

The Social Model of Disability: Dichotomy between Impairment and Disability

DIMITRIS ANASTASIOU*

Southern Illinois University, Carbondale, Illinois, USA

JAMES M. KAUFFMAN

University of Virginia, Charlottesville, Virginia, USA

*Address correspondence to: Dimitris Anastasiou, PhD, Department of Educational Psychology, Southern Illinois University, 625 Wham Drive, Carbondale, IL 62901, USA.
E-mail: anastasiou@siu.edu

The rhetoric of the social model of disability is presented, and its basic claims are critiqued. Proponents of the social model use the distinction between impairment and disability to reduce disabilities to a single social dimension—social oppression. They downplay the role of biological and mental conditions in the lives of disabled people. Consequences of denying biological and mental realities involving disabilities are discussed. People will benefit most by recognizing both the biological and the social dimensions of disabilities.

Keywords: *biological and mental conditions, dichotomy, disability, impairment, social model*

I. INTRODUCTION

What might be called a “social model” of disability has been influential in shaping public policy on disability matters and the education of students with disabilities in the United Kingdom, many countries in Europe, and on the wider international stage, including the United States, during the last two decades (McKay, 2002; Lindsay, 2003; Keil, Miller, and Cobb, 2006; Kauffman and Hung, 2009; Anastasiou and Keller, 2011; Kauffman and Badar, forthcoming). The concept of disability portrayed in the social model is captured succinctly by key phrases such as “disability is wholly and exclusively social” (Oliver, 1996a, 35) and “a social theory of disability can best be developed through the use of the concept of oppression” (Abberley, 1987, 7). The core

arguments of the social model were formalized in a 1976 statement of the Union of the Physically Impaired Against Segregation:

In our view, it is society which disables physically impaired people. Disability is something imposed on top of our impairments by the way we are unnecessarily isolated and excluded from full participation in society. Disabled people are therefore an oppressed group in society. To understand this it is necessary to grasp the distinction between the physical impairment and the social situation, called “disability”, of people with such impairment. Thus we define impairment as lacking all or part of a limb, or having a defective limb, organism or mechanism of the body and disability as the disadvantage or restriction of activity caused by a contemporary social organisation which takes little or no account of people who have physical impairments and thus excludes them from participation in the mainstream of social activities. Physical disability is therefore a particular form of social oppression. (3–4)

Subsequently, these arguments were developed and extended to all disabilities, mainly by the sociologist Oliver (1990, 1996a). As we have previously discussed (Anastasiou and Kauffman, 2011), the arguments of the social model can be condensed into five interconnected theses as follows:

1. There is a sharp distinction between impairment and disability (Barnes, 1991, 1999; Oliver, 1996a). As Barnes argued, “*Impairment* is the functional limitation within the individual caused by physical, mental or sensory impairment. *Disability* is the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to physical and social barriers” (1991, 2).
Barnes (1999) notes that the North American proponents of the social construction approach to disability (e.g., Irving Zola, Harlan Hahn, Anita Silvers) either do not make this key dichotomy clear or do not follow it consistently.
2. Impairment refers to physical/bodily dysfunction, whereas disability refers to social organization (Barnes, 1991; Oliver, 1996a). It should be noted that impairment is also considered as culturally produced and socially constructed from a postmodern perspective of the social model (Hughes and Paterson, 1997).
3. Disability is not a product of bodily pathology, but of specific social and economic structures. These structures are responsible for the exclusion of disabled people from their full participation in mainstream social activities (Oliver, 1990, 1993, 1996a). According to Oliver, “it is not individual limitations, of whatever kind, which are the cause of the problem but society’s failure to provide appropriate services and adequately ensure [that] the needs of disabled people are fully taken into account in its social organization” (1996a, 32).
4. Disabled people are an oppressed social group (Oliver, 1986, 1993, 1996a, 1996b; Abberley, 1987). The oppression is attributed to the capitalist

mode of production or the structures of industrial capitalism and the demands for increased productivity, whereby impaired people are marginalized (Finkelstein, 1980; Oliver, 1990, 1993, 1996b). Abberley stated:

historically specific categories of “disabled people” were constituted as a product of the development of capitalism, and its concern with the compulsion to work. This remained until the late 19th century largely the task of legal agencies, but the rise of scientific medicine resulted in the transfer of policing from legal to medical authorities. While this clearly led to certain transformations in the situation of disabled people, medical ideology too devalues the impaired modes of being, at the same time as it naturalises the causes of impairment. (1987, 17)

In the American version of the model, disabled people are considered an oppressed minority group (e.g., Hahn, 1985, 1986, 1989; Liggett, 1988; Zola, 1989; Silvers, 1994).

5. Disability is not a matter of personal tragedy. The so-called “personal tragedy theory of disability” represents disabled people as victims of some tragic happening or circumstance and, therefore, is closely connected to the individualized and medicalized concepts of disability (Oliver, 1986, 1990, 1996a, 1996b). Nothing about disabled people is wrong and needs to be fixed. Medical intervention is not appropriate. Instead, disabled people are better advised to struggle for changing a society.

II. DISABILITY AS SOCIAL CONSTRUCTION

Social constructionists apply the social construction argument to every disability in order to equate these conditions with social ideas (Bunge, 1999; see also Anastasiou and Kauffman, 2011, for a detailed review). Finkelstein asserted that physical disability is purely social:

Once social barriers to the reintegration of people with physical impairments are removed, the disability itself is eliminated. The requirements are for changes to society, material changes to the environment, changes in environmental control systems, changes in social roles, and changes in attitudes by people in the community as a whole. (1980, 33)

The claim that a disability is merely an idea, an arbitrary social creation (Oliver, 1990, 1993), rather than a condition with both objective and subjective elements, involves confusing a fact with its description, in particular disability with its descriptions, diagnoses, etiologies, and treatments (Bunge, 1999, 227).

