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Belief Systems and Mastery Learning

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Most scientists might not admit the role of emotions in their research. They would say that it's an interest in the intellectual aspect of the problem that motivates them. I don't believe it. I think most of us do something because at a certain moment in our lives we, have been profoundly impressed in an emotional way by some event. We overlook in everything we do the importance of deep emotional responses that, at a critical period, focus our interests in a certain direction.

Rene Dubos

This paper derives from my growing concern over the current direction of the mastery learning movement. This concern has been kindled by perusal of recent issues of Outcomes., by participation at Network and other, mastery learning conferences, and by discussions with mastery learning proponents and opponents. And it has been fanned by reading papers critical of mastery learning such as Arlin (1984) and Good and Stipek (1983).

The nexus of my concern is not that mastery learning ideas are ineffective. Indeed, while new meta-analytical research may challenge whether 5Oth percentile students typically learn as well as 85-9Sth percentile ones (Guskey, personal communication), mastery stratagies have worked well under a wide variety of teaching/learning conditions, now including full scale civil war:

The heart of my concern is the nature of the explanation that a growing number of mastery learning proponents now offer as to why this effective set of ideas remains unused, underused, misused and abused by so many educators. Those proponents seem to perceive this nonuse, underuse, misuse and abuse as being primarily a technical matter that can be resolved by simply revamping certain teaching/learning structures. Accordingly, the pages of Outcomes and the bulk of mastery learning workshops are filled with advice about appropriately restructuring curriculum planning, testing, teaching, grading and administration.'

I feel that the issue is deeper however. As Foshay (1973) and more recently Sarason (1983) suggest, it is belief systems, not structures, which ultimately drive all that we do in schools. Thus, I perceive the nonuse, underuse, misuse and abuse of mastery learning ideas as being more a philosophical matter that can be resolved only by changing certain teaching/ learning beliefs. So. ! desire to sec in the pages of Outcomes and at mastery learning conferences a continuing and spirited substantive dialogue among mastery learning proponents regarding our beliefs and belief systems.

The purpose of this paper is to help initiate such a dialogue. Herein, I propose to step back from my own play with mastery learning ideas and

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to advance for your consideration and debate some of the fundamental beliefs that have dr iven my thinking..

The paper is organized as follows. First. I -- shall lay. out what I perceive are the four major issues currently bedevil ing educational public-policwnakers. These issues center around beliefs regarding matters of excellence and equity in student learning and economy as well as excitement in teaching. Second, I shall lay out some of my own beliefs about these matters. Briefly, I believe that virtually all students can be equal and excellent in their learning, learning rate and learning self-confidence and that this equal excellence or "equalence" can be generated with existing resources, especially if staff are treated more humanely. Third, I shall indicate some of the concerns that these beliefs have raised among colleagues. And, fourth, I shall speculate about why my beliefs have raised many of these concerns. I shall propose that my beliefs are controversial because they challenge the hegemonic belief system about humans' capacity to' learn and teach that is deeply embedded in the consciousness of many educators. This is the belief system of Darwinism and social-Darwinism.

The 4 E's

Over the past year, public school educators have been inundated by a series of high level school-reform documents. While there is still some question whether these documents will have any real impact on American public education there is no debate that these documents have had a perceptual impact on various public policymakers. These policymakers seem especially concerned about at four major areas.

Excellence. The first of these areas involves issues of student learning excellence. Policymakers are seriously asking why so many. students are currently leaving our public schools without those intellectual. emotional and behavioral skills that have historically Characterized a large segment of our school-aged population. some reformers Challenge what we currently teach arguing that present subject offerings simply do not prepare students to endure let alone prosper in their out- of- school and post- school lives. These reformers will, for example, for curricular and instructional changes ranging from a return to the basics to an advance to high-technics. Still other reformers challenge what levels we Currently teach, arguing that we have let our standards slide. These reformers rally, in particular, around testing changes ranging from the Imposition of minimum competency tests to maximal graduation requirements.

