aimed at the multiple layers and levels of services. This analysis moves from isolating work as the single activity that gives life meaning to a more holistic examination of quality of life. Which pieces of legislation have meaning and importance are significantly different from those discussed in past chapters. Legislation effectively recognizes new philosophical ideas and retroactively legitimatizes emerging possibilities for persons with disabilities.
Services to people with disabilities evolve right along with public sentiment. . . . Neither public opinion nor legislation evolve in any ideal or necessarily rational way. The political climate is highly competitive. A frequent misunderstanding among people working in the disabilities field is that laws are static. We face changing social values, financial limits, and compromise. Just because federal legislation has been passed does not mean the problems will go away. It's a process in which we must participate if change is to occur (Fifield, interview, page 3).

Minow (1990, p. 94) has written a very careful analysis of legislation (see consecutive Tables 5.7, 5.8 and 5.9) and its impact on persons who are "different." She credits several influences on her investigation: critical legal theory, feminist theory and work performed by persons who are different: persons with disabilities, women, and minority group members. Categorical solutions are insufficient because they hide major flaws:

Except for its specialized vocabulary, legal analysis looks a lot like other kinds of analysis . . . When we analyze, we simplify. . . . It sounds familiar. It also sounds harmless. I do not think it is. I believe we make a mistake when we assume that the categories we use for analysis just exist and simply sort our experiences, perceptions and problems through them. When we identify one thing as like the others, we are not merely classifying the world; we are investing particular classifications with consequences and positioning ourselves in relation to those meanings. When we identify one thing as unlike the others, we are dividing the world; we use our language to exclude, to distinguish -- to discriminate. . . . Sometimes, classifications express and implement prejudice, racism, sexism, anti-Semitism, intolerance for difference (Minow, 1990, p. 3)
Unstated assumptions inherent in the U.S. legal system create
dilemmas of difference (Minow, 1990, chapter 2). The political system assumes
a level playing field for all participants. However, to claim redress because the
system is not equal, neutral and fair, persons who are classified as abnormal
must assume and own the difference or draw attention to their difference to
receive equal treatment. To avoid this dilemma, Minow (1990, p. 94) suggests
that it is possible to "invent other practices that treat difference as just the
variety of human experience, rather than the basis for dividing people into the
class of the normal and the class of the abnormal."

Further Minow provides a theory for examining the context of difference
issues and acknowledges that it will probably continue to change. History is
reinterpreted through the eyes, experience and understanding of current
situations and "overstates the case and neglects patterns of continuity" or
"articulates contrast between the current perspective and the recollected past"
(Minow, 1990, p. 129). Theory proceeds in the manner of a Hegelian dialectic:
thesis generates an antithesis. Thesis and antithesis create a synthesis theory.
The pattern will continue, incorporating part of the past and inventing the future.
Adaptation of this theory incorporates continuous change and recognizes that
boundaries will be redrawn. This future inherently anticipates that a choice will
be made: either the legal system can maintain differences or new classes of
sameness can be created (Minow, 1990, pp. 88-89). Using this theory, one can
Table 5.7 Minow Paradigms of Legal Theory: Thesis

<table>
<thead>
<tr>
<th>Theory</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Abnormal persons</td>
</tr>
<tr>
<td>Period established and in use</td>
<td>Medieval culture, 13th/14th century to Renaissance transition through Civil War - World War I</td>
</tr>
<tr>
<td>Foundation of law</td>
<td>Decisions by lord of manor in feudal world to government decisions later</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Culture of fixed status, hierarchical relations, mutual obligation; feudalism. Legal theory harmonize law, religion, social order.</td>
</tr>
<tr>
<td>Concept of Society</td>
<td>Collective, organic whole with descending line of authority (Minow, p. 122)</td>
</tr>
<tr>
<td>Role of the individual</td>
<td>Each person occupies status or office: hereditary, class and social function</td>
</tr>
<tr>
<td>Role of persons with disabilities</td>
<td>Low status. Later madhouses, reference to those who were more like animals. Distinction between those who are normal and abnormal. Special rules for married women, children, mentally ill or retarded persons, elderly -- need protection.</td>
</tr>
<tr>
<td>References, Writers</td>
<td>Roman law, Common Law</td>
</tr>
</tbody>
</table>

Source: Minow, 1990, Chapters 4-7 (pp. 101-226).
<table>
<thead>
<tr>
<th>Theory</th>
<th>Anti thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Rights approach</td>
</tr>
<tr>
<td>Period established and in use</td>
<td>Transition from abnormal persons, in place by mid-twentieth century.</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Liberalism in political and legal relations. Predicates democracy. Legal formalism, mechanical jurisprudence: natural law to guide functions, decisions of society and members. Individual released from subordination, hierarchy but institutions remain. Subordinates those who don't fit norm.</td>
</tr>
<tr>
<td>Concept of Society</td>
<td>Mass industrial society. Government/state protects rights and freedoms of all individuals except institutionalized, segregated who have a right to habilitation BUT no special services to assure integration. Ignores interdependence among people. Two track legal system results.</td>
</tr>
<tr>
<td>Role of the individual</td>
<td>Each person distinct, equal, with self-interested desires, needs freedom of action and protection from interference of others. Dilemma of difference created: use rights, entitled to same treatment only. Individual conceived ideally: independent of social, economic, political, religious, etc. situation. Ignores prejudices.</td>
</tr>
<tr>
<td>References, Writers</td>
<td>Thomas Holland, William Blackstone to John Rawls, Richard Posner, Duncan Kennedy</td>
</tr>
</tbody>
</table>
Table 5.9 Minow Paradigms of Legal Theory: Synthesis

<table>
<thead>
<tr>
<th>Theory</th>
<th>Synthesis (new Thesis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Social relations</td>
</tr>
<tr>
<td>Period established and in use</td>
<td>Current today, from social theory in the 1920s. Philosophically borrows from non-legal fields of thought.</td>
</tr>
<tr>
<td>Foundation of law</td>
<td>Recognizes power differentials. Analysis of difference constructed in terms of the relationships. Maintain difference only if does not &quot;express or confirm distribution of power&quot; so that less powerful harmed, more powerful benefit.</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Like abnormal theory, assumes connectedness among people. Like rights theory, dubious of immutable categories, fixed status, inherent or ascribed traits. New avenues for examining, challenging legal treatment.</td>
</tr>
<tr>
<td>Concept of Society</td>
<td>People exist in relationships. Naming, social practices, community attitudes hide power among people. More powerful create structure and rules for governance of society. Relationships can construct, express knowledge, power. Naming excludes, isolates &quot;other&quot;</td>
</tr>
<tr>
<td>Role of the individual</td>
<td>Identity is social, cultural constructions, not intrinsic. Unclear if person can ever take perspective of another: allows there is not one truth but many.</td>
</tr>
<tr>
<td>Role of persons with disabilities</td>
<td>Difference can exist if does not hurt the less powerful or aid more powerful. Difference meaningful only in comparison. Recognizes discrimination, stigma. Confronts abstract, formal rules with personal experience and meaning.</td>
</tr>
<tr>
<td>References, Writers</td>
<td>Catherine McKinnon, Paul Ricoeur, Ursala LeGuin</td>
</tr>
</tbody>
</table>

Source: Minow, 1990, Chapters 4-7 (pp. 101-226).
examine the current situation for emerging trends and anticipate changes because they are given.

Americans have a strong national pride in technological achievements. . . . The American "can do" attitude has led us to believe that nothing is impossible. We may be right, but we have been anything but even-handed in our application of technology. . . . And in our sudden excitement over these new-found possibilities, we have often found ourselves seeking to apply the most dramatic and exciting technologies, when simpler solutions would be sufficient. James Mueller (Hansen and Perlman, 1989, pp. 18-19).

5.6 Technology: Promise and Threats

The legislation, Technology-Related Assistance for Individuals With Disabilities Act of 1988 (29 U.S.C. 2202(2)), added emphasis to the benefits of technology, as did funding for special research centers to advocate for the use of, and assist persons in finding available and appropriate, technology. Additionally, assistive technology was spotlighted by the 1992 Amendments to the Rehabilitation Act of 1992. Typical rehabilitation technology topics range from teenage individuals with disabilities surfing the electronic networks for personal growth and development (Cole, 1995), to improving work potential or self-sufficiency with the use of electronic aids (Collett, 1994/95c; Frontczak, 1994a; La Plante, et al., 1992; Franklin, 1991; Hansen and Perlman, 1991) to creating or empowering a better consumer of technology (Edwards, 1993; Gradel, 1991; Williams, 1991). Some devices, memory enhancers and technologic implants, may not only improve the independence of individuals who have brain damage (Kiernan and Lynch, 1992, p. 18) but improve the possibility of employment.
5.6.1 Professionals See Opportunities and Advances

Technology as a cure-all is widely embraced in rehabilitation publications with a few provisos. It is akin to "magic" (Gradel, 1991, p. 53). Note that technology is often delimited to assistive technology or "tools." Technological developments such as bioengineering or broader definitions of technology and impacts are ignored (Nicholls, 1986, p. 81).

There are basic assumptions about technology. Service should be equitable, assured to persons in more distant or rural areas, available to the socio-economically disadvantaged or poor, and individuals who are unserved or underserved. Consumers should be active participants in the choice of technology, provide opinions or advise others about its use. Product information for assistive technology should be readily available. The cost of assistive technology should be affordable, which assumes a level of competition for providing products in this market (Hansen and Perlman, 1989) -- a shaky assumption at best. Studies show that new rehabilitation products are specialized, aimed at a small population or providing a product appeal to only a limited market (Brandt, 1995b; Nicholls, 1991, p. 71).

The current rehabilitation perspective is invested in the current political-economic system. Of necessity, it relies on market-driven solutions. This creates another important dilemma. With the appropriate technology, individuals can seek more lucrative employment and increased independence. Without the funds to pay for the technology, employment remains elusive.
Much technology is inexpensive, requiring that common items be adapted. A study by Sears published in 1994 noted that 97% of the job accommodations for employees with disabilities required "little or no cost" (Blanck, 1995, p. 8). Galvin and Phillips (1991, p. 75) remind readers that "door levers, canes, telephone headsets or job sharing" are also forms of less sophisticated and inexpensive technology.

However, some equipment can be very expensive: computers or accessible vans. Computers are particularly revered for their ability to increase the choices of a person with disabilities (Cole, 1995). They "increase an individual's independence, self-expression, participation, choices and self-esteem" (Frontczak, 1994a, p.9). Computers can assist in accessing and sharing information (Edwards, 1993) about options, technology, even accommodation costs for potential employers (President's Committee on Employment of People with Disabilities, 1994) and enable persons with disabilities to become better consumers (Gradel, 1991). Consider the Kurzweil Personal Reader. This machine has nine narrator voices and can "read" about 120 to 350 words a minute to a person who is visually impaired. It is computer compatible. The price for this type of machine, a hand scanner and automatic page scanner was about $12,000 in 1991 dollars (Lyons, 1991, p. 73).

There are reasons many feel "you have to be comparatively wealthy to have technology" (Nicholls, 1991, pp. 71-72). Repairs and maintenance for mobility equipment are expensive. Battery operated tri-wheel scooters or
wheelchairs often require a lost work day for the individual using this equipment. Due to the limited availability of much of the more specialized technology, there is little or no opportunity to "test drive" the equipment before purchasing (Galvin and Phillips, 1991, p. 78). The cost of training, another part of providing technology, is forgotten or overlooked but essential to assuring the technology will be used (Boaz, 1991, p. 82).

The concept of accommodation, "an assistive device or an adjustment to the process" (Walker and Heffner, 1994a, p. 15) is an idea that is essential to providing technology for employment. Brown (1994a, p. 13) suggests that accommodation involves a partnership between the employee, the company, and the union and is a process of solving a problem that uses research and common sense. In a hierarchy of selecting the "least invasive alternative" for technology, modifying or adapting a task is preferred to more complex and expensive alternatives. Altering a regular work schedule to flex-time and rearranging an office is preferred to "last resort" -- "fabrication of a new device" (Galvin and Phillips, 1991, p. 78). Specially created technology "may take a long time to construct, . . . be more expensive due to labor costs, and . . . be difficult to repair or update due to its uniqueness" (ibid.). Other options for future employment are discussed in the realm of employment policy or opportunities, not as examples of technology.

The field of rehabilitation technology has created a new bevy of new specialists and experts to advise private business and governments, special
training, conferences, and calls for accreditation to provide appropriate technology. This is fueled by the 1994 NOD /Harris Survey of Americans with Disabilities report that documented 16% of the consumers reported the reason they cannot work due to a lack of special equipment, inability to communicate with co-workers and get around (Rumpel, 1994, p. 1). Specialization is also forwarded due to the speed of technological advances. Sheehan comment's, "We try to keep up with what is coming out in the disability field in general, and we try to obtain the technology so we can examine it and let people know what we have discovered" (1991, p. 87), is typical when individuals discuss provision of assistive technology.

A marked departure from most rehabilitation research and technology is, Using Knowledge and Technology to Improve the Quality of Life of People who have Disabilities: A Prosumer Approach (Edwards, 1993). It shows flickers of a multidisciplinary, futures orientation to problems associated with technology and information use by persons with disabilities. The author asks, "what kinds of research utilization studies and activities should the National Institute on Disability and Rehabilitation Research (NIDRR) fund in the future? How can the existing programs improve the ways they promote and facilitate knowledge utilization?" (Edwards, 1993, Preface). Although the process of research is not acknowledged as a possible technology, it is recognized that the rehabilitation system can enhance or hinder implementation and transfer of technology (Edwards, 1993, pp. 43-54). "Research outputs" and "technological advances"
are both classified as innovations. Research outputs include, "theories, models, paradigms, . . . validated tests, curricula, techniques, programs, or systems" and technological advances might "include software products, devices, equipment or machinery . . . [which] may or may not be marketable for profit" (Edwards, 1993, p. 54). She conducts her analysis of change at the level of the individual stakeholder, the organization and the society. Innovations are subject to reinvention, conversion and adaption (Edwards, 1993, p. 121). Her discussion naturally proceeds to the arrival of the prosumer, Toffler's reference to an individual who encompasses the characteristics of both a consumer and producer (Edwards, 1993, pp. 126-128).

After this interesting development of theory, the final chapter develops a very broad common vision, mission and mind set for consumers and rehabilitation professionals to achieve a prosumer approach. A five-year policy plan for this preferable future is supplied. Roles for all stakeholders, with brief attention to various levels of impact change (regional, national and international) is provided. Barriers and benefits are briefly discussed for implementation of this model of service. After all the discussion of changes and possible influences on the current situation, the reader is left waiting for more -- the exploration of more possibilities than Edward's preferable vision of the future.

The current professional attention on technology is limited in scope. Advances in medical rehabilitation or possibilities are discussed separately from rehabilitation and employment. Most research efforts are tempo-centric,
specific to current problems with access to information about technology or
technology currently in use. There is little speculation about type of future
rehabilitation technologies, how to increase or decrease the number of persons
disabled, or how social-cultural and political-economic factors and policy might
impact the intersection between disability and work.

As Margaret Mead succinctly put it: "The unadorned truth is that
we do not need now, and will not need later, much of the marginal labor --
the very young, the very old, the very uneducated, and the very stupid"
(Harman, 1979, p. 26)

As a movement, . . . what we can and must do is take a position
against any medical, legal or social policy that is based on the attitude that
people who have disabilities are categorically inferior to others and
therefore would be better off if they did not exist and everyone else would
benefit by their absence (Blumberg, 1994, p. 223).

5.6.2 Technology: Stalemate, Solution or Genocide?

The study of technology, from a disability studies perspective, ranges
from equipment, to the ethics of the human genome project, to consumer use
and satisfaction, to political, legal and personal considerations of death and
dying (Collett, 1994/95a; Collett, 1994/95c; Reisken, 1994; Johnson, 1994;

Public health efforts -- i.e., social technology -- to control infectious or
communicable and chronic diseases have created a greater population of
persons with impairments who live longer despite potentially more severe
disabilities. Mandating injury prevention programs and measures,
pharmaceutical advances, the development of trauma centers and diffusion of
life-saving technologies have increased the number of persons with disabilities
(Albrecht, 1992, p. 49). More disturbing is documented incidents of social
solutions for disability during this century that have included forced sterilization or electroshock therapy (Mendelsohn, 1994, pp. 210-211) and the denial of food and treatment to disabled infants (Blumberg, 1994, p. 222). Less well known are experiments to determine whether medical advice sways family decisions for medical treatment (Woodward, 1994, p. 230). Blumberg (1994) discusses documentation of substantial increases in prenatal testing to "avoid" major defects. The federal government has encouraged mandatory screening for fetal abnormalities (Blumberg, 1994, pp. 221-224).

New equipment has advanced personal independence for persons with disabilities. As a result, the image of these individuals has been revolutionized. Rather than being "needy" they have become customers of and consultants for services. Technology advances during the last 20 years alone include: lightweight manual and power wheelchairs, environmental controls for the home and office, robotics arms, prosthetics that respond to bioelectrical signals, the use of wireless transmitters and voice synthesizers, oversized or light sensitive keyboards for computers, eye-gaze computer systems, and printers that produce Braille to name a few. Shapiro (1994, p. 222) quotes Zola:

*One does not have to have been a fan of television's "The Six Million Dollar Man" or "The Bionic Woman," to realize that we are entering an era where almost every human body part and function becomes replaceable, or, at least, assistable by some technical device.*
The use of e-mail and other types of information technology may allow the formerly isolated individual to be in touch with the milieu of life (Anderson et al., 1993, p. 21). Not everyone is certain that all technology ought to be employed.

Shapiro (1993, pp. 223-236) submits a broad discussion of technology as "false cure" for disability that is echoed by academic Asch's (1993, p. 3) "concern and apprehension" regarding the human genome project. Recent advances such as the cochlear implants for persons who are deaf and functional electronic simulations hold a fascination for American culture -- the great technological fix to disability. The backlash from the deaf community has been loud and clear. Some consider technological advances to be a form of selective genocide devalue and dismiss the life lead by persons with disabilities as not being worth living (Shapiro, 1993, chapter 9). These technologies require the person with a disability to conform to the norm of the "complete" functioning human being.

Besides these problems is a laundry list of other related issues. To summarize Shapiro (1993, p. 226), the problems with a reliance on technology include:

- The cost of the devices and surgery is expensive beyond the reach of many individuals, particularly in the most impoverished regions.
- Not everyone has access to the technology, and its use can be abandoned, therefore, "Reliance on technology can be risky." Legislation that institutes the use of technology can be revoked.
- Emerging technology may not work with existing technology. Older technology may be abandoned to the disadvantage of the person with disabilities.
Technology can create political fractions within the disability group.

Technology developed to improve the life of a person with disabilities is frequently not available due to cost. Prices are often high because the sales volume is low. Funding may be "whimsical" or require incredible investments in time and red tape. Loans for this type of equipment are rare, but some innovative plans have been developed for the provision of equipment.

The incorporation of universal design that aids both persons with disabilities and those who are able-bodied, has not been adopted on a nationwide basis. Selling the public on the benefits of this type of design has not received much attention or effort from the federal government.

Technology may not be employed because it is foreign or new to the user or carries a stigma because of its association with disability.

Technology, its use, abuse, and availability, is anticipated to be an active object of discussion in the coming years throughout society. However, this is generally a discussion of physical objects for use by persons with disabilities. Far more interesting are the social technologies, legislation and legal remedies -- other types of technology -- which have been proposed to solve issues of inequality and difference.

5.7 Conclusion

Few researchers in rehabilitation offer strong critique or "push the envelope" of thought when it comes to envisioning alternative futures of work and disability. Conventional thought and prevalent trends in statistics dominate how the future is perceived. A few individuals have incorporated more accessible futures thinkers into their discussions. Alvin Toffler's ideas developed in The
Third Wave and Powershift (Edwards, 1993; Turnbull, 1992; McFarlane, 1992) and the Hudson Institute 1987 report, "Workforce 2000: Work and Workers for the 21st Century," (McFarlane, 1992; Duarte and Rice, 1992; Brown, 1990; Walker, 1988) appear to be well known and quoted. John Naisbatt's books, Megatrends and Megatrends 2000 (Edwards, 1993) or an occasional reference to U.S. Office of Technology Assessments reports (Edwards, 1993), other federal government studies (Walker, 1988; Kapur and Ruffner, 1988) and Harris polls (Kapur and Ruffner, 1988) have long-lasting influence on the official vision of preparation of workers with disabilities and future of rehabilitation services. Unfortunately, these works do not cue the professionals to explore possibilities but rather to back up issues they already have chosen to pursue: securing more rehabilitation services for persons who are minorities and disadvantaged, expand supported employment programs, or incorporating the official perspectives on the future into vocational rehabilitation services for persons with disabilities (McFarlane, 1992).

Rehabilitation professionals appear very invested in a status quo, conventional future. Suggestions for change are incremental in nature and tagged on to existing legislation or administrative rules. New measures of broad policy directives are rarely suggested (National Association of Developmental Disabilities Council, 1990, pp. 21-23). Wolfenberger (1994), on the other hand, as an academic has brought very pessimistic eyes on society
and discussed harsh realities that might occur. Policy will not meet the challenge of the threats he perceives, only personal action.

Persons with disabilities have and are becoming empowered consumers, writers and speakers, observers and critics of the social service system. They are academics in the budding field of disability studies. Through their work the goals and impacts of vocational rehabilitation services are presented with a new set of eyes, ears and words. They speak powerfully, from personal experience in a system that is changing but only with great reticence. Once seen as a benevolent system of charity, these services have grown to an industry of rehabilitation (Albrecht, 1992) that has a life of its own.

Stone (1984) concludes that the definition and public understanding of disability will continue to be in flux. It is influenced by economic conditions, medical technology or knowledge, and individual willingness to engage in the adversarial process of becoming a legitimate beneficiary of government programs or services. These theories attempt to capture change that has taken place and allow for future changes in the roles of persons with disabilities, such as Minow's (1990) legal theories.

Distinct visions of the future are still lacking but may be inherent in the legacy of thinkers such as Zola. Critiques of the current system challenge conventional views of service, evaluations and program delivery. There are calls to create more politically active minority groups to rally for equality for persons with disabilities. More proactive and positive images of the future or
ways of imagining the future from this perspective may be imminent, following the course of other oppressed people, minority groups, or even developing nations (Ka'imiloa, 1995; Laenui, 1995; Cruz, 1995; Greenlees, 1994; Hutner, 1994; Boshoff, 1994; Brecher, Childs, and Cutler, 1993; Mander, 1991). Much of the future will rely on personal action and vision. The steps to move to these visions are not transparent.
CHAPTER 6
APPROACHING THE MAELSTROM:
SPECULATION ABOUT WORK AND DISABILITY

Once, back in the days when mechano-cryo citizens were rare, the Old Wheel had been the center of excited activity beyond the orbit of Neptune. The first starships had been constructed by clouds of space-suited humans, like tethered bees swarming over mammoth hives. Giant "slowboats," restricted to speeds far below that of light, had ventured forth from here, into the interstellar night.

That had been long ago, when organic people had still been important. But even then there were those who had foreseen what was to come (Brin, 1994a, p. 169).

6.1 Introduction

Images of the future can be developed by creating scenarios. Scenarios are a method of exploring possible, probable and preferable images of the future and assist in making assumptions about that future. From this viewpoint the relationships between disability and work are explored.

Vision . . . consists of looking at what our preferred futures are. One way is to consider what might happen, developing scenarios, or plausible images. Another, related, way is to ask, if we were designing the future, what might it look like, what do we want to create. That is a very powerful way of looking at things (Bezold, 1995, p. 57).