In our view, today’s scientific constructs (e.g., scientific definitions of specific disabilities) in the case of autism, blindness, deafness, physical disabilities, and speech or language impairments have legitimate factual

reference and are approximations of scientific truth. For example, quadriplegia is the condition in which all four limbs are paralyzed, and this fact is subject-independent. But how a person with quadriplegia experiences this condition or how the existing social values affect the state of being of a person with quadriplegia is subject-dependent (see [Bunge, 2006](#), for the distinction between subject-independent and subject-dependent properties).

Other conditions such as intellectual disability and behavioral/emotional disorders are mainly defined in mental terms, with the exception of some identified organic syndromes (e.g., Down syndrome, Fragile X syndrome, Williams syndrome), which are mainly defined in biological terms. It is generally true to say that for the biggest part of mental disabilities, the distinction between subject-independent and subject-dependent properties is less clear. But even in these cases, we argue that the best theoretical starting point is that of emergentist materialism, considering the brain as the basis of mind and mind as a set of emergent bioactivities ([Bunge, 1980](#)). From this point of view, perception, memory, emotion, and ideation could be understood as brain-based functions, whereas their disturbances are understood as brain-related dysfunctions relative to the cellular components of the central neural system ([Bunge, 1980](#); [Bunge and Mahner, 2001](#)). Certainly, the understanding of mental disabilities unavoidably involves a better understanding of the mind-body problem.

Generally speaking, we do not reject the general idea that a supposed disability condition *can* be entirely a social construct. Indeed, in the past, ignorance, intolerance, prejudice, and political expediences led to the abuse of others justified by concepts such as the *drapetomania* (the supposed mental disease that makes slaves run away from their masters; [Wakefield, 1992](#)) and sometimes by social attitudes toward a concept (e.g., *homosexuality*, once considered the love that dare not speak its name and once considered a psychiatric disorder; [Bayer and Spitzer, 1982](#)). Today, these labels are considered irrelevant to the concept of disability or disorder. From a scientific realist point of view, constructs (concepts, hypotheses, and theories) are capable of being (approximately) true or false; for this reason the scientific theories should be taken at face value and the scientific terms should be considered as having putative factual reference ([Psillos, 2005](#)). But this thesis and the past false notions about drapetomania and homosexuality do not necessarily justify a social constructionist approach to disability like that of the social model (see [Anastasiou and Kauffman, 2011](#)).

III. DISTINCTION BETWEEN IMPAIRMENT AND DISABILITY

The pioneers of the social model (e.g., [Oliver, 1990, 1996a](#); [Barnes, 1991, 1999](#)) have made a two-fold distinction between impairment and disability. For them, impairment refers to the loss or lack of some functioning part

(organ or mechanism) of the body. Disability refers to a society that discriminates, disadvantages, and excludes people with impairments, as it does not make appropriate accommodations and gives preference to those without impairment (Oliver, 1990, 1996a; Barnes, 1991, 1999).

Generally speaking, the distinction between impairment and disability has been used in a methodological way to understand the psychological and social dimensions of disability. This was rather the case of the old tripartite International Classification of Impairments, Disabilities and Handicaps (ICIDH) definition of the World Health Organization (1980), despite the problematic distinction between disability and handicap.

The proponents of the social model use the distinction between impairment and disability in a radically different way, that of ontological (or social) constructionism. First, they draw a vertical line between biological properties and social dimensions of disabilities. After that, they argue only about social processes, that is, subject-dependent properties. However, by choosing to theorize only on sociological grounds, they detach biological and mental elements from the disabled subject. As a consequence, by neglecting or denying the underlying biological conditions of people with disabilities, they leave out a big part of their existence and activity. Finally, their disabled subject is not an individual with a full set of properties (biological, psychological, social) but, at best, a “half-person” with only social properties; a “half-man,” biologically naked and only subjected to social values and roles.

In the social model, the methodological distinction between impairment and disability gradually slides into a false distinction that assumes an ontological quality. This is a basic tool of social constructionism, which results in reducing the multidimensionality of disability in a single-sided social constructionist dimension—a narrow caricature of real human conditions and considering disabled humans as “half-humans.”

IV. NEUTRALIZATION OF DISABILITY

Social constructionists have argued that disabled bodies (and/or mind-related dysfunctions) are not independent of the knower, but rather are products of the knower (Bunge, 1996). Thus, the social model's proponents maintain that biological and cognitive characteristics of disabled individuals are only social illusions fully determined by the social context and social values (see analysis in Anastasiou and Kauffman, 2011).

Furthermore, Finkelstein (1980) and Oliver (1996a) seem to say that disabilities are not problems in themselves; they are neutral conditions when we remove social barriers. Indeed, for many people with disabilities, the social discrimination, hostility, ostracism, and exclusion are worse than the physical or mental impairment itself. But all these social, political, economic, and cultural disadvantages can exist independent of disabilities and surely do not define

disability itself. In other words, being Roma, black, female, or an unskilled worker can be disadvantageous in some social contexts. We can understand that, in the absence of social barriers, inequalities, and injustice, they (Romaness, blackness, femaleness, skill level) are neutral features (Harris, 2000).

