This is my third participation to the target article format (see Gagné, 1999, 2004). Some colleagues, within and outside gifted education, have confessed to me their intense “targetophobia”. For my part, I do enjoy – with some trepidation, of course – that rare opportunity to receive carefully drafted and honest feedback on my work. Of course, that feedback can sometimes test one’s self-confidence. Yet, in the long run, I find these comments very helpful; even those who had little positive feedback to express – as I sometimes do myself! – will help me sharpen my understanding of the scientific and political issues facing gifted education. So, I sincerely thank all 40 colleagues who devoted many hours of their professional time to comment on this target article.

When Professor Ziegler informed me that the manuscript had generated 32 comments from around the world, I was almost nonplussed. On the two preceding occasions there had been about half a dozen. Since most humans have a stronger tendency to express criticism than praise – just read letters to the editor! – I was worried that their large number would mean lots of “flak”. Professor Ziegler reassured me immediately, saying that most were on the positive side. When I received the PDF file, I felt a new type of worry. The amount of work looked formidable, with its 60 pages of single-paced text, more or less 35,000 words to read, annotate, then discuss. After a week of note taking, I had enough to write a small book! Fortunately, common sense and other writing commitments imposed some control on that task.

My plan is simple. First, I will propose a summary of my thesis; I hope it will clarify some involuntary ambiguities in the target article, as well as misunderstandings by some commentators. In Part II, I will discuss the major theme in both the target article and the comments: (in)equality and (in)equity in minority representation in gifted programs. Finally, I will briefly examine in Part III a series of more specific critiques directed at the ATD model and DMGT theory.

I – Summary of the Target Article Thesis

I have tried to synthesize as compactly as possible the thesis defended in the target article. The summary contains 10 logically sequenced (hopefully!) statements subdivided into four distinct thematic elements. An eleventh “nutshell” statement offers a slightly different perspective.

The Equity Issue

1. Advocates for some U.S. ethnic (and/or SES groups) frequently complain about significant inequitable under-representation in typical gifted programs, which they attribute to inequitable selection procedures. This is how the expression equity issue is specifically defined here.

2. No such complaints appear in many other talent-related situations with similar, sometimes even larger ethnic under- or over-representations (e.g., college degrees, University of California freshmen, graduate students in music conservatories, and some professional sports); these situations even include services directly identified...
with the field of gifted education (e.g., Advanced Placement, selective NY high schools, Governor's schools, state-funded residential high schools).

**Common Predictors and Ethnic Differences**

3. The two most common access criteria to gifted programs are IQ scores, the most appropriate measure of the DMGT's *intellectual giftedness* (IG), and academic achievement scores, the most appropriate index of the DMGT's *academic talent* (AT). In other words, the prototypical profile of the participants in U.S. gifted programs is IGAT, or a “bright achiever” profile.

4. African-Americans and Hispanics obtain *chronically* lower performances than Caucasians and Asians on these two selection criteria. “Chronic” means that their lower performances have been observed for decades, have not decreased substantially since then, thus are not expected to decrease substantially in the near future. 

   – [Optional: Because of the tail-end amplification effect, small average ethnic differences will generate large selection disproportions among the top – or bottom – subjects, thus exacerbating the perception of inequity.]

5. If we exclude inequitable selection procedures, the set of etiological factors at the source of these ethnic differences remains very complex, no doubt involving social, psychological, and possibly biological factors. But, because my thesis focuses strictly on a specific form of perceived inequity (see #1) that has nothing to do with unequal opportunities, these socio-psychological sources of potential inequity have no relevance in the logical structure of my argumentation.

**Predicting Academic Success**

6. Academically focused provisions (see #2) stress high *academic* excellence goals pursued through strong enrichment of the *academic* curriculum, with progress measured through *academic* performance. They correspond to a meritocratic ideology. Such provisions directly answer the educational needs of students with a clear IGAT profile. [Omitted in target article: That profile excludes of course non-IGAT students (e.g., gifted underachievers), for whom we must provide appropriate recuperative learning activities through different, specifically adapted interventions.]

7. Hundreds of studies have shown that IQ and achievement scores, our field’s two main selection tools (#3), are the best predictors of academic achievement. Thus, it makes perfect sense for the academically focused provisions described in #2 and #6 to adopt them as their main selection criteria.

8. And it is because of that close predictor-criterion relationship that their use as selection instruments will be judged fair and equitable. This explains in my view the general acceptance of the ethnic disproportions mentioned in #2.

**The Case of Typical U.S. Gifted Programs**

9. Typical U.S. gifted programs (e.g., regular classroom enrichment, pull-out programs, weekend or summer activities) focus most of their activities on a variety of enrichment options, many of which do not specifically target the high learning potential of gifted/talented students. In most of them, teachers are especially careful NOT to enrich the *regular* classroom curriculum in any systematic way, as do the academically focused provisions mentioned in #2.

