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## **Social Contract Theory and the Tough-Crowd Problem: Comments on Martha Nussbaum's "Justice for Mentally Disabled Citizens"**

The aims of Martha Nussbaum's argument are inspiring – especially her determination to work with richer conceptions of human good and reciprocal relationships than are usually found in contemporary political philosophy. My comments are in response to her criticism of "mutual advantage" versions of the social contract tradition. She thinks this important tradition lacks the resources to deal adequately with seriously disabled citizens -- especially those with mental disabilities.<sup>1</sup> I do not think things are that dire, though I certainly agree with her that the canonical examples of the tradition stumble badly in this area. I have four things to say in response.

### **1) The Tough-Crowd Problem and the Importance of Justice as Mutual Advantage**

First, let me rehearse some reminders about the importance of the mutual advantage approach to justice, as a way of framing my general concerns.

For good historical reasons, social contract theory in the modern era addresses the task that Socrates begins in the first two books of Plato's *Republic* -- namely, trying to convince political realists like Thrasymachus that they should endorse a way of life based on a conception of justice rather than one based on the unfettered exercise of power. And like Socrates, modern

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<sup>1</sup> As a reminder, here in brief is the core of Nussbaum's criticism of traditional social contract theories. She says:

Mentally disabled children and adults are citizens. Any decent society must address their needs for care, education, self-respect, activity, and friendship. Social contract theories, however, imagine the bargaining agents who design the basic structure of society as "free, equal, and independent"... They also imagine them as characterized by a rather idealized rationality. Such approaches do not even do well with severe cases of physical disability. What is especially clear, however, is that such theories must handle severe mental disabilities as an afterthought, after the basic institutions of society are already designed. Thus, in effect, the mentally disabled are not among those for whom and in reciprocity with whom society's basic institutions are structured.

theorists have relied on the notion that norms of justice are compatible with self-interest.

Unlike Socrates, however, modern theorists have decided to confront Thrasymachus in a serious way rather than to humiliate him and push him out of the discussion.

Modern theorists have thus faced squarely what we may call the Tough-Crowd Problem in political theory: the problem of persistent, life-and-death conflicts between people who are politically engaged and willing to deal with each other -- rather than fight as a first resort -- but who have irreconcilable views about human good and the good life. The aim has been to find common ground that yields agreement on a substantive theory of justice. Rational self-interest is one obvious piece of common ground, and a mutually advantageous arrangement made upon that ground is generally more stable than a mere *modus vivendi*.

Moreover, we can make a plausible case for thinking that self-interest is the most inclusive piece of common ground capable of generating stable political arrangements in any society where there is significant diversity. It is not that the political world is full sociopaths or psychological egoists. Almost everyone who is willing to deliberate about matters of justice (and that includes just about everyone who is able to deliberate) has an elaborate combination of egoistic and nonegoistic interests -- interests in the common good, the general welfare, the perfection of social organization and forms of government, for example, in addition to concerns about the dear self. Moreover, even many of our egoistic interests are linked causally to the welfare of others and present themselves to us as primarily *about* the welfare of those other people rather than about our own. Nonetheless, decision-making in a political context -- especially in discussions about the basic structure of society -- often brings frankly self-interested concerns to the forefront, making their satisfaction a necessary condition of political agreements. More than that, it appears that in structural political contexts self-interest has lexical priority for a wide range of powerful political actors. There are plenty of people who, if not satisfied on this score, will repeatedly scuttle other political arrangements.

Social contract theory aimed at achieving arrangements for mutual advantage is part of what Ronald Dworkin calls the great liberal settlement of the 17th and 18th centuries in Europe. Settlement, we might think, is the wrong word, given the slaughter in Europe ever since, especially in the globalized conflicts of the 20<sup>th</sup> century. But it is important to notice that people rarely ride into battle under the banner of mutual advantage; rather, they go to war under the flag of some form of ideological or theological perfectionism, or in self defense, or in the ultimate hope of promoting aggregate welfare. They make peace for mutual advantage – at least when they cannot get or give unconditional surrender.