However, disabilities themselves are not neutral features. If they were, then it seems reasonable to assume that there would be nothing wrong with treating babies in such a manner that they could no longer hear, see, walk, or speak (Harris, 2000; Kauffman and Hallahan, 2009). Despite the fact that disability is part of human diversity, it is not just another difference and cannot be equated with social disadvantage. That is, there are important differences among differences, and disability is not a mere social construct such as race or ethnicity (Kauffman, 1999; Anastasiou and Kauffman, 2012). In other words, not all differences are created equal, and social justice is not found in responding to all differences as if they were equal, as if the remedy for one were surely the remedy for the other (Kauffman and Landrum, 2009; Anastasiou and Kauffman, 2011).

The main aim of disability studies is to study persons with disabilities, and for this reason we make abstract categories. Creating a sharp dichotomy between impairment and disability, proponents of a social model replace the complex biological, psychological, and social characteristics of disabled people with a convenient mental construct. Then, they continue to theorize on an abstract category, that of the concept of “disability” they have created, and not on real human conditions. Thus, the biological and cognitive characteristics of people with disabilities are ignored or rarely used in analysis (see Oliver, 1990, 1996a; Barnes, 1991). In a postmodern version of the social model (e.g., Hughes and Paterson, 1997), the impairment is also analyzed in terms of social constructionism (Anastasiou and Kauffman, 2011).

In short, when biological or intrinsic characteristics are neglected as a reality, disability becomes a neutral thing—something we do not really care about one way or the other; having it is just as good as not having it. This neutralization of disability, disconnecting it from body, brain, and mind-related conditions, in turn allows proponents of a social model to give to their theoretical constructs complete autonomy, to argue as if people were empty of biological features. Needless to say, human beings without bodies simply do not exist, and brainless humans cannot survive in the real world.

V. DISABILITIES IN SOCIAL CONTEXT

Proponents of a social model seem to support the idea that disability is a product of wrong interpretation of impairments (Reindal, 1995) related to disabling social structures. Our question is very simple: Assuming that we have an ideal, perfect, caring society, will disabilities no longer exist? If we

followed the arguments of the social model, in an ideal society we would have only impairments but not disabilities!

Unfortunately, we do not think that it would be possible to eradicate disabilities by changing only the sociopolitical context. Why? Because the dichotomy between impairment and disability is methodological; it is not ontological. The names we give to physical or mental conditions do not create disabilities or turn disabilities into abilities (Kauffman et al., 2008; Kauffman, 2011). Of course, names have their importance, because they circulate in a social context and turn back on the named people. Also, a much better social context can substantially improve the quality of life of people with disabilities, and this is not a trivial matter. But whatever names we use in our societies, the most profound restrictions related to intrinsic factors will remain for the vast majority of people with disabilities.

Nevertheless, the discussion about social context is an important issue. Disabilities should be viewed as embedded in their social context in many different ways. First, a certain disability is conceptualized within a specific social context and characterized by a discrepancy between the individual's performance and the expectations or demands of the social group to which the person belongs. This brings social values into the appreciation of disabilities. Any conceptualization of disability, whether physical or mental, is inevitably value-laden.

Disabilities naturally arouse children's curiosity, but social perceptions can change. The recognition of disabilities can take different directions according to social values. Zola, an American sociologist, has eloquently described it: "Children spontaneously express an interest in wheelchairs and leg braces, but as they grow older they are taught that . . . it's not nice to ask [about] such things" (1982, 200). Values and attitudes exert profound influence on the way nondisabled people perceive others with disabilities, as Zola stated:

When the "able-bodied" confront the "disabled," they often think with a shudder, "I'm glad it's not me" . . . The threat to be dispelled is the inevitability of one's own failure. The discomfort that many feel in the presence of the aged, the suffering, and the dying is the reality that it could just as well be them. (1982, 202)

Second, social decisions about the border between disability and normality are difficult because of the statistical phenomena involved. In many cases, the border is both vague and rather arbitrary (Kauffman and Hallahan, 2005; Anastasiou and Kauffman, 2011; Kauffman and Lloyd, 2011). Defining the qualitative differences we call disabilities by making binary decisions (yes or no, has or does not have) requires making judgments about people, even though the quantitative data are continuous statistical distributions. The identification of a disability depends on judgment, and judgment means that one arrives at a cutpoint on continuously distributed abilities. Inevitably social values are linked to the judgmental identification of disabilities. However, not making such a judgment precludes the kind of assistance we consider necessary for social justice (Anastasiou and Kauffman, 2011).

Third, although categorizing and labeling have become major issues in disability and special education debates, the debate is often misguided. [Kauffman \(2002, 2011\)](#) and [Kauffman et al. \(2008\)](#) have argued analytically for the inevitability of labeling, given that we really want to offer special services and benefits to specific individuals. We simply cannot offer extra or better services to individuals without speaking about difference or special needs, and this is as true for disabilities as it is for economic assistance or any social program. For this reason, an individual-based perspective is necessary for identifying people with special needs for certain services ([Reindal, 1995](#)). Without a definition based on individual criteria of disability, the rights of people with disabilities cannot be fully guaranteed (see [Kauffman and Landrum, 2009](#)). Even in Norway, a country with an extended safety net of social welfare services, the identification of benefits to be received is based on judgment of individual need ([Reindal, 1995](#)).

Antilabelists imagine services without labels. But even in an ideal communitarian society with enough resources, we cannot offer excellent services according to the old socialistic principle “from each according to his/her ability, to each according to his/her needs” without any need identification process. Perhaps the process is more obvious in an antagonistic society with a plurality of interests and unequal distribution of power, status, and wealth. Those who want to avoid all labels commit a great mistake in confusing the relationship between education and social change. Public education, by its nature, is a rather conservative institution that reflects the mainstream values of society and represents an adopted social agenda. It is a trailer and not a leader in political, economic, and social change. Historically great social changes precede important educational changes. Imagining the opposite relationship and neglecting today’s predominant sociopolitical forces is a political fallacy. The danger is that without labels the needs of individuals with disabilities will be ignored (see [Kauffman, 2011](#)).

