

# THE HIGH PRICE OF ANTI-THEORETICAL THINKING IN MENTAL DEFICIENCY<sup>1</sup>

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## Introduction

This paper proposes to introduce order and perspective into our current view of the mentally retarded and their care. There is no suggestion of eliminating mental deficiency, but rather of increasing its functionality. An explanation is offered about how we must lead the mentally retarded to learning, and to the acquisition of skills which are useful to themselves and to others. Hopefully, this will help the retarded to establish and retain a meaningful place in our society. To list but a few of the inadequate approaches to teaching the retarded which are currently encountered in the literature, we can no longer be satisfied with custodial care, with making retarded children happy with games, or with teaching the retarded to be less and less painful to others.

Recently, there has been a remarkable growth in the understanding and education of the mentally retarded. This growth has occurred through public enthusiasm to retrieve those who had been previously abandoned as hopeless. Earlier errors were, and still are being gradually corrected, and the retarded are well on their way to better lives.

Educators have been searching for order in the communal effort to enable the retarded to learn better and to learn more so that they can assume more significant personal and economic roles. There must be an increasing trend toward a systematic rationalization of the education of the retarded.

The key concept in the education of the retarded lies in the progressive formation of cognitive associations which are at the heart of learning. In the early 1950's, there was little agreement about something which is easily observable, namely the stable modification of behavior in a constructive sense. In fact, there is still little agreement on this point. Eventually, theorists focused on the basic facts of learning and on animal learning, from which they hoped to derive useful insights in promoting human learning. There seemed to be a grain of truth in each basic approach to learning. Without denying the value of incidental learning, strict connectionism, and so forth, we inferred from the thoughtful perusal of the most dramatic efforts in learning theory, particularly those of Hull (1943), Skinner (1938), and Miller and Dollard (1941), that cognitive associations and motivation are of primordial importance in learning.

## Hebb's Synthesis

In 1949, Donald O. Hebb of McGill University proposed a synthesis of what one might call neuropsychology. From this synthesis was drawn the substance of a learning scheme which could be adapted to the defective

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mind. Since the psychological literature had documented that a worm can learn to turn right in a maze in quest of humidity, it was felt that every retarded person could be induced to learn. Mental deficiency was seen as entailing slower growth than in normal people due to a variety of internal and external factors. This condition accounted for a lower ceiling of development, and led to difficulties in social adjustment. The retarded were seen as developing slowly, but they could advance more rapidly if everything in their environment was enriched and adapted to their needs.

#### **An Hypothesis of Mental Deficiency**

Our proposal begins with Hebb, who recognized neurological understructure as an elaboration of his work, with a valid basis for a theoretical framework of its own. It is significant that the definition of mental retardation which we propose out of Hebb's 1949 formulation is a genuine explanation, and not an out-and-out tautology, as many definitions have been to date. The generic feature of this definition is that the retarded learn and grow. The central point of the definition is that growth for the retarded person is slower than for the average person because of a multitude of adverse conditions. Some of these conditions are internal, and presumably physiological, but the matter of instances of mental deficiency which are entirely psychogenic is speculative, though sometimes pertinent. However, the majority of the retarded are what they are mainly because of neurological deficiencies — this point must be recognized. The reasons for these deficiencies are unknown. Nevertheless, the problem seems to be linked to either a diminished population of neurons, or to an impaired capacity of impulse transmission. This, in turn, may be due to incomplete neuronal myelination, or to more resistance at the synaptic connection because of insufficient dendrites to transmit impulses across the synaptic gap. A feverish effort to study brain structure in search of an explanation of mental retardation lost its momentum years ago. As realists, we continue to study the difficulty of perception, and hence of the formation of cognitive associations which are the building blocks of learning theory.

Stated positively, our hypothesis had to do with the adaptiveness, the intensity, and the extension of sensory stimulation. In addition, it also has to do with progressiveness in the presentation of content, in the use of concreteness, and in the mobilization of all sense modalities which are pertinent, including kinesthesia. This last element represents a very high point in theoretical fitness. Hayden (1964), Barsch (1965), and Kephart (1971), among others, went quite far in this direction, but their true worth lies in rendering the explanation of the formation of cognitive associations easier by extending and intensifying stimulation through movement. However, they noted rather than explained success in realizing the potential of the retarded.