M2: You don’t all have Internet access — or brain implants — yet.
AP: Yeah, there’s no barcodes on our necks yet (Pander and Pander, interview, p. 94).

6.2 Visual Bytes

Visions or images of the future abound in the day-to-day life of United States' citizens and lend influence never fully attributed to them. Slaughter (1991, p. 504) comments,

Images of the future are constantly being produced, consumed, applied and discarded. At any particular time
certain images are gathering social support or losing it. While, in practice, too little critical attention is given to them, all such images can be renegotiated, reconceptualized, refashioned or refused.

Popular images have been studied by one futures researcher for their influence, but are not normally examined in depth. They exist like background noise in our lives.

The most prevalent images of the future are found on television, in mainstream magazines, or cruising Internet homepages. Product advertisements offer promises of positive futures, new frontiers and claim to deliver the cutting edge of life in a purchase. Consider an insurance advertisement in a recent *Atlantic Monthly* (1995a, pp. 2-3). A jetliner flies a straight line in the blue above the clouds over two pages. An insurance company boasts, in text under the picture, that it has controlled the airline carrier's financial risk and "put the airline on a straighter course," or stabilized it. Cadillac makes a pitch to people interested in preserving the environment. Amid a vast stand of evergreens, stand a small, blurred nuclear family, contrasted with a clearly detailed DeVille in the foreground (1995b, pp. 98-99). The company promotes itself as a corporate sponsor for The Nature Conservancy. The advertisement mentions that 75% of Cadillacs can be recycled and boasts that the DeVille model "actually gets better fuel economy* than some smaller cars." Purchase of a new compact disk, "A Recent Future" by James Keelaghan, advertised in *Mother Jones* (1995, p. 24), allows the listener to hear "voices for the next millennium." These images promise control,
suggest security during uncertain times and offer assistance to the viewer in preparing for the future.

Advertising images often promote desirable corporate futures. Slaughter (1991) comments that dystopic images of the future are more prevalent now. This may be related to the increasingly rapid pace of change and the lack of impact an individual can personally foster. Sterling (1995, p. 160) provides a more caustic analysis of the situation. Chaos reduces personal responsibility and an obligation to do something. If the future is unpredictable, "and we're all hip to nonlinearity now," the world could change completely, leaving anyone “who could notice and comment . . . shell shocked or dead" (Sterling, 1995, p. 168). He (1995, p. 170, emphasis added) concludes,

*If the futures were really predictable, we'd all hang ourselves right after killing our children. Apocalypse always sells. . . . Because it flatters our vanity. . . . Real futurism means staring directly into your own grave and accepting the slow but thorough oblitercation of everyone and everything you know and love. Does this sound like fun? It can be. Just don't expect it to sell a lot of product.*

Private organizations are also purveyors of future images: environmentalists predict disaster. "Save the children" campaigns on late night television foster individual redemption if the viewer will send money to save a child in a distant land. Less well known are the efforts of both private profit and nonprofit futures oriented organizations, research centers, professional associations, periodicals
and journals to explore alternate futures (Cornish, 1977; Dahle, 1991; Schwartz, 1991, pp. 60-97).

The "last frontier" of images of the future is science fiction. Many futurists believe these stories are simply not probable enough to deserve careful consideration and study together with policy issues of the present (Wagar, 1991, p. 8). On the other hand, Cornish (1977, p. 154) noted, Arthur Clarke was part of "the very small group of writers who have used science fiction as the vehicle of philosophic ideas." Others admit, with obvious reservations, "most novels, even science fiction can be useful for examining "social ramifications of new . . . technologies" (Schwartz, 1991, p. 84). The wealth or sheer volume of science fiction shows an increased sophistication of ideas regarding technology and values. It is used as a vehicle to describe theories of social change in a digestible form by vividly capturing the reader's imagination. The entire genre of writing should not be dismissed lightly.

Consider the emergence of cyberpunk. William Gibson (1984) fathered the idea in a book and broadened it with the help of many other authors: John Shirley, Rudy Rucker, Bruce Sterling and Walter Jon Williams (Saffo, 1993, p. 90; Williams, 1987). This style and these images have evolved over the last fifteen years (Sterling, 1988) in television programs such as Max Headroom (Wag, 1987). Recent movies have provided a hermetically clean vision of Gibson's story, Johnny Mnemonic (Longo, 1995), and the grungier world of Strange Days (Bigelow, 1995). Active connections between humans and
machines via computers have moved to a new dimension of discussion and serious consideration. Cyber lounges of the Internet, alt.cyberpunk or alt.cyberpunk.tech, allow individuals to casually scan and develop images of and vocabulary in cyberpunk society. *Zines like *Mondo 2000* and *Wired* describe the technological developments driving the future, create its history, incite the thoughts of and poke fun at the reader. D.T. Max (1994, p. 62) writes,

*Wired celebrates what doesn't yet exist by exploiting a format that does: it's as if a scribe copied out a manuscript extolling the beauty that would one day be print.*

In these realms there is the creation of new language and concepts: the Sprawl, cyberspace, "jacking in," the Metaverse (Stephenson, 1992) and bio-enhancements or augmentations. There are revivals of less commonly used words such as avatar (Sterling, interview, page 85; Stephenson, 1992). The portrayal of workers, work, society, the economy, and even the role of persons now considered disabled are creatively speculative about the situation that might lie ahead. It is for these reasons several "wild card" scenarios, which reference back to science fiction, will be examined.
Images of the future present us with options and possibilities from which we can select and choose or with which we may argue and debate. . . . The main purpose of considering futures, and images of futures, is not to predict what will happen in any hard or precise sense, nor even to select from alternatives. It is, perhaps, to discern the wider ground from which images so as to take an active part both in creating and nurturing those which seem worthwhile (Slaughter, 1991, pp. 499-500).

6.2.1 Images, Values and Social Process

Images of the future circumscribe the possibilities of alternate futures. Fred Polack argued this in more detail and with more eloquence in the two-volume work called, The Image of the Future produced in 1955. While hiding in the Netherlands during the second World War, Polack described how:

[M]an’s creative ability for imagining the future shapes the dynamics of the historical process. In the western world, the image of the future has broken down, because man no longer believes either in heaven or in utopia; consequently, ways must be found to create new images of a desirable future (Cornish, 1977, p. 249).

Masini later wrote Visions of Desirable Societies, further stressing the need for optimistic visions of the future (Dahle, 1991, p. 108). Positive images of the future incite people to action. Negative images of the future are more apt to provoke apathy.

Masini (1993, pp. 45-46) states that the futures studies has three ways of elaborating ethical and philosophical values. The first approach is based on the past and present, then extrapolated. The choices of data, information and knowledge chosen and used from the past and present and employed in forecasting implicitly contain values. This approach was popular from about
World War II to the early 1970s. The utopian or dystopic future, characterized by writings from Plato, St. Augustine, Thomas Moore, the first U.S. futurist -- H.G. Wells, Ernest Callenbach's Ecotopia or Ursala Le Guin's, Always Coming Home (Wagar, 1991, pp. 9-15), are other typical means of examining the future. Value statements are clearly present in these futures that contradict and criticize the conventional future, entreating a reexamination of the current state of affairs. Wagar (1991, p. 9) notes these visions have a poetic license not found in other types of forecasting and are usually distinct from science fiction.

In the past hundred years or more, utopian/dystopian visions have usually been set in a hypothetical future, and not in some remote corner of our own present-day world, most modern utopias/dystopias qualify as a form of future inquiry with one difference from mainstream science fiction. Unlike most science fiction, utopias/dystopias qualify as experiments only in normative futures, concerned with values rather than expectations, with goals rather than possibilities.

The third form of futures research is visioning. A vision incorporates extrapolation, hopes and fears for the future, and seeks a bridge between the present and a future image. "Values," Masini (1993, p. 46) writes, "are very much a part of this approach, though not unconditionally as in utopia, but critically, in relation to the real world." Connecting the image with the "real world" is imperative if one hopes to avert potential dangers that lie ahead and grasp opportunities.

Slaughter (1991, p. 500) describes imagining as a social process, evidenced by the tangible results of a powerful image: the pyramids in Egypt
and the Great Wall of China. One person may initiate a "central image" which, over time, draws the attention of others who add to and complete the story, moving from the present to that future. This is shown in Figure 6.1. Dominant images and sociocultural development are linked. A strong image can pull culture in a particular direction, but the influence can fade over time. With this decrease in the power of the image, a crisis may be generated and a new image may emerge (Slaughter, 1991, p. 500).

Figure 6.1 Model of Image Development

Images and stories are the heart of futures explorations. Scenario creation is the best method of moving between the present and possible futures.
in times of crisis or great social turbulence. Scenarios can examine changes in
trends and events that may "happen" or break from the past (Masini, 1993;
Dator, 1987). Story telling of this type is particularly suitable for attempts to
anticipate and constructively design future society (Dator, 1987).

All worthy stories are . . . occasions, mirrors, and contexts for
learning . . . drawing one both inward and outward, by expanding one's
sense of the plausible. . . . Thoughts about the future, by the very
expansion of context they provide, offer their audience a larger mirror for
viewing themselves, a larger mirror for viewing the world and their part in it.
Accepted as a story, the range of what is "fitting" can be enlarged because
a story need not be constrained by the canons of propriety (Michael, 1987,
p. 82).

6.3 Challenging Convention

The future will not be like the past. Yet, vocational rehabilitation policy
analysis is perpetually pedestrian -- unable to abandon models and theories of
work and disability that incrementally fired, tempered, and forged legislation,
definitions, programs, expectations and roles for persons with disabilities.
Faced with incredible uncertainty, the same models, theories and methods for
creating, evaluating and adapting policy continue. Current recommendations
suggest further patching of a piecemeal system of service. Congress is moving
to consolidate funds for vocational training and education into block grants
providing one-stop shopping career centers -- the Seven-Eleven approach to
job provision. Dissidence has largely been lead by rehabilitation professionals
and advocacy groups seated in Washington, D.C. Consumer dissatisfaction
regarding service on a local level (through local surveys, grievance procedures)
is carefully monitored by Vocational Rehabilitation agencies, often ignored and therefore, virtually silenced.

The current policy horizon for vocational rehabilitation concentrates on what is known to be static: services are anticipated to continue to be provided much as they were last year and the year before. Persons with disabilities come to VR's door and anticipate walking away with a job. Some clients now expect to gain a career. But it is clear from historical examination of vocational rehabilitation programs and services that issues of power and voice exist. Statistics show that some people are included in service while others go unserved. Descriptions of vocational rehabilitation's historical achievements, its complexities and deficiencies, cannot address future possibilities of work and disability. Vocational rehabilitation services and policy are dynamic -- they change. But not all changes will be anticipated. It is the "irrational" (Masini, 1993) or unexpected changes that defeat an "unconsciously deterministic view of events" (Schwartz, 1991, p. 3). Possible opportunities may be lost or major potential pitfalls sidestepped if effort went into anticipating some of the changes which may take place. In short, the conventional lens on the future leadens the senses and dulls the intuition of those (i.e., service providers, counselors, persons with disabilities, family member, advocates and the odd citizen) who might hope to divine new outcomes of present trends, envision alternate futures and effect change. If we hope to meet challenges of the future proactively, we should make every attempt to explore any change in that strange terrain.
The past often seems to have the advantage of being less cluttered and calmer than the present. . . . Thinking about the future, however, is a difficult task, since we have to combine dispersed and often controversial information. It is one thing to have access to facts, but there can be many different interpretations of them (Godet, 1987, p. 49).

6.4 Exploring Alternate Futures

Methods traditionally used for examining the future of vocational rehabilitation have not prepared practitioners to predict the changes occurring now. This failing is common to every policy area. Typically, decisions about the future have been "carried out in a casual, intuitive way" (Harman, 1979, p. 107). Godet (1987, p.3) says forecasting suffers from a historical paradox: most forecasting activities were "developed at a time when it was easiest and least necessary." Most often forecasting draws analogies between the current situation and a similar situation in the past (Wagar, 1991, p. 7). The future, as a research topic, may be short-changed in rehabilitation due to the value placed on providing services that are imminently needed and intimately effect peoples' lives. Futures research advocates that the people who are most involved in providing services be involved in forecasting. If they are worried about providing services and putting out brush fires, they probably will not be ready to think about and discuss the more distant future.

Helmer (1983, pp. 25-28) speaks of a bias in forecasting and methods used for this purpose -- a misplaced concreteness favoring methods believed to be "scientific," while others are not. For instance, economic tools -- trending, regression and cost-benefit analysis -- favor using past quantitative data.
These types of inquiry implicitly assume the future will look like the past (Godet, 1987, pp. 4-6). It follows that if the data used in the model are inaccurate, the product is of little use. Data does not come with error estimates. These models focus on one or a few variables, assuming all other things are equal, or have no impact. The results may be prone to unexplainable error, piecemeal and ignore qualitative indicators because of measurement difficulties.

A global view is more appropriate to strategic planning efforts because, "the pace of change is accelerating, there is increasing interdependence and interaction, and nothing can any longer be taken for granted" (Godet, 1987, p. 4). Confronting the official future means exploring conflicting values, contemplating the implausible, searching for "wild" card events (Michael, 1987), watching for and anticipating discrepancies or random events that may have a low probability, but a high impact if they occur. Remember that "there will always be crises" (Godet, 1987, p. 10). Actively anticipating and exploring the future means using many avenues to sketch the future and draw new maps (Harman, 1979, p. 115). Scenarios culminate this study. They are an appropriate and complimentary means of exploring the future of work, disability and vocational rehabilitation given the uncertainties that lay ahead. They could be strengthened by regular environmental scanning sessions to discuss emerging issues that could affect vocational rehabilitation programs, services and policy. But that is not the focus of this chapter.
Because multiple pasts and presents make it impossible to bound events definitively as the "containers" of causes and effects, futures forecasts become questionable with regard to what is becoming what out of what. Fuzzy realities, however, elicit psychological and ideological discomfort: few will create or respond to such future descriptions (Michael, 1987, p. 77).

6.4.1 Turning Point in N-Dimensions: Scenarios

Scenarios are useful tools for exploring situations characterized by great uncertainty. Kahn introduced this method in the 1950s when working for Rand Corporation (Masini, 1993, p. 90). But Michael (1987, p. 82) recognized that futures research is best "accomplished by storytelling, that age-old device by which humans have inspired, influenced and engaged one another." A scenario tells a story that performs many functions. Scenarios reference both past and present situations, and links those to multiple future alternates. A well developed scenario will incorporate random, unanticipated events and suggest possible options for current decisions and can help identify decision points. In this way, as Mandel (1981, p. 7) pointed out, "Scenarios don't reduce uncertainty, they clarify it." These stories problematize the nature of the future and link it to decisions made in the present. When strategic thinking is limited, scenarios can assist in perceiving and generating new possibilities for the future (Shoemaker, 1991). Scenarios explicitly describe what is often implicit and assumed. Theories about the nature of humans and social change are uncovered and challenged. As is generally true in futures research, scenarios uncover the non-neutral values implicit in information and forecasts. Finally, scenarios question the unquestionable and acknowledge that rationality does
not always prevail in the creation or realization of the future (Michael, 1987; Godet, 1987). See Table 6.1 for a summary of scenario use strengths and weaknesses.

Table 6.1 Summary of Scenario Use Advantages and Disadvantages

<table>
<thead>
<tr>
<th>Scenarios STRENGTHS</th>
<th>Scenarios LIMITATIONS</th>
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<tbody>
<tr>
<td>• Provide holistic descriptions of possible futures in times of crisis or turbulence, when strategic planning has been routinized</td>
<td>• An art form, not a science</td>
</tr>
<tr>
<td>• Construct a hypothetical sequence of events to focus on casual process and decision points</td>
<td>• Creates the illusion these events will happen</td>
</tr>
<tr>
<td>• Apply specific theoretical or philosophical mechanisms of future change and examine the impacts</td>
<td>• May not point out key dimensions of policy issues to examine; may overlook some events or variables</td>
</tr>
<tr>
<td>• Make assumptions and values explicit</td>
<td>• Do not provide policy alternatives</td>
</tr>
<tr>
<td>• Incorporate random events, breaks or discontinuities in trends, irrationality</td>
<td>• Do not predict the future</td>
</tr>
<tr>
<td>• Enrich the description of future worlds by suspending disbelief and incorporate imagination and creative insights</td>
<td>• May place emphasis on extremes: either a Pollyanna or a Cassandra perspective</td>
</tr>
<tr>
<td></td>
<td>• Cannot guard against the creator's ethnocentrism or tempocentrism</td>
</tr>
<tr>
<td></td>
<td>• Require training and practice and should be used in conjunction with other forecasting tools and methods</td>
</tr>
</tbody>
</table>

The construction of scenarios is not a "science" and will not provide answers to issues or predict the relationship between work and disability in the future. Similar to other forecasting tools, scenarios are susceptible to certain limitations (Masini, 1993, pp. 47-53). An important factor in the creation of scenarios is the experience of those developing and describing the stories. This is a skill which initially requires guidance, training and practice, similar to other forecasting methods but should not be limited to only "experts." When the stories are well told, readers can hold off disbelief, be moved to contemplate future possibilities and provided with creative insights.
Another important consideration in producing a scenario is that the story can create its own consequences, making the result self-realizing or self-defeating. Godet (1987, p. 11) states,

> [An] immediate observation is that the "correct" forecast is not necessarily one which turns out to be true. When we anticipate a future problem, we normally set in motion actions that ensure this it will not take place or that its effect will be mitigated. . . . [An] accurate forecast is not necessarily a useful forecast.

For example, The Club of Rome Limits to Growth model of resource use was self-defeating. People may have believed it was actually what was to happen and made efforts to change their behavior and policy regarding the use of resources. The effects of constantly expanding resource use were constrained for the time being.

Scenarios can bias the reader's perspective about the future emphasizing, at the extremes, either a Cassandra or Pollyanna temperament (Clark, 1989). Realizing the "irrational," any break in trends, is difficult. Every storyteller's vision is limited by ethnocentrism and tempocentrism, personal experiences, and values (Masini, 1993; Ketudat, 1990; Griffen, 1981). If one can learn to question assumptions or ask the "right" questions and avoid the "lamp-post effect" -- looking for answers where one can already see -- then the chances to evaluate policy for the future improve. Rather than merely coping with or reacting to past issues, scenarios can expand the possibilities of creating new strategies to pursue a preferred course of action or avoid an
undesirable future (Godet, 1987, p. 11). Strategic policy interventions can be recommended when decision points are identified.

Building scenarios can make the creators more open to the possibilities to come. To construct scenarios, one must identify what to look for and where to look for information. This activity also trains the individual to recognize important factors in the analysis of policy: slow changing phenomena, constraints, emerging issues and collisions (Schwartz, 1991, pp. 78-97, 117). Creating stories about the future can reveal choices to be made, assist in evaluating possible actions to take or avoid, and promote learning how to ask questions. Participants actively develop future options rather than passively observing others and events seemingly outside one's control or influence. Scenarios are one of many futures research methods that can provide a framework which gives order to "very disparate and contradictory data, opinions and options, so as to enable greater clarity and sounder, more confident judgements to be made" (Cole, 1988, p. 11).

Much strategic information is in the form of unstructured intelligence. Intelligence is future-oriented, quickly assembled, subjective, and often delivered by word of mouth from creditable sources. . . .

As decisions become less structured, less routine, and less frequent and move away from operating tasks, the need increases for environmental scanning, intelligence, and the application of wisdom in decision making (Cope, 1986, pp. 71-72).

6.4.2 Generation of the Scenarios

The process of generating the scenarios in this dissertation was an accumulation of my professional research and work experience in the field of
rehabilitation for more than a dozen years. The last five years I have spent engaged as a vocational rehabilitation researcher for a rehabilitation research center. Because I was involved in futures research seminars and conferences prior to re-entering the field of rehabilitation, I found it natural to begin to maintain files of information about the future of rehabilitation. I had access to many types of rehabilitation publications and health journals, newsletters, conference and seminar proceedings, in addition to other futures research material, general reading material and science fiction which I regularly investigate for the purpose of environmental scanning (Meeker, 1993; Slaughter, 1990). Scanning is a process of collecting and compiling information in order to identify a range of issues which might affect the future. These factors are analyzed to gauge interrelationships, the severity of impact on the system in question, and the capacity for change these factors might affect (Popovich, 1987; Athey, 1987).

Many other individuals fed my habit of collecting data and scanning efforts. My work provided many excellent opportunities to talk with other rehabilitation professionals who were knowledgeable in areas outside my area of expertise and training, who became curious about futures research. From them I gained an awareness of issues I had not previously considered, particularly public health and cultural issues. I also sought the advice, thoughts and experiences of persons with disabilities to investigate the future. These individuals are rehabilitation professionals, my co-workers, peers who assisted
in designing research projects, volunteers on advisory committees, and tolerant friends. From this assistance the data for the scenarios grew and others who were not futures researchers became attuned to searching for information about the future.

Typically environmental scans incorporate the efforts of many people "with curiosity and eclectic interests who can't pass up an opportunity to read new magazines or an out-of-town newspaper," those who "jump at the chance of knowing a little bit about something before anyone else does" (Meeker, 1993, p. 23). Although I did not have a formal scanning effort, I used my network of friends and professional contacts to develop files of political, economic, technological, environmental and social variables which might impact the future of rehabilitation (Godet, p. 33, 1987). Historical review of vocational rehabilitation documented the importance of specific issues in the past. These factors were identified in the chapter describing the history of rehabilitation. Although I searched extensively for discussion of possible futures and possible discontinuities in the rehabilitation and health policy literature, it was very rare. The discussion of trends, changes in trends, discrepancies and descriptions of alternative futures which might provide insights about the direction of vocational rehabilitation were limited to very conventional, status quo images of the future. This information helped formed the chapter in the dissertation discussing conventional wisdom about the future in the field of rehabilitation.
Alternative visions of the future regarding rehabilitation are conspicuously missing. A few short, isolated articles discuss specific aspects of vocational rehabilitation, service program provision, or disability. Kolk (1995) uses government projections to describe changes in society during the next twenty years. He discusses changes in work, technology, and the social context of work and how vocational rehabilitation counselors could respond to these changes. Warden (1995) discusses new directions in mutual aid societies which have accompanied the evolution of a more complex society. Several public health and medicine publications show an approach to health issues from an ecological perspective, which incorporates social, political and economic structures, the environment and technological impacts (Riley, 1994; Strauss, Bahnson and Speidel, 1993; Hellman, 1991), sometimes in other cultures (Gellert, Kooiker and Neumann, 1991), but they fail to examine possible scenarios of the future. Seelman (1994) discusses possible directions for disability studies but does not discuss rehabilitation issues. No in-depth scenarios regarding the possible futures of rehabilitation had been created.

Prior to production of the scenarios contained in this dissertation, I developed six short sketches of possible futures. The scenarios were presented to a group of about fifteen futurists associated with the Mānoa Futures Group and a few other professionals in rehabilitation for an informal discussion in October 1995. I also consulted with about five other rehabilitation professionals who could not attend this meeting about these images and shared
the scenario sketches with three futures researchers living outside the United
States for their thoughts. These scenarios, primarily based on science fiction,
were discussed for the purposes of determining plausibility. A scenario is
plausible if there is a great probability of the events occurring. Could the
conditions of the scenarios conceivably occur in the next twenty-five years?

General consensus of the groups was that many of the futures presented were
implausible or too fantastic. As a result, only three of the science fiction
generated scenarios were used and then as "wild cards" futures.

Consequently, I developed three, more conventional, images of the
future derived from the professional futures research writings and a broad range
of other commonly available literature. The dissertation committee requested a
scenario of my personal thoughts and beliefs about the future of vocational
rehabilitation. The last two scenarios reflect what I consider to be preferable
(what I would like to see) and probable (what I think has a higher probability of
happening) impacts that will influence the delivery of vocational rehabilitation
and the roles of persons with disabilities.