Surely labeling is not trivial, because labels are used to describe human beings as well as things. Labels often carry unintended stigma to receivers of services. And in many cases, the experiences of being disabled are socially constructed, mirroring the thoughts, feelings, and values of the social milieu. Indeed, the institutional response to disabilities is difficult. The “dilemma of difference” has been underlined in special education’s literature. If we emphasize existing differences (including disabilities), then we are in danger of unjustified discrimination; if we ignore the existence of disabilities or pretend that they do not exist, then we are in danger of leaving critical humans’ needs untreated ([Hallahan and Kauffman, 1994](#); [Kauffman and Badar, forthcoming](#)).

Fourth, disabilities are defined in a specific sociopolitical context and a system of social relations. Many dimensions of disabilities are part of the social process by which the social meanings of disability are negotiated ([Zola, 1989](#)). Public policy has a great impact on the lives of people with

disabilities, and the formulation of disability strategy in education and public arena is of huge importance (Anastasiou and Kauffman, 2010, 2011).

In summary, disabilities are sealed within their social context. And many concepts about disabilities, whether involving low-incidence disabilities (e.g., severe intellectual disabilities) or high-incidence disabilities (e.g., mild intellectual disabilities, specific learning disability), have socially constructed aspects. It is not accidental that they have been classified and reclassified, defined and redefined according to the status of scientific knowledge and social values (e.g., Bruno Bettelheim's theory of "refrigerator mothers" as a cause of autism—that autism was caused by cold, distant, and unconsciously rejecting mothers). Using the reasoning of Hacking (1999), we could make a distinction between the *idea of autism* (and the surrounding conceptual context) as socially constructed and *autistic behaviors*, which are real. Social construction does not give us insight into the severely restricted communication and social interaction of children with autism.

Recognizing the influence of social context does not mean that there are no other viable ideas about disabilities. Social factors such as biomedical technology and special education can interact with biological factors, codetermining the evolution of disabilities as atypical predicaments. Thus, social and individual explanations of disabilities should be seen not as mutually exclusive but as codeterminants of development of people who have disabilities (Williams, 1999).

VI. "THERE IS NO SUCH A THING AS BIOLOGY"

Margaret Thatcher, a former prime minister of Great Britain, is well known for her statement, "there is no such a thing as society." At the opposite extreme, some proponents of a social model of disability apply the same unidimensional logic (illogic, actually); they seem to say "there is no such a thing as biology" in defining disability. Following French (1993), we argue that the meaning of disability lies in both biology and society, as well as in their interaction.

Social model theorists ask the wrong question about disability: body or society? Their answer seems to be "body only" for impairment and "society only" for disability. Then, they seem to say, "We are seen as having disabilities, so we don't bother with body-impairment." Bodily impairment is, after all, a psychologically painful reality. Thus, after performing the "magic trick" of dichotomy between impairment and disability, they treat only their favorite whipping boy—disability—as they wish. By playing with these labels, they sweep the realities of intrinsic constraints under a sociological carpet.

Such oversocialized analysis not only eliminates the biological level of analysis but also breaks the link between biological mechanisms and social

experience (Shakespeare, 2006, 2008). Proponents of a social model argue that disability exists because of labeling or cultural representations and social attitudes toward human differences, not because of difference itself (see Kauffman and Hallahan, 2009). They believe that if a disabled person is at a disadvantage, this has nothing to do with the individual and biological characteristics (Low, 2006). Thus, the elimination of the “body” denies the particularities of human biology and psychology.

What is wrong with this approach? First, the eliminated category of “body” glosses over the cognitive, emotional, and social problems that are the very defining characteristics of intellectual disabilities and autism and the brain malfunctions involving many disabilities. People may have disabilities because of severe cognitive, language, emotional, and social problems, not only because they have what is recognized immediately as a physical impairment.

Second, denying the role of biology in disability also denies the daily experiences of people with disabilities, as Shakespeare and Watson noted:

Most activists concede that behind closed doors they talk about aches and pains and urinary tract infections, even while they deny any relevance of the body while they are out campaigning. Yet this inconsistency is surely wrong: if the rhetoric says one thing, while everyone behaves privately in a more complex way, then perhaps it is time to re-examine the rhetoric and speak more honestly. (2002, 12)

Third, treating only part of the social context, proponents of a social model cannot face the interactive relationship between biology and society. Neither biological/individual differences nor social context alone can provide an adequate account of disabilities. In some cases, cultural mediation, through biomedical technology, has turned disabilities into abilities falling within a normal range. For example, severe myopia and even less severe near-sightedness could be a disability without corrective lenses or other medical interventions such as laser surgery. But nowadays it is not, given appropriate corrective lenses or surgery. Today we explore the limitations of the technology of cochlear implants for deaf infants in combination with speech therapy. This is another contemporary but more complex example of a socially mediated biology or “socialized biology.”

We adopt the term “socialized biology” of Lewontin and Levins (2007) to describe the social and technological mediations of biological phenomena. Perhaps, technology can provide new solutions to sensory and physical disabilities in the future. Regrettably, the truth is that there are still uncrossed boundaries, especially in the case of cognitive and behavioral disabilities.

VII. DISABILITIES AS PREDICAMENTS

The experiential aspect of disabilities reflects how a person with a disability connects his/her internal world to social and natural contexts. Oliver (1990)

was right when he ascertained that on the experience of disability the scientific literature had been silent. Afterwards, he developed the social model, based mainly on experiences of people with physical disabilities. Theoretically, first-hand experience can provide new insights into the way disabilities are perceived from a scientific perspective. People with disabilities usually build their subjective experience through their interaction with their environment, and, as Oliver argued, “disability is an essential part of the self” (1990, xiii).