There is a relationship between the learning processes of the retarded and of the normal young child. Binet (1907) pointed out some 75 years ago that early intelligence is largely motoric. The toddler learns through hands and feet, through muscle activity, and through his constantly active and sensory exploration of the environment. Admittedly, the retarded infant and the retarded toddler tend to be passive, as was documented by Piaget (1970), but this passivity can be overcome through excitation and patient elicitation, a process that ought to begin as early as possible, including soon after birth.

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As a profession, educators became side-tracked some twenty years ago by stressing concept formation and speech development. We were trying to make the retarded like ourselves, and we felt that everyone's social efficacy lay in the ability to think and speak (an assumption which is probably true). However, the retarded are different from normal people, and they need a different cultural approach. At this juncture, anthropological data regarding the way in which primitives treat the less-able might well deepen our insights on this issue.

The reason for providing early motoric stimulation of the retarded infant was highlighted by Giovanni Albertini, a neurologist from the Catholic University of Rome, at the Annual Congress of the American Association on Mental Deficiency in San Francisco, California, in May 1980. In an extended study of neurons through electronic magnification at successive age levels in children with Down's syndrome, Albertini demonstrated that the dendrites at the synaptic end of the neurons showed a rapid diminution in both number and length through time. This phenomenon is not noted in the neurons of normal children. Albertini concluded that the major handicap of the retarded was due to profound deprivation, and that the major remedy lies in early motoric stimulation. At about the same time, from some 50 visits to homes of young retardates, Benoît observed evidence of solicitous physical care, but that life in these families went on mostly with the other children. The retarded children sustained protracted periods of passivity. They were talked about far more often than they were talked to or with, and they were carried about more often than they were played with or encouraged to act and express themselves. Without doubt, the initial neural deficit of these children seemed far less important than a relative lack of stimulation. As a result, we must honestly state that we don't know how the neurologically-impaired would behave if they were treated adaptively from the moment of birth onwards.

Admittedly, early stimulation of retarded infants is difficult to put into practice. Parents of retarded children are understandably reluctant to let professionals, who are total strangers, talk them into a line of action which, in theory, is bound to be beneficial, but which may well be perceived as likely to increase the impairment of the child. A very necessary strategy here must include a vast public education program and the training of qualified counsellors who are prepared to demonstrate to parents a kind of infant education which is drastically different from the old policy of letting the retarded wait to enter school until they grow up! Today, we can easily laugh at what we took so seriously just a few years ago.

So far in this article, we have touched upon the retardates' neural deficit, and a remedial approach has been outlined. However, there are also countless external obstacles, including overprotection and prejudice, which are almost all-encompassing. These obstacles are at the root of the scarcity of resources, including slim budgets, resistance of employers, and various other types of exclusion of the retarded from social participation. All of these factors are detrimental to the retarded, and they account for lost opportunities of all sorts. Moreover, they impede normalizing self-expression through action and movement, including locomotion, manual activity, dance, speech, and song. These and other activities are far less available to the retarded, thus diminishing input for further perceptions and for the formation of ad-

ditional associations which serve as the basis for growth. By contrast, normal children have the advantage of countless facilitators, including love, motivation, and adaptive opportunities for successful performance. In addition, equipment and space might be considered as conditions which are necessary for learning. Models, too, count in learning, as Miller and Dollard (1941) have pointed out.

The entire process of learning for the retarded can be visualized as a neurological arch, where the intake leg on the left constitutes the afferent sensory pathways of the peripheral nervous system. At the lower end of this leg is the ensemble of sensory intake channels, especially vision, hearing, and the kinesthetic sense. All sensory input is subject to much filtering. For the retarded, who are not very likely to be loved properly, perceptual input is greatly shrunken, as is the case with other disadvantaged, including the disturbed, the blind, and the deaf. Because so few people care to impart information to the retarded in a systematic and adaptive fashion, both the retarded and other disadvantaged people usually have less information about everything.