I suggest that as a philosophical project in political theory the idea of justice as mutual advantage is as important today as it was during the Thirty Years War. If we cannot solve this Tough-Crowd Problem, if we cannot build robust and sustainable commitments to justice between ourselves and those whom we regard as powerful but evil, powerful but amoral, powerful but unreasonable, or powerful but badly wrong in their conception of the good life, then we have little chance, short of perpetual warfare, of protecting the disabled or anyone else. Whatever else we do, surely we must continue the struggle to find a theory of justice that will get the reflective endorsement of hard-boiled political realists, opportunistic free riders, enthusiastic anarchists, resourceful skeptics, cultural relativists, ideologues of all stripes, members of militant religions, relentless advocates for special interests.

This is a tough crowd -- a long way from the congenial company that Socrates had after Thrasymachus left, or from the company of adult men of good character that Aristotle imagined was necessary for productive political philosophy. In more pliant, like-minded company we have the luxury to consider political arrangements that are fully satisfying -- even, perhaps, to pursue some form of ethical perfectionism. But just as modern social contract theorists have supposed, successful proffers to the tough crowd have to be ones that the strongest, most ruthless, most energetic and self-reliant parties will endorse as in their own best interest, given their strategic situations. And (in theory) the only sort of strategic situation in which every member of this

crowd would make an agreement with the others is one in which no other individual can dominate anyone else, or can dominate a few into forming a coalition against the rest. The result is one of the major features of the bargaining situation imagined by social contract theorists: namely, one in which all parties to the bargaining are roughly equal, free and independent.

The role of political philosophy here is to convince the tough crowd that there is more to making agreements in this situation than pure power politics, and that the range of legitimate social contracts is defined by the norms of deliberative rationality and procedural justice. After that, political philosophers have to convince us that the social arrangements generated by legitimate social contracts are justifiable in terms of broader ethical considerations.

A standard opening move in such political philosophy is to expand the franchise -- in the particular, to convince the tough crowd that the group of free and independent equals is very large. Hobbes famously does this by arguing that *all* adult human beings in the rather wide normal range of physical and intellectual abilities are roughly equal, if for no other reason than that the weak can kill the strong by stealth, and that the strong will always have to depend on others for protection while they sleep, eat, have their backs turned, or their pants down. And in a state of nature of course they are free and solitary as well. Others have made this opening move by defining the class of moral agents, or deliberative agents, and arguing for their rough equality with the tough crowd.

The history of social contract theories is replete with mistakes on this topic -- restrictions of the franchise to healthy, non-disabled, adult males, for example. But those particular restrictions are not philosophically tenable. And it is one of the merits of social contract theory that the extent of the franchise *remains* an open question -- especially for the range of people who could be represented hypothetically, or by proxy. Of course, the farther we move away from the notion of an actual contract toward a thoroughly hypothetical one, the more we run the risk of making the notion of a social contract an empty thing. But the point here is simply that as long as we stay in some sort of contact with the idea of an actual contract, the restriction of the franchise

to free, independent, and roughly equal parties -- the restriction that Nussbaum finds so troublesome for her project -- is not a perverse restriction, given the nature of the enterprise.

Similarly for Hume's analysis of the circumstances of justice, which comes in for some criticism from Nussbaum. On my reading, it also has its source in the terms set by the Tough-Crowd Problem. Hume is simply pointing out that if we lived in a world of perfect abundance and perfect generosity we would not have *this* particular problem of justice at all (though we would obviously still have some coordination problems), and if most of us were not even approximately equal in power to the most ruthless and warlike among us, and approximately equal in vulnerability to the weakest among us, the whole enterprise would be moot.<sup>2</sup>

It may be worth pointing out that this bargaining group, as we now understand the theory, would have to include a large range of disabled people (those who are perfectly capable of lethal attacks on the strong, or of free and independent deliberation and action), just as it would include their caregivers. This is so because, in any philosophically plausible social contract theory, the bargaining group must *at least* include everyone that the tough crowd has to include for strategic

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<sup>2</sup> See Hume, David. *A Treatise of Human Nature*. Book III, Part II, Section ii

"Here then is a proposition, which, I think, may be regarded as certain, that 'tis only from the selfishness and confin'd generosity of men, along with the scanty provision nature has made for his wants, that justice derives its origin. If we look backward we shall find, that this proposition bestows an additional force on some of those observations, which we have already made on this subject.

First, we may conclude from it, that a regard to public interest, or a strong extensive benevolence, is not our first and original motive for the observation of the rules of justice; since 'tis allow'd, that if men were endow'd with such a benevolence, these rules would never have been dreamt of."