Equity. The second area under attack by educational policymakers involves issues of equity. Here, while a few school reformers appear , to be attempting to reverse the major civil rights gains of the 60s and 70s, the majority are attempting to preserve and extend them. Many of these reformers, for example, are continuing to wrestle with the question of how to maintain equality of opportunity so that no students by virtue of their constitutional or socio-economic background are denied the opportunity to pursue learning excellence. A few of the reformers, however, are beginning to wrestle with the . question of how to move beyond equality of opportunity to equality of outcomes to broader issues of opportunity and outcomes for everyone. As the Reverend Jesse Jackson has reminded educators, we have taught minority children to move from the back of the bus and to drive it; now we must teach them to run the bus company. And both these wrestling matches are being played out in a larger arena where some school reformers are finally beginning to realize that issues of equity are not limited to "minority" students; there are issues of equity—e.g., tracking—that plague the "majority" students as well.

Economy. The third area that has drawn •' educational public policymakers' attention involves issues' of economy. Federal, state and local aid for schools have been lacking over the last several years. Faced with the reality of no growth or limited growth for instructional budgets', school reformers ire beginning to ask hard questions as to whence the resources for pursuing matters of excellence and equity will come. Some reformers contend that "all out" pushes need to be made so that public schools acquire their fair share of current economic upturn. These reformers look, for example, to traditional funding sources Such as legislatures-. as well as to untraditional ones such as lotteries. At the same time, other reformers- .contend that public schools must learn to get by

with the resources they already have. These reformers hope. In particular, to tune "ore finely their existing human and nonhuman resource's and to orchestrate these resources in more cost-effective fashions.

Excltement. The final area which has drawn public policymakers' concern involves issues of staff excitement and renewal. For several years now, some of the school districts' most popular staff workshops have been ones on the treatment and prevention of teacher burnout. Central to these workshops has been the creation of more humane and rewarding school learning climates wherein further burnouts could be avoided and past burnouts relighted. Policymakers are now beginning to ask how to generate such climates. Some reformers believe the answer lies in more and better external incentives for teachers. These reformers, for example, call for higher teacher pay and better career opportunities. Other reformers believe the answer lies in more and better internal incentives for teachers. These reformers call, in particular, for strategies to reaffirm teachers' personal worth and power. And all this attention comes at a period of time when more and more teachers are tending to adopt a stance that is more related to being a public employee than a professional—a stance that has occasioned a growing number of educational policymakers to question whether any amount or type of incentives will reinvigorate our schools' human resources. These policymakers seem to be on the brink of stopping the search for a human-dependent technology of teaching and of settling for a machine-dependent technology instead.

Some 4-E's Beliefs

I too, have been wrestling with these issues of excellence and equity in student learning, economy and excitement in teaching. Let me now turn to my current beliefs about each of these matters. I will be succint about these beliefs because some of them have already been developed in some detail in my past writings, notably, Anderson and Block (1977), Block (1974). Block (1978) and Block and Anderson (1975). Others will be spelled out in greater detail in my future writing such as the forthcoming Block, Artderson, Barber and Burns volume Excellence, Equity, and Mastory Learning (Longman. in preparation).

Excellence Beliefs. I believe that each student, with a few exceptions, is capable of learning well, swiftly and self-confidently. ,. To achieve this capability, the student must master not only certain learning products but certain learning processes.

One product relates to the levels of learning that have historically characterised our 'best students. Pragmatically speaking, this means I expect students to do A-level work; not B, C. 0, P (Pass) or S (Satisfactory) level learning. I reject B and C levels of learning as being indicative of excellence because these levels typically connote good or mediocre learning at best. Likewise, I reject 0, P and S levels of learning as being indicative of excellence because these levels typically-connote the absence of failure In learning rather than the presence of real learning success.