The future is an emerging landscape with unknown contours; the
constraint is that, despite the unknown horizons, we have to take decisions
today that commit us for the future. Even if the information is degraded we
have to place our bets now, to create the future rather than submit to it
(Godet, 1987, p. 13).

6.4.3 Using the Scenarios

These scenarios were written for the consideration of persons with
disabilities, family members, friends and advocates, and rehabilitation
professionals who live and work in society and essentially create the future each day. Often people involved in the field of rehabilitation feel too busy, too overwhelmed by the business at hand -- reacting to current events and the destruction of any safety net for persons who are disadvantaged -- to contemplate where we might be driven as opposed to where we would like to go. The intent of scenarios is not to predict the future, but to investigate and increase the sensitivity to the impacts of various interconnections of economic, political, social, cultural and technological variables based on a number of assumptions. It is only a beginning effort.

Similar to telling stories to children, these tales draw out the possible impacts of current choices on the future and allow the reader to consider the intuitive "rightness" of these choices. A story helps the reader suspend disbelief and examine the possible consequences of current trends, conceivable events, policy decisions and speculate on the nature and direction of society, the future of work, the evolution of disability, and the availability and forms of vocational rehabilitation. The scenarios provide a contrast against which the reader can examine his/her own beliefs, or lack of consideration, about the future.

Scenarios can assist in creating a greater analytical awareness about the future and enrich discussion about the future. Some individuals may decide that some aspects of a scenario are very appealing and should be encouraged. Others factors may be seen as choices which are best avoided. Strategic
choices are clarified when people can pinpoint significant decisions which modify the relationship of the institution to its environment. Methods or means to alter the relationship is the process of implementation" (Cope, 1986, p. 73). From these stories people can plan action or develop strategies to transform the nature and direction of vocational rehabilitation. Cope (1986, p. 73) states further,

\[ \text{Strategy determines the nature and the direction of the institution. Strategic choices relate to scope of services, choice of those served, growth considerations, and the nature of relationships with other organizations. Strategic choices deal with "what" rather than "how." Strategy determines appropriate goals and objectives, which, however defined, follow from strategy and determine critical success factors. These factors are the key variables used for guiding and controlling the institution's movements in accord with agreed-upon strategies.} \]

Unlike other types of government policy, issues relating to disability should be of interest to everyone because, as Zola (1989) said, able-bodiedness is only temporary.

Disability is a social constant; it is found in all societies despite the time in history, location in the world, or level of development. Impairments and disabilities are socially produced; that is, they are products of the interplay between individual and the physical, biological, and sociocultural environments that characterize their society (Albrecht, 1992, p. 60).

6.5 Possible Scenarios of the Future

Vocational rehabilitation is in a state of uncertainty amidst great turbulence. The federal government is disrupted by a Congress that challenges affirmative action, questions the efficacy of federal human service programs,
and demands actions to reduce further federal spending. There is evidence of a growing backlash to the ADA. What might the next twenty-five years hold?

The remainder of this chapter examines six possible futures with respect to work and disability in the broader context of U.S. society. The first three scenarios capture trends that are already in evidence. Three additional "wild card" scenarios based on science fiction or fringe thinkers are also considered. The three standard scenarios are written in an informal language to describe how a person with disabilities might see his/her surroundings, events and changes in society. The wild card scenarios give examples of disability from the literature. Personal visions of the future ends this section of discussion.

Community, not the lone gunslinger, is what really tamed the Wild West, and a sense of national community is what we need to revitalize our country, to tame the "Wild West" of the future: that thicket of nuclear weapons, those tangles of foreign economic competition, that desert of environmental collapse, the savage wasteland of our growing underclass (Charbeneau, 1992, p. 133).

Now another big idea from America, communitarianism, . . . "a new moral, social and public order based on restored communities, without allowing puritanism or oppression" (Anderson and Davey, 1995, p. 18).

6.5.1 Communitarianism: New U.S. Order

Communitarianism was an ideology proselytized and promoted by a significant populist movement that was neither Democratic nor Republican. It originated in the mid-1980s and was promoted through a journal, The Responsive Community, but found many other avenues to promote the tenets. Republican and Democratic ideologies lead to a politically bankrupt, socially
fragmented, economically weak and unsustainable welfare nation inadequately dealing with a rapidly evolving globalizing economy. Domestic challenges were not being met. Crime escalated, the number of prisons and prisoners grew. Family structures were broken. Values were lost in relativity. More homeless wandered the streets. People pursued their individual civil rights by initiating frivolous law suits to the detriment of the general society.

In this future, (see Table 6.2) there is an implied acceptance of the globalization of the economy, but not the political system. Clear indicators of this trend included evidence of the global shopping mall, the global workplace, the global financial network and global cultural bazaar (Barnet and Cavanagh, 1995, pp. 16-18). Communitarians realize that most people cannot function at a global level. If one cannot move around one's own community because there are no accessible busses, few curb cuts or a dearth of translators for the deaf, competing for jobs on a global level is a major stretch. Global events have little meaning in the everyday activities of people although their lives are firmly entrenched in a familiar if small, well-defined and traveled reality.

Traditional economic indicators aided in wrecking society by ruining the environment (because it had no value without change) and destroying extended family supports for persons with disabilities. Rud Turnbull (1992) of Beach Center, a parent and professional involved in creating family-centered alternatives to disability service, urged a communitarianism approach to creating more opportunities for integration in the community for persons with
Table 6.2 Communitarian Vision Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Communitarian: a new moral, social and public order to restore communities fighting globalization.</th>
</tr>
</thead>
</table>
| Underlying Philosophy     | • Communities are the locus of change.  
• Homogenized local values reflecting "whole."  
• Focus on over-arching good (lack of tolerance).  
• Assumes level playing field for all member.  
• Restrictions on natural resources needed.  
• Overpopulation is a threat to environment. |
| Economy                   | • Local focus.  
• Constraint on business.  
• Society's mobility greatly reduced.  
• Growth of volunteer agencies to provide social services.  
• Continual learning.  
• Inequalities persist in info access, education, employment.  
• Decision to opt out of the global economy whenever possible for local based companies to provide employment. |
| Political System          | • Federal government, dual role for citizen.  
• Local political involvement triumphs over national role.  
• Social norms enforce local role and behaviors.  
• Government as provider is last resort.  
• Personal responsibility assumed.  
• Elimination of government functions due to cost concerns, assumed by voluntary associations. |
| Technology Type           | • Mixed, chosen to reduce government or social expenses.  
• Selective application to reduce disability.  
• Electronic communication the norm.  
• Limitations on immoral, violent media.  
• Cultural events celebrate community expectations. |
| Difference                | • Reject, shun, re-educate, exile or eliminate those who are different, don't fit in, or are "expensive" to maintain.  
• Criminals  
• Persons with disabilities.  
• People of other cultures  
• Those with poor health habits.  
• The homeless.  
• Social norms ban birth of children with birth defects. |
| Important Legislation     | • Expanded police powers.  
• Limit immigration.  
• Loss of IDEA, ADA, civil rights organizations.  
• Successful implementation of the Belmont Plan.  
• Mandatory safety training and use of equipment for leisure activities. |
disabilities. But the drive for integration combined with current technology was the opposite. Social services for persons with disabilities promised independence, but often translated into spending time at home alone, isolated with no one to share the residence, compare events of the day, or even a job to attend. Isolation was further increased for some individuals after Congress released funds to purchase household computers and train citizens to telecommute at the end of the 1990s. Successful use of electronic mail by U.S. troops provided for U.N. activities in the mid-1990s (Reuters, 1995) spurred this purchase. Electronic links allowed some technologically literate individuals with disabilities to join distant conferences, local townhalls and public forums to share their views. Social services programs incorporated computer dialogue between providers and consumers over time, gradually moving away from face-to-face encounters. It reduced travel time and expense but, in many cases, prevented service providers from meeting some clients or assuring that appropriate and needed services were provided.

The computer terminals installed by the government for electronic access provided some form of company and stimulation, but this type of activity translates into spending time in the house, isolated, in front of the computer in order to "talk" to others. Fortunately, if the computer user can read, most interactions for bills, housing costs, entertainment and even government fines, fees and taxes can be paid using the computers. Unfortunately, only a very few computers were equipped with electric capabilities to perform reading for
persons unable to read or with visual impairments. Justification for this type of equipment were received poorly by government officials. Linking up with members of the community to assist people needing assistance was a better accepted means of getting the work done. This kind of person-to-person linkage reinforces community relationships, whatever the inconvenience to the individual needing assistance. Computer access and other forms of telecommunications were good because human companionship was more and more limited for those with decreased mobility. The streets and sidewalks showed more wear and tear because less government money was spent for up keep and general repair of the infrastructure when the federal, state and local governments were negotiating duties for about ten years. Even the care attendants or other chore people provided fewer and fewer visits as government funds were phased out for social services at the end of the 20th century.

In the early years of the twenty-first century electronic discussions created local, but only sporadic national, consensus on some community issues. Individual political involvement on the federal level was much reduced after the new constitution of the United States was developed. Citizens had a dual citizenship with primary responsibility to one's local political system. Being a more complicated system of governance, not always well explained to the common citizen, persons with disabilities were further removed from political power. Specialized education plans, which were also being phased out, did not always include citizen responsibilities and duties. Individualized services were
remnants of an old system which focused on personal rights rather than the general welfare of the whole community.

While still functioning as a social service, vocational rehabilitation staff had limited expertise in devising work at home schemes and small businesses. This work plan was a limited option for a small number of persons with disabilities looking for work. Anyone classified and receiving benefits for a disability encountered an insidious difficulty of finding even temporary employment. Efforts to reduce participation in federal benefits program was at an all time high as local governments gradually gained more power. It was frighteningly difficult to regain disability benefits from local government entities. The duration of benefits were limited and required much more time spent with doctors to confirm or reconfirm the existence and extent of any disability. Continual pressure was exerted by the medical staff and local government agency staff who supervised the regular benefit review to assure the disability was permanent or chronic enough to qualify for disability benefits.

Communitarians were big advocates for homogenized values in any given community. However, if individuals have sufficient funds, they can live anywhere, probably with a group of people quite similar to themselves. In order to reduce the population in some areas sensitive to environmental degradation, there were incentives for people who did not fit the mean demographics to move elsewhere. Newer towns with entirely accessible residential units were unattractive to younger persons with disabilities because all the neighbors were
elderly or disabled. Having grown up with words like integration and inclusion, moving to this situation felt like purposefully entering into segregated housing. However, courts were less likely to entertain lawsuits upholding tenants of the ADA because of costs to the community. No one group was allowed or encouraged to spend excessive amounts of community resources on what were perceived to be private advocacy issues. Socially it was considered to be in bad taste to push personal needs over the interests of the community. That kind of anarchic thinking was what had almost destroyed the United States by the end of the twentieth century. Advocating for personal rights grew less popular too. Forms of segregation and discrimination on the job began to resurface. Persons with disabilities endured the injustice and discussed it quietly in civic groups for the disabled. Everyone grew to settle for a little less, and be happy with whatever accommodations were granted. The community got along.

For a price, any type of technology could be purchased. But purchase of too many high tech toys was perceived as acting "affected" or "not in the community spirit" -- even if the technology was a necessity to the person purchasing it. Rehabilitation technology became a bit of an oddity, particularly if it was expensive. Its use was limited job maintenance and to allow for more person-to-person interaction and communication.

Technology research was maintained in selected areas. A pseudomoral approach toward health and personal care developed (Brown,

While the population of the U.S. continued to age, informal eugenics emerged. The elderly were healthier and continued to participate in society. No policy banned the birth of children with disabilities, but society did not support children with documented, preventable disabilities. Parents of such children remained optimistic. More, albeit expensive, technology was developed to treat problems related to aging and disability. Technology would reduce disability after birth or injury, and eventually cure it in vitro. By 2015 many well-understood genetic or preventable birth defects were eliminated through genetic screening. Spinal cord and head injuries were greatly reduced by mandatory rules for leisure activity safety instruction and the use of protective gear, and improved emergency medical technology. Mandatory donations of donor cells were required of each individual, assured a match if a lifetime illness occurred and reduced the need for a donor search (Brown, 1994b, p. 9). Thoughtless involvement in dangerous activities or failure to use safety equipment caused neighbors and friends to shun the injured individual
for a period of time in hopes of changing inappropriate personal behaviors and reducing risks.

Public forums and discussion of community issues were emphasized by communitarians, but accommodations to attend and participate in the meetings were no longer guaranteed. People took responsibilities of citizenship more seriously, spending considerably more time performing these duties. If people did not attend meetings and stay up on political events, they found that laws that were important to them were eliminated from enforcement. New laws were added that one might find insupportable. Restrictions on activities that were expensive to monitor have many more statutes on the books. Laws to prevent moral corruption and limit all but structural violence became very popular. It seemed inevitable that more people spent time in jail for small offenses and slights to important communitarian leaders or performing the endless list of public services for committing breaches of legal etiquette. Persons who might have been judged incompetent by reason of developmental disability and mental illness at the end of the last century were now held more accountable for their actions. They were also spending more time in jail.

Other changes have taken place with respect to the law as well. Amnesty International removed its offices from the nation after mandatory organ donor regulations were put into effect for certain types of criminals. The Amnesty annual reports showed that a higher percentage than coincidence of terminations were persons with mental retardation, minorities (given the
community mix for the region) or possibly mentally ill. Local governments countered that these allegations were based on insupportable statistics. Fewer records were being kept about disability and ethnic status so the accusations were speculation. The ADA, the IDEA law and many other civil rights measures were removed from the books when economic studies showed the "true cost" of these efforts for the community. Advocacy agencies -- the American Civil Liberties Union, the American Association of Retired Persons, and the American Association of People with Disabilities (Washington Fax, 1995) -- and the client advocacy program under the Rehabilitation Act, lost funding and power because they tended to favor the rights of the individual over the community. Larger national and international corporations that offered accommodations because they could afford to invest in their employees, have been virtually eliminated from most communitarian cities, counties, townships and states. Fortunately new buildings were being built to a universal access code for the good of the entire community. Such buildings allow for older citizens to get around better.

Changes took place in other aspects of the community as well. By 1993, about 47% of U.S. adults read and wrote so poorly that they could not effectively function in the workplace according to Department of Education reports (Associated Press, 1993, p. A6). There was a growing split between the rich and poor while the middle class was dissipating quickly. A class of "anxious" workers attempted to preserve what they had while watching others
lose their jobs, their income, health care and retirement or pensions. While businesses evolved to locally acceptable forms, times were tense. Persons with disabilities were often last hired and first fired. The unemployed moved to volunteer for, less often to work with, new voluntary organizations with less pay. Voluntary agencies benefitted greatly from the swelling unemployment ranks. Applicants had great credentials. Disability issues were again becoming invisible. Unemployment could successfully be transformed to a professional volunteer status for qualified individuals and a living wage granted.

Technology was decreasing jobs while the workforce grew, although this was not commonly discussed in the media. Job stability dropped for most people. There was a surge in zero-hour or individual hour contracts, job sharing, term-time jobs, part-time before or after retirement positions, and flex-time (Handy, 1995, p. 29). Global business was not tied to any locale and did not need a permanent workforce. Command of technology was essential to find work. Unemployment was a continual stress by the year 2000. Many jobs are lost to technology while jobs tied to technology, leisure time, security and information increased.

The great growth in volunteer agencies which provided new forms of social services had staff who were less knowledgeable about accommodation. Training sessions to encourage acceptance of persons with disabilities and sensitivity to equitable, civil treatment almost disappeared with the elimination of the laws. Segregating people with disabilities into work making them
providers of services for others with disabilities was seen as very efficient and considerate. The official reason for this was that peer mentors and peer counselors were excellent examples of progressive social policy. But many staff feel the real attitude was that "it takes one to know one" because there was less differentiation between services for individuals with disabilities. Social services continued to garner very low wages.

The work week was a little shorter but everyone has some sort of a job for about 20 to 30 hours a week. No one was allowed to shrug off work. Everyone did something, from the smallest child to the eldest grandmother. It was all part of the "harmonizing" of values which was taking place under the communitarian government. Avocations or other passions, participating in civic clubs to volunteer agencies with some underlying public good, have gained in importance. The number of groups have grown exponentially. Commonly, individuals were expected to belong to three or four such organizations. Persons with disabilities sometimes find it easier to create their own groups than to be incorporated with persons who were able-bodied. Special Olympics remained as one activity that brings out everyone in the community. Those who disliked these specialized activities and citizen responsibilities were always welcome to join the homeless bands that roam outside or beyond civilization as designed by communitarian cities.

Although it was predicted that people would be forced to change careers more frequently, training and education became more intense and
selective. Lifelong learning was institutionalized. Many types of specialized training have been developed but are not available everywhere. Generally, universities scaled back to providing restricted areas of teaching and research. Community class schedules responded to community needs for vocational training. Communities facilitated selective exchanges over telecommunications, sharing experts and providing or receiving apprentices. Trades are negotiated with "sister" cities in other nations. Some sister cities even allow "dual" citizenship. Local businesses require accreditation, certification and professional societies, limiting the number applying for upper management jobs. Added expenses for accommodating anyone with a disability must be born by that individual if they were considered "extraordinary."

Building civic pride and responsibility started early, and disability was no excuse not to participate. Everyone performs to the best of his/her ability. Work and community association remain the bases of self-esteem (Alejandro, 1993). Homeless persons are required to participate in job search to be eligible for emergency shelters. All individuals were expected to reciprocate the society's help. "Make work" programs provided basic training through activities: cleaning parks, removing graffiti, child care and caring for the elderly. Friends and family were expected to create informal work circles and assist individuals with disabilities to find work. Work helped people join society as active members. Food, clothing and shelter were provided to program participants but smoking, drinking alcohol, use of illegal drugs and the purchase of nonessential
items were banned. The system was similar to old style military training. Individuals were taught to fend for themselves (Altonn, 1995). Charitable organizations did not aid those "engaged in anti-social and self-destructive behavior when there is no commitment by the recipients to change" (Slater, 1996).

Traditional support groups for alcoholism, addiction, overeating and mental illness had new power and direction when coupled with independent living center staff training and experience. Support groups stressed peer mentoring and peer counseling to insure that members rejoin the community without special appeal to special rights for accommodation to allow equal access and integration into the society. Individuals who failed to perform up to community standards, were enrolled in compulsory programs for dieting, health care and treatment of mental illness. Community panels, including individuals who have successfully dealt with these issues, provide oversight for these programs. People who elected to forego technological improvements or use medication were stigmatized as "technophobes" or Neo-Luddites, shunned for their individualistic, anti-societal behavior.

"Concentration of power," it was said, "leads to blindness of irregularities, laxity in management and decreased efficiency" (Handy, 1995, p. 186). Deinstitutionalized, dispersed power through personal networks and organizations of association, education and shared responsibility stimulated society. Many people felt a peaceful revolution had swept the U.S. when
communitarianism gained popularity. For a few -- small pockets of religious/terroristic organizations, nuclear terrorist and staunch civil rights advocates -- for very different reasons, the results were not so pleasing. There was too much information (Postman, 1995, p. 35), too much organization, and glimpses of fascism. Inequalities will never completely be abolished from a system that evolved from a hierarchical base, even when founded on a new morality of mutuality.

Cities are complex organisms, which need to be seen from afar, as well as in close up. Although we may live among their details, . . . the character of a city ultimately derives from much larger forces. Work (what cities do, where they do it, and how they distribute its fruits among their citizens), and how people move around and interact, provide two of the keys to urban life (Anderson, 1994, p. 12).

Lewis Mumford . . . said, "True leisure is not freedom from work but freedom in work, and, along with that, the time to converse, to ruminate, to contemplate the meaning of life." Modern life does not provide many of those opportunities (Handy, 1995, p. 260).

6.5.2 Transformational Habitats, Architecture, Life and Planning

How humans choose to use technology to recreate the natural environment and maintain this habitat for work and living is another perspective on the future (see Table 6.3). Some advocates argue that modifying the environment to create and inaugurate a preferred environment is more effective in changing behavior than attempts to change attitudes (Martin, 1995, p. 48).

Groups of planning professionals and engineers were brought together in the 1990s to discuss solutions to natural disasters that were wrecking large cities and to examine the use of technology to create more secure residential
Table 6.3 Transformational Habitats Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Transformational Habitats: Professionals with scientific expertise and technology can create organic complex cities that provide rewarding work, accessible locations, and equitable distribution of rewards among citizens.</th>
</tr>
</thead>
</table>
| Underlying Philosophy | • Change human behaviors by recreating the environment and habitats.  
• Design and decisions scientifically directed by professionals, esp. engineers.  
• Planning is the key.  
• Assumption: nanotechnology developed so natural resources are plentiful. |
| Economy | • Interdisciplinary professionals direct rational planning methods, and resource use.  
• Edge cities grow and old cities downsize.  
• Pervasive, individualized advertising.  
• People develop skills and training for vocations and avocations, change regularly  
• Network marketing becomes the norm.  
• Super small niche marketing develops |
| Political System | • Status quo political system  
• Focus on international efforts of nation  
• Assumption: all groups have equal access political agenda  
• Growth of professional societies, licensing, certification, professional degrees |
| Technology Type | • High technology is ubiquitous and smart.  
• Military technology reduces noise, makes space more security, monitors construction defects  
• Clean environment.  
• Nanotechnology developed  
• Neuro-temperament & genetic typing  
• Urban leisure technologies  
• Prevention measures for injury |
| Difference | • Disability numbers grow due to:  
• Better medical technology  
• Environmental degradation  
• Better medicine (survivors of plague diseases) contained.  
• Gains in technology and wealth across society decreases differences  
• Difference is acceptable |
| Important Legislation | • ADA, ADAAG create universal access, allow aging in place, greater access  
• Licensing for parenting enacted  
• Efficient, more accessible transport and alternatives developed  
• Living wage for unemployable instituted (separate from disability benefits) |
areas that would not spawn accompanying ghettos next door (Anderson, 1994). With special grants from the National Science Foundation and additional funds from private agencies and universities, persons with a wide variety of primarily physical disabilities were targeted to train for mathematics, engineering, and other science programs and careers in the late 1990s (DO-IT Scholars, 1995). As a result of this program, more individuals with different needs joined the ranks of the scientific community to study these questions. Many of those advocating for more secure places of residence and community were elderly. People with disabilities were becoming targets for more crime and hostility as jobs became scarce. Uncertainty fueled negative stereotypes of people left homeless, jobless or from minority cultures. Lawyers who argued disability issue cases were more interested in collecting fees than providing universal access. Rights cases appeared to be a growth market in the legal profession.

In the late 1990s, Congress found it difficult to agree on anything and passed fewer laws. Even disability issues were less popular to settle by fines and court settlements. Every court battle was seen as a drain on society's limited resources. Empathy in society was in short supply.

Solutions to the problems in this future derived from the use of professionals who employed "smart" technology and rational planning methods to monitor and enforce efficient use of resources. Professional or business organizations, particularly professional engineers or other scientists, were seen as the appropriate decision makers for policy action, community development
strategies, and product development. The public was tired of waste, yet it had developed a seemingly endless hunger for new technology. It was a challenge that was very familiar to generations of persons with disabilities: efficiently making the most of their tools.