See also, from *Enquiry concerning the Principles of Morals* Section III "Of Justice", Part I  
 "Thus, the rules of equity or justice depend entirely on the particular state and condition, in which men are placed, and owe their origin and existence to that UTILITY, which results to the public from their strict and regular observance. Reverse, in any considerable circumstance, the condition of man: Produce extreme abundance or extreme necessity: Implant in the human breast perfect moderation and humanity, or perfect rapaciousness and malice: By rendering justice totally *useless*, you thereby destroy its essence, and suspend its obligation upon mankind."

reasons -- everyone, for example, whose exclusion from the process is likely to undermine the effectiveness or stability of the social contract. And in political practice, this is how many groups have enlarged the franchise: by making it clear to the tough crowd that a more limited franchise will no longer work, politically, and moreover is not defensible philosophically..

## 2) Justice for the Disabled as a Forethought

This brings me to my second point. I think a large measure of justice for the disabled can be achieved in mutual advantage contracts, at least with respect to the basic structure of social institutions. Nussbaum doubts this because she thinks parties to this sort of social contract will necessarily design the basic structure only for themselves and for those with whom they can have reciprocal relationships of a pretty elementary sort. I disagree, because I don't see anything in the form of mutual advantage theories that suggests parties to the bargain must fail to appreciate the complexity of the strategic situation they face, and because I think an appreciation of that complexity is what yields justice for the disabled. Here is my thought.

It is true, as Nussbaum emphasizes, that the bargaining agents who design the basic structure are, when they are designing the structure, "free, equal, and independent" adults of normal powers (or perhaps idealized rational powers), motivated by rational self-interest. Perhaps they are also, as Rawls would have it, thinking of themselves as "fully cooperating members of society over a complete life." But it does not follow from this that such bargaining agents would think they were in a strategic situation in which they could afford to design the basic structure of society *only for themselves* -- or only for people like themselves elsewhere in the world, or even (perhaps) only for human beings. How could they possibly think this, except perhaps as a temporary theoretical simplification to be revised later?<sup>3</sup> Ideal bargaining agents will know that any arrangements they make will provoke responses from outside the bargaining

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<sup>3</sup> Rawls postpones a number of things in this way, in addition to problems of the disabled. For example, he postpones problems of "partial compliance." See *A Theory of Justice*, page 8.

circle -- creating feedback loops that will generate both opportunities and problems. They will therefore be aware that they must design institutions strategically, so as to manage these feedback loops.

The sort of strategic thinking the bargainers will have to do with respect to the disabled depends very much on facts about the world in which the bargainers live. In any era or social circumstance in which costly medical interventions are about as likely to harm as they are to help, access to such health-care is not likely to be a high priority for theories of justice. It isn't surprising that Hobbes, Locke, Rousseau and other theorists well into the 20th century didn't make it so. As Nussbaum herself points out, until quite recently humans born with profound disabilities rarely survived for more than a few days or weeks, and those who did could be given little more than custodial care during their short lives. I will add that life expectancy for people with severe disabilities now approaches 85% of normal for a wide range of conditions, and that there is even a 63% survival rate for children in a persistent vegetative state at the 8 year mark after onset. (See appendix.)

Today, in something like our situation, mutual-advantage bargainers will be aware that there are many long-lived human beings who temporarily or permanently lack the ability to participate in the bargaining, and they will be aware that they themselves are vulnerable to disease or injury or accident that can put them in this class. They will be aware that medical care -- both acute care and rehabilitative care -- together with special education and the now impressive range of assistive technology, can do a great deal to offset the limitations of some physical and mental disabilities. Moreover, they will understand how it may happen that they themselves, while fortunate in their own abilities, might have long-lived but seriously disabled children, friends, and neighbors -- people whom they love deeply, and whose welfare is inextricably connected, psychologically, to their own. They will understand that many of their fellow citizens, including perhaps themselves, but especially, and disproportionately, women, might be seriously burdened with the care of disabled people they love. And each bargainer will

understand that even if she herself escapes disability and caring for the disabled, the fact that many others will not escape these things poses a strategic problem.

The strategic problem is simply this: The basic institutions of society will have to be designed not only to deal with the disabled themselves but to accommodate the people who love and care for the disabled, both for the sake of efficiency and for the sake of stability. So the basic structure idealized bargainers design will not only be designed *from the beginning* with the disabled in mind, but will be designed *for* the disabled and *for* their caregivers as well as for the bargainers themselves. These considerations will not be an afterthought. This leads to my third point.