Another product relates to the types of learning that have historically characterized our best students. This means several things. First. the student will be asked to master not only certain intellectual outcomes but also certain •emotional and behavioral ones. -My excellent learners, for example, would be expected to master outcomes from affective, psychomotor and interpersonal taxonomies as well as cognitive objectives. Second, the student will be asked to master not only the lower-order aspects of specified intellectual outcomes but higher-order aspects, too. My excellent learners, for example, would be pressed to master advanced and intermediate, not Just elementary topics; elective, not Just required topics; "open" topics where the compendiun of knowledge, skills, appreciations and understandings is constantly in flux, as well, as "closed" topics where this compendium is more stable; and topics that require creative, not Just smart, problem solving. Third, each student would be asked to master future-oriented as well as present-oriented outcomes.

The process is the learnlng-to-learn outcomes that have historically characterized our best students. . Learning-to-learn demands that the student accept appropriate personal responsibility for learning. Accordingly, I expect the student to learn how to assume greater self-care for learning. Note that I say greater, not total. I still assume that one of my chief instructional responsibilities is to do everything that I can as a teacher to help students learn. But I will

eventually exhaust my bag of Instructional tricks. At that point, the instructional ball is out of my hands. I must generate a student who wants to take this ball and run.

learning-to-learn also demands that the student acquire "appropriate personal response-ability for learning. Accordingly, I expect each student to learn how to assume greater self-treatment of learning. [expect that students will begin to define their own mastery learning outcomes and standards; to develop their own instructional sequences for attaining these outcomes to standard; to plan and execute their own mastery learning instruction for each unit in the sequence including original instruction, feedback, and correction and/or enrichment techniques; and to conduct their own summative evaluation. Again. [am not assuming that students will always have to treat themselves. Indeed, sometimes self-treat-ment,is not only unnecessary but dangerous. But I do want students who can treat themselves when and if the situation arises, as it must in much of outside-of-class and post-school life. .

Lastly, learning-to-learn demands that the ' student acquire appropriate' personal responda-bllity for learning. It 1s not enough to have students who can and want to assume greater self-direction for their learning when necessary. Ultimately, I must have students who do assume this direction. Accordingly, I expect each student to develop greater skills in the self-assessment of their learning. Assessment, along with measurement, and evaluation. Is one of three major schools of testing that have dominated educational, thinking. It is the only school of testing to be equally concerned, however, with both learner growth and learning growth. By teaching, students to engage in self-assessment, I am inviting; them to look at the relationship between what they intellectually can and emotionally want to do as learners arid what they behaviorally do do in their learning. Out of this self-examination, I expect better and better alignments of actions with thought arid feelings.

Equjty Beliefs., Besides pursuing excellence in student learning, I believe that we must pursue equity too. I believe that, virtually all students can learn equally well, equally swiftly and equally self-confidently. Consequently, I expect all students to attain the same distribution of learning products and processes that has historically charactorized our best students. My excellent students would be heterogeneously grouped to master identical products and processes. They would not be homogeneously grouped In any way to Insure that some students master different products and processes.

Obviously, I believe 1n equity in terms of student learning outcomes, not Just in terms of ' student learning opportunities. Indeed, to attain outcome equity I am willing to provide unequal treatment in terms of learning opportunities and learning time for some students and especially those who historically have been the "have-nots" in the teaching-learning process. I do not care whether these "have-nots" come from minority groups where teaching/learning discrimination is based on constitutional or home background differences such as race, sex or social class, or from majority groups where the discrimination is based on educational constructs such as ability and effort.

Economy Beliefs. I further believe that equal excellence or what I shall hereafter call "equalence" in student learning can be pursued using existing resources." Indeed, I have seen equalence pursued in school districts throughout this country for literally pennies in proportion to their existing budgets. These programs have wisely used mastery learning ideas to articulate ,and orchestrate existing nonhuman and especallly human resources.