10. That choice of enrichment options significantly decreases the relationship between the two academically oriented selection criteria, the “alleged” predictors, and the more “fuzzy” performance criteria of these typical programs. According to my thesis, this ambiguous predictor-criterion relationship gives support to inequity complaints, since it is no longer clear whether or not students really need an IGAT profile to perform in, and benefit from these typical programs.
In a Nutshell

11. The lack of perceived appropriate relevance (#10) between U.S. gifted programs’ expected outcomes (#9) and their most common access criteria, IQ and achievement scores (#3), makes these criteria appear inequitable (#1). I recommend to redirect energies toward a much broader dissemination of “real” ATD provisions inspired by a meritocratic – achievement guided – ideology (#6); U.S. gifted education would thus better serve talented (IGAT) students while solving the specific equity issue defined in #1. It would not, unfortunately, reduce over- or under-representation of ethnic groups, because of the chronic performance differences (#4) between these groups on the two ATD-relevant (#7) access criteria.

A Few Comments

1. Thinking of the many misunderstandings I found in the comments as a group, I wonder how they would have looked if I had included that summary at the end of the target article. It might have alerted a few commentators about their mistaken interpretation(s). After reading the above summary maybe some of them will say: “Ah! That’s what he meant!”

2. Notice that neither the description of the tail-end amplification phenomenon nor the inclusion of the ATD model was essential to my argumentation. In fact the ATD model does not appear explicitly in the above summary (see Part III for more details).

3. The omitted precision about underachievers (#6) would have clarified a major ambiguity concerning my interest for that special population.

II – Debating Equality and Equity

During my reading of the 32 comments, I became progressively aware of a fundamental reality: most educators, maybe more so in the United States, associate automatically, almost subconsciously, the expression “the equity issue”, not only with the fact of ethnic under-representation in educational and occupational spheres, but also with its most common perceived source, namely unequal opportunities. As the argument goes, unequal opportunities “explain” under-representation, which in turn is automatically equated with inequity6. Through repeated exposition in professional and popular media, that association has acquired the strength of a Pavlovian stimulus-response pair. Consequently, many people react emotionally to that issue, not just advocates of disadvantaged groups, but all others who deeply care for social equity. When I wrote the target article, I did not realize, as I do now, the strength of that emotionality. I did not see that the expression “the equity issue” in the title and body of the text would automatically convey a very different meaning than the one I had chosen, especially when mixed with expressions like “render obsolete” or “lose its relevance”. I can see now how some sentences, like “this new focus on the development of academic excellence throughout the K-12 schooling process would render the equity issue obsolete” (Gagné, 2011, p. 19), could provoke strong reactions if my circumscribed meaning of “equity issue” were not kept in mind.

Even if I did clearly delimit, in the very first paragraph of the target article, the equity issue to advocates’ judgments of unfairness in selection procedures, some commentators appear to have “processed” that information imperfectly. Consequently, I can imagine now that every time the term “equity issue” kept reappearing, some readers would spontaneously give it its more common meaning of “unequal opportunities”. I wonder if that might be the source of VanTassel-Baska’s strong negative reaction, which brought her to accumulate so many errors of interpretation in just the first few paragraphs of her comment (see Reference Note 7). That same interpretative imbroglio might also explain why so many commentators (e.g., Cohen, Dracup, Dimaano, Harder, Hotze, Liu, Tourón, Wallace, Wood, Zhang & Chu) amplified the problem beyond my strictly delimited context.
by bringing in the broader social issue of unequal opportunities. I have explained in the Part I summary (#5) why etiological issues of socio-psychological origins, a synonym for unequal opportunities, are technically irrelevant. Yet, so many commentators introduce that broader issue, blaming me in the process, that they would judge me unfair, and possibly cowardly, if I evaded the subject.

This second part is subdivided into three main sections. First, in order to bring some structure to the discussion I propose some terminological and conceptual precisions. I will then devote the second section to potential inequities that have their source in the selection process, the precise subject of “my” equity issue. In the third section, I will discuss the etiological issue of unequal opportunities, including a short discussion of the recurring subject of underachievement.

**Forms of (In)Equality and (In)Equity**

Both the terms “(in)equality”, “(in)equity”, and “(in)equity issue” appear in the comments. Many commentators automatically equated inequality with inequity, or its obverse formulation. In reality, the term “(in)equality” simply describes a quantitative comparison: it is value neutral. On the other hand, the concept of (in)equity refers to moral issues, to the presence or absence of justice in human affairs. Inequalities abound in our physical and social environment: there are more women than men among elderly people, more densely populated countries than others, more urban dwellers than rural ones, more tall men than women, and so forth. Is there moral injustice in any of these inequalities? I don't think so. Similarly, bringing back an example from the target article, I see no inequity in the over-representation of Blacks in basketball and football. As I argued in the target article, if it were so we would see recurring discussions of that unfair situation in the sports sections of newspapers. Consequently, when VanTassel-Baska uses the expression “reverse inequity” (p.107) to describe that over-representation, she is totally wrong, attributing moral injustice to a situation almost everyone considers the “fair” result of demonstrated differences in talent. In short, as we will see in more detail below, we need to tread carefully when using the terms (in)equality or (in)equity.