### **3) Reciprocity.**

The temptation in the sort of political theory we are considering is to begin with the observation that rational self-maximizers will only participate in cooperative schemes if their cooperation is reciprocated by almost everyone else. Beyond that, rational self maximizers will want the results of reciprocal cooperation to be more valuable in the long run than what individuals can get on their own as free riders. This much can lead to a hasty error: the thought that the kind of reciprocity that is central to justice-as-mutual-advantage is a direct, tit-for-tat exchange of goods and good behavior, modeled on mutually advantageous microeconomic transactions. And once that thought is in place, it is a short step to think of the profoundly disabled, and the people who care for them, as a net drain on social resources. The project will then be to limit the damage disabled people do to the cooperative surplus, and that project is indeed likely to be at cross purposes with the capabilities approach for people with profound disabilities, as Nussbaum argues.

But I don't think we should imagine that mutual-advantage theories of justice will be saddled with this impoverished notion of reciprocity. Well-informed rational agents (in theory) can be brought to understand the complexity, pervasiveness, and danger of norms of reciprocity.

In particular they will understand two things about the way norms of reciprocity work in large, highly organized societies.<sup>4</sup>

One is that most important social institutions are sustained more by what anthropologists and exchange theorists call generalized reciprocity than they are by direct, tit-for-tat exchanges. What goes around comes around, but only after a very large circle in which most of what we get is unrecognizable as a “return” – except on reflection. Suppose we help to establish the New York Hospital for Special Surgery, in the devout hope that we ourselves will never have to use it. Almost all of the people who are restored to health in that hospital are people we do not know personally, or deal with personally. They go back to their lives after their surgeries, and some of them (but not all) go back to working, paying taxes, and so forth. We will never know about them, or notice their contributions, and moreover if things go badly for them we will never notice the difference in our own lives. But the existence of that hospital has several important values for us. For one thing, its existence is a form of insurance, and perhaps worth it on that ground alone. Moreover, we know that that hospital in turn supports other educational and medical institutions in the New York region, and that those institutions in turn support others, which support yet others from which we receive some direct benefit, though we have no idea how to trace the benefit to specific individuals. And money flows back to the New York hospital to close the circle.

Rational bargainers seeking mutual advantage will (in theory) understand the importance of this generalized form of reciprocity, and its obvious implications for the question of justice to the disabled. They will (in theory) understand the long chains of reciprocal advantages generated by medical rehabilitation and education of the disabled -- advantages not generated by mere custodial care or worse. They will understand the long chains of reciprocal advantages that can be broken by overburdened caretakers, or incompletely rehabilitated citizens. And they will

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<sup>4</sup> These general points about reciprocity, though not as applied to disability, are developed in more detail in my book *Reciprocity* (Routledge, 1986; Chicago, 1990).

understand the sense in which the availability of decent care for the disabled and decent accommodations for the people who care for the disabled is a useful insurance scheme for everyone. Understanding this does not of course guarantee that the parties to social contracts for mutual advantage will agree to just anything along these lines. But it does mean that a consideration of these questions will not stop with the false thought that the disabled must pay their own way to justify social institutions devoted to helping them. Rational bargainers who understand the pervasiveness and social necessity of generalized reciprocity will be willing to consider whether it might be mutually advantageous to devote some substantial social resources to helping the disabled. Is part of the task of social contract theory to propagate such understanding.

I am optimistic that this can be done, especially when attention to generalized reciprocity is combined with an appreciation of the sort of proportionality it is wise to use in this context. Reciprocity, by definition, means making a fitting and proportional return for the good one receives. But the norm of reciprocity is dangerous if a proportional return is understood as making a return of equal value to the original donor. That is only harmless between equals. When wealthy or fortunate people proffer goods to the poor, they can quickly drive the recipients into permanent debt if the norm demands a return that is equal in value. Exchange theorists have shown convincingly that such an understanding of proportionality, in the context of a strong norm of reciprocity, creates and sustains oppressive social arrangements -- tyrannical governments, rigid social class systems, oppressive relations between men and women, adults and children. The wise understanding of proportionality is not in terms of equal marginal benefits, but in terms of equal marginal sacrifices. All we should expect from people who agree to cooperate with us is a return that costs them as much as our contribution costs us. It is not reasonable to require more than that -- not even for the temporarily fortunate among the bargainers, since they will know how easy it is to "get behind" on such payments during an otherwise manageable stretch of bad luck, and consequently how difficult it is to dig oneself out