Technology continued to have tremendous impacts on personal lives. Computers eliminated television. People used the "bits" or information in many forms and for many purposes. Hypermedia was still popular. Interactive computers assisted in conducting daily life. Software applications, not physical materials, change computers and telecommunications (Negroponte, 1995, p. 76). In the past, trips were commonly made via CD-Rom (Max, 1994, p. 67). Virtual reality took the CD's place. People tested merchandise before purchase, drove the dream auto, opened kitchen cabinets, or cruised an accessible and secure housing unit. Maneuverable video cameras supplement virtual reality and let people take a real time walk through an edge city, hike a cultural eco-tour of Machu Picchu or consider the layout and sights of a town prior to accepting a promotion. Combinations of real time cameras and VR allow people to monitor many kinds of activities (Negroponte, 1995, pp. 69-71). Technology evolved to "small, bright, thin, flexible high-resolution displays, . . . something with which you can curl up in bed and either have a conversation or be told a story" (Negroponte, 1995, p. 71). Computers interactively responded to human expression and nonverbal cues, and the interface was transparent (Negroponte, 1995, pp. 92-94). Computers were equipped with rudimentary
voice and hearing. New software personalizes products, filtering the news to one's interest and tastes: reviews on recreation activities, restaurants, movies, vidbooks, music, video-on-demand options and live entertainment. It can be set to select real estate or vacation options particular to personal taste and budget. Computers became substitutes for the faithful and knowledgeable butler or personal assistant (Negroponte, 1995, pp. 140-159). Using inexpensive computer technology, individuals communicated with Websites and bulletin boards and offered amateur live video telecasts on cooking, sports or hobbies (Negroponte, 1995, p. 176).

Benefit restrictions targeted persons with disabilities harshly in the 1990s. Political coalitions among disability groups were born anew and self advocates began to document injustices. Media savvy spokespersons with visible disabilities gave succinct but pointed presentations. The nation generally, and certain targeted communities which relied on tourism or were technology centers, were humiliated by full color broadcasts of shanty towns of disabled persons on CNN and the Internet. Condemnation from within and without the nation was swift. Reform was enacted quickly. National teleconferences allowed communities to grapple with and update legislative priorities as disability groups staged peaceful protests nationwide in the early twenty-first century. A living wage for disability was provided, was but differentiated from unemployment benefits.
The new edge cities were sources of hope. Built after implementation of the ADA and ADAAG (ADA Accessibility Guidelines), the layout and construction of the cities, buildings, services and employment assumed accommodation was necessary and desirable. Growing use of universal design allowed for aging "in place," allowing individuals to avoid moving to a new home or making drastic changes in their lifestyle to allow for changes in their functioning. It also helped individuals with disabilities become more integrated in the community because they could "use" the buildings and travel through the cities independently.

Safety was improved in other ways. Virtual reality applications, transferred from military research to peaceful civilian applications, created new means of safeguarding construction. Buildings were assembled from various materials in virtual space and monitored from many vantage points to check the effects of simulated tsunamis, earthquakes and fires. Telepresence research created a "scanning tunneling microscope with a teleoperator and force-feedback puck that enables the operator to feel the surface of atoms with his or her fingertips" (Rheingold, 1991, p. 362) to check for fissures and leaks in surfaces, or similarly, check assistive technologies (crutches, canes, glasses, hearing aids) for weak spots. People with disabilities were involved in this work as staff and volunteer experts, as well as participating in simulated warfare scenarios because the technology made participation possible (Rheingold, 1991, p. 361). Teleoperated systems helped with security, saved lives and
reduced disability by performing dangerous jobs from a distance. Corporations developed teleoperated applications for persons with disabilities (Rheingold, 1991, p. 358). Industrial application successes lead to financial visualization, "the use of VR system in financial transactions" in a complex global economy (Rheingold, 1991, p. 367). "Smart" design was used more frequently because it reduced costs in the long run.

Efficiency at the end of the twentieth century had created two worker roles: the expendable unemployed and the "overemployed" who was plagued in off-work hours by a digital pager, cellular phone and satellite contact virtually anywhere (Rachel's Environment & Health Weekly, 1994). Persons with disabilities still tended to be underemployed, except for those with invisible disabilities. Many of these individuals burned out under the stress of the need to be ready for a rapid move or work anywhere (from work in the home, van, telephone booth or hoteling at an on-site office), for excessively long work periods (sixty-five to ninety hour weeks or 24 hours a day accessibility, seven days a week) (Alkalimat, et al., 1995, pp.135-137). Technology increased production and eliminated many more jobs than it supplied by 1995. Fewer people were expected to produce more: the $1/2 \times 2 \times 3 = P$ equation. Hire half as many full-time staff to do twice as much work and work them three times as hard (Arthur, 1994, p. 29). The constant stress of being on call created a steady rise in the number of disability claims. The increase coincided with the rise in cellular phone and pagers with e-mail sales.
Robotics was particularly helpful assessing work capacity, simulating assembly jobs, providing training in switching and sequential tasks, and evaluating production and performance (Erlandson, 1995). More persons with severe disabilities could economically be served by fewer professionals. Intelligent robotic systems allowed greater independence to persons with severe physical disabilities (Kawamura, et al., 1995). Intelligent computers used by rehabilitation systems employed fuzzy logic to learn American Sign Language, a form of communication used by persons who were deaf. The computer acted as a translator between the deaf consumer and the uninitiated counselor (Waldron and Kim, 1995), government bureaucrats or members of the society who did not sign. Initial vocational counseling was offered by expert system software on the computer while more difficult situations were handled by professional vocational counselors. Individualized plans were developed for each person -- whether disabled or able-bodied -- coming to the vocational agencies, a subtle mix of rehabilitation and employment counseling.

Later, as robotics and other technology replaced workers, the unemployed were granted a living wage above mere existence costs. But many had difficulty adjusting to and finding activity to fill more leisure time. In the first decade of the new century, people suddenly faced with no work and the opportunity to "seize the day" -- to create new art, perform random good deeds encouraged in bumper stickers -- were overcome with boredom and ennui (Drexler, et al., 1991, pp. 237-238). Freedom from work was not a
panacea. Results were mixed. Satellite television channel numbers continued to expand for the pleasure of the idle viewer. On the positive side, advocacy groups became stronger and persons with disabilities enjoyed a decreased stigma even if they were not employed.

Another pleasant surprise to people in the beginning of the century was the pay-back for nanotechnology and other scientific investments. Molecules were no longer moved around to form ultratiny letters or company names. New discoveries in synthetic chemistry, the dendrimers, allowed the creation of new materials and artificial proteins for control of diabetics or carrying altered DNA into cells for gene therapy (Bates, 1995). The Drexler vision of nanotechnology began to evolve. Consequently, Drexler received a Noble Peace prize in 2015. The use of nanotechnology reduced worldwide tensions over resource use. A new age of prosperity was established. As Drexler pointed out, very long ago, there are limits on any technology and the arrival of nanotechnology was not a "Pollyanna Triumph" (Drexler, et al., 1991, p. 268). Technology can push, pad or help slip by old limits, but new ones will always emerge.

Caring for the growing elderly population was not as demanding as anticipated at the end of the twentieth century. Nanotechnology provided new implants and associated technology that decreased health care costs. The elderly became more health conscious and used a wider variety of products -- age-specific exercise videos, home diagnosis and monitoring equipment, Internet chat groups specific to diagnosis, self-prescribed, homeopathic
therapies and natural drugs -- in the hope of decreasing infirmities. People purchased products from the Meta-Mart (Bleeker, 1995) which featured electronic mail order catalogues and television sales which reduced product total cost (Wiener and Brown, 1995). Network marketing, networks of friends and acquaintances who can attest to the quality of the products after personal use, pitch and supply many health products. Pitching health care products was another popular job for persons with disabilities, if they liked the products. They continued to be misperceived as more "sick" than other individuals. Old stereotypes die hard.

The success of these professionals in managing the environment of cities and buildings increased the number of techno-enthusiasts toward the end of the century, coinciding with the growth in the number of teenagers worldwide. Advertisers jumped to capture this attention. They realized that info-blurbs could focus on very specific individual characteristics, including disability type, to develop and maintain very effective "super small," cascading niche markets. For instance, specialty items -- bikes built for persons with disabilities to carry baggage up to 300 pounds and other consumer goods -- were deliberately built for consumption by a select number of persons who were elderly or disabled. The importance of marketing demographics faded as information became available to target the sales approach very specifically to a single individual (Negroponte, 1995, p. 164). Smart cards contained and consolidated many kinds of information and functions. A smart card held fingerprints and key
medical records (Fox, 1994, pp. 41-42) requiring fewer things to cart around to assist with the management of a physical disability. Creating an accurate, simple security check for the smart cards was elusive but remained under research. Advertising was pervasive and invasive, often linked with new technology. It was sold in the free bandwidth of the system that controlled cars moving along automated highways (Mullin, 1994). As individuals used their computers to navigate the Web, check their e-mail, or navigate the streets of an unfamiliar city, a familiar barrage of advertising banners and junk e-mail begged for attention. Special voice overs announced the arrival of mail for persons with hearing impairments and special flashing lights drew the attention of persons who were deaf. Free Internet access was a trade-off for advertising (Wired, 1995, p. 56).

Prevention efforts expanded to decrease the occurrence of disability. Everyone received health education and mandatory counseling, from kindergarten throughout their adult life. Classes instilled and reinforced good health (or wellness) habits. When the individual left school and went on to training, college or avocational skills, more sophisticated concepts of health care training were provided by national health care programs according to age, employment and genetic predisposition. Annual medical reviews for adults encouraged individuals to understand personal health risks, possible prevention, and the consequences of poor health choices.
Research in virtual reality and "play" made computer technology ubiquitous, "embodied" in the surroundings (Marien, 1993, p. 163). In twenty years computers had disappeared into tabs, pads and boards which were connected with little effort. This development was advantageous for persons with little ability or interest in computer languages or engineering. Ease of access and decreased cost made it possible for all groups to reach information (Marien, 1993). This was significant because the number of persons with disability and disability categories had grown. Disability related to pollution and environmental degradation, survivors of ebola and other "plague" diseases, and mental disabilities were more prevalent. Technology incorporated in common objects and residential or business surroundings did level the playing field for persons with disabilities as no time in the past.

In an age of plenty, there were fewer concerns about distributing scarce resources but disability research and prevention continues. Disability was better accepted. Nanotechnology had decreased the impact of disability although society realized that disability could not be eliminated entirely (Drexler, et al., 1991, p. 219). Medical research showed that not all inherited diseases acted as a "Darwinian reaper." Even inherited, potentially fatal diseases, were "the consequences of spiteful behavior that is favored by natural selection" (The Economist, 1994, p. 91).

New social technologies were developed as a result of scientific investigation. Research into violence and temperament suggested that "a
creature's manner of behavior is biological, enduring and heritable," a result of neurochemistry (Gallagher, 1994, pp. 39-42). Temperament was tied securely to individual disposition, but not quite separated from environment. Neuro­temperament typing and the elimination of many genetic diseases or syndromes were possible after the completion of the Human Genome Project (circa 2004-2009). "Typing" people, combined with efforts to improve physical and social environments, resulted in decreased violence and assisted individuals to choose appropriate employment or community service. On the other hand, individuals with risk adverse temperaments tended to be overwhelmed by daily choice and became isolated. Their temperament was diagnosed as a new invisible disability. By 2010 there was general, but inconclusive, public discussion of licenses for biological parenthood. Some people saw this as a means to assure a positive social experience for the child and avoid incompetent parenting (Gallagher, 1994, pp. 40, 54).

Unfortunately, society was slow to grasp the possibilities for new kinds of crime that technological improvements would bring. Greater access to electronic media allows hacking and cracking, phoney electronic tax returns, illegal data sales of confidential government and business systems, and destructive and random computer viruses. With better accommodative technology, more persons with disabilities were integrated into the criminal workforce, committing faceless acts of crime in a virtually cashless society. Electronic theft of credit cards was common. Children were stalked in
cyberspace. Hawkers found new marks to sell nonexistent companies. Organized crime evolved and offered employment to talented young men and women, and again, some have disabilities. With computer professionals, the organizations destroyed criminal files, monitored competing criminal organizations, organ-legged and auctioned transplants. Newborn babies, illegal toxic waste disposal without detection, and weapons grade nuclear material were sold -- all parts of a growing black market. Cooperation among crime bosses moved to fix gambling globally. Tacit enslavement of individuals working in the sex trade and providing passage to illegal aliens to Western countries are other opportunities for collaboration as well (Marien, 1995b, pp. 4-5). Exploitation of other people was now equal opportunity. Fortunately the cyber cops had better technology at their disposal too.

Enhanced technology made it easier for all people to be retrained and educated for regular changes in career or avocational pursuit. Education was less expensive and there were more options. Many types of specialized training developed and were interactively broadcast over satellite and through the Internet, virtually available everywhere. Universities focused on special areas of teaching and research to consolidate knowledge. Community colleges linked and delinked with universities to provide exactly what the community needed in terms of training and expertise. Some communities facilitated exchanges of experts and provided or received apprentices from other parts of the nation and the world. Accreditation, certification and professional societies
in bioregional communities, personal instruction and traditional lectures are all available at various times. Professional societies provide more applied and philosophical or ethnics training. Institutions of higher learning pick and choose among patrons. Business organizations respond more favorably to demands for rigorous scientific standards for qualitative and quantitative methods rather than challenging the institutions. Unions became "friendly societies for their members" (Anderson and Davey, 1995, p. 19). People with disabilities were incorporated into all these roles, not only as experts on disability but because they were trained professionals in their field.

As a wealthy nation, the U.S. implemented a wide variety of technology to assist individuals to make informed decision at the many levels of government. The nation supported export and sharing of physical and social technologies to stimulate other economies. The United States traded advanced technology in return for the Third World nations to engage in family planning, support female literacy and economic opportunity, land tenure reform, other social changes that slow population growth (Olson, 1994), and pushed for implementation of the ADA in other nations.

Residential units were created to serve the needs of those who were less mobile or required more physical assistance but also served the able-bodied. Newly developed materials and design made the home a comfortable and ultracustomized (Zuk and Zuk, 1994; Burns, 1995). Customization created more choice: new job opportunities, possibilities of gaining higher skill levels,
the ability to work out of the home, better product quality and encouraged recycling. Autofabrication incorporated machines and later nanotechnology. These tools were used to create new space habitats several decades later (Burns, 1995). Shopping in neighborhood retail stores and more distant malls was a social activity, done for entertainment or novelty. The term "homebound" has disappeared because so much activity takes place within the home by choice.

Arthur and Douglas (1994) predicted several new urban sports that would influence disability numbers. New technology extended the physical life of sports equipment, decreased the price and planned obsolescence was passé. Many sports (i.e., bungee jumping, rock climbing, parachuting, and hang gliding) were much safer because the products were better quality. The limits of the sport were mental rather than equipment strength. Virtual sports were perceived as too expensive, making them less popular. Many people participated in virtual reality competitions with rivals across town or the globe. Urbanites preferred to watch rather than participate. If the nation needed soldiers to participate in the continuing sporadic outbreaks of war across the world, military personnel often lacked the physical ability to participate on the war field. More injuries were sustained before active engagement on the field. Finally, even in a prosperous nation, a very few were unable to afford access to virtual reality. A few individuals participated in non-cost activities including train surfing (standing on top of trains while avoiding power lines, tunnels, signals,
etc.) or car jacking simply for the thrill. Injuries sustained in these illegal activities were often fatal or very severe.

ADA legislation was used as an avenue to push for changes in commercial buildings, residences and public transport. Court decisions in the mid-1990s established "quiet zones" in restaurants and improved transportation acoustics (ADA Compliance Guide, 1995a and 1995b). Efforts by persons with hearing impairments initiated reductions in reverberation and background noise.

Building materials were developed to absorb sound, be washable and effectively resist fire, damage from water leaks and vandals. Material research complemented cooperative international space exploration efforts. Built environments (i.e., roads, airplanes and ships) are quieter, more durable, and aesthetically pleasing. Common products like music systems in cars or headphones were "active" and incorporated anti-noise design (Johnson, 1994). Prices for these materials dropped as the applications in private homes to eliminate traffic sounds or other offensive noises became the norm.

The built environment continues to change with new technology for sensing damage to buildings and constructed fixtures (i.e., bridges, dams and roads) gradually cleared legal and cultural barriers. One visionary wrote,

*It could lead to cities built with steel girders, concrete slabs and other infrastructural anatomy innervated with sensors made of optical fibers, piezoelectric ceramics that can monitor vibrations, paints that appear bruised when damaged, and special steel alloys that check for dangerous levels of stress. . . . [B]uildings and roads may be constructed using self-healing concrete or composites that*
combine a polymeric base with reinforcing fibers made of strong ceramic materials (Amato, 1994, p. 33).

Monitoring technologies was costly because they were energy intensive and required additional expenditures to assure they worked properly (Amato, 1995). The price decreased as the technology was applied to other products: airplanes, submarines, or for use in mining infrastructure and sports equipment.

What had seemed a dream at the end of the last century is common now-a-days. Society is less focused on the disability and more on the ability of its members.

The world is up for re-invention in so many ways. Creativity is born in chaos . . . change comes from small initiatives which work, initiatives which, imitated, become fashion. We cannot wait for great visions from great people, for they are in short supply at the end of history (Handy, 1995, p. 286).

6.5.3 Environmental Crises: Overcome by Chaos

At the end of the twentieth century, several groups of environmentalists existed. Just as in the frontier days of environmentalism, two standard approaches were seen. John Muir's descendants wanted to protect, preserve and respect for its own value, the vanishing forests, other flora and fauna and majestic scenes of wilderness. The Forest Service cooperated with ranchers and timber companies to manage or "steward" natural resources very broadly. Persons with disabilities did not align with either group particularly. But environmentalists were starting to make connections between human rights issues and environmental justice, see the need to confront infectious disease
and bioinvasions (Sachs, 1996; Platt, 1996; Bright, 1996). As I once heard Arne Næss comment, environmental justice, human rights and peace are all bound together. Persons with disabilities had not engaged in these arguments from a disability point of view. But others had thought of seducing them for other purposes. See Table 6.4.

Traditional environmental thinking stemmed from classical economic thinkers, Malthus, Ricardo, and Smith. Natural resources are inherently limited (Repetto, 1991). The consensus opinion of these groups was clear: issues of peace, justice or equity, and a viable environment are important and interlinking goals. These factors are linked to the local and global economies and how they function. Environmental organizations of all ilks had grown, without a single uniting theme except to agree that the environment was getting worse. Additionally, for all the new attention to human rights and no formal, political overtures to organizations for persons with disabilities were apparent.

Sustainable society proponents supported managed, economically efficient use of resources. These individuals worked for large environmental agencies and were respected for their well-researched opinions. Calculations about resource use, the carrying capacity of the Earth, and population growth were constantly researched and reported to show a need for change. In 1994, calculations by Daily, Ehrlich and Ehrlich suggested that only one and a half to two million people could be provided with a "sustainable, decent standard of living -- roughly one-third" of the 1995 global population (Daily, interview, p. 21).
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Environmental Crisis: pessimistic and dystopic future. Substantial confusion, about the environmental state of affairs. Environmental, peace and justice groups fail to make connections.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underlying Philosophy</td>
<td>• Bleak outlook on resource base and use, and human behavior. • Resources are scarcer. • More environmental degradation • No political will for change • National policy is confused by many conflicting voices and perspectives</td>
</tr>
<tr>
<td>Economy</td>
<td>• Natural resources plundered • Sporadic employment • Job insecurity • New, conflicting methods to measure progress • Globalization of economy continues • Failure to recognize old U.S. strategies do not work (Heileman, 1996)</td>
</tr>
<tr>
<td>Political System</td>
<td>• Initial backlash against environmentalism • Enviro-fascists (or nazis) avenge wrongs to the powerless. • No distinction between opinion of qualified, knowledgeable expert and an opinionated citizen • Wise Group do not seduce persons with disabilities to use ADA for better access • Development of more extremist groups • People do not bother to vote: apathy rules.</td>
</tr>
<tr>
<td>Technology Type</td>
<td>• Environmental and minorities groups’ discomfort with communication technology • Government withdrawal from funding technology development reduces output of technology from both private and public sources.</td>
</tr>
<tr>
<td>Difference</td>
<td>• Reject, shun, re-educate, exile or eliminate those who are different, don’t fit in, or are “expensive” to maintain. • Criminals • Persons with disabilities. • People of other cultures • Those with poor health habits. • The homeless. • Social norms ban birth of children with birth defects.</td>
</tr>
<tr>
<td>Important Legislation</td>
<td>• Blatant discrimination is tolerated • More people jailed and in prison as protest inequities • Environmental splinter groups not respected. • Personal and structural violence perpetrated on persons with disabilities • Persons who protest are threatened, even killed. • Few labelled as disabled: different are silenced, stigmatized. • Immigrants are limited</td>
</tr>
</tbody>
</table>
Population already outpaced the annual yield of fish, water availability and food production increases (Brown, et al., 1995, p. 5; Devine, 1995). Dire predictions were again substantiated by scientific fact. Change, the warned, must occur. The publication, State of the World 1995 was cautiously optimistic. The Cairo conference of 1994 achieved voluntary agreements to stabilize world population (Brown, et al., 1995, p. 3).

Sustainability enthusiasts acknowledged the importance of eco-philosophers as Fox (1990), Bookchin (1989), Devall and Sessions (1985), Aldo Leopold, David Brower, Gary Snyder and Jerry Mander (1991). However, they participated in limited spiritual and ideological discussion because this type of thinking was too "purist" (Marien, 1995a, p. 15). Instead, this group drew blueprints for a sustainable future (World Commission on Environment and Development, 1987; Brown and Wolf, 1988). In a bid to be as holistic, new environmental measures of economic impact were devised. Publications such as Vital Signs monitored negative and positive environmental impacts (Brown, et al., 1995; Brown et al., 1989; Brown et al., 1988). The publications incorporated indicators for environmental justice and infectious disease, aware that these factors are correlated with cultural and societal health and personal safety. But international development efforts more often advised how to achieve sustainability (French, 1993; World Bank, 1991) by focusing on human development "as the ends to be pursued within the ecological tolerances of the planet" (Henderson, 1994, p. 125). Issues specific to the lives of women or
indigenous people were sometimes discussed, but people with disabilities were noticeable in that there was no comment with respect to their welfare. Market based solutions to environmental problems were strongly encouraged. Efforts to implement Green Seal labeling and other "green" taxes, pollution credit schemes and legislation to incorporate externalities into the pricing of goods were sponsored by environmental Congressional delegates. National environmental agencies offered expensive enviro-training to private businesses and corporations. Private think tanks encouraged the development, adoption and sharing with other nations of technology and materials that used fewer resources. Activities such as recycling were lauded as a new area for investment. National security was proposed in new environmental terms (Brown, et al., 1995; French, 1993). In 1995, the U.N. Secretary General commissioned a new study to examine "the basic assumptions on which the future sustainability of our species is predicated" to launch public awareness for change (Ayres, 1994a, p. 7). These efforts had some impact but remained low profile compared to efforts by preservationists.

Another environmental camp was alarmed at the continued and increasing threat of environmental collapse looming nearer with the passing of each year. Radial grassroots groups were growing (Dowie, 1992). "Blue collar environmentalists" personally felt the impact of pollution in their towns, neighborhoods and homes as incinerators, toxic waste dumps and refineries were built. They knew hot nuclear waste was shipped through their towns and
they were being doused with pesticides (Dowie, 1992, p. 110). Korten (1995, p. 295) commented that environmentalism was far from being a "middle-class or upper-class issue -- a luxury that the poor cannot afford. . . . [W]e find with increasing frequency that the most heroic actions to save the environment are being taken by the poor, who know the costs of allowing the plunder of the natural resources upon which their existence depends." These groups were closer to the difference that people with disabilities traditionally felt: the indifference to their situation and lack of financial resources to confront barriers presented by the situations.