. One economical way to pursue equalence is to employ an evolutionary, not a revolutionary development-strategy. Rather than trying at the outset to change radically the nature of the school organizations or the human beings with which we deal, 'equalence advocates must initially accept schools and their staffs as they are and try to move them toward where we want them to be.

for example, ask my clients to work in the realm between what I think "should be" the case and what they know-"1s" the case at their school . I call this the realm of "can be." For example. .. suppose I believe that students ought to be graded on only a two-point system of excellence or of excel lence-1n-the-making, and I am dealing with a, school system that has a five point system: A. B. C. 0 and F; Then I find ways that their A's can initially index exceIlence and their B, C. D. or F. can Initially Indicate various degrees of excellence- in- the- making. Or. If I believe that instruction ought to be more tutor-like hut I am faced with A group-based lnstructional situation.

then I find ways that group-based instruction can be made more tutorial-like. I always try to remember that the "can be's" of one year are the "Is's" of the next year.. So next year, "what is" will be closer to what "should be."

A second economical way to pursue equalence is by focusing or altering things which can be altered. Equalence advocates must constantly be trying to figure out ways to redefine apparently unsolvable problems in solvable terms.

One basic tenet of many mastery learning staff development programs, for example, seems to be that program administrators want all teachers to participate regardless of their interest In or acceptance of mastery learning ideas. Implicit In this tenet seem to be the bootstrap notions that some teachers need staff development more than others and that if staff developers can somehow get this "dead wood" to sprout, then everybody else will follow suit. Often, however, these "dead wood" people have good reasons for rejecting any new set of teaching/learning ideas. Therefore, targeting an entire staff development program to them can absorb abnormally large and frustrating amounts of my time and energies and threaten the success of the overall program.

J encourage program administrators, therefore, to use a differentiated rather than a whole-staff development approach. This approach focuses initially on really Interested "live wood" teachers and temporarily ignores "dead wood" ones.- After all, if you cannot make a program go with really interested people, then you are not going to get the ideas to go at all, save by administrative mandate. Interested people will be able to test whether the ideas work at a given site, under the site's particular teaching/learning conditions. And, if they do, they will share these Ideas with other potentially interested "live wood" colleagues. 'This combination of really interested and potentially interested "live-wood" teachers can generate critical mass at a school site regarding a particular set of teaching/learning ideas and become a powerful lever for "dead wood" change. Now, however, the lever Is collegial peer pressure, not administrative fiat.

The final, and In many ways the most powerful, economical way to pursue equalence is by focusing on the prevention of student learning problems rather than their remediation. As 1 have already indicated in the pages of OutCones:

. . . I believe It Is time for a fundamental change of course In the design of group-based mastery learning programs. Rather than designing these programs to be solely remedial in nature, I propose that we also begin to design them to be more preventatIve in nature too. As I have written in a relatively recent "State of the Craft" article:

> "Although from the outset mastery learning theorists have been concerned with the development of talent rather than its selection, we have tended to attack only part of the talent development Issue. Specifically, we have formulated but theory in terms that tell the practitioner or researcher what to do only after misdevelopments in learning occur. Remediation of misdevelopments, however, is only one way to develop talent. Preven- tion of misdevelopments in talent in the first place is another way. It is time. I believe, that we add to our present remedial formula- tions of mastery learning theory some new preventative ones. These new formulations would tell the practitioner and researcher what to do before misdevelopments in learning occur.
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> Note that I said we must add to our present theoretical formulations. I am not saying that our current formulations are passe. Clearly, schools throughtout the world have many students, especially older ones, who have already failed to learn excellently, and we must find ways to discontinue their failure. However, schools throughtout the world also have many students, especially younger ones. who have not yet failed to learn excellently. Mastery theorists must also find ways to continue these students' success."
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> (Block,, 1979. p. 117),

I view preventative group-based mastery, learning strategies as treating all students' learning problems as if they were potentially chronic and degenerative. Such strategies.,. would, therefore, get to students, earlier in their careers and would stay with them throughout. They would have as their goal learning maintenance and promotion, much as

> preventative strategies In public health have as their goals health maintenance and promotion, I believe that we need Instructional programs that tell students not only what to do after they have developed particular learning problems, but also what to do to prevent these problems to begin with. (Block. 1983. p. 23-24)

This call for the design of more preventative instructional programs parallels a similar call by colleagues in other public health areas such as medicine and dentistry where it has been noted that vast amounts of public dollars are needlessly spent on remediation when small amounts could be spent on prevention with the same effect. Consider for example, the cost of a crown versus the Cost of flossing.