of such debt under the equal benefit formula. As social institutions go, bankruptcy law is preferable to debtor's prisons, even in cases where there are clear, pre-existing contractual arrangements between the parties. In the more fluid and ill-defined give-and-take of human social relationships, we clearly want to avoid the dangers of reciprocity by properly defining its proportionality requirements. Once the parties to the contract see that clearly, they will be motivated to improve as much as possible the situation of the disabled and the people who care for them -- not only so they can make reciprocal contributions, but also in order to bring the value of their reciprocal sacrifices more in line with equal marginal benefits.

All of this leads me to be optimistic about the possibilities of social contract theory for dealing adequately with the issue of justice for the disabled. This is especially so if we press the social contract for a commitment to health care rather than a commitment to human capabilities. And this is my final point.

#### **4) Health as a Basic Good**

Nussbaum wants to pursue issues of distributive justice in terms of a list of human capabilities. This poses a serious difficulty for solving the Tough Crowd Problem if the list is tied to a particular comprehensive view of human flourishing, such as an Aristotelian or a stoic one, since by definition there will not be consensus in the tough crowd in favor of any particular comprehensive view. The best we can do is hope that most of the list will be found in what Rawls calls an overlapping consensus. On the other hand, if the list is detached from a comprehensive view it threatens to look ad hoc, and because it is quite long (at least ten elements) this ad hoc quality is likely to generate persistent disagreement.

There is a third possibility. The capabilities Nussbaum identifies are closely connected to human physical and psychological health -- health for human individuals, that is, of varying stages of development and of varying constitutions. It seems to me that even for the tough crowd, health is now ripe for inclusion in the list of basic goods. And I think a robust social commitment

to human health will adequately address questions of justice for the disabled -- as long as we are careful to include fundamental aspects of psychological health (that is, those associated with active rational agency), and to connect these matters properly to various stages and types of human development. In doing this, we will have to understand health as something more than the absence of disease or life-threatening injury. We will have to understand it also as including habilitation and rehabilitation. If we do that, then the needs of the disabled -- and those who are unhealthily burdened with their care -- will be included in an appropriate way. As a political project, I suspect this is roughly equivalent to the capabilities approach -- at least if our current medical understanding of human health is roughly right -- and it strikes me as more promising politically, since we already have so many medical and educational institutions devoted to human health. Briefly, here are some reasons for thinking along these lines.

Problems of distributive justice arise only for goods that cooperative efforts can in principle distribute. To restate a point made earlier: contemporary medicine, psychology, and education have raised the stakes for theories of distributive justice in this respect. We can now do much more to secure and sustain human health than previously, when there was not much to be done in this area that would improve the result of simply seeing to it that people had adequate shelter, nutrition, rest, clothing, personal hygiene, knowledgeable midwifery for childbirth and care of newborns, knowledgeable nursing care for infections of various sorts, somewhat more technical help with managing broken bones, open wounds, and a few surgical operations that could be done without anesthesia, methods of diagnosing and managing shock, sterile technique, or antibiotics. In those days, and probably well into the 1950s in the U.S. it was plausible to think that justice in health care could be treated as a byproduct of justice in the distribution of the goods necessary for healthy people's other fundamental projects -- as a byproduct of even modest economic resources, for example, in a context of liberty, opportunity, and basic education for literacy and citizenship.

This no longer seems plausible. Dealing with the tough crowd by way of a social contract tends to drive down the extent of redistributive schemes proposed by welfarists. But the economic resources that it seems reasonable (to the tough crowd) to guarantee to *healthy* people, as a matter of justice, for the pursuit of their *nonhealth-related* projects are pretty obviously not going to cover the cost of doing everything we can do these days to restore them to health from the many diseases, injuries, and disabilities we all face. Rational bargainers for mutual advantage are going to want access to at least some of this care. We therefore cannot plausibly treat health as a byproduct of the distribution of other basic goods. The argument for a social subsidy, or an insurance scheme, is now a very strong one. (Something similar has happened to education.) The arguments within the tough crowd, at least in this country, are now mostly about the details. Most of the details are about the best means for providing health care, rather than substantive ones about the need for it.