Ideology or real life experiences lead to new tactics as organizations splintered from older, mainstream organizations. With less to lose than ever, low income citizens began mass demonstrations and direct confrontation with polluters (Dowie, 1994). The Sea Shepherds, descendants of Greenpeace, rammed ships using monofilament trawling nets stretching for thirty to forty miles in the open ocean. EarthFirst! leaders, the malcontent offspring of Sierra Club, promoted ecodefense methods. Monkeywrenching was described in great detail to preserve old growth forests (Foreman and Haywood, 1987). The arch-Neo-Luddite, the Unabomber, sent bombs to Noble laureates, among others (Roszak, 1995). Personal violence and property damage resulted because people felt desperate and powerless to affect the situation. At the same time, there were mounting numbers of environmentalists and indigenous people who were disabled, killed or threatened with violence as a result of their
political activities and demonstrations against environmental threats and repeated reports of environmental abuse (Sachs, 1996, pp. 137-143).

Radical environmentalists harshly criticized technoscience and the use of social technology. The Unabomber (1995) manifesto stated,

_The Industrial Revolution and its consequences have been a disaster for the human race. They have . . . made life unfulfilling, have subjected human beings to indignities, have led to widespread psychological suffering (in the Third World to physical suffering as well) and have inflicted severe damage on the natural world. The continued development of technology will worsen the situation . . . If [The industrial-technological system] survives, it MAY eventually achieve a low level of physical and psychological suffering, but only after passing through a long and very painful period of adjustment and only at the cost of permanently reducing human beings and many other living organisms to engineered products and mere cogs in the social machine. Furthermore, if the system survives, the consequences will be inevitable: There is no way of reforming or modifying the system so as to prevent it from depriving people of dignity and autonomy._

Containing the damage (Drucker, 1995; Dowie, 1992; Renner, 1992) done to the environment and society was insufficient. Pursuing economic growth had decreased social capital, reducing the number of local, non-waged and non-monetarized, non-market workers who provided child care and volunteer work. Increased non-renewable natural resource use was accompanied by environmental degradation (Korten, 1995, pp. 40-45). Destroying the antagonist, the corporation and those representing it or doing its work, would make room for healthy environmental habitats and lifestyles. Actual and structural violence directed at humans and other life forms who were unable to
protect themselves from domination or extermination warranted more than peaceful protest. Radical environmentalists understood that the structural violence they faced was a basic dismissal of difference, a lack of respect for other living things because they were somehow "less." Violence would be returned for violence.

On the other end of the environmental spectrum, the Wise Use group was established in 1989. Supporters included farmers, ranchers, and many private and for profit agencies: Du Pont, Exxon, the National Rifle Association and many small recreational organizations representing snowmobilers, hunters, and motorcyclists. Of the twenty-eight goals in the Wise Use Agenda a few were notable (Knox, 1992). All public lands, including wilderness areas and national parks, should be opened for mining. "Non-adaptive species" should be eliminated and the Endangered Species Act should be changed to support this goal. Civil damages should be assessed against any protest of corporate activities. Disney, or other experienced corporations, should create and supervise private concessions on natural parks. Sierra, Sierra Club's monthly magazine for members mentioned Wise Users wanted to encourage persons with disabilities to rally for greater access to government-owned parks using the ADA. These new access routes for disabled people would allow better transit routes into more distant mineral, water resources and scenic panoramas that could be a concession and sold to the public. However, nothing came of this
plan. Disability rights leaders, if they were approached, undoubtedly saw through the ploy.

A new bevy of Congressional representatives sponsored hearings on aspects of environmental policy. "Stratospheric Ozone: Myths and Realities," a conference held in 1995, was the first in a series on "Scientific Integrity and Public Trust: The Science Behind Federal Policies and Mandates." It was intended that these hearings allow "non-conventional" wisdom to be aired. Congressman Dana Rohrabacher, a Republican from Orange County in California, stated these opinions were ignored, suppressed, and virtually locked out of conventional discussion of ozone depletion and global warming. The validity of scientific reports from federal regulatory agencies and work of Nobel prize winners who were scientists and experts on stratospheric ozone depletion was treated with suspicion (Center for Global Change, 1995c). Ideologically-driven skeptics had achieved equal rank with scientists of well-established international repute. In short, it distorted the discussion of these important issues (Center for Global Change, 1995a). Short term gain was trumpeted over long term sustainability. Congressional "revolutionaries" made it possible to mine all remaining forests, the oceans, and the Arctic National Wildlife Refuge for reserves of known or anticipated resources. Government enforced restrictions were abandoned in favor of voluntary reductions in emissions or pollution. Congress carried out plans to cut funds to stimulate energy saving
measures (Stevens, 1995). Sustainability without enforcement could not be achieved.

Other attacks came from pro-development groups and the scientific and scholarly community. Development groups said professional environmentalists creating future problems for the "common man." "Environmental Contra," Fredrick D. Palmer, said that setting limits on CO2 emissions would ultimately boost the price for all energy. Western Fuels, a nonprofit cooperative composed of consumer-owned electric utilities, supplied coal to member power plants. It actively participated in global warming debates and climate issues since 1988 (Center for Global Change, 1995b). The agency produced a quarterly magazine, the World Climate Review, and a video, "The Greening of Planet Earth," and the World Climate Report that was available on the World Wide Web. Energy corporations promoted an unshakable faith that technology could find and mine sufficient energy resources to fuel commodity-driven lifestyles.

One of the most devastating attacks on traditional preservationist thinking came from the scientific community. Environmentalist scientific efforts, research approaches and content (Marien, 1995a) were assaulted and the researchers were strongly criticized as poor scientists and forecasters. These assaults were coincidental with Congress restricting federal monies provided for science to less than 1% of the federal budget in 1995 (Alkalimat, et al., 1995, p. 119). The Flight from Science and Reason conference, funded in part by Olin
Foundation, showcased critical authors and ideas in *Higher Superstition*. This book was characterized as a "defense of science against a rising irrationalism" or condemned it as a "shrill conservative attack on multiculturalism, feminism, 'the postmodern academy,' and . . . democracy" (Athanasiou, 1995). Scientists claimed critical empirical thinking was under siege by New Ageism, a renewed belief in angels, alternative medicine, ecofeminism and exploration of the Gaian hypothesis. Scientists of this ilk also dismissed creationist beliefs and renewed cries for asserting moral truths. The idea that culture could mark scientific endeavors was rejected and scorned. Science was neutral. Many authors criticized green thinking and rejected several environmental "myths."

Overpopulation, global warming, and environmental degradation were not serious threats. History had shown past reports, *Global 2000* and *Limits to Growth*, to be dramatically wrong on many counts (Marien, 1995a, pp. 13-14). Other sets of environmental vital signs challenged traditional environmentalist beliefs about resources. Easterbrook supported the development and use of technology to "use fewer resources, produce less waste, and cause less ecological destruction" and extend the size and number of biospheres available for life on other planets (Marien, 1995a, p. 14). The general citizen no longer knew who or what to believe.

As the century wore to an end, evidence continued to mount regarding environmental degradation accompanying industrialization and ineffectual conservation and preservation policy. Jobs, particularly low skilled and
physically demanding positions, were lost when endangered species were protected. There were unexpected results. When lumber mills closed in northern California, "economic arson" became more common place. Out-of-work loggers and mill workers set fires to provide new jobs: water tenders were paid $2000 a day to extinguish fires (Mother Jones, 1994). Other types of "victimless" crime increased too. Toxic waste was transported and disposed in the open oceans (Marien, 1995b) because NIMBY (not in my backyard) groups blocked incinerators and dump construction in their neighborhoods (Dowie, 1992). Other nations began to import environmental waste and their citizens suffered the consequences (Sachs, 1996).

Citizens began to connect personal action, consumption choices and environmental well-being, especially when their children encouraged them to recycle and reuse. In joint citizen and academic conferences (Alkalimat, et al., 1995) it was clear that declines in harvestable renewable resources were due to poor management (Korten, 1995) and reduced job opportunities, as did automation and other technology (Alkalimat, et al., 1995; Rifkin, 1995). Nations exporting products to the United States saw a fall in demand as environmental regulation of all products increased to meet federal pollution limits. Even packaging materials were banned (Renner, 1992, p. 143).

On a national level, Congressional representatives pushed for welfare reforms so recipients would be motivated to get jobs. Activist Jeremy Rifken (1995, p. 60) estimated that in a labor force of 124 million, 90 million jobs were
potentially vulnerable to displacement. Unemployment patterns echoed the past. African-Americans were displaced from unskilled work in the 1950s and became "perpetually unemployed." In the 1960s, they resurfaced, frustrated and angry. Technology and economic forces created a new underclass: white male workers. As Rifkin (1995, pp. 60-62) correctly predicted, the results would be devastating.

Many disaffected white men who make up ultraright-wing organizations are high school or community college graduates with limited skills who are forced to compete for a diminishing number of agricultural, manufacturing, and service jobs. While they blame affirmative action programs, immigrant groups, and illegal aliens for their woes, these men miss the real cause of their plight -- technological innovations that devalue their labor. . . . [T]he new militants view the government and law enforcement agencies as the enemy. They see a grand conspiracy to deny them their basic freedom and constitutional rights. And they are arming themselves for a revolution.

Society was split. While a few highly skilled and flexible workers had good jobs and an adequate standard of living, many more faced declining incomes accompanied by sporadic employment. As work and production were globalized, even those with specialized skills faced acute insecurity. For example, Boeing systematically reduced cost by computerizing design and development stages of engineering, inventory, administration of production, assembly, orders, clerical work and secretarial positions. Boeing was an example of "technology-powered, deregulated, globalized, turbo-charged capitalism" (Luttwak, 1996). It fired workers in bad and good economic times in
the name of re-engineering the company. Paul Krugman (Rachel's
Environment & Health Weekly, 1994), an economist at Stanford University said,
"The ultimate effect of growing economic disparities on our social and political
health may be hard to predict, but they are unlikely to be unpleasant."

The results were similar to those occurring around the time of
industrialization (Korten, 1995, pp. 59-60). Disenchantment with the current
system took many forms. Career ladders were systematically dismantled.
Squatting became common in old barrios, box cars, barracks abandoned by the
military, unlivable tenements or even abandoned train tunnels for the
unemployed (Alkalimat, et al., 1995, p. 70). Not all business was successful in
these turbulent times. Former malls are empty but artists have returned to
inhabit the space (Garreau, 1995). The security and control of planned cities
like Irvine lost their charm for some people whose lives and fortunes are
changing. The rigidity and sanitary sameness were enforced by fines and
foreclosures. Unwilling to change, these communities devolved to ownership by
minority groups who lived around and served the former upperclass who fled
the cities (Garreau, 1995, p. 234). Para-military attacks and disruptions like
"Devil's Night" (Alkalimat, et al., 1995, p. 73) became more frequent as groups
of disenfranchised individuals grew. Gangs increased in this pressure cooker
atmosphere. A smaller proportion of the population amassed wealth and
controlled more power. People with disabilities were victims of physical assault.
All but the dominant culture was devalued. Drug use was up (Alkalimat, et al.,
Money for social services, environment and health issues fell in absolute and real terms. "[T]he technological revolution was making the labor power of poor people useless" and demands for a radical movement to change basic structures of governance and economy accelerated (Alkalimat, et al., 1995, p. 161).

The Personal Responsibility Act was passed to exclude migrants from federal programs and electrically monitor all unskilled and semi-skilled migrant labor (Alkalimat, et al., 1995, p. 83). By the end of the century a moratorium was established on immigration, supported by environmentalists such as Garrett Hardin (Beck, 1994). Efforts to deal with obvious cultural, economic and ethnic challenges resulting from previous immigration was sporadic. The cost of new immigrants was great. Many lacked training, skills and were unable to read, write or speak in English. Continued immigration did not correspond to the idea of downsizing the nation's population (Doscher, 1994).

Less government meant less money to help persons in need, protect the community generally, or support ideological change cemented in civil rights or environmental protection legislation. Politicians enamored of being "rebels" elected for a single term, reveled in controlling costs by sliding previous government functions to private providers, including policing and jailing. Government barriers to job creation as requested by private businesses and global corporations were dismantled. Fewer people were judged to be disabled or unable to provide for themselves, despite increased stress and other
psychological conditions related to frequent job changes, the use of the home as a work place, and job insecurity (Kolk, 1995). For those who could work, isolation within the home (Kolk, 1995) or frequent moves to maintain a job also increased stress. Disability advocacy groups were fighting amongst themselves for whatever small pots of government funds or private grants were available. Old programs of careful vocational preparation, evaluation and career planning in rehabilitation were no longer applicable. Rehabilitation counselors seemed to scramble for positions even as they attempted to advise their clients. Former advisers who possessed an entrepreneurial spirit became headhunters and charged rates as great as 40% of their clients' income for the following year for services.

The Internet and its technology expanded as corporation managers saw it as a means to make more money. Participation on the Web clearly "renurtured . . . self-indulgence, shopping, and style" (Ayres, 1994b). Nor was the playing field level for all members of society to participate. Corporate membership in cyberspace clearly outpaced general citizen participation (Young, 1994b). Being an able-bodied person fluent in English helped too. Computers were the instruments of choice for re-engineering corporations, "dynamiting old procedures and rebuilding them around the capabilities of computer systems" (Kleiner, 1995, p. 120). Commercialization of the Internet was debated regularly until it was achieved in the early twenty-first century.
Grassroots citizen groups, environmentalists and disability activists had an uneasy relationship with the Net. Its use gained more acceptance among these groups because it allowed access to inexpensive information, to organize, and respond to international events (Young, 1994b, p. 21). With the growing amount of information available on the Net and through the media, not all of the best quality, issue discussion and clarification were often fragmented (Myers, 1990, p. 153).

As the new century began, the results of government disassembly and inactivity became apparent. The Endangered Species, Clean Air and Water Acts and civil rights legislation, including the ADA, existed without adequate funds to monitor effectiveness or mediate solutions. Courts hopelessly backlogged with cases could not effectively hear complaints and render rulings. Corporations with deep pockets stymied citizen and environmental groups from setting trial dates for environmental offenses or pursue accommodation. Limits were set on the percentage of the population eligible for subsidies and time eligibility for government support. Unions could no longer stop the retirement age from rising. Taxes were reformed and became regressive. Employees were commonly floating contractors who could not afford, nor expect employers to provide, health care benefits. Private non-profit service agencies and churches attempted, but could not meet, individual needs for food, shelter and medical care. The number of homeless steadily increased and became a common sight in every community despite size. The recession of 2010 was
predicted by Rifkin in 1994. There was much "political fallout and psychological devastation" (Alkalimat, et al., 1995, p. 21).

Societal disenchantment was reflected in many other ways as well. Neuvo Romantics starkly dressed in black, quoting Shelley and mystic Blake, displayed a fashionably apathetic nature. The movement grew even after the millennium. Evidence of discrimination was evident as more jobs were lost to technology: minorities, women and persons with apparent disabilities were designed out of jobs by re-engineering. Diversity at the workplace disappeared. Neo-Luddites, who gained attention by busting television sets on stages, later preferred to use the lectern, book and organizing people (Kelly, 1995, p. 166) as they began a fight for "cultural dominance, for their unique and powerful positions of influence - to which new technologies pose a threat" (Katz, 1995, pp. 164-165). Civilization, all civilization, was perceived to be a catastrophe, "which is why they all end by destroying themselves and the natural environment around them" (Kelly, 1995, p. 211). Conflicts escalated.

There was "playback" between environmentalists, who were willing martyrs in the attempt to protect habitats, and timber and mining industry workers who constantly lost jobs to automation. Many died and others were jailed for long terms. Those surviving attacks were permanently disabled. Preventable diseases spread for lack of immunization. Calls to "unwind" the criminal system were popular despite fears for personal safety. Ever larger proportions of the population were in jail or prison, mostly minorities or persons
with mental disabilities, escalating the cost. Jerome Miller (interview, p. 89) had predicted that when five to seven million people were imprisoned in the U.S., up from the half a million in 1980, society would be very different -- and it was. New gypsies were born, stateless information entrepreneurs providing services over micro, wireless computer telecommunications (Sterling, 1993). These strangers, traveling through communities already disrupted by strife, were targets for persecution. Sterling (1993) accurately predicted that the violence discussed in the virtual community would be predicated on the actual community. "Violence evoked violence, and many died in the . . . wars of this era," (Korten, 1995, p. 60).

The impacts of globalization were clearer, and few were positive. Global trade made jobs transferable: NAFTA alone reduced 42,000 jobs by 1995 (Harper's, 1996, p. 17). Even entry level positions required many skills and flexibility in moving between jobs. Traditional positions for the placement of persons with mental disabilities dried up. Global trade "introduced new plant diseases through transported nursery stock, packing materials, and timber imports" (McKibben, 1995, p. 70). International travel continued to bring new strains of diseases and resulting death and disability to the population (Garrett, 1994). Bioinvasions increase as money and programs for research and prevention are terminated by a cash-conscious government (Platt, 1996, p. 131). ProMED, the Program for Monitoring Emerging Diseases of humans, animals and plants networked health workers, journalists and scientists shared
information to build a global infectious disease network (Platt, 1996, p. 132). News feeds from this network provides CNN and the news media with many new stories of chaos, disruption and destruction to broadcast hourly. Public opinion polls gauged the attitude of citizens more accurately than the diminished numbers of people who bother to vote.

Some individuals had hoped that a global government could move beyond the impasse created by single nations seeking to confront global issues in health, space exploration, population, education, environment and climate changes (Myers, 1990, p. 136; Brown, et al., 1995). Unfortunately, most issues best dealt with by a global governing organization were not effectively met by the United Nations, the World Bank or the International Monetary Fund organizations. These organizations never acknowledged the "new Cold War" which emerged after the official end of the Cold War (Transnationella Stiftelsen för Freds och Framtidsforskning, 1991). Even new global organizations, such as the World Trade Organization, blunted environmentalists' pleas for greening world trade. Only vague references to environmental workplans and infrastructure were included in reports (French, 1994a). Although policies on paper denoted a reorientation toward sustainable development (The World Bank, 1991; Development Committee, 1988), development projects still "followed the money" to produce large infrastructure items (i.e., highways, dams and coal-fired electricity plants), displacing local populations, and promoting development that overexploited natural resources to secure foreign exchange to
repay the debt (French, 1994b). No attempts were ever made to account for the draw down of natural resources (ibid.). The United States refused to comply with agreements negotiated concerning the environment. Voluntary carbon production limits to trim business, industry and homeowner energy use (Stevens, 1995) were unsuccessful. Decentralization, moves to encourage local control and participation were not carried out. In 1994, a coalition of environmental, development and other citizen groups joined to create pressure for these ideas. The organization was called, "50 Years is Enough" (French, 1994b). Across the world, nations refused to pay for the U.N. and even programs with potential for success, the Debt Reduction Facility and the "Fifth Dimension" program (ibid.), were cut. Continual border disputes throughout Europe and later Asia, showed that the U.N. organization was ineffective in managing peace keeping units. The Human Rights Committee, established by the United Nations to deal with violations of the Covenant on Civil and Political Rights, slowly addressed complaints from indigenous people but has no power to enforce rulings against national governments in civil liberty issues (Sachs, 1996, pp. 148-149). Far more effective were the "Jobs with Peace" economic initiatives, developed in communities across the nation at the beginning of the 1990s. But with the federal crisis in the United States, monies were not sent to support the United Nations. Other industrialized nations followed suit. Small, new programs, however successful, were the first to be disbanded by the U.N. in the aftermath. Peace and environmental groups initially protested the
growing sentiment to cut government supports to persons who were unemployed and create workfare programs. But leaders in the disability community, continued their traditional reactive stance to events occurring. Teaching persons with disabilities and advocates to be more effective in discussing disability issues fell off. Disability groups reformed and discussed problems specific to their situation. The organizations failed to make contact among themselves or make more direct personal and philosophical links with environmental and peace organization leaders. Reforms attempted in the early twenty-first century by environmentalists were too little, too late and weakened by poor negotiation methods (French, 1994b). Although "the potential coalition surrounding environmental justice issues" was "immense" (Sachs, 1996, p. 151), the connections were not made and political power was not gained. The nation continued in a downward slide, trampling the rights of the most vulnerable members of society and making no provision for future generations (ibid.).

6.5.4 Plausible Futures and Vocational Rehabilitation

Vocational Rehabilitation services must be inferred in the futures that have been described, just as disability and work changes have been surmised. There is no guide to changes which will take place. There are indicators how the general context of the scenario will allow or discourage rehabilitation services to flourish or change. A summary of work, disability and rehabilitation issues for the plausible futures is seen in Table 6.5.
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Communitarian</th>
<th>Transformational Habitats</th>
<th>Environmental Crises</th>
</tr>
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<tbody>
<tr>
<td>Service Provision</td>
<td>• Private organizations, mutual aid societies encouraged • Local level services and resources</td>
<td>• Government &amp; private agencies of professionals • Greater specialization • Increased specialization, training required</td>
<td>• Agency inertia • Programs fade as funds dry up • Great confusion</td>
</tr>
<tr>
<td>Work Roles</td>
<td>• Avocations and vocations • All contribute to society</td>
<td>• Scientifically test and document successful rehabs • Special roles for persons with disabilities around the world</td>
<td>• Limited roles • Increased stigma • Increased demand for independence</td>
</tr>
<tr>
<td>Legislation, Accommodation</td>
<td>• Fades away • Local prerogative</td>
<td>• ADA, civil rights laws remain in place • Less concern about the expense of inclusion, equal access</td>
<td>• Not monitored or enforced • Congress has no interest in public's needs • No collaboration among groups</td>
</tr>
<tr>
<td>Technology Type</td>
<td>• Limited, carefully selected • Decreased research and development due to expense to society</td>
<td>• New, more development across professions</td>
<td>• Limited • Developed privately</td>
</tr>
<tr>
<td>Fate of Public VR</td>
<td>• Fades away • Replaced by personal quality circles</td>
<td>• Continue more specialization • Decreased service to persons with physical disabilities</td>
<td>• No respect for training, special expertise • No constituency to defend VR • Fades away</td>
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The Communitarian philosophy is one that discourages government intervention and encourages private, local resolution to and regulation of issues. For this reason alone, vocational rehabilitation services would probably not continue as a government sponsored and directed activity. Volunteer agencies will be favored to provide services and programs for persons with disabilities. The agencies may be staffed by persons with disabilities. Quality circles of friends, family members, and other interested parties will create vocational or avocational opportunities. Paid or volunteer work are both acknowledged as contributing to society's welfare. However, mutual aid societies and volunteer associations may have a greater pool from which to select participants. This larger selection of volunteers may lead to fewer positions for persons with disabilities. They will have little recourse to enforce any claims to accommodation and equal access. Federal civil rights and equal access legislation will probably fade as local governments gain control. Accommodations or other technology may become more limited, either as a result of cost or local beliefs and custom. Again, this may limit possibilities for persons with disabilities to participate in the paid or volunteer work force.

For the future of transformational habitats, professionals make many of the decisions which result in a kinder and gentler nation. For this reason, professional vocational rehabilitation organization will probably regulate training or education, certification and licensing, and suggest best practices for rehabilitation services. The power of this professional group would probably
preserve and expand specific services for persons with disabilities. One change that might take place is greater participation by persons with disabilities. As the number of persons with disabilities grow and these individuals become professionals in the fields of science and human services, their political clout could increase. Other groups of individuals would be recognized as being disabled and eligible for rehabilitation services.