To-this point in our educational history. however most instructional interventions have had a remedial quality about them. Again, I have no axe to grind against the use of such remedial instructional systems. My point is this: when-one adds the power of prevention to the power of remediation, one gets the most cost-effective, learning health bang for the public's bucks:

Excitement Beliefs. I believe that equalence can be economically pursued by making an explicit "commitment to rely heavily on existing human, rather than on new nonhunan, resources. At the heart of this commitment should be humane tech-niques which reaffirm teachers' self-worth and power.

One exciting way to pursue equalence is to be optimistic about each teacher's capaclty to teach well, swiftly and self-confidently. This means staff development programs which use mastery learning ideas to teach teachers for equalence. just as teachers will be expected to teach their students for equalence.

A second exciting way to pursue equalence is to be acceptant of teachers as craftspersons. To my mind, a craft is somewhere between a science and an art. Craftspersons, like scientists, are expected to do things day in and day out that will replicate a particular product or process. Like artists, however, craftspersons are typically given freedom to do these things in ways that fit their current predilections and skills. Accepting teachers as craftspersons' means, therefore, seeing teachers as people who can consistently perform the critical instructional functions--e. g.. , feedback and correctlon--requlred to produce equalence, but who must be given some freedom to do so in ways with which they are conversant and comfortable. Craftspersons will flourish, of course, in teacher-centered staff development. programs, not curriculum-centered ones. The latter programs tend to insult the craftsperson's scientific artistry and send implicit and explicit messages to program participants that they are largely assumed to be incapable of conducting their own pedagogical affairs. Indeed, these programs are often touted by their developers as being teacher-proof. The former programs, however, recognize and develop the craftsperson's scientific artistry and send just the reverse messages. In fact, they build heavily on the teacher's already existing skill repertoires, supplement them as necessary and orchestrate new skills with old ones within the mastery teaching/learning scaffolding.

A final exciting way to pursue equalence involves empowering school staffs to exercise their craft. This empowering means treating teachers as grassroots public policymakers who have the power to change a school system from the bottom up and allowing them most of the critical teaching/learning decisions. It also means that school site and central office administrators adopt stance of benign neglect about the teachers' efforts. Administrator may deflect inside and outside attempts to tamper with these efforts and protect their development; but they must not direct Iy touch the teachers' efforts until there really is something to touch.

Some Belief Concerns

To summarize. I believe that it is possible for virtually all students to be excellent and equal. or equalent, as learners. I further believe that this equalence can be economically attained using existing resources, the most exciting of which are teachers. ,

Not suprisingly. these beliefs have come under substancial fire let me share some of this fire and then briefly react to it.

Excellence Concerns. My beliefs that excellence ought to be defined in terms of certain learning products and process has preempted the following major concerns among my collegues they say that in defining excellence for each

student in terms of the types and levels of learning characteristics of our best students.. I am being unrealistic and fail to realize how tough It Is to design an instructional program targeted to producing "A" students. I am reintroducing the fuzzy-wuzzles of the humanistic educational experience of the 60's and 70's, and I am not a staunch basic skills advocate. Moreover, they say that. In defining excellence for each student In terms of the learnIng-to-learn characteristics of our best students, I am reversing my earlier position that the student's sole burden for learning must be lightened. I respect these concerns but believe my colleagues are wrong.