The keystone of the neurological arch is the brain. For years, the top of this neurological arch has been described as the "black box", and it is bound to remain so for years to come. We know there are problems with the "black box". For example, there are experiments with medical procedures or drugs to improve receptivity, but much of the possible success of these efforts is shrouded in mystery. Thus, we must circumvent what we cannot cure through the mainly motoric approach suggested earlier. Admittedly, there have been many questions about overcoming neurological deficits with drugs. This view hardly holds more hope than to expect a whole pharmacy to increase human muscular strength in lieu of muscle increase through exercise. Presumably, neurons grow in functionality, and even improve in structure through activity. Physical change occurs through use, an hypothesis which has some chance of bearing fruit.

The right leg of the neurological arch represents the efferent motoric pathways of the nervous system. Here we find bodily movement such as sucking, assembling things, creeping, walking, running, jumping, dancing, etc. This same general category of movement includes more refined activities such as speech, singing, writing, drawing, and an endless variety of movements which include the gestural and verbal components of social behavior.

Both intake and output must be coordinated so that execution is always in step with understanding, and can even move a little ahead with challenges to a child's curiosity. If execution is comparable to what happens during heart failure, losing ground every day until the fatal stoppage, then the retarded child learns less and less than what he ought to learn, and is able to learn. Society will then find cause to ostracize him, and thus to further diminish his capacity to remain with his family. At worst, he will die socially through institutionalization. To remain among their own, the retarded must learn, and they most certainly can learn, as has been abundantly demonstrated since the movement to rehabilitate the retarded began in the mid-1950's.

Twenty-five years ago, neurological terms were often too technical to elicit even a cursory reading by principal researchers in the field of mental retardation. Many of these researchers were busy collecting raw facts with intellectual dustpans. However, over the years, educators began to understand that success with the mentally retarded can be achieved on a more functional, tangible level which always assumes the neurological understructure which Hebb so ably built up. This neurological understructure still stands essentially intact, in spite of a few modifications suggested by constructive criticism.

#### **A Case In Point**

Some years ago, Benoît made a videotape of a Down's syndrome man of 40, whom he has known for twenty years. This man is Mervin Gotkin, a U.S. federal employee of thirteen years, and the recipient of two awards, including a superior accomplishment award in 1972. Gotkin is not particularly smarter today than he was at our first meeting. For example, his Binet and Wechsler scores are still around 55. However, his Vineland social age is around 16-17. He makes full use of what he has, and he never receives a compliment without thanking his complimenter. He dresses very well, knows how to coordinate colors, is careful with his clothes, is neat in his body, and is generally considerate of others. He has never learned to count, but he certainly "counts" for the agency that employs him. He is always on the job, does not get lost in corridors, and does not waste time. In short, he is a worthwhile employee. Since he is able to read and write, he functions well at fetching documents for the sales desk at the United States National Archives. This "odd-ball" is always on the ball. At one point, he was given an administrative leave of four days to travel to Trois-Rivières in Québec as a representative of the U.S. Civil Service Commission in order to tape his life and demonstrate what the retarded can accomplish. A copy of this record was deposited in the United States National Archives.

Mervin Gotkin's parents were asked how they treated him in order to achieve such an outstanding result. Their simple answer was that they loved him unreservedly, and did everything they could to help him. Unwittingly, they lived up to the substance of the viewpoint we propose here: order, graduality, persistence, and love. These ingredients operated to make a supposedly useless man a living miracle of simple efficacy. Gotkin's unique experience gives us everlasting faith in educational theory.

#### **Conclusion**

Comprehensive educational theory will always yield more than observation, trial-and-error methods, and correlational or factorial analyses. The theory we propose in this paper is simply a matter of having a reason for what we do educationally for the retarded — not just molecularly, but also holistically. We have concentrated not on details, but on creating a whole person! When this is done, there can be a rare and astonishing wholeness even in those who are biologically incomplete.

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