Not all disabled people perceive their disabilities the same way. A study of subjective experience in rational terms is consistent with conjectural pluralism, on the condition that the subjectivity does not control the course of research. Instead, hunches got by introspection must be regarded not as self-evident but as a starting point for conducting a rigorous research (Bunge and Mahner, 2001, 90). Paraphrasing Levins and Lewontin (1985, 141), we can state that subjective experiences are similar: this makes psychological science possible. Subjective experiences are different: this makes psychological science necessary.

We have already mentioned the conceptualization of disability by advocates of the social model. On the other hand, Shakespeare (2006) has convincingly argued that impairments are ubiquitous. People with disabilities have to confront atypical functional restrictions in their daily life and sometimes with pain related to biological conditions. As a result, many people with disabilities experience their atypical restrictions of abilities as predicaments. Predicaments can, as Shakespeare put it, “. . . make life harder, although this hardship can be overcome” (2006, 63).

The concept of predicament is critical to understanding the subjective experience of people with disabilities. Except for some fatal diseases, the experience of predicament has little to do with “personal tragedy” situations. Yet the hyperbole of phrasing, used by proponents of the social model, cannot hide the fact that impairments are not pleasant and comfortable situations for many people (Kauffman, 2002; Shakespeare, 2006, 2008).

Human life is full of several kinds of predicaments. And we can imagine a lot of responses to the predicaments we face. However, there are situations in which we cannot ignore our common human biological limitations, according to our mood. Oliver (1996a) has opposed the personal tragedy view of disability, arguing about the relativity of impairment with an airplane metaphor. Specifically, Oliver stated, “An airplane is a mobility aid for non-flyers in exactly the same way as a wheelchair is a mobility aid for non-walkers” (1996a, 108). We see problems with Oliver’s metaphor. To move through the air (to fly) is a very special case of moving, not one that is characteristically human. “A wheelchair is not just one travel option for a paralyzed person: it is an essential facilitator” (Shakespeare, 2006, 51). Regrettably, a wheelchair is an indispensable means of locomotion for a paralyzed person either on the ground or in the skies. The ubiquity of impairment accompanies a paralyzed person during his/her flight.

Disabled or not, we may feel restricted because we cannot fly without a special device. But our inability to fly is only a thought experiment when it comes to disability, simply because naturally flying human beings do not exist. Having accepted our common biological constraints as human beings, we find it wise not to ignore the law of gravity. Richard Dawkins is said to have commented that no one is a social constructionist at 30,000 feet (cited in [Hacking, 1999](#), 67). This is why we prefer to fly in airplanes, not by flapping our limbs.

The optimistic message from the airplane metaphor is that we can finally fly as “socialized individuals” because of technological inventions and a social organization supporting the necessary technological requirements ([Lewontin and Levins, 2007](#)). We can fly today because we accept our biological constraints and overcome them through technology and social action. And the first step toward actually flying required us to overcome the Icarian myth and make a realistic appreciation of our human condition, including our constraints and abilities.

VIII. BEYOND BIOLOGICAL AND CULTURAL DETERMINISM

The social model of disability represents an extreme form of cultural determinism, because it denies the role of biology and is thus opposed to the actual experience of many people with disabilities. But as Knight, a British anthropologist, wrote, “If everything is cultural, then nothing is” (2000, 196).

Critiques of theories of cultural determinism related to disabilities are in danger of falling into the opposite—biological determinism, which considers disabilities as exclusively biological categories ([Lewontin, Rose, and Kamin, 1984](#)). Theories of disability tend to go from one extreme to the other one. This has been the fate of the nature-nurture controversy, since it was first outlined by Plato and Aristotle ([Bates et al., 1998](#)).

At this point, it is important to make our view clearer. Disability is neither the sole product of the biological nor societal conditions. Contrary to cases of social/cultural difference (i.e., ethnicity, “race,” social class), we consider that intrinsic factors—in the sense of socialized biological factors—are fundamental to understanding and defining disabilities. In explanations of disability phenomena, biological reductionism is inappropriate because it fails to integrate biological with psychological and social factors ([Bunge, 1980](#); [Williams, 1999](#)).

Developmental disabilities (e.g., intellectual disabilities, autism, specific language impairment, specific learning disability) are at the center of interest in special education. A coherent understanding of developmental disabilities involves the integration of intrinsic structures (genetic, anatomical, physiological), functional factors (cognitive, behavioral), and contextual factors (natural environment, sociocultural context, and politics). Each of these

levels of explanation is necessary, without collapsing one into the other or denying the existence of either (Williams, 1999). Development is the dynamic ontological process that unifies all these factors. Developmental disabilities carry atypical emergent properties involving the interplay of all these factors over time. From an educational point of view, the emergent dimension of disabilities is a key issue. We consider that this point of view is very close to emergentist approaches to the developmental disabilities (see Elman et al., 1997; Bates et al., 1998), critical realistic approaches to disabilities (Williams, 1999; Shakespeare, 2006), and emergentist materialism and/or scientific realism in general (Bunge, 1980, 1996, 2006).

What is rather surprising about the social model is that it leaves out the biological world of human beings. Unavoidably, such an idealistic approach that underrates or even denies important biological aspects of life, possibly because they are difficult and undesirable realities, allows the opposite pole—biological determinism—to give simple and direct explanations, sometimes under the cloak of scientism. Biological determinism and its commonest form—genetic determinism—considers disabilities as exclusively biological categories. This, too, is unsatisfactory.