I clearly recognize the difficulty of designing an instructional system targeted to obtain "A" levels of learning from each student. However, I would rather encourage the design of a teaching/learning system that shoots high and falls short than one that shot short to begin with. My experience has been that every time I have been realistic and cut the "A" levels of learning expected of a fledgling mastery teaching/learning system, the system yielded less excellent learning than when [have been unrealistic and not cut my standards.

Nor am I trying to reincarnate the neo-humanistic experience of the past two decades. I am • simply pointing out that, historically, our best students could undertake the learning challenges they faced at school, intellectually and emotionally. Moreover, I am suggesting that it Is possible to teach emotional and behavioral skills in such a way that students are challenged, not "coddled, and given responsibility, not license. Philadelphia's remarkable mastery learning program is an excellent case in point.

I am a strong basic skills advocate, too. But rather than Just looking to the present to define what is basic, e.g., the 3R's. I also look to the future. This futurist orientation on basic skills has been forged in the caldron of painful experience. This experience has taught me that our best students constantly seem to acquire school learning outcomes that keep them on the edge of cultural, political, economic, social and spiritual progress. I have also learned that it takes time, to design a successful instructional program that can (I) keep students at the edge and (2) allow additional time for any student to complete that program. I estimate that it takes at least five to six years to finely tune a K-l2 mastery learning program. This means that It will take about to I990 to finely tune a program Initiated today and until about 2003 for this program to yield its first graduates. If I want these graduates to be on the leading edge of their post-high school world's progress, then I must consider what might be basic In that world of 2003. I slmlply cannot afford the luxury of assuming that those higher-order intellectual, emotional and behavioral skills that are basic now in the world of 198S will be basic then.

finally, I still believe that teachers must help lighten students' burden of learning. In my early writings, however, I suggested that if teachers were more responsible, response-able and respondable In their teaching, then students would be pressed to be likewise in their learning. I have learned, however, that pressing students to be more responsible, response-able and respondable is one matter; getting them to assume this burden, especially in the teacher's absence, is another one. Mastery learning teachers must do more than Just drop this burden in each student's lap; they must also teach the learning-to-learn skills students need to assume this burden.

Equity Concerns. My beliefs about equalence in student learning, especially about equalence in learning rates, have clearly concerned many of my colleages, even more than my views about excellence. Their major-concerns seem to be two. First, they argue that my beliefs deny what everyone knows about individual differences in learners. Second, my colleagues fear that the attainment of equalence will lead to mediocrity, not excellence in learning-homogenetly, not diversity. in learners. Let me address both "issues.

My belief about equalence does not deny the existence of individual differences in learners. Indeed, as a psychologist. I share with most educators an abiding belief that learners, while alike in. some respects, are different in many others. As an educator, however, I do not share many psychologists' assumption that because students differ as learners they must also differ in their learning outcomes.

One reason for not sharing this assumption is technical and comes out of recent research on school and classroom effects. This research Is beginning to explode the myth of individual differences In learners as being a major drawback to their learning, learning rate and learning

self-confidence. In particular, the research begins to suggest that many observed student learning outcome differences may be due to social-contextual differences In school and classrooms and not to individual differences In learners at all.' Moreover, the research is beginning to reveal how educators have historically masked school- and classroom-induced social-contextual differences in the guise of individual differences such as sex, race, social class, ability and effort. Such a guise serves very well, of course, to shift responsibility for poor learning, learning rate and poor learning self-confidence from factors inside the school to ones outside of it. In other words, learner differences becomes a perfect scapegoat for within-school and classroom teaching differences.

A second reason for not sharing the assumption that individual differences in learners must translate into individual differences in learning outcomes is ethical. Even if the assumption were partially true, I still would not let it get in the way of helping virtually all students to learn well, swiftly, and self-confidently. Like ophthalmologists who daily face real individual differences in eyesight and yet must try to help people see, I would still search to find some temporary or permanent prostheses so that students with certain individual differences could learn by human-made means what students with other individual differences appear to learn naturally.