In short, getting justice for the disabled by way of including health in the social contract for mutual advantage has plenty of problems. And it certainly isn't as inspiring as the capabilities approach for anyone who has perfectionist leanings. But it is far from hopeless, and I don't think we need to give up its considerable strengths.

## **Appendix: Things Social Contractors Would Know about Disabilities**

In this context, it is important to consider the empirical data on several questions: current life expectancies for people with major disabilities, as compared to historic survival rates; the current rates, trends, and distribution of major disabilities; and the cost of health care for the disabled, compared to health care for the nondisabled.

### **Rates, trends, and distribution of major disabilities.**

During the period 1970-1994, the percentage of the U.S. population limited in a major life activity (and thus, under that definition, disabled) has grown from 11.75% to 15%, although almost two-thirds of that growth is attributable to the aging of the population. The percentage of people in the U.S. needing personal assistance to compensate for a disability has been relatively steady in the most recent years for which data is readily available (1983-1994). In the age group 5-17, it is about .5%; in the age group 18-64, the percentage has arisen in the '90s from a steady 2% to roughly 2.5%. In the group 65 and above, the percentage varies from 15-17%, with no discernible trend. During the same period, the percentage of people in the 45-64 age group listed as "unable to work" hovered around 11%, while the same figure for people in the 18-44 age range steadily climbed from 2.5% to 3.5%. People for whom disability limited either the amount or kind of work they could do amounted to 6.5% to 7.5% for the 45-64 age group, and a fairly steady 3.5% for the 18-44 age group. The source for these statistics is H. Stephen Kaye, Mitchell P. LaPlante, Dawn Carlson, and Barbara L. Wenger, "Trends in Disability Rates in the United States, 1970-1994," *Disability Statistics Abstract No. 17* (1996). Published by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research (NIDRR).

For information on the distribution of mental disabilities, see H. Stephen Kaye, "Education of Children with Disabilities," *Disability Statistics Abstract No. 19* (1997).

Published by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research (NIDRR). It is reported there that

According to administrative data from the U.S. Department of Education, 5.3 million children and adolescents participate in federally supported programs for students with disabilities. This figure comprises 582,000 young children (under age 6) in preschool programs and 4.7 million students aged 6 and above attending primary and secondary schools. In all, 12.2 percent of students enrolled in American schools in 1993-94 each school year were officially designated as having disabilities.

Of the 4.7 million primary and secondary students with disabilities, just over half (51.2 percent, or 2.4 million persons...) are identified as having learning disabilities, while most of the remaining students have speech or language impairments (21.2 percent, or 1.0 million), mental retardation (11.3 percent, or 536,000), or "serious emotional disturbances" (8.7 percent, or 413,000). Smaller numbers have hearing (63,000), orthopedic (56,000), or visual impairments (24,000). The remaining 215,000 students include those identified as having multiple disabilities (hundred and 8000), "other health conditions" (82,000), and deaf-blindness (1000).

Taken together, emotional problems and mental impairments, including learning disabilities, affect more than two-thirds (at least 71 percent) of American students identified as having disabilities. Speech and language impairments affect an additional 1/5 of students with disabilities. By contrast, only a tiny fraction (2 percent of primary and secondary students with disabilities have sensory impairments alone.

A large majority of students with disabilities (70.4 percent during the 1992-93 school year) spend a substantial fraction of their school day attending classes with nondisabled students. Some 40.5 percent spend at least 4/5 of the day in mainstream classes... an additional 29.9 percent spend at least 2/5 of their class time with

nondisabled students, with the rest of their day allotted to special education in so-called resource rooms.

Most of the remaining students, who spend between 0 2/5 of their class time with nondisabled peers, a 10 separate classes in regular schools (24.1 percent of all students with disabilities). An additional 5.5 percent attend separate schools or other facilities where they have even less exposure to children without disabilities." p1

### **Life expectancies.**

It is difficult to find historical data on life expectancies with major disabilities, in part because long-term survival for many major disabilities prior to the mid-20th century was relatively rare. Demographers and actuaries prior to the 1940s thus tended to study immediate, short-term, and medium-term survival rates for the disabled. Traumatic spinal cord injury (TSCI) is a good case in point, because it has been studied extensively, both historically in terms of short-term survival rates and more recently in terms of life expectancies. See Gregory P. Samsa, Clifford H. Patrick, and John R. Feussner, "Long-term Survival of Veterans with Traumatic Spinal Cord Injury," *Archives of Neurology* (1993) 50: 909-914. What the authors of that large study (*n* 5545) report seems typical of the sort of retrospective data we have:

Before the 1940s, survival with traumatic SCI was almost uniformly poor. For example, in World War I, only 10% of American soldiers with traumatic SCI survived to 1 year after injury. The 1940s witnessed marked improvement in survival, due to new antibiotics as well as the development of comprehensive SCI management units....[But because] improved survival with traumatic SCI is a relatively recent phenomenon, most previous researches have focused on short-to medium-term mortality (i.e., from time of injury to 10 years). p909

Survival rates have improved sufficiently since the 1940s, however, to allow serious study of long-term life expectancy, and since the causes of traumatic SCI even in veterans with service

connected injuries turn out to be surprisingly similar to those for the general population (largely motor vehicle accidents and sports injuries, with only 35% attributable to violence), the Samsa *et al* study is reliable for our purposes. What it shows is that "the mean life expectancy of veterans suffering traumatic SCI and surviving at least three months is...85% that of similarly aged American males." p909

These global data have been refined to account for differences in the severity of the injury, and compared to similar data on other disabilities, notably cerebral palsy. Taking the example of a healthy 2-year-old male in the United States, whose current life expectancy from that point on is 71.1 years, a comparable 2-year-old male with cerebral palsy has a life expectancy that ranges from 13.5 years (if he is a quadriplegic unable to lift his head and fed by gastrostomy tube), to 20.2 years (if he is unable to lift his head and fed by tube but is not a quadriplegic), to 48.7 years (if he is a quadriplegic, but able to roll over, and is not fed by tube), to 63.3 years if he is not a quadriplegic and is able to sit up. By comparison, life expectancy after spinal cord injury, with onset at age 10, ranges from 40.5 to 58.2 additional years depending on the severity of the injury. In the general population the life expectancy at age 10 is 65.9 years. David Strauss and Robert Shavelle, "Life Expectancy: What Lawyers Need to Know," *AVMA Medical & Legal Journal* 25-26, at 26. For a more detailed analysis of data for cerebral palsy, Down syndrome, and some other disabilities see David Strauss and Robert Shavelle, "Life Expectancy of Persons with Chronic Disabilities," *Journal of Insurance Medicine* (1998) 30: 96-108.

Perhaps the most dramatic data on life expectancies and disabilities, however, comes from studies of vegetative and minimally conscious states. Here the contrast is especially stark. Prior to the final third of the 20th century, survival rates here were very low indeed. Now there is significant medium-term survival. See David J. Strauss, Stephen Ashwal, Steven M. Day, and Robert M. Shevelle, "Life Expectancy of Children in Vegetative and Minimally Conscious States," *Pediatric Neurology* (2000) 23:4, Pp. 312-319. They report that, in the aggregate, for

several etiologies (acquired brain injury, perinatal/genetic; degenerative; and unknown) the survival of children in a Vegetative State, ages 3-15 at onset, was 63% at 8 years after onset, vs. 65% for those in an "immobile" Minimally Conscious State, and 81% for those in a "mobile" Minimally Conscious State. p312

These authors take their elaborate medical criteria for the definition of these states from the work of the Multi-Society Task Force on the Persistent Vegetative State, and two of its primary publications: "Medical Aspects of the Persistent Vegetative State" Part 1, *New England Journal of Medicine* 1994, 330: 1499-1508, and part 2, 1572-1579. In part 1, the task force estimates that in the early '90s in the U.S., 10,000-25,000 adults and 4,000-10,000 children were "in the VS." No estimates are available for the number of patients in the Minimally Conscious State, but Strauss et al say that of the 5075 patients they themselves studied, 11 percent were in the VS and 89 percent in the MCS. Thus, "if the proportion ... were similar in the general U.S. population, it would suggest that between 112,000-280,000 adults and pediatric patients are in the MCS." Strauss *et al* p316.

### **Health-care costs**

In data drawn from 1987 and updated to 1993 we find:

Americans with disabilities spend more than four times as much on medical care, services, and equipment, on average, as their nondisabled counterparts. And while people with disabilities comprised only 17 percent of the noninstitutionalized population, they account for 47 percent of medical expenditures...

See Wendy Max, Dorothy P. Rice, and Laura Trupin, "Medical Expenditures for People with Disabilities," *Disability Statistics Abstract No. 12* (1995). Published by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research (NIDRR). p1