According to genetic determinism, the genes tightly control timing and phenotypic outcome. In this perspective, genetic determinism operates independently of other processes (Karmiloff-Smith, 2005). But even in the case of genetic syndromes, such as Down, Fragile X, and Williams syndromes, the phenotypic outcomes in cognitive, language, and social areas cannot be fully explained by genotypic differences. Those outcomes are affected not only by genomic variation and the regulation of gene expression over time but also crucially by the process of ontogenetic development (Karmiloff-Smith, 2002; Karmiloff-Smith, Scerif, and Ansari, 2003). In our view, the emphasis of some evolutionary psychology theories on the innateness of social cognition (i.e., the ability to construct representations of the relations between oneself and others and to use those representations flexibly to guide social behavior) and subsequently the emphasis given on the innateness of autism (e.g., Adolphs, 2001) are rather biological determinist explanations.

In the emergentist perspective, genes and environment interact to determine complex higher-level cognitive functions in a way that these phenotypic differences (sometimes expressed in the form of disabilities) may be the endpoints of development, but they are not necessarily the starting points (Elman et al., 1997; Bates et al., 1998). Surely this does not mean that there are no genetic constraints, as a social constructionist or naive environmentalist stance would claim, but cognitive differences (including cognitive, language, and learning disabilities) are far less constrained than a tight biological deterministic theory might suggest. Clearly genes play a vital role, but the gradual process of ontogeny does a lot of the work in establishing higher-level cognitive specializations like language and face processing (Karmiloff-Smith, 2005). As Karmiloff-Smith put it:

Genes and their products are unlikely to code for anything like higher-level cognitive outcomes like language and face processing, but rather for differences in developmental timing, neuronal density, neuronal migration, neuronal type, firing thresholds, and neurotransmitter differences, that impact on the developing system in interaction with the inputs being processed. . . . So, if we are to understand what it is to be human, to have language and recognize our conspecifics, our continuing emphasis must be on the process of development itself. In other words, rather than the mosaic form of tight genetic control which some evolutionary psychology theories invoke, evolution's solution for the human brain may well have been to avoid too much pre-specification in favor of gradual development and neuroconstructivist plasticity: the essence of Bates's emergentist approach. (2005, 232)

Emergentist theories could have implications for disability politics, combining an identity strategy with compensational social strategies aiming at maximizing functioning of people with disabilities (Anastasiou and Kauffman, 2010). In our view, the disability movement can be based on the sound ground of scientific theories and gain a lot through this meeting of biological and social explanations.

On balance, the understanding of disabilities is too complex and multifarious to be unlocked by single-dimensional cultural or biological explanations. Thus, what is needed is a unified and multidimensional understanding of disabilities, clarifying the relationship among the biological and cultural, individual and social, psychological and behavioral, intrinsic and external factors affecting the lives of people without eliminating one of these levels of analysis.

IX. RELATIONSHIP BETWEEN SCIENCE, SOCIAL THEORY, AND POLITICAL ACTIVISM

For the good that I would I do not: but the evil which I would not, that I do.

—Apostle Paul, Romans 7:19

The coincidence of science, social theory, and political movement can lead to major breakthroughs in social structures. Enlightenment represents the best example of such coincidence on a grand scale. The formal recognition of special education, with the culmination of the passage of laws for the education of students with disabilities in the United States in 1975 and special needs in England and Wales in 1981, is also the outcome of such coincidence on a smaller scale. Unfortunately, science does not always accompany influential social theories and strong political movements (see [Kauffman, 2011](#)). We think that political activism in the context of the social model of disability represents such divergence.

The story of Trofim Denisovich Lysenko is a very important illustration of the hazards of a powerful social theory based on false concepts. Lysenko

was a Ukrainian agronomist, a kind of “peasant scientist” in Stalinist times in the former Soviet Union. In the 1920s, he developed the so-called “vernalization” technique by which seeds were soaked and chilled to enhance the later growth of wheat crops. Lysenko claimed that his freezing seed would pass on their characteristics to the next generation and thus agricultural productivity would be increased dramatically (French, 2007). Lysenko’s doctrine “rejected the existence of genes as the basis of heredity and held that the basis of heredity did not lie in some special self-producing substance. . . . Heredity was based on the interaction between the organism and its environment through the internalization of external conditions” (French, 2007, 128–29).

Although the rest of the world was embracing Mendelian genetics, Soviet biology and agriculture were based on Lysenko’s theory. Soviet philosophers sided with Lysenko because his approach seemed to interpret better the dialectical materialism of Karl Marx and Friedrich Engels. Moreover, Lysenko himself quoted Engels in support of his theory (Levins and Lewontin, 1985; French, 2007). In 1940s, at the very apogee of Lysenkoism, he was portrayed as the pioneer of a new revolutionary science by propaganda of the Communist Party, whereas Mendelian genetics was banned as “bourgeois pseudoscience.” The opponents of Lysenkoism lost their positions, and their work was condemned by the Soviet regime. At the apogee of Lysenkoism, the “two camps” view of the world between imperialism and socialism was seen as parallel to bourgeois and socialist science (Levins and Lewontin, 1985).

Lysenko’s theory was dominant in the USSR for more than 20 years based on pure ideology, rejecting the techniques of statistical analysis and the requirement of using a control group in scientific research (Levins and Lewontin, 1985). In the mid-1960s, Lysenko’s theory was proved to be wrong, but his theory had a disastrous affect on Soviet biology and negative results in Soviet agriculture (Levins and Lewontin, 1985; French, 2007).