I would do so because I believe most educators' current response to perceived individual differences in learners has been to create a panoply of human compounds based on various students' commonly perceived strengths and/or weaknesses. Some of these compounds are formal. like Special Education, Chapter 1, Academically Talented, College and Vocational Tracks. Others are informal, like reading groups.

The problem with these compounds is not that their homogeneity is mean-spirited. The problem is that some compounds are better furbished than others, and yet they are still compounds, with restricted entrance and exit. Each compound effectively provides, therefore, a separate curriculum for its inmates wherein each inmate is given the opportunity to acquire only a particular kind of cultural capital in terms of special knowledge, skills, appreciation and under-standings. Unless one finds oneself in the right compound to begin with, i.e.. unless one has the "right stuff" in terms of individual differences, there may be little or no real opportunity to "acquire the capital our best Students have historically been allowed to attain.

Just as I believe my views about equalence In learning outcomes do not deny Individual differences in learning, I also believe that my views about equalence do not lead to mediocrity and homogeneity. On the contrary, I believe they lead to excellence and true human diversity.

I have been struck in reading about the development of exceptionally talented human beings, that genius in most fields of human endeavor does not leap from nothingness. Rather it springs out of mastery of a practically understood, though perhaps theoretically undefined, foundation of basic, field-relevant intellectual, emotional and behavioral skills. Geniuses in the arts (e.g.. Picasso, Mozart) and sciences (e.g., Einstein), for example, appear to have mastered already the accepted parameters of their fields before they started to transform these parameters.

I have also been struck that individuals who have mastered the accepted parameters of a field are as diverse as can be In. what they do with this mastery. Unlike most of us mere mortals who choose to do a limited variety of things because we perceive we are incompetent to do more, geniuses choose to do a broad variety of things because they perceive they are competent to do anything at all. In short, their diversity appears to be based on their general educational competence whereas ours is based on our general educational incompetence.

In saying that I pursue equalence. I am saying that I envision a social order whose diversity is predicated on the general excellence of the many rather than on the special excellence of a few. I believe that there exists a general educational foundation that is required for excellence in the bulk of the various vocational and avocatiohal fields which students will pursue upon graduation. And when virtually all students acquire the foundation of excellence. I believe they will show the same kinds of true diversity in their vocational and avocational choices as geniuses hive historically shown. This means that their choices will he made on the basis of their general education competence, rather than incompetance, too

hardly able to generate energy to re-enter the fray, left only with the hope that the passage of time will somehow bring improvements, does this not suggest- that both critics and educators share some bllndspots--that there is something in their basic assumptions that they are unable to Identify and whose silent existence is part of the explanation for the present malaise and impasse? In raising the possibility, I am not suggesting that Identifying or confronting these assumptions will disperse the confusion or lead to a peace treaty among the combatants, allowing us all to move together to the improvement of education. On the contrary, it Is a characteristic of widely held but unarticulated assumptions that they serve the purpose of defining and bulwarking individual and societal perceptions of what is right, natural and proper. These assumptions are not learned in the sense that we learn to drive a car, but they are absorbed by . us, become part of us, in the course of our socialization. (Sarason, 1983, p. 25-26.)

In the case of my critics and myself, these unarticulated assumptions pivot around a set of pessimistic ideas about human beings and human technology deeply embedded in the very roots of modern American public education. I reject these ideas; my critics, I believe, tacitly accept them. These are the ideas of Charles Darwin, especially as these ideas were interpreted and institutionalized in American public education by so-called Social-Darwinists.

Central to Darwinian thinking, of course, was the assumption that human beings living in naturally occurring environments, like all other biolological species, evolve according to the laws of natural selection; therefore, some human beings would be naturally more fit for certain environments than other human beings. Social-Darwinists, however, decided to elaborate on this assumption. Rather than Just letting nature simply take her course in separating fit humans from unfit ones. they decided to help Mother Nature along. In particular, they urged the creation of particular social environments to help the natural selection process. Our public school, in particular, ware charged with the responsibility of creating educational environments wherein our most naturally academically talented students could be identified and sorted from their less talented peers.