Perhaps, in this wealthy and technologically advanced future, persons with only physical or mobility impairments would no longer be classified as disabled because technology will be so pervasive and embedded in the physical buildings that the environment will be less hindering. Federal legislation regarding civil rights and access would remain in place, becoming the new standard of an acceptable community, rather than the exception. These standards would be implemented in new buildings and create safer cities and buildings. Being a society of wealth, there would be fewer considerations about the expense of inclusion and integration of persons with disabilities. New technologies would be developed across professions, providing new jobs and greater specialization in serving persons with disabilities. Because there is a focus on planning, more efforts would be made to develop programs which are specific to each individual and yet can be scientifically documented to provide successful rehabilitations. Perhaps there would be more jobs for people to become international spokespersons for disability issues. These representatives or goodwill ambassadors could spread the word to other nations.
about the importance of implementing ADA-style legislation or the how and why of creating new enabling environments. U.S. businesses that sell assistive technology or design accessible environments would have many new markets for their products and services. This is a future of possibilities, many new niche markets, and hope.

The environmental crises is a dystopic future which offers little hope to moving out of a state of confusion, misinformation and relativism. Although old U.S. strategies do not seem to work, they have inertia. Similar to other government programs originally implemented to solve problems in society, vocational rehabilitation services would probably continue to exist as a program for a period of time. The organization occupies a special, perhaps more noble, identity from other human services. Its purpose is to provide jobs, not money, food or housing which are seen as hand-outs. Respect for special training and expertise fades in this future. Examples of this attitude are specifically cited from issues regarding environmental issues.

Another important consideration is that vocational rehabilitation fails to build a constituency group to advocate for its continuance. There may be several reasons for this. One, persons with disabilities are scrambling for any funds they can secure for certain disability groups. No efforts to create larger coalitions of persons with disabilities occurs. Additionally, forces that differentiate because of "lack of experience with disability" pit the able-bodied against the disabled. People with disabilities do not make connections across
issues. They fail to gain support from peace and environmental activists in a bid for greater political power.

Another reason vocational rehabilitation funds come under the ax is that government funds will be withdrawn from most services and technology development as a result of rhetoric about the need to limit the federal deficit and have a balanced budget. Despite its mission to get people off benefits by securing employment for persons with disabilities, vocational rehabilitation finally comes under great scrutiny. In this political environment, congressional members no longer advocate for programs. They are more interested in having a short period of fame for stopping government expansion. They are less interested in running for office as a long-term commitment. Legislation for civil rights and integration are left but no funds or personnel are available to monitor or enforce the laws making them virtually non-existent. Splintered and fragmented special interest groups are unable to cooperate with one another to bring about discussion of other alternates. Beliefs about special expertise gained from training and experience are slowly dismantled as everyone and anyone is given the right to his or her opinion on an equal footing. Society has lost any type of moral grounding and will to successfully collaborate to solve problems.
We look out into the future, trying our best to make wise decisions, only to find ourselves staring into the teeth of ferocious and widespread uncertainties (Wilkinson, 1995, p. 74).

6.6 Wild Card Scenarios Clips

Unexpected or unsettling events, breaks in trends and the emergence of unrealized possibilities are the starting place for the discussion of wild cards. Science fiction and fiction literature are excellent places to explore the possibilities for changes in technology and the social, economic and political factors which influence work and disability in the next quarter of a century and beyond. Books selected for discussion here were chosen by personal preference for the vivid descriptions of changes which might take place and familiarity. Often the setting are not highly probable but the new set of premises allows alternative exploration of implications for the role of work and disability which are less tied to conventional wisdom. Three quick previews of wild card futures are presented. A preferred scenario contrasted with one which may be more probable ends the collection of visions of the future.

These twin processes — the collapse of old institutions on the one hand and the blossoming of new ways of thinking on the other — are evidence of a single trend which has been gaining momentum during the last hundred years: the trend toward ever-increasing interdependence and integration of humanity (Javid, 1995).

6.6.1 Future of Plenty: Technology and Enlightenment

Positive futures of plenty (see Table 6.6) explore space: inner psychological space, cyberspace as a playground for the talented and artistic (Williams, 1992), and outerspace as the next logical frontier for expanding
human populations (Savage, 1994). Possibilities for areas to investigate seem limited to the imagination. Human colonies, on planets other than Earth, are common to these futures. Many constraints have been alleviated. Natural resources are abundant if somewhat difficult to recover. Sources of less polluting energy are available. Food is bountiful, diverse and exotic. Disease has been contained by advances in medical technology, even to the point of achieving eternal life (Williams, 1992; Williams, 1985). However, philosophical differences prevent some individuals from seeking the treatments to extend life (Williams, 1985). Environmental pollution is less of a threat because technology to eliminate or remediate harmful substances is available. The quest for economic dominance and political power is often a source of conflict in these stories. Building non-violent relationships between characters, species, beings or life forms is also a story line. The role and appropriate use of technology is also a question in some plots.

Difference is often constituted between human and other non-human beings. The non-human entities are rarely accepted as equals. In the Williams (1992) future, mountain gorillas and machines work side-by-side as gardeners under human supervision. Biological technology advances are frequently part of positive futures. Authors use this technology to examine relationships between humans and (virtual) slaves. Cherryh (1988) introduces the Azi, servants genetically developed and owned as property. They are perfect bodyguards, loyal servants, security guards and disposable assassins. Azi are
### Table 6.6 Future of Plenty Vision Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Future of Plenty: new exploration of space: psychological, cyberspace, outerspace.</th>
</tr>
</thead>
</table>
| **Underlying Philosophy** | - In a distant time, often not on planet Earth, new technologies will create new habitats on resource rich worlds.  
- New ways of life will be developed.  
- Interactions with other species and human-made intelligent beings will be common place. |
| **Economy** | - Sustainable, evolving galactic economy  
- Trades among cultures and planets for raw and produced materials, technology, entertainments and tourism. |
| **Political System** | - Many government systems, global and several intergalactic.  
- Rule by elites: money, intellect, ability or stealth.  
- Political intrigue is more prevalent.  
- Cultural diversity will be greater. |
| **Technology Type** | - High, high technology for space travel.  
- High energy-intensive power.  
- Technology allows disabled to be incorporated in society as never before.  
- Disease is limited.  
- Communication is enhanced between species. |
| **Difference** | - Non-human and alien species will be different and not accepted as equals.  
- Hierarchy of perceived worth according to station in life or function.  
- Segregation of humans with mutations — rare |
| **Important Legislation** | Not applicable. |
distinct from humans which are "born man" or cloned in tanks. Test unit azi organize their mental compartments and control the ability to integrate "tape," a method of education, learning new skills and being entertained or maintain a stable deportment. The most important humans are called "specials." Ari, the main character of the Cyteen series, had her skills, knowledge and mannerisms taped extensively prior to her murder. The tapes somehow integrate knowledge into the brain and into the body to remember moves or feelings associated with the information to perform mental and physical tasks, diverse as riding a horse or political strategy.

Brin (1987; 1983) creates the idea of one species "uplifting" another to join the Galactic culture. Humans assist dolphins and primates to equal partnership by means of breeding and genetic engineering. The client race then becomes indentured to the patron race for a period of time to repay the uplift debt. An interesting aspect of this future is that the environment or space in which the teams function is adapted for both cultures to interact (Brin, 1983). There is no discussion of extra costs associated with adaptations for the clients. Brin also uses Startide Rising as a vehicle to warn that genetic manipulation can have unexpected results. Some of the "neo-fins" on the mission were secretly crossed with stenos to produce insane dolphins, capable of performing an unimaginable task, murdering their patrons or other species.

Difference also explores creator - creation stories. Inevitably, the future of plenty has much technology to assist humans: nanotechnology, biogenics,
physical, new and intelligent life forms and transportation. Animate and intelligent machines perform tedious, menial service or dangerous tasks without evident complaint. The machines are less than human, possessing no claim to civil rights, therefore expendable. Similar to tools that have worn out, or trained animals that are no longer functional, this living technology can be used, abused and recycled. Foster (1994) introduces several non-human characters. One is a self-aware spherical minder, "a highly sophisticated AI concentric layered nexus" with intuitive software. It provides a running dialogue on human idiosyncrasies and worries about software bombs or infection by active matrix viruses (Foster, 1994, p. 1). Another "mechanical" with "an attitude," works for a human detective on a sublease basis. The robot shows too much curiosity in human sexuality and substantial self initiative in problem solving. It is offered a choice between compliance with human supervision or a scan and reprogramming.

While self awareness is expected of aliens, it surprises and displeases robot developers. Machines and computers that mimic human beings are acceptable until they achieve self direction or self interest (Foster, 1994; Thompson, 1993). Self aware robots and other types of technology are outlawed in some futures (Piercy, 1992; Thompson, 1993). A robot separated from her master in the Thompson story, suffers a nervous breakdown after killing a human who has injured her developer. Her software programming forbade this function. Afterward, she begins a journey of self awareness and
independence. She aligns with other misfits, including a cyberdancing artist who uses illegal drugs and technology. The Internet becomes her conduit to emergent self-aware entities, large computers, which befriend her. Ultimately she unites with other self aware entities and an outcast of human society to create bodies for her computer friends. However she is permanently alienated from her human creator because the relationship of power has changed between them and the creator cannot accept this. This is neither a Pygmalion story or that of Frankenstein.

Brin (1994a) writes a short cautionary story about a future world in which machines have become the dominant power. Political decisions are controlled by Utilitarians whose appearance is mechanical and speech is a toneless dialect. Some approach being "antibiological." The main character is a human who volunteers for a suicide assignment into space. Humans have lost the right to participate in space vessel repair, travel and work in research stations because the accommodations needed for their comfort, well-being and functioning are too expensive to maintain. He meets with the director of the project and describes him,

*The machine/scientist swiveled at the hips and rolled up the gangplank. Steamlike vapor puffed from vents in the official's plasteel carapace. It was an ostentatious display, to release evaporated helium that way. . . . The assistant director could keep his circuits . . . comfortably cold . . . and hang the expense (Brin, 1994a, p. 174).*

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Cyborgs and androids compose an Ethicalist's party in the Solar System Council. They are sympathetic toward "biologicals" but do not have political control. Human bodies are frail (non-able), of little use compared to their more robust mechanical or semi-mechanical counterparts. Humankind turn away from science and their population is decreasing. The end of the story reminds the reader that difference has a purpose. Human bodies and intellect have a place in the future when sophisticated mechanical technology fails. The human ability to violate orders and exercise curiosity were vital to conduct travel at hyperspace speeds.

Alien species are almost mandatory in science fiction. Inevitably humans and the alien species are not equal in ability or have very different cultures which influence their interactions. In the Foster (1994) story, an alien species is duped into servitude, and unknowingly assists in unscrupulous pharmaceutical heists for a corporation. This vine-like offworld entity communicates between members much like an organic parallel processor. More often aliens and humans compete or war for the right to occupy space, dominance, or resource rights (Gerrold, 1989). Few stories explore other types of relationships.

Anthony (1981, p. 9) creates a world inhabited only by persons who are different. The mining enclave for mutants on Planet Nelson is "a viable economic society." Mutants are produced from human sperm which has mutated during space travel. The mutant enclave manager explains,
We are all like you: min-mutes and mod-mutes, of human-norm intellect or above, able to function independently. This enclave is self-supporting; we export as much as we import. We have pride. ... Lobos are surgically normal people, of no special significance. ... Mutants are the catalyst of modern society. ... Without us, there would be no space travel, no colonization of inclement planets or habitats. Without us, in fact, the human empire would collapse and the Coordination Computer would be junk. ... Normals are largely restricted to the surfaces of Earth-type planets; the future of the species lies with mutants ... [including] psi mutes too (Anthony, 1981, p. 8)!

All new recruits meet with the manager to discuss individual skills and attitudes before assigning a position. Not all mutes can speak, evidenced by use of a "clubfoot" sublanguage, used to communicate with individuals whose mouths do not allow for human speech. Individuals at the enclave have physical mutations, special intelligence, or psychic abilities: clairvoyance, telepathy and precognition. Some psi mutants are capable of transmuting substances from harmful radioactive waste to innocuous lead. Double mutations are rare. Some mutants transfer to the station to escape make-work on their home planet or an "untimely accident." Anthony has succeeded in justifying why mutants should be warehoused or institutionalized together in future enclaves. Despite special talents and skills, mutants should be with others who understand and accept them better than non-mutant individuals. Tolerance for difference in the future seems in short supply.

The only time that people who are different are equal to or achieve a higher than humans worth is when they have been enhanced or specially
selected. For example, technologically enhanced "shell people" become the central control for a spaceship (McCaffrey, 1992). Brain is supplied by the human being "residing within the titanium column" running the ship in "a way an ordinary pilot could" and brawn is supplied by a mobile human partner. The superhuman has been created. McCaffrey describes other superhumans as well. Members applying to join the Heptite Guild for miners on Ballybran are purposefully exposed to a symbiont existing in the planet's atmosphere. Once successfully infected, the symbiont assists the miner's ability to heal and reduces physical degeneration. Miners sing resonance to tune laser cutters and cut crystals used for computerware galaxy-wide. Crystal resonance has a number of side effects. The symbiont must be rejuvenated by spending time mining on the planet. Irreparable memory loss is another side effect in the longer run. Sterility may be a result of exposure to the symbiont because there is no discussion of children or families. New members must be recruited from other worlds. The stories seem to suggest that the superhumans are married to their careers as a trade-off for respect from others.

But even in these frontier worlds, technology does not always deliver. Cherryh paints the contradiction for one member of an exploration crew. 

"Estevez with his regulated temperatures and filtered air: a life systems engineer with an allergy to the environment was not a happy experimental specimen for the medics" (Cherryh, 1994, p. 47). Gene patching, used by the one and fifty year genetically isolated crew of a large space exploration vessel
no longer worked on a "radiation-stressed human population exposed to an alien world" (Cherryh, 1994, p. 48). The best he can do is try to maintain a sense of humor about his ordeal.

A benefit of being superhuman is a greater control of resources and more time and indulgence to explore formerly unexplored mental space. For instance, on Earth\(^2\) the main character in the book, Aristoi (Williams, 1992), carries demons or alternative selves in his head. During the course of the story, a new daimôn is emerging. Daimôns act as advisors with special expertise who can claim control of the character's body to perform tasks. Present are a poet, an artist, a scientist/technician, a sensualist, a medicine man, a strategist, and several souls. The voices in his mind developed over time, trained to become "true shadow personalities" (Williams, 1992, p. 39). Similar to the merging of alternative selves and the realized self, the aristoi have created and celebrate in a fantastic city, both real and imagined.

_Persepolis, in the Realized World, was an interesting artifact. It shaded by degrees into "Persepolis," the real place becoming, through its illusory/electronic deeps and towers, an ever-flexible, ever-unfolding megadimensional dream (Williams, 1992, p. 9)._

Some of the stories suggest new ways to incorporate persons with difference or appreciate their difference. Unfortunately, many show a continuation of political party control, power and privilege related to hierarchy, status or rank or association with those in power or who make rules. Very few
stories promote isolation or separation of those who are different, requiring they be with their own kind (Anthony, 1981).

Past, present, future, are not disparate things but a continuum, a recoiled helix of interconnections in which time no more serves to sever than does distance. Here and there are not separable. Now and then are not divisible. Everything burrows through the myriad wormholes of reality to become part of everything else. Time and space are coiled like some unimaginable DNA, pregnant with both possibility and certainty. In this multidimensional womb, separation is a fiction, all things are adjacent (Tepper, 1993, p. 9).

6.6.2 **Women and Others: A Just and Inclusive Future**

Many voices are calling for visions of a future which incorporates fairness, equity, justice, peace, and harmony across generations worldwide (see Table 6.7). These visions come from peace studies and activists for environmental movements, minority cultures and feminist or women's studies. Just as Jarva (1995) concludes that there is no one feminist, women's research or non-western female approach to the future, so there are a multitude of ideas and values to be incorporated into this transformational future. Unlike the future of plenty, books discussing the just and inclusive future can lie outside the parameters of science fiction. The stories are not necessarily written by women, nor are strong female or minority lead characters necessary. Many discussing this type of future slip comfortably into the future of plenty (Cherryh, 1994; McCaffrey, 1992). Authors such as Marion Zimmer Bradley (1988; 1977; 1975) incorporate not only science and technology but also "magic," moving into the realms of fantasy rather than telling tales of possible futures (Hambly, 1991; Rusch, 1993). Fantasy stories tend to be situated in an unidentifiable
Table 6.7 Women and Others Vision Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Women and Others: the political economic system and culture will be recreated by minority coalitions, lead by wise and spiritual visionaries, activists and other questioning souls after much damage is done</th>
</tr>
</thead>
</table>
| Underlying Philosophy | • Mystic convergence is occurring, with or without recognition by humans.  
• A spiritual balance is becoming apparent.  
• Belief that this is a special time in course of human history |
| Economy | • Non-discriminatory, non-abusive, fair.  
• Environmentally friendly, respectful of other indigenous culture, shared experiences, other minority cultures' attitudes and beliefs.  
• Infrastructure and laws changed to emphasize new way of life  
• New jobs, avocations  
• Life becomes more humane. |
| Political System | • Very mindful of other in creating new way of interacting and making democratic decisions.  
• Creation of a constant dialogue about power.  
• Rule making and inclusive processes instituted by citizens  
• Mindful of future generations |
| Technology Type | • Some discomfort with technology, focus on social technologies  
• Develop and institute technology for behavior self-management rather than physical high technology approach.  
• Instability creates new family forms.  
• Lots of social technology:  
  • programs,  
  • education,  
  • role modelling.  
• Simple technologies favored over more complex or energy intensive. |
| Difference | • Those who are traditionally in power need to be enlightened or be moved out of control by newly converging forces.  
• Need to locate and work with others who have experienced these feelings of spiritual change  
• Avoid creation of systems which create the alien, the different (Corker, 1993) |
| Important Legislation | Not applicable. |
time; a mythic past or alternate universe. Although the tales are instructional, they tend to be so incredible that linking them to the current situation is implausible. Perhaps the underlying principles of this perspective are so distinct from the situation today that any attempt to link the two would bring admonishments to be "realistic."

The just and inclusive future is an exploration of an other, non-dominant culture. There is a voice and rights for those who have had none in the past or present: women, children, people with disabilities, minorities, the poor, and the disenfranchised. Women and others are seen as capable but reluctant or unassuming heroines and heros, leaders and agents of change. These individuals explore new avenues for society. The role is not the global or galactic scale of much older science fiction with grandstanding space cowboys commanding ships zipping across the galaxy. Nor is it in the style of the cybersamurai business magi of the 'zine, Wired, pumping out technologically driven and scientifically supported corporate revolution (White, 1995, p. 77). Underlying these "other" stories are strong ethical issues and a concern for future generations.

_The revolution is where everybody feels that they matter and every child in the country is nurtured, every child is allowed to grow and develop and every child is given the tools to empower and develop their own world in their own way and according to their dreams (Alkalimat, et al., 1995, p. 53)_
Fully exploring the just and inclusive future expands the sources of discussion for this vision beyond science fiction material. Many excellent, but complicated, books confront ethical issues in future or allegorical worlds. Sherry Tepper has written the Jinian Footseer (Tepper, 1989) series, exploring issues surrounding war and power. Grass (Tepper, 1990), Sideshow (Tepper, 1993), The Gate to Women’s Country (Tepper, 1989), and Raising the Stones (Tepper, 1991), are also her works. These books describe additional worlds, their cultures and customs, and issues of social engineering. Slaughter (1994, p. 1084) recommends Ursula Le Guin’s piece, Always Coming Home, as an excellent scenario about a future in which “ritual, relationship and stewardship now occupy the cultural centre stage.” Sometimes consortiums of writers explore created worlds to give them the depth, breadth and feel of a real culture (Cherryh, 1991; 1987). Gerrold (1989) investigates the use of a fictional behavior program, Mode Training, to instruct people how to succeed in their personal lives and, on the broader level, to contribute to the nation and continuation of their species. The roots of his story were gleaned from research on the underlying principles of many seminars, workshops and investigation of some cults (Gerrold, 1989, p. vii). No numbers have been generated about persons with disabilities attending or even being accommodated at these types of courses.

Future changes and questioning of current society and its beliefs are also explored in popular fiction and academic writings. Morgan (1994)
questions current emphasis on the drive for progress compared to rediscovering wisdom of past indigenous people and its impact on future generations in her book, *Mutant Message Down Under*. Other popular books by scientists promote scientific search for the soul (Crick, 1994) and promote the use of technology with the understanding that ethics should guide it (Drexler, *et al.*, 1991). Futures researchers are very interested and write about new theory that impacts the way people have impact on the world (Jarva, 1995, p. 9).

Connecting chaos theory, turbulence theory, or non-Western approaches to the socio-cultural realm is a great task that must be engaged by as many as possible. Despite crushing opposition to the creation of a new minority culture of disability, Gill (1995, p. 18) comments that it still flourishes.

*The elements of our culture include, certainly, our longstanding social oppression, but also our emerging art and humor, our piecing together of our history, our evolving language and symbols, our remarkably unified worldview, beliefs and values, and our strategies for surviving and thriving. . . . I find that the most compelling evidence of a disability culture is the vitality and universality of these elements despite generations of crushing poverty, social isolation, lack of education, silencing, imposed immobility, and relentless instruction in hating ourselves and each other.*

So the vision of a just and inclusive society for the future may grow and thrive despite the controversy, pushed by the efforts of those who share a similar spiritual awakening across the world and across generations.

Fostering a just future requires that current generations practice foresight, prudence, responsibility and develop a rationale for practicing these
virtues. Redfield states the basis for these actions is a new type of transcendence, a spiritual awareness that is gathering momentum over the last fifty years. Common people experience these moments when they have coincidences that mysteriously carry them in new directions. Redfield (1993, p. 1) continues,  

_We know that life is really about a spiritual unfolding that is personal and enchanting -- an unfolding that no science or philosophy or religion has yet fully clarified. And . . . we know that once we do understand what is happening, how to engage this allusive process and maximize its occurrence in our lives, human society will take a quantum leap into a whole new way of life -- one that realizes the best of our tradition -- and creates a culture that has been the goal of history all along._

Examining alternatives, making choices and setting goals are important to these stories. For example, Redfield and Adrienne (1995) have produced a guide for individuals to meet and discuss how they can contribute to this spiritual process. Learning to choose and develop the correct path for arriving at where we want to go is important. On a very practical basis, the book, _Disabling Barriers, Enabling Environments_ (Swain, et al., 1993), discusses how barriers can be disassembled and environments can be created to integrate persons with disabilities and assist them in avoiding learned helplessness (Corker, 1993; Swain, 1993). From science fiction, Brin (1994b) produced short story, "Piecework." This is an allegorical story about the use of bodies as sources of material production and the importance that should be given to the manufacture of children. In an overpopulated world, bodies are equipped to
produce many varieties of material goods. After making investments in technology to incorporate in their bodies, women can make choices to "hire their wombs" for manufacturing rather than perform other work. Most work in this world is performed by a limited number of elite workers. Other potential workers are seriously alienated because there is a "human need to do work that is appreciated" or of "real value to society" (Brin, 1994b, p. 234). The education system, Brin notes, elevates culture but devotes little time or attention the most important job of all: producing the next generation. He comments, "the most delicate, most demanding job in history was being performed almost universally by unskilled labor . . . " (ibid.). The heroine of the story is very selective, upgrades her technology on a regular basis, saves for the future, studies hard, avoids all addictions, and is finally rewarded with the right to bear a child. She may be given some special jobs, but it is obvious that choice, not chance, set her destiny.