It is worth mentioning that Levins and Lewontin (1985), from a Marxist perspective, have emphasized the hazards of Lysenkoism and the vulgarization of Marxism. They also argued that the case of the Lysenkoist movement has raised various issues about the relationship between science, social theory, and politics (radical or not). Besides, Levins and Lewontin concluded that “Unless Marxism examines its failures, they will be repeated” (1985, 166). We think that it is also true for the social model of disability, which seems to be inspired by a philosophical mixture of Gramscian Marxism and social constructionism (e.g., Finkelstein, 1980; Abberley, 1987; Oliver 1990, 1996a).

Proponents of a social model should confront the historical precedent of Lysenkoism. Social factors may determine what science investigates (e.g., embryonic stem cells), may determine the ethical limits of investigation (e.g., Nazi experiments on human bodies), may intervene in the content of

scientific beliefs (e.g., Lysenkoism, eugenics and heredity of IQ, cause of AIDS), but social factors cannot arbitrarily construct scientific “facts” irrelevant of an external reality (Bunge, 1999, 2006; French, 2007; Kauffman, 2011).

Politics has the power to transform the world in some ways. Thus, some degree of utopian ideas (e.g., an imaginary world in which the needs of all disability groups would be satisfied) are coherent in radical politics. But we cannot ignore the existence of all the past and today’s sociopolitical systems, as well as the existence of today’s people with disabilities, who live in a nonimaginary world. The recognition of this reality is critical for realizing a radical and transformational political strategy.

In sum, the disability movement must not be built on false arguments that ignore realities; instead, it needs scientific truths (Kauffman, 2011). Dubious theories about disability, grounded on the denial of biological conditions, cannot serve the interests of all people with disabilities in the long run. A deeply flawed concept of disability makes it susceptible to negative sociopolitical shifts.

REFERENCES

- Abberley, P. 1987. The concept of oppression and the development of a social theory of disability. *Disability, Handicap and Society* 2:5–20.
- Adolphs, R. 2001. The neurobiology of social cognition. *Current Opinion in Neurobiology* 11:231–9.
- Anastasiou, D. and J. M. Kauffman. 2011. A social constructionist approach to disability: Implications for special education. *Exceptional Children* 77:367–84.
- . 2012. Disability as cultural difference: Implications for special education. *Remedial and Special Education* 33:139–49.
- Anastasiou, D. and C. Keller. 2011. International differences in provision for exceptional learners. In *Handbook of special education*, eds. J. M. Kauffman and D. P. Hallahan, 773–87. New York: Routledge.
- Barnes, C. 1991. *Disabled People in Britain and Discrimination*. London: Hurst and Co.
- . 1999. Disability studies: New or not so new directions? *Disability and Society* 14:577–80.
- Bates, E., J. I. Elman, M. H. Johnson, A. Karmiloff-Smith, D. Parisi, and K. Plunkett. 1998. Innateness and emergentism. In *A Companion to Cognitive Science*, eds. by W. Bechtel and G. Graham, 590–601. Oxford: Basil Blackwell.
- Bayer, R. and R. L. Spitzer. 1982. Edited correspondence on the status of homosexuality in DSM-III. *Journal of the History of the Behavioral Sciences* 18:32–52.
- Bunge, M. 1980. *The Mind-Body Problem: A Psychobiological Problem*. Oxford: Pergamon Press.
- . 1996. *Finding Philosophy in Social Sciences*. New Haven, CT: Yale University.
- . 1999. *Social Science Under Debate*. Toronto, Canada: University of Toronto Press.
- . 2006. *Chasing Reality: Strife Over Realism*. Toronto, Canada: University of Toronto Press.

- Bunge, M. and M. Mahner. 2001. *Selected Essays of Mario Bunge: Scientific Realism*. New York: Prometheus Books.
- Elman J., E. Bates, M. Johnson, A. Karmiloff-Smith, D. Parisi, and K. Plunkett, eds. 1997. *Rethinking Innateness*. Cambridge, MA: MIT Press.
- Finkelstein, V. 1980. *Attitudes and Disabled People*. New York: Word Rehabilitation Fund.
- French, S. 1993. Disability, impairment or something in between. In *Disabling Barriers, Enabling Environments*, eds. J. Swain, V. Finkelstein, S. French, and M. Oliver, 17–25. London: Sage.
- . 2007. *Science: Key Concepts in Philosophy*. London: Continuum.
- Hacking, I. 1999. *The Social Construction of What*. Cambridge, MA: Harvard University Press.
- Hahn, H. 1985. Disability policy and the problem of discrimination. *American Behavioral Scientist* 3:293–318.
- . 1986. Public support for rehabilitation programs: The analysis of US disability policy. *Disability, Handicap and Society* 1:121–37.
- . 1989. The politics of special education. In *Beyond Separate Education: Quality Education for All*, eds. D. K. Lipsky and A. Gartner, 225–41. Baltimore, MD: Paul H. Brookes.
- Hallahan, D. P. and J. M. Kauffman. 1994. Toward a culture of disability in the aftermath of Deno and Dunn. *Journal of Special Education* 27:496–508.
- Harris, J. 2000. Is there a coherent social conception of disability? *Journal of Medical Ethics* 26:95–100.
- Hughes, B. and K. Paterson. 1997. The social model of disability and the disappearing body: Towards a sociology of impairment. *Disability and Society* 12:325–40.
- Karmiloff-Smith, A. 2002. Atypical development of language and social communication in toddlers with Williams syndrome. *Developmental Science* 5:233–46.
- . 2005. Bates' emergentist theory and its relevance to the exploration of genotype/phenotype relations. In *Beyond Nature-Nurture: Essays in Honor of Elizabeth Bates*, eds. M. Tomasello and D. Slobin, 219–36. Mahwah, NJ: Lawrence Erlbaum Associates.
- Karmiloff-Smith, A., G. Scerif, and D. Ansari. 2003. Double dissociations in developmental disorders? Theoretically misconceived, empirically dubious. *Cortex* 39:161–3.
- Kauffman, J. M. 1999. What we make of difference and the difference we make. In *Handbook of Psychosocial Characteristics of Exceptional Children*, eds. V. L. Schwenn and D. H. Saklofske, ix–xiii. New York: Plenum.
- . 2002. *Education Deform: Bright People Sometimes Say Stupid Things About Education*. Lanham, MD: Scarecrow Education.
- . 2011. *Toward a Science of Education: The Battle between Rogue and Real Science*. Verona, WI: Attainment.
- Kauffman, J. M. and J. Badar. Forthcoming. Instruction, not inclusion, should be the central issue in special education: An alternative view from the USA. *Journal of International Special Needs Education*.
- Kauffman, J. M. and D. P. Hallahan. 2005. *Special Education: What it is and Why We Need It*. Upper Saddle River, NJ: Pearson Education.
- . 2009. Parental choices and ethical dilemmas involving disabilities: Special education and the problem of deliberately chosen disabilities. *Exceptionality* 17:45–62.
- Kauffman, J. M. and T. J. Landrum. 2009. Politics, civil rights, and disproportional identification of students with emotional and behavioral disorders. *Exceptionality* 17:177–88.