Generally speaking, public school educators responded to this charge by developing an impressive gravel-grading process wherein the natural learning talents of some student were repeatedly and systematically pitted in stlffer and stlffer competitions against the talents of other students. Central to this process was one operating assumption: the process must reify, not challenge, the basic notion that only a few students probably had the right academic stuff. So certain curriculum, teaching and administrative procedures were elaborated allowing individual differences 1n learners to pursue their natural course. And certain testing procedures were implemented enabling individual differnces In learners to be measured meritocratically 1n individual differences in learning outcomes. Collectively and effectively, these procedures made school learning into a sequence of progressively more competitive horse races wherein each race was designed to spread its entering student field around the track depending on their natural learning talents. Those who won, placed or showed in their respective learning races were then allowed to race once again against their counterparts from the other learning races. And the "also rans" from each race were formally and informally allowed to drop by the wayside via a whole host of regular and remedial instructional programs.

In saying that 1 reject, and my critics tacitly accept, Darwinian conceptions of humans and Social-Darwinian conceptions of how humans should be educated, I am not saying, as Sarason notes, that recognizing this fact will necessarily resolve our differences. I am asking, however, for my critics, and especially those of you who are beginning to share their pessimism about humans' capacities to teach and learn, to take a fresh look at the modern public educational value of Darwinian and Social-Darwinian ideas.

to talk about humans living in naturally-occurring environments. Such environments are. Indeed. bound by laws of ecology which invariably point to 'natural limits of human talent. And the presence of such limits make understandable public educators concerns about the identification and selection of our most talented human beings.

We are now at a different time, however, when humans live less and less in naturally-occurring environments and more and more in human-made ones. In human made environments. It Is the laws of technology. In the sense of the old Greek word technos or "human know how," not the laws of ecology, that hold sway. And these laws Invariably point not to the natural limits of human talents but to the technological possibilities of transcending these limits. At this time, therefore, public educators' concern should not be with the identification and selection of the talented few but with the development of the talented many.

Abandoning Darwinian and Soclal-Darwinian thinking in education will, I believe, allow us to move forward to forms of high human technology that will help humans transcend their natural limits. After all, the essence of any such technology is to simulate for all persons with human devices what natural devices have provided for a few. And in assembling this technology we will be able to address what McMurrln has termed the "great task of education" in an era of rapid technological change:

> "... to guarantee the progress that assures us the full benefits of an advancing technology and yet to preserve and enhance the humane quality of a civilization whose humanity 1s threatened by that technology." (McMurrln, 1971. p. 12)

Let me Summarize this essay with an image that captures much of my optimism about humans' capacities to teach and learn, regardless of their natural endowments. The image is poignant because it comes from the country of my birth, England, and a country with an educational system that is highly elitist, though outwardly meritocratic. and deeply pessimistic about most humans' capacities to transcend their natural backgrounds. It is also poignant because it involves representatives of two groups--Arabs and Jews--whose capacities (or physical, cultural and spiritual survival have been sorely challenged over the years.

The Image is the scene in the movie Chariots of fIre "here the Jewish sprinter, who had not lost a competition until college". Is summoned before his college's administators for hiring an Arab coach to Improve upon his running style. Essentially. the young man is paternally chastised for running with the aid of instruction Instead of relying only upon his own natural resources. But, when pressed to cease his unnatural educational program, ,the sprinter responds to his conservative critics, "... I, sir, believe in the pursuit of excellence; the future lies with me." And, indeed, it did for the young man went on to win an Olympic medal In the 100-yard dash.

I believe that those of us who pursue excellence and equity In student learning and economy and excitement in teaching pursue the ideological hegemony of Darwinian and Social-Darwinian thought. Like the sprinter, the future is with us!

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