Other aspects of making choices center around the environment and healing, ignorance, myths and technology. The Earth and its inhabitants are ailing. The potential for disease, pollution and selfish squandering of resources including other species, shows a lack of preventative effort, respect for ourselves and a respect for other living things. Healing must take place to preserve and support diversity. Tepper (1989) makes a very lightly veiled argument in the book, The Gate to Women's Country, that genetic selection for peaceful humans might be preferable. Healing is not limited to seeing a
physician for a medication, but encompasses faith and belief, and miracles. It is "non-local, mental, spiritual, psychic, and prayer-based" (Dossey, 1995, p. 52). Wellness takes many forms and can contribute to the energy transforming the world (Redfield, 1993). Admitting one's ignorance and lack of total control is essential to transforming the current situation (Havel, 1995; Witte, 1991). In the face of poorly understood and radical change, new myths must be created and activated to bring forth hope for the future (Brin, 1986).

The final pieces to the puzzle are that choices must be made about the technology to be used. The most appropriate technology will be simple and non-energy intensive. Piercy (1992) describes an enclave that produces technology in the future. People have jobs, protect and care for the health of living things and the environment, and lead respectful lives. If the choice is to spend time with other people, as Rifkin (1995) suggests, there will always be plenty of work. But it will require a new definition of work to include activities which grant legitimacy to caring for others in a very broad sense, now and in the future. Current definitions of disability would have virtually no impact on this new type of work. Work is an activity of personal choice.

But it is not (usually) the ideas of philosophers that change reality; nor, conversely, is it the practice of ordinary people. What changes history, what kindles revolutions, is the meeting of the two (Sacks, 1990, p. 17).

6.6.3 Cyberpunk and Cyberanarchy

Cyberpunk literature explores new evidence of existence outside the human body, moving beyond the tangible existence of reality to a new sphere
in which one can download the soul into eternal cyberspace. Cyberpunk is sexy and its disciples worship at technology's altar. A growing cadre of strong, primarily male, writers support this vision. They have made the leap to general society's attention via Wired, to enunciate "the new information capitalism that speaks to the world in the postmodern executive's favored tones of chaotic cool and pseudorevolution" (White, 1995, p. 77). (See Table 6.8).

The vision is vibrant and arresting, appealing to a sense of play, fantasy, and incorporates the use of technology. Technology is everywhere, used as anything from a fashion ornament to necessity. Dismal for the most part, the cyberworld is rich with opportunities among the ruins that gives the impression that the playing field has been leveled. But it has not. There is a large, desperate underclass who have little or no information skills and no money for other enhancements that would provide a job. They are occupied with media bread and circuses (Miles, 1994). Occasionally there are enclaves or subcultures gathered around a particular ideology or function: Gibson has (1986; 1993) created the Lo Teks and the bike couriers. Most of the story settings are urban, which is where most of the population in the United States resides today. A serenity pervades the darkness of this image, harkening back to old Gotham City. The city's infrastructure is deteriorating and inaccessible for the most part. Population is transient.

Wired presents the good life of this revolution. The magazine is resplendent with expensive new communication and information technologies,
Table 6.8 Cyberpunk, Cyberanarchy Vision Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Cyberpunk, Cyberanarchy: everything is for sale, for the right price. Created from established trends in science fiction (Miles, 1994)</th>
</tr>
</thead>
</table>
| Underlying Philosophy  | • Chaos reigns.  
• No emerging pattern in the economy or political sphere can be seen.  
• Most people do not participate in decisions about the future.  
• New service economy: anything for the right price.  
• Assumption: nuclear world war has occurred, environmental degradation severe  
• Many pioneers predicted technology innovations (Miles, 1994) |
| Economy                | • Body as commodity.  
• Total capitalism in which the market rules.  
• No distinction between legitimate global market and black market.  
• Attacks on corporate information and control more common  
• Information commodities and information handling skills valued  
• Dualistic society: gulf between info poor and rich |
| Political System       | • No government or government as an employer of last resort.  
• Ineffective.  
• Life is nasty, brutish and short but very technology ridden.  
• Powerful megacorporations and conglomerates vie for and monopolize information.  
• Welfare state is dismantled.  
• New forms of human interaction are mediated through computers and cyberspace |
| Technology Type        | • Explosive development and diffusion of technology (Miles, 1996)  
• Technology totally ubiquitous.  
• Used as fashion and necessity  
• Medical and other sophisticated technology for those who can pay.  
• Social technology ruled by those who have technology (television, advertising) or religious organizations (for converts) |
| Difference             | • Underclass: no income, no respect or attention.  
• Hierarchy of difference due to:  
• Income,  
• Intelligence,  
• Survival skills,  
• Physical prowess,  
• Ability to control or manipulate technology,  
• Create political alliances or  
• Strategies.  
• Enclaves of people with similar attributes or ideology.  
• Proliferation of subcultures |
| Important Legislation  | Not applicable. |
"killer apps" (computer applications that mesh everything together with the push of a button), promotes greater freedom for customers, more democracy, quick access to goods purchase, and ways to "reverse engineer government" to avoid waste, excess and inefficiency (White, 1995). However, the Wired executive editor, Kevin Kelly, freely admits, "Don't assume that the outcome of a revolution is going to be desirable or pleasant. Few revolutions are a picnic" (Glenn, 1995, p. 81). Subscribers are mostly, 

\[ \text{Managerial professionals with a median household income of well over } $80,000. \text{ They may be revolutionaries, but they happen to be the legions of the M.B.A.s graduating each year from business schools around the country . . . This group is rooted economically . . . and must keep up with the latest thinking on the frontiers of information if its members are going to kick ass } \] (White, 1995, p. 79).

The magazine is symbolic of change as potent as the Industrial Revolution, lead by monied, well-spoken and technologically hip spokespersons. As the revolution travels its course, the welfare state will be dismantled (Miles, 1994), leaving behind those who are in the underclass requiring society's safety net.

In contrast, the writers of cyberpunk fiction paint a world which is chaotic, bleak and vaguely unsettling. The main characters are always shifting around, trying to find jobs or money. They probably have brains (computer cowboys or wizards, technology junk dealers), brawn (assassins augmented with neuro-biological, mechanical or computer technology), are powerful or associated with power and money (sim-stars, children of Yakuza, Tong members, Mafia, religious cult leaders). Their world is one in which the body is
a new commodity (see Table 6.9). As a product, the body is genetically engineered for height, weight, hair or skin color. Technology in this future is ubiquitous, explosive in its development and diffusion (Miles, 1994), certainly more plentiful than late-twentieth century pacemakers, metal screws, tattooed eyeliner and biological transplants. Cyber augmentation exchanges eyes for Zeiss lenses. Muscles and nerves are enhanced so that the body becomes an assassin's favorite weapon. Or the brain can become a walking storage vault (Gibson, 1986).

Table 6.9 The Body as Commodity

We have declared war on our bodies. Our modern institutions of learning, work, food production, medicine, and even electronic amusement are destroying our bodies and amputating our intimate senses. Our overworked, high-speed lifestyles have severed any relationship between our bodies and the cycles of nature, including the body's own natural rhythms. Our narcissistic culture has turned us into a nation of body-image "junkies" using everything in our power to carve, reshape, remold, and recast our bodies' natural shapes and processes so that they are better fitted to our desires. In a dizzying variety of daily battlefields we are ruthlessly polluting, exploiting, and remaking our most intimate environment -- the human body.

This escalating institutional and personal war against the body is, of course, ultimately suicidal. It is causing myriad illnesses and a staggering body count as we habitually abuse and misuse ourselves. Our suicide rate is high, our eating habits are destructive, our workweeks are punishing, our workplaces are hazardous. We're also systematically destroying our environment and hence our bodies' homes (Kimbell, 1992, p. 52-53).

With mechanical and technological enhancements, given the financing, any body has economic potential on the market. A Vietnam veteran who is quadriplegic, trades in his wheelchair for a model with bigger wheels and more comfort. He explains his philosophy.

[Why] do motorized wheelchairs always have to be tiny pathetic things that strain to go up a little teeny ramp? So I bought this -- it is an airport firetruck from Germany -- and
converted it into my new motorized wheelchair. . . . It is an extension of my body (Stephenson, 1992, p. 226).

Using voice controls for his vehicle, he conducts dangerous work -- trips to the "Sacrifice Zone." The Sacrifice Zone is a portion of the land which the National Parks Service has abandoned because the future economic value exceeds the clean-up cost (Stephenson, 1992, p. 235). Many hazards in this corporate controlled and economics driven new capitalism exist and most are not clearly marked.

While most people can scavenge, act as private couriers, or work in bars as servers or entertainers, there are groups of people whose economic value exceeds their repair or rehabilitation. De Lint (1989 pp. 44-45) describes such a group.

Without Enclave immunity boosters, the elements had ravaged their limbs and features. Their skin was pocked and peeling, with many red and open sores. Some had one leg shorter than the other. Others had no legs. Those walked on their arms . . . Another with the shriveled remnant of a second head still dangling from its shoulder. Women with patchy bald spots in their hair. Men with bleeding lips and eyes clouded to a milky white. All of them stick-thin, bellies swollen.

In this story, cities of plenty sit encased in clean air. Very sophisticated technology has enabled Native American Indian tribes to live very well. But most people on earth are excluded. These people were outcasts of the outcasts.
Contrasts are profoundly exacerbated in all aspects of the social, economic and political affairs of the cyberpunk society. Part of the world will have fine art, "sculptural puzzles, visual puns, and geometric paradoxes of the Fukuda School that took inspiration from the twentieth-century Kamikitazawa master, Shigeo Fukuda" (De Lint, 1989, p. 127). Another sector of a city will celebrate freedom as Lo Teks, a subculture which dotes on low technology except for individual embellishments. For example, one male Lo Tek has used tooth-bud transplants from Doberman pinchers to replace his canines. Other descriptions of these enhancements make it easy to see how people moved from piercing parts with studs to seeing their bodies as flexible canvases for tatoos. Variations in the face have been voided of its own defining features to allow for the tato outline of cityscape. These people are creatures of the new environment and technological opportunities.

Individuals who support the system see it as "natural" in its existence. David Kline speaks for many when he says,

*Capitalism is exploitive and creates concentrated centers of power . . . [which] are as inbred in civilization as hierarchy is in animal species as a mechanism for transmitting their most successful genetic legacy to future generations . . . [No] other economic system around . . . has worked in the real world to distribute wealth and political power as broadly . . . [Its] social and economic and political effects were far more profound than what has been achieved through any [other] political revolutions* (Glenn, 1995, p. 81).

Contrary to the other scenarios proposed here, there is much mental and financial effort supporting this scenario. The vision grows daily, in Internet
discussion groups, through *Wired* and other magazines carrying copy about cyber space and culture, movies and television programming devoted to new technology. Cyberpunk is here to stay.

6.6.4 *Vocational Rehabilitation in Wild Card Scenarios*

The science fiction futures result in another set of expectations about vocational rehabilitation services. These are summarized in Table 6.10.

In a future of plenty, exploration of new space opens up the possibility that the constitution of difference, as it is currently known, will fade. However, this scenario shows a marked tendency to create a new class of beings who are different, do not meet human standards, and often in need of "fixing" so that they might co-exist with humans and meet a human standard. Some of these individuals, such as the Azi (Cherryh, 1988) and beings with artificial intelligence, are created and used for specific purposes without thought of rehabilitation. If these individuals do not "work" properly, they are dismantled, eliminated or reprogrammed without respect to their wishes about the future (Piercy, 1992). In essence, these beings are new slaves, without self direction or self determination. Why provide vocational rehabilitation when the old model can be "wiped" and reprogrammed, or the defective model can be terminated and the next generation of the model can be put into production? Similarly, the Anthony (1981) story reinforces previous beliefs that persons with disabilities or in this case, random mutations, although better adapted for the future than the standard model, are not acceptable. In other cases it is evident that human-
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Future of Plenty</th>
<th>Women and Others</th>
<th>Cyberpunk, Cyberanarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Provision</strong></td>
<td>• Limited: Terminate, Reprogram, Isolate, not served</td>
<td>• Could be done by agency, uncertain</td>
<td>• No professional services unless paid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Family or enclave may help</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Any service which can be afforded</td>
</tr>
<tr>
<td><strong>Work Roles</strong></td>
<td>• Serf humans Slaves: no self-direction, no self determination Superhumans: special training, unique roles</td>
<td>• Avocation has greater importance Spiritual improvement Self actualization</td>
<td>• Anything that is worth doing is paid for</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Risk is associated with all jobs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Technology jobs are valuable</td>
</tr>
<tr>
<td><strong>Legislation, Accommodation</strong></td>
<td>• Not applicable</td>
<td>• Importance fades as society moves to true democracy</td>
<td>• Anarchy, very little or no effectual government</td>
</tr>
<tr>
<td><strong>Technology Type</strong></td>
<td>• Plentiful Ubiquitous</td>
<td></td>
<td>• High technology favored</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Mixtures of technology range from very high to very minimal</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Must pay for</td>
</tr>
<tr>
<td><strong>Fate of Public VR</strong></td>
<td>• None</td>
<td>• Not current system New system: facilitation, self-empowerment, cooperative</td>
<td>• Medical restoration, enhancements, augmentation but not provided by a government agency</td>
</tr>
</tbody>
</table>

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selected mutations are dangerous to everyone around them (Brin, 1983).
Isolating them and allowing them to self organize is more humane than the
inevitable fate of being stigmatized or killed in their home worlds.
Extraterrestrial are different and more often the difference is the issue, not
similarity. "Inevitable" differences between the aliens and humans lead to a
lack of understanding and escalate to war that determines cultural dominance
(Brin, 1987). Examples of trust, respect and cooperative coalition between
humans and those not of Earth is rare and incomplete (ibid.). The potential
dilemma presented in the rehabilitation of aliens, if it were to occur, is that the
end product would be a being that resembled or mimicked humans. On the
other hand, there is the creation of superhumans who are revered, medically or
therapeutically maintained, and provided with special training to maintain their
uniqueness. Often these individuals work in specific highly specialized jobs.
They guide spaceships or participate in highly technical and dangerous mining
jobs. There is little evidence of the need for legislation to assure people or
other beings are provided with special services to level the playing field.
Technological advances are assumed to have performed this feat. Vocational
rehabilitation seems to have no meaning in the context of these futures of
plenty.

The future of women and others is grounded in a belief that society and
its systems must be recreated. This process and unorganized acts of
recreation, whether this is acknowledged or not, has already begun. Based on
a spiritual belief in a mystic convergence, these people believe a transformational leap to a new stage of human existence will inevitably occur. In this future one would find social programs or technologies that support individual spiritual transmutation or change in behaviors. Avocations may be more important in this future than traditional employment.

The women and other future sows a marked interest and concern with naming and power issues. I suspect that vocational rehabilitation in its current state would not be acceptable in this emerging society. The current organization is too top-down in its management and insufficiently democratic. Labelling and categorization of people by disability and the stigma attached to disability would be unacceptable. The emphasis of a professional working with a person with a disability in unequal roles would potentially be unsatisfactory. Paid work might be less of an emphasis in this future than providing services which draw the society together and assist individuals in improving themselves spiritually. Perhaps a new service would be open to all individuals for spiritual awakening or self actualization. Legislation currently in place (i.e., the ADA or other civil rights and accommodation laws), would probably not be dismantled. The importance of these laws will diminish as people become more self actualized. Building the new ideal citizen, as opposed to the perfect worker, would create pressures for conformance and yet allow for individual, cultural differences.
Differences between the rich upperclass and the poor and disadvantaged underclass in the cyberpunk, cyberanarchy future assumes away the need for government services. Those who can afford to pay for services can receive services from private sources. Without finance there is no hope of physical rehabilitation, enhancements or augmentations. Society is dying in this future. Civilization-of-a-sort exists only in enclaves or among special groups associated by ideology or business concerns. Persons with disabilities might be part of these larger groups and cared for if they possessed a very special skill (i.e., the idiot savant specialized in a skill which can be sold), or happen to be born to part of an enclave or extended family which will provide financial support. Vocational rehabilitation, as it is known today, would mutate. Rehabilitation services would become a number of specialized, private services for pay. By today's standards, the cyberpunk rehabilitation services might be considered immoral or politically incorrect.

6.7 Personal Beliefs and Images of the Future

I came to futures research as a pessimist. Only after it became clear that this was a very disempowering approach to the future did I take the challenge to examine what was important to me, describe and actively promote those preferences. A common result of talking about what I want for the future is that I am labelled an idealist. I ask those who attempt to delegitimate what I have to say by labelling me this way is to ask, "Who should be deciding what the future will look like, or what values will underlie the functions of society?"
Should I be speaking about what I prefer, or should megacorporations using global advertising methods have the only voice?"

6.7.1 Life with Dignity and Respect: Preferable Vision

My preferable future is more of a philosophical outlook than a complete scenario. The current economic, political and socio-culture system is in flux. Work is changing as the economy evolves as a new creation. People are confused and apathetic, unable to make choices or unwilling to vote. But, this is also a situation which offers many opportunities for positive change. This is summarized in Table 6.11.

Organizations of social action and individual choice could create a different approach to the change which is occurring today. A concern for future generations and other living things could be consciously chosen as the basis for policy decisions. Promoting dignity and respect for each individual, regardless of intellect, status, age, race, religion, sex or disability, or income level at birth would show the potential for greatness in our society rather than the withdrawal of care. Spiritualism could replace materialism as a value and would decrease resource use, accompanying environmental degradation and pollution. Societal values could be apparent in decisions made by individuals, translated to government policies, and reflected in the goals of other organizations' goals and actions, including business. Choice is important in a democratic society. If everyone in society has a dream for the future and feels empowered to attempt to achieve that dream, then society would be insured alternatives for the future.
Table 6.11 Preferred Vision Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Life with Dignity and Respect: Preferable vision of the future</th>
</tr>
</thead>
</table>
| **Underlying Philosophy** | • Current system is in flux  
|                    | • Many opportunities for positive change  
|                    | • Concern for future generations, other living things  
|                    | • Decisions reflect individual responsibility, society values  
|                    | • Caring and spiritualism are important  
|                    | • Everyone has a dream for the future |
| **Economy**       | • Resources are plenty  
|                    | • Distribution methods change  
|                    | • Economic rationalism as soul determining factor for policy abandoned  
|                    | • Use market-based tools (taxes, fines, tax cuts, etc.) to give correct signals for beneficial economic behaviors  
|                    | • Human labor surplus is a positive |
| **Political System** | • 200 years reference for decision making (Boulding, 1990)  
|                    | • Anticipatory stance to policy and planning  
|                    | • Appreciation of everyone's experience  
|                    | • Examine policy and program choices regularly – not only under duress  
|                    | • Transparent public institutions, decision making processes (Korten, 1995) |
| **Technology Type** | • Mixed  
|                    | • Technology makes political system and decision-making accessible  
|                    | • Social technology prevalent:  
|                    | • Facilitation  
|                    | • Personal behavior management  
|                    | • Responsible use of technical and organizational capacities  
|                    | • Government allows meaningful interaction among citizens |
| **Difference**    | • Elimination of categorization  
|                    | • Individualized services available to all  
|                    | • Create a new inclusive story (Korten, 1995):  
|                    | • New holidays, new celebrations  
|                    | • Deemphasize differences  
|                    | • Everyone has purpose |
| **Important Legislation** | • Policy is expression of an ideal  
|                    | • Systematic public education and discussion of important questions. Issues include:  
|                    | • Service programs,  
|                    | • Bio/genetics,  
|                    | • Employment of technology  
|                    | • Environment quality and resource use, and,  
|                    | • Subsidization of private business |
Choice aids in developing the future. Therefore dreaming, without constant deterents or sarcasm, must be encouraged.

It is clear that there are plenty of resources for the population of the United States, and possibly the world, to live a comfortable lifestyle. However, it would require conscious shift to a different method of distribution than is currently employed. Economic rationalism appears to be the dominant voice in decision making in the world economy. It allows a few individuals to amass huge sums of money while others become virtual slaves without choice. Although technology is appealing, to reduce the labor of humans, it should be used wisely. "Excess" human labor could be used for many worthwhile activities that the current system does not value. However, society suffers because there is no care for children and the environment. If people will be born and survive, they should be guaranteed some minimal lifestyle and expectations of being treated with dignity and respect. Creating systems which are terribly inequitable, that treat humans like debris because they have been injured or are disabled, are inhumane and unjust. They cannot be sustained over the long term but stimulate anarchy and revolution.

All individuals should be inculcated to think about history with a two hundred years reference for decision making (Boulding, 1990). People should have one hundred years knowledge of the past, and be speculating and anticipating one hundred years into the future (Slaughter, 1994, p. 1078-1082). This viewpoint lends perspective to any decision that must be made. Slaughter
(1994, p. 1079) cautions society "ought not confuse technical sophistication with being civilized. In many ways the global megaculture is openly barbaric, despite its technical virtuosity." An anticipatory stance to policy and planning would assist individuals to explore alternatives and know when to take personal or societal risks. Making decisions would include as many people as possible to benefit from their experience and perspective. This would slow decision making, probably require more facilitation and communication and discredits the generally accepted competitive stance operative now. But, policy and program choices deserve regular examination, not only evaluation under duress (i.e., allegations of corruption, sloth, excess, mismanagement, etc.). If we want a democratic society, then time must be spent assuming the duties of the citizen and learning those skills. Government and its institutions should operate transparently. This should be a "fundamental premise underlying decision making in all public institutions" (Korten, 1995, p. 332).

A mixture of technology should be available and there should be standards to determine how it should be used. Accessibility to and transparency of government functions are two important purposes for technology. Social technologies such as teaching facilitation, techniques for cooperation, and seeking collaborative solutions to problems should also be emphasized. As Korten (1995, p. 325) suggests, there should be a conscious creation of personal responsibility and the use of technical and organizational capacities to achieve worthwhile goals. Acknowledging that vocations and
avocations are both acceptable contributions to society should be one such goal. Downsizing government to make political interaction meaningful should be another goal. Creating avenues for local and global citizenship should be a third goal.

Categorization of need should be eliminated if service programs are determined to be a need, ending the constant need to duplicate programs for special categories of people. Flexibility in service and organizational design should also be goals. Not all services must be delivered in the same fashion, but they should be individualized to meet the needs of the person served. The service quality should be of sufficient quality that any citizen would want to use the service. A small fee, or more if large economic differences persist, should be paid. If someone with disabilities needs counseling on a job, there should be access and accommodation without argument. Special assistance should not encourage the idea that anyone's needs are extraordinary. Zola (1989) tried to remind people that able-bodiedness is a temporary state of being and total independence is a contradiction. No one is totally independent of others in our society. Disability will almost certainly occur with aging or injury. Quality service, whether provided by a private or public agency, should be a goal.

Korten (1995, p. 326) notes the need to create new stories of society that are inclusive: new holidays and celebrations that ingrain and stimulate people to treasure new values for society. This is similar to the creation of Afro-American holiday now celebrated in the United States. It is a re-creation
of culture that Hawaiians practice when their ceremonies and rituals have been lost. This activity legitimately creates culture. New stories could deemphasize differences that fragment society and strive to abolish of hierarchy for its own sake. If everyone learns to see that all people have a purpose and are worthy of respect, perhaps society could move to a position of more trust. U.S. policy could be seen as an expression of an ideal for which society should strive but not expect to "achieve" (Sagoff, 1988). Open, systematic public education and discussion of controversial social, cultural and ethical questions about service provision, bio/genetics, technology deployment (i.e., nuclear energy, global warming monitoring or repair), environment quality, resource use, or subsidization of private business could be conducted on many levels of government and personal understanding. It is a worthwhile use of people's time and efforts to have a well-educated, well-functioning, caring society.