- Kauffman, J. M. and J. W. Lloyd. 2011. Statistics, data, and special education decisions: Basic links to realities. In *Handbook of Special Education*, eds. J. M. Kauffman and D. P. Hallahan, 27–36. New York: Routledge.
- Kauffman, J. M., D. R. Mock, M. Tankersley, and T. J. Landrum. 2008. Effective service delivery models. In *Evidence-Based Interventions for Students with Learning and Behavioral Challenges*, eds. R. J. Morris and N. Mather, 359–78. Mahwah, NJ: Lawrence Erlbaum Associates.
- Keil, S., O. Miller, and R. Cobb. 2006. Special educational needs and disability. *British Journal of Special Education* 33:168–72.
- Knight, C. 2000. Culture, cognition and conflict. *Cambridge Archaeological Journal* 10:187–205.
- Levins, R. and R. Lewontin. 1985. *The Dialectical Biologist*. Cambridge, MA: Harvard University Press.
- Lewontin, R. and R. Levins. 2007. *Biology under the Influence: Dialectical Essays on Ecology, Agriculture, and Health*. New York: Monthly Review Press.
- Lewontin, R. C., S. Rose, and L. J. Kamin. 1984. *Not in Our Genes: Biology, Ideology and Human Nature*. New York: Penguin.
- Liggett, H. 1988. Stars are not born: An interactive approach to the politics of disability. *Disability, Handicap and Society* 3:263–75.
- Lindsay, G. 2003. Inclusive education: A critical perspective. *British Journal of Special Education* 30:3–12.
- Low, C. 2006. Some ideologies of disability. *Journal of Research in Special Educational Needs* 6:108–11.
- McKay, G. 2002. The disappearance of disability? Thoughts on a changing culture. *British Journal of Special Education* 29:159–63.
- Oliver, M. 1986. Social policy and disability: Some theoretical issues. *Disability, Handicap and Society* 1:5–17.
- . 1990. *The Politics of Disablement*. Basingstoke, UK: MacMillan.
- . 1992. Changing the social relations of research production? *Disability, Handicap and Society* 7:101–14.
- . 1993. Disability and dependency: A creation of industrial societies. In *Disabling Barriers, Enabling Environments*, eds. J. Swain, V. Finkelstein, S. French, and M. Oliver, 49–60. London: Sage.
- . 1996a. *Understanding Disability: From Theory to Practice*. Basingstoke, UK: Macmillan.
- . 1996b. A sociology of disability or a disablist sociology. In *Disability and Society: Emerging Issues and Insights*, eds. L. Barton, 18–42. Harlow, UK: Longman.
- Psillos, S. 2005. Scientific realism and metaphysics. *Ratio* 18:385–404.
- Reindal, S. M. 1995. Discussing disability: An investigation into theories of disability. *Disability and Society* 10:58–69.
- Shakespeare, T. W. 2006. *Disability Rights and Wrongs*. London: Routledge.
- . 2008. Disability: Suffering, social oppression, or complex predicament? In *The Contingent Nature of Life: Bioethics and Limits of Human Existence*, eds. M. Duwell, C. Rehmann-Sutter, and D. Mieth, 235–46. Utrecht, the Netherlands: Springer.
- Shakespeare, T. and N. Watson. 2002. The social model of disability: An outdated ideology. *Research in Social Science and Disability* 2:9–28.
- Silvers, A. 1994. “Defective” agents: Equality, difference and the tyranny of the normal. *Journal of Social Philosophy* 25:154–75.

- Union of the Physically Impaired Against Segregation. 1976. *Fundamental Principles of Disability*. London: Union of the Physically Impaired Against Segregation.
- Wakefield, J. C. 1992. The concept of mental disorder: On the boundary between biological facts and social values. *American Psychologist* 47:373–88.
- Williams, S. J. 1999. Is anybody there? Critical realism, chronic illness and the disability debate. *Sociology of Health and Illness* 21:797–819.
- World Health Organization. 1980. *International Classification of Impairments, Disabilities, and Handicaps: A Manual of Classification Relating to the Consequences of Disease*. Geneva, Switzerland: WHO.
- Zola, I. K. 1982. *Missing Pieces: A Chronicle of Living with a Disability*. Philadelphia, PA: Temple University Press.
- . 1989. Towards the necessary universalizing of a disability policy. *The Milbank Quarterly* 67 (Suppl.):401–28.