As Slaughter concludes (1994, pp. 1084-1085), present day people can compensate people of the future if a longer term perspective can be instituted. Practical steps can be taken to develop and put in place "an ethical and far-sighted culture." It will not be free, effortless and requires a new social contract that communicates this new citizen role to all, according to each person's ability but expecting the best. And everyone can reap the rewards of this system, not just a few.
At what point does one enter into the experience of oppressed victims and cry out prophetically, or at least with passion and as an advocate? When will one moan and cry with those who moan and cry because they are oppressed? When will one assume a solidarity with those at risk of death in a way that makes one also an object of scorn and even puts one at the same risk from the same hands? (Wolfenberger, 1989, p. 65).

6.7.2 Gross Failure of the Modern State: Probable

What I consider to be more probable than my preferable future is one discussed by Wolfenberger (1994). This perspective is summarized in Table 6.12. Wolfenberger stated that the current system is in a critical and deteriorating state. Philosophically, society has made no provision for posterity: all individual concern is focused on the here and now. Individuals are intent upon enlarging their material possessions and obsessed with extreme forms of individualism. People exhibit an unhealthy preoccupation with beauty, youthfulness, able-bodiedness and disdain human weakness. They are also attracted to any passing fads or craze. They occupy their time by following gurus and become involved in cults or use drugs because they cannot bear to be alone or quiet. Technology helps them block out interactions they do not choose.

A belief in rabid individualism allows people to create and enforce their own rules of behavior and assert truth without evidence. The complexity of our society and its systems is too great and undermines any feelings of competence to create change at a meaningful level. Ethics have disappeared,
Table 6.12 Wolfenberger Vision Summary

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Gross Failure of the Modern State: Probable future (Wolfenberger, 1994)</th>
</tr>
</thead>
</table>
| **Underlying Philosophy** | - Current system critical and deteriorating  
- No provision for posterity, materialism rules  
- Extreme forms of individualism prevalent  
- Individuals' attention usurped by:  
  - Fads, crazes,  
  - Cults, gurus,  
  - Drug use or other obsessive behavior  
  - Belief in rabid individualism  
  - "Truth" asserted without evidence  
  - Complexity too great  
  - No ethics, values |
| **Economy** | - Increasing gap between rich and poor  
- Homogenization of need, decreasing choice  
- Forced participation in global economy  
- Resources are scarce, investment will uncover more with increase  
- Playing field is level for all members of society  
- Competence and commitment are eliminated by economy  
- Resource use favored over labor |
| **Political System** | - "Poor without hope and the affluent without heart" (Korten, 1994)  
- Kulturekampf  
- Threat of military take-over and installation of police state or military dictator  
- Professionals, academics refuse to see threat  
- Functional, competent, well-funded military kept in training by current uses  
- Local presence of police in urban local seen as normal |
| **Technology Type** | - High technology prevalent, affordable only to small number  
- Technology has very short life span  
- Energy supplies decrease, price will rise, decreased use of technology  
- Use of electronic tracking prevalent  
- Brainwashed to think a "low-level" technological fix is available for every problem |
| **Difference** | - Difference is constructed in finer and finer detail  
- Social programs are increasingly limited  
- Deathmaking of devalued people  
- Illegal but widely legitimized forms of deathmaking |
| **Important Legislation** | - Current civil rights legislation used for discrimination (Freeman, unknown)  
- Legal, legitimate forms of "deathmaking"  
- No quality indicators for and no evaluation of services provided  
- Registration of devalued classes, electronic surveillance |
values are relative and accompanied by endless political posturing or
discussions of political correctness without substance.

The current economy has an increasing gap between rich and poor and
a greater number of billionaires. Needs are homogenized and choices
decrease for those who cannot afford to pay for services. An excellent example
of this is health care for persons who are too poor to afford it. They are
dependent upon what is given to them without choice and in the face of
rationing in some states.

Workers have no choice but to participate in the global economy,
despite their desire to remain stationary. They do not have transferrable skills
to become employed in the information/communication economy that has
arrived. No or little assistance is available to aid in retraining, and the jobs may
not be available anyway. However, it is still a general assumption that the
economic playing field is level for all members of society -- and it is obviously
not true. Because companies can move rapidly to secure cheap labor and less
restrictive environmental conditions, employees are abandoned. Individual
competence and commitment are killed by the rapidly changing economy.
Resource use is favored over labor to produce products, resulting in greater
amounts of raw resources used and an abundance of labor -- or unemployment.
Although resources are scarce, more can always be found if sufficient monies
are invested in sophisticated technology to locate them.
The economic system has produced many unproductive types of employment which circulates wealth. The chief example is the human service sector. Demand for services has not decreased but grows constantly. The system is not curative, therapeutic or habilitative because it increases or maintains dependency or "manufactures" incompetent people. Without scientific evaluation there is no means of telling which services or programs effectively rehabilitate people and which do not. Government agencies and formal human service organizations and structures, show a declining capacity to institute change and provide successful services. What can be seen are massive failures, evoking "wrong" responses which elicit more suggestions for technology and more "formalization, objectification, bureaucracies." Past actions and results provide no guide to dealing with problems in the future.

Technology is very prevalent in society, used primarily for pleasure and to isolate one's self. It is affordable mostly to individuals in the high income strata of society. Society believes in the myth that there is a low tech fix for every problem. While energy prices have been low, technology has multiplied and become even more common in society. However, Wolfenberger anticipates that energy prices will rise because there is a fixed stock of oil. When this occurs, the price of producing and operating technology will increase dramatically, limiting its use and the positive impacts for persons with disabilities.
The resulting political system is composed of the "Poor without hope and the affluent without heart" (Wolfenberger, 1994, p. 20). A war of culture is being fought between the new world view and old world view, and the new world view has already won. With the massive social upheaval and potential threat of collapse, it is not entirely impossible that a military take-over and installation of a police state or rule by a military dictator rule could take place. The military and police are competent and well-funded, compared to other government services or programs. The military are functional because they are kept busy in engagements in U.N. peace efforts in other nations, tracking down drug lords, and providing assistance during disasters. Police have a regular, accepted presence in most urban locals. For example, they are regularly seen in the vicinity of schools to maintain student and teacher safety. Professionals and other academics refuse to see these threats to the current because they are "out of touch" with much of real life," preside over bureaucracies, or benefit from poor services by maintaining their jobs and some type of power (Wolfenberger, 1994, p. 31).

Current systems of service to people with disabilities are differentiated into finer and finer detail, creating more isolated service groups. Social programs are increasingly limited to reduce cost to society. If times get worse, as Wolfenberger anticipates, many forms of eliminating or deathmaking of devalued people will continue for groups already affected: unwanted children, disabled, poor, prisoners, derelict, homeless, native populations, elderly,
persons with contagious diseases, those who are terminally or chronically ill, and combinations of the above. Other forms of illegal but widely legitimatized forms of deathmaking -- assisted suicide, family abuse, deadly force by police, infanticide of newborns with disabilities, euthanasia, and poor or no service by service workers -- will be exacerbated. Even current civil rights legislation can be used for discrimination because it reinforces the incorrect assumption of level playing field (Freeman, 1987). The use of legal, legitimate forms of "deathmaking" -- abortion, withholding treatment, subduing violent people with drugs, excluding the poor from health care, capital punishment of persons with mental retardation, and placing persons with mental disabilities in situations where they are susceptible to violation (i.e., jails) -- will continue with more vigor. We may find mandatory registration of devalued classes of individuals in order to justify placing them under electronic surveillance like criminals.

Wolfenberger finds that the only means of combating these possibilities in the future is to distrust government, social service agencies and other care professionals. Individuals must repudiate "decadent, anti-human values, lifestyles, and . . . the contemporary media culture" (Wolfenberger, 1994, p. 32). Voluntary, personal quality circles of service are the only insurance that persons with disabilities, particularly individuals who might have difficulties with choice or advocating for themselves, have against deathmaking efforts and incarceration. Informal supports appear to the best defense against the current dysfunctional
system. He sees little hope of constructing an institutionalized form of services that will meet the needs of persons in need.

6.7.3 **Personal Evaluation of Future Vocational Rehabilitation**

My preferred vision would have people with disabilities, government bureaucrats, run-of-the-mill citizens, parents and other advocates for persons with disabilities, and maybe even employers or other service providers join to advocate for more effective individualized vocational services open to all individuals. Citizens who participate in making choices about the direction and format of government and private services can be very important in the future. There may be some very difficult realizations and adjustments to be made if technology and robotics do eliminate traditional entry-level positions. Providing funds for individual to provide services that assist the community to function better, (i.e., provide clean safe environments of individuals caring for one another), could be a choice that society makes. It is a challenge that awaits us. Redistribution of public finances toward a new set of goals could create new directions for society generally.

This is a great time of transition for most people in terms of finding adequate employment to support themselves. True integration of people with disabilities would mean eliminating segregated services -- and vocational rehabilitation is segregated. The order of selection regulations make services more segregated by focusing only on those who are "most severely disabled." Many problems are inherent in the provision of services in this vein. The chief
one is that individuals with disabilities who do not meet the most severe criteria and are not served do not understand the reasoning behind the legislation. People unfortunately not labelled as "most severe" are frustrated and feel abandoned by the system.

Individualized service will be a greater possibility in the future for most services and it will be the most effective. This type of approach could serve all people who are looking for employment well. New systems which would guide people into the new system of finding jobs -- creating a portfolio, marketing one's self and creating a niche market of services to be provided or developing a tool bag of many generally useful technological capabilities and skills -- would benefit a number of generations of workers who are not disabled but displaced by the emerging economy. This new focus would require a very different vision of providing vocational acquisition skills than vocational rehabilitation, traditional employment agencies, or even head hunter agencies provide currently.

Legislation may also need to be implemented to provide incentives for people to create life-long learning habits and flexibility in retraining. Changes in teaching prior to high school graduation would also need attention. There must be a serious revamp of current education and training habits. In addition, expectations about the nature of work and hopes of securing a "steady job" will probably require re-evaluation. Traditional expectations about the future -- getting a job and holding it for a lifetime, or even five years -- will not hold. All but a very ambitious group of individuals and "natural" entrepreneurs will
probably need special help in the adjustment period. The need for assistance in creating one's own job could last for at least a generation.

Wolfenberger assumes the very worst of society in his vision of the future. He believes that government and authorities cannot be trusted to provide special assistance or protect persons with disabilities, particularly those with mental, emotional or complex disabilities. Efforts to terminate people with disabilities, or what he calls "deathmaking," will occur more frequently. The end of the era of cheap energy will signal the complete demise of the current system in place and its emphasis on easily attainable technology or further development of new technologies. People who are competent and committed to services for persons with disability will probably become burned out and ineffective in this stressful situation. Society, in general, and even academics are not aware nor receptive to his viewpoint and are not effecting change. Specialized rehabilitation programs are more expensive than, and increasingly less frequently used than, deathmaking. Again, vocational rehabilitation as well as other programs specifically for persons with disabilities will fade away as society believes the playing level is already level. Redesigning private or public governments is not an option to fight the evolving situation. Agency personnel are to be distrusted because the system in place creates more people with disability as time goes by, never moving them to independence. The only recourse, in Wolfenberger's point of view, is to be individually accountable and
responsible for protecting individuals with disabilities. He warns that individuals taking this stance will potentially be stigmatized and ostracized from society too.

Ultimately, that's the power of scenario planning. It can prepare us in the same way that it prepares corporate executives: It helps us understand the uncertainties that lie before us, and what they might mean. It helps us "rehearse" our responses to those possible futures. And it helps us spot them as they begin to unfold (Wilkinson, 1995, p. 81).

6.8 Conclusion

Schwartz (1991, p. 231) recommends returning to the focal issue behind the development of the scenarios once they are complete. Implications of the scenario process relating to work and disability are evident from the scenarios discussed previously.

6.8.1 Findings

- Little special attention to specific services for people with disabilities exists in the scenarios. Most stories suggest a decreasing role for government bureaucracy and agencies due to cost concerns.
- Most scenarios describe a change in available work. Many jobs, as they are now defined, will be eliminated by the continued development of technology.
- Many people, particularly those with few skills, little education, or ability to access and use information, will lose their jobs and income. This could have serious political, cultural and social ramifications for the nation and for the individuals affected.
• Disability definitions will probably change. The general trend would exclude individuals from obtaining benefits or special services, again due to cost concerns. Yet, they may not be able to work or generate an income. Again, this factor could have serious political, cultural and social ramifications.

• The impact of changes in work and definitions in disability to decrease income and benefits for people have not been fully explored. The scenarios provide some basis for exploration.

6.8.2 Scenarios and Policy

Scenarios are not predictions about the future. Nor are they necessarily meant to provide discrete policy. Scenarios provide a context for the issue to be examined. In this situation, their use and robustness is challenged because they have been developed by a single individual. Ideally scenarios are vehicles created by many people who are interested in and impacted by these changes. In this case, a wide spectrum of individuals across society would be involved in the discussion of policy and other social options for meeting the challenges that lie ahead. Not only people with disabilities, but all individuals who are disenfranchised by the current system, should be involved in discussion and encouraged to communicate with individuals in government and business about these changes. The social, political, economic and cultural impacts will affect everyone.

Scenarios are not meant to be the single method for policy examination. As this dissertation demonstrates, there is much data to be
gathered and examined before a clear picture of the current situation can be constructed. Prior to setting up scenarios, environmental scanning is a powerful method of capturing important factors and emerging trends which will impact the future (Meeker, 1993; Slaughter, 1990; Godet, 1987). After trends and events have been identified, cross impact analysis can be used to gauge the probability of events or changes in trends (Godet, 1987). Forecasting requires a team of people interested in exploring options. Policy exploration and creation is not a Lone Ranger activity. It is a responsibility of the society and citizens within it.

What has often surprised me during the course of my work and research into possible futures for persons with disability, work and change, is how little time people devote to considering future possibilities. I try to stress that if each of us individually do not create our version of a positive future, then it will be dictated to us through the media and directed by large global corporations to further their desired future. I will continue to advocate that people, but especially people with disabilities, not just react to the events and trends affecting them but construct and discuss what they want to see happen. The future should belong to everyone, not just a few.
CHAPTER 7
CONCLUSION:
POSSIBILITIES FOR THE FUTURE

The spiritual and political roots of our crisis run deep. It is little wonder that a policy discourse dominated by economics that takes no account of either the spiritual or the political remains so unproductive. It is in the discourse of an awakening civil society that we find a more realistically grounded perspective (Korten, 1995, p. 325).

7.1 Diagnosis to Remedies

This dissertation provides new perspectives on the relationship between work, disability and the provision of vocational rehabilitation. The discussion follows a basic model of futures research of images of the future (Dator, 1987) in order to systematically explore the theories and models, historical factors, and conventional wisdom that create the context of the interactions among work, disability and vocational rehabilitation today. As Godet (1987, p. xiv) points out,

Thinking before action, anticipating possible problems, and undertaking present actions in the light of a desired future -- these rules of conduct now form part of the corporate survival and development kit in the face of a changing world.

Similar to corporations, government agencies, consumers of public services and programs and citizens who pay for these programs and services need tools to explore and map the possibilities for the future. The scenarios were developed to assist in this endeavor.

The dissertation does not provide a definitive policy to ameliorate the possible undesirable consequences of the scenarios. I strongly feel that this is the work of more than one researcher. Despite the difficulties of bringing many
individuals representing many perspectives together and asking for their cooperation and willingness to communicate across their disciplines, ideologies or worldviews, it is the most appropriate way to address future possibilities and seek solutions. Only through the involvement of many individuals with diverse perspectives can futures awareness be developed, strategic resolve be created and a commitment be formed to meet the threats and opportunities of the future (Godet, 1987, p. xv).

As a beginning effort in exploring the future of work, disability and vocational rehabilitation, the dissertation can assist individuals to move from diagnosis to remedies by (Godet, 1987, pp. 178-182):

- Asking the right questions or considering preconceived ideas about the future with skepticism in the effort to search for alternatives.
- Remembering that not only rapidly changing technical, financial or economic factors can be the key to success. Human factors -- social and organizational factors -- that are more rigid are very important in creating change. And,
- Seeing the forecasting method, in this case, scenarios, as simply a tool to stimulate thought and communication.

Even within the small group of individuals these scenarios have been shared, the result has been considerable discussion and genuine concern about the possibilities the future may hold. Frequently people have asked, "What is being done now? What happens next? What can be done? Who will lead efforts to
make the necessary changes?" Godet (1987, p. 181, his emphasis) suggests, "The process of planning is more important than the plan itself." He (1987, pp. 181-182) continues,

This observation has important consequences for the practice of research and consultancy: it is increasingly a case of promoting action rather than acting, of letting every individual discover the problems and solutions in their own terms, rather than unveiling pre-set truths, couched in unfamiliar professional language . . . .

The richest analyses are those we carry out ourselves. The best decisions are those made by the individual who will have to carry them out and bear the consequences.

Change and plans for change belong back in the community, back with those impacted and affected by services, programs and policy. These efforts must be inclusive. This may be difficult when much of vocational rehabilitation has followed a very conventional stance as evidenced by its history. I have heard individuals working within the field confide that the current vocational rehabilitation system is a "dinosaur," not entirely successful in providing the wide variety and individualized services that individuals with disabilities want or satisfying possible demands for efficiency and effectiveness of service. I suspect that they would welcome new ideas and the involvement of others to create a new and viable system.
But in the ideal world, my differences, though noted, would not be devalued. Nor would I. Society would accept my experience as "disability culture," which would in turn be accepted as part of "human diversity." There would be respectful curiosity about what I have learned from my differences that I could teach society. In such a world, no one would mind being called Disabled. Being unable to do something the way most people do would be seen as just a difference. . . . In other words, ideally, even if I had a difference that might hinder me in some contexts, I would be judged generally deficient because a recognized feature of Disability culture would be the fact that such limitations can be fodder for innovation and for a rich and valuable human experience. Once again, respect (Gill, 1994, p. 45).

7.2 Possibilities and Responsible Choice

The proper place for decisions about service and program policy is in the community, with the people who are impacted, their family members, advocates, representatives of the agencies or possible agencies, and general citizens (Deakin and Wright, 1990). Too often, in the course of professionalizing vocations, citizens are excluded from the discussion and participation in the creation and maintenance of service programs. Community gatherings to address issues which have to do with the well-being of people have been conducted on small scales to discuss very specific issues (Jungk, 1987), and continue to be conducted on a community-wide level (Taylor, 1995) to map the course to preferred future images. Efforts which invite all members of the society to participate will have greater impact because everyone who participates in the creation will have a stake in the results.

The search for policy solutions which does not abandon large segments of our society to hopelessness, life on the streets or other forms of exclusion is of increasing importance. If the future belongs to us all, then we cannot rely on a few individuals to provide creative new solutions outside the current popular
rhetoric of simply reducing government assistance and labelling those who need such assistance as luckless or shiftless. Korten (1995, p. 294) states that,

_The democratic legitimacy of the institutions to which we yield power derives from (1) being duly constituted by and accountable to the sovereign people, (2) conducting their operations according to an appropriate code of morals and ethics, and (3) producing desirable consequences for the whole. Most are failing on all three counts._

Neither election or revolution has changed this situation according to Korten's studies. Incremental changes or reforms which create minimal changes in the current structure of society are not successful either. He also finds that elections are meaningless, another symptom of large, distant institutions which are captive to special interests.

Korten finds hope in, and provides many examples of, people struggling for local autonomy, economic justice and political rights within their own communities. Voluntary associations provide civil society a tremendous means for people to network, create new power and stimulate vision about the future. Diverse and independent organizations and their members can work together but bring many perspectives to any issue. Citizenship itself is being reinvented in a fashion to meet the problems which confront citizens. Local vision allows more people, including more people with disabilities who often experience difficulties in political participation, to participate in imagining and creating
change. The advantages of these new networking organizations are that (Korten, 1995, p. 299):

- **A new civic culture is created when the problem is localized.**

  Finding and assisting individuals in the vicinity of one's home, who need help, is manageable. Imagining the creation of a program or services to help millions of people with disabilities who are without jobs is mentally overwhelming. Assisting one or two people to find employment or imagining a program or service that can work within the constraints of local resources, skills and capabilities can be empowering and fulfilling.

- **Human to human involvement recreates society.**

  When one goes to his/her own neighborhood and meets a single individual, a bond is created. That person who was previously a symbol of poverty, without a name and face, is transformed into a human being with a story. It is our stories about the past and our sharing of hopes for the future that can build a new society.

  Korten finds that successful movements assist in devising change which is not exclusively political.

- **Providing personal assistance to others will strengthen the creation of a new political and spiritual consciousness.**

  Assisting another human being, one-on-one, allows citizens to become more aware of inequalities and exclusion inherent in the current system. With this knowledge, the general citizen is more ready to envision a system which does
not incorporate these assumptions and foundations which generate injustice and isolation. For all these reasons, coalitions of local organizations which provide assistance person-to-person may be the best place to start the imaging process. Even these efforts to reconstruct citizenship would go a long ways toward eliminating some of the negative consequences described in a number of the scenarios.

The limitations of the approach are basic to the human condition. *Scenarios are inputs to decision-making* and if we knew everything about the future there would be no decisions to make — we would be gods, and bored ones at that (World Futures Studies Federation, *et al.*, 1986, p. 93).

7.3 Further Research

Results from this dissertation will be rewritten and submitted to journals in both the fields of futures research and disabilities studies to transmit the information to a wider audience. However, I also recognize that dissemination beyond academic journals would be beneficial for the lay person who is interested in issues of disability, the future, work and vocational rehabilitation, particularly if they wish to impact the future of these issues.

Exploring the future in order to responsibly implement new ideas means that there must be a way to link futures research to planning and policy efforts. Cole (World Futures Studies Federation, *et al.*, 1986, p. 127) suggested that this is best done though development of political consensus. Government policy and action is open, or as Korten (1995) suggests, government actions become transparent to citizens so that they can participate in choosing objectives rather than being passive recipients of planning and policy which
takes place outside their influence or awareness. With the exponential increases in electronic access to the Internet, there are possibilities for public participation that could only have been hoped for ten years ago. The advantages of face-to-face discussion via futures research workshops to create scenarios and discuss policy options, supplemented by Internet conversations on government policy of work, disability and vocational rehabilitation, are evident. Locating funding for an effort or many communities to participate in the research, design, facilitation, documentation and distribution is the largest, but not an impossible barrier to bridging the gap between futures research of these issues and the construction of potentially creative and innovative planning and policy endeavors.

As the old assumptions crumble, so too will the old political alignments. Traditional distinctions between Left and Right, liberal and conservative, have lost their meaning. Appeals to a political center are futile posturing by those who fail to recognize the meaning and significance of the challenges we face. The political future belongs to those who have the courage and vision to form new alliances based on ways of thinking that cannot be defined by the old categories (Korten, 1995, p. 328).

7.4 Conclusion

Planning and policy are prescriptive. Inherent in planning and policy making is also the idea of commitment to action. Often times the commitment to action can circumscribe the possible choices because one must consider the current organizations in place, existing laws and legal structures, limitations on funding, personalities of persons in power, and the need to fit new policy in with previous plans and policy. Linking futures research to these tasks is an effort
to make a rational choice among alternatives, given the desirability of the various choices (World Futures Studies Federation, et al., 1986, pp. 117-118). In this way, by stepping outside the prescribed boundaries as they are known and understood today, futures research can open the possibilities for planning and policy making.

This study has been a first attempt to tread outside the conventional discussion regarding work, disability and vocational rehabilitation policy and explore the possibilities that may await society. There is more work to do. Collaboration and cooperation among persons who are temporarily able-bodied and are disabled, the working and unemployed, bureaucrats and volunteers for service or advocacy agencies can be included in these processes, to increase the possibilities for "moving on" in new policy directions and ultimately find success in creating a society in which we prefer to live and practice a vocation or avocation.
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