**Outcomes, Services, Opportunities**

There is more to conceptual distinctions than just the equality/equity differentiation. We can also distinguish at least three types of inequalities. Through a Terceiro quote, Tourón (p. 104) introduces John Stuart Mill's dichotomy of ex ante and ex post inequalities. The first term targets inequalities of opportunities, conditions that differ before the start of an educational process or an occupational career. The equity issue discussed in the target article belongs to that category. Ex post inequalities concern outcomes of a developmental process; my example of ethnic differences in college diplomas obtained belongs to this type. There is also a third type. Liu quotes Sapon-Shevin as follows: “Arguments framed in terms of justice are complex because they often fail to discriminate between the goals of equality of access, equality of services, and equality of outcomes” (p. 83). So, not only are there potential inequalities in access (ex ante) and outcomes (ex post), but also inequalities in services. In continuity with Mill’s terminology, I propose to label that third form of potential inequalities “ex intra” [Latin for “within”].

The proper placement of inequalities is not always easy. Let’s use an example proposed by Dracup. He mentions that UK politicians have repeatedly brought up the fact that “in one recent year, just 40 learners eligible for free school meals [FSM] secured a place at Oxford or Cambridge” (p. 48). This is one of those ambiguous examples – like the University of California freshmen – that we can categorize either as an ex ante selection situation (most FSM candidates are rejected by Oxford or Cambridge) or as an ex post situation (most FSM students do not even become candidates). As another example, Tourón states: “[Equity] amounts to facilitating the necessary educational resources that allow each pupil to go as far, as fast, as extensively and in such depth as his or her ability
and competence allow. This is understanding the principle of equality of opportunities in its correct meaning” (p. 104). That quote confounds two distinct forms of inequalities: it means that *ex intra* inequalities (distinct services) would ensure *ex ante* equity (equal opportunities). Of course, *Tourón* probably equals “opportunities” with appropriate answers to distinct educational needs. These examples show that we need to be careful in the way we use the three types of inequalities.

These three forms of inequalities can be sources of parallel *ex ante*, *ex intra*, or *ex post* (in)equity. Again, it would be tempting to equate inequality with inequity; we should refrain from doing so automatically. Let’s examine each of these three distinct pairings.

**Ex Post Inequalities**

Inequalities in outcomes abound in talent development situations. Just look at any sport: some players never achieve any form of excellence, whereas others will reach international competition. And don’t forget all intermediate levels of excellence: local, regional, state, or national. We observe similar inequalities of outcomes in education, with some learners barely completing the equivalent of primary schooling as others reach a Ph.D.; again, we can observe a series of intermediate levels of achievement. Is there unfairness in that dispersion of outcomes? Would fairness require that everyone obtain a Ph.D.? You certainly see as well as I do the ridicule of such an expectation. At the level of individual differences, I cannot imagine anyone judging automatically unfair any developmental process where individual outcomes differ. In fact, I would agree with Mill’s statement: “to insist upon *ex post* equality would represent the end of economic and social development” (see Terceiro quote in *Tourón*, p. 104).

Critics contend that group differences represent a totally distinct situation where differences are immediately suspect, especially with regard to behavioral characteristics like abilities and personality traits. I have in mind how difficult it was not so long ago to bring out the subject of gender differences in some abilities, interests, or temperamental dispositions. Now, the accumulated research is impressive (e.g., Goleman, 2006; Pinker, 2008). So, should we expect all group inequalities to represent inequitable situations, like those observed in gifted program participation? The situation is not that simple. Recall my example of Black over-representation in some U.S. professional sports that I judged a clear situation of perfectly *equitable inequalities*. Similarly, I do not believe that some underlying unethical behavior explains the large Asian over-representation in music conservatories or on the University of California campuses described in the target article.

In spite of Mill’s admonition, many people do not hesitate to transform all kinds of *ex post* inequalities into inequities. Here are just a few examples. First, *Tourón* cites the Institute of Evaluation specialists who interpreted the smaller dispersion of the Spanish PISA results as proof of greater equity. By doing so, they were promoting an *ex post* form of equity: the more homogeneous the results, the greater the equity. Note, by the way, the expression “the greater the equity” in the preceding sentence. It means we can talk about (in)equity in quantitative terms; some outcomes, or services, or access modalities can be more (or less) (in)equitable than others. We rarely observe perfect or complete equity in human affairs; most people will find quite satisfactory – thus will tolerate – less perfect, but still quite acceptable forms of (in)equity.

Second, Pérez & Beltrán appear to endorse *ex post* inequity when they affirm: “there is no logical reason not to expect the number of minority students to be proportional to their representation in the general population” (p. 91). There might not be many “equitable” or “defensible” *ex ante* or *ex intra* reasons for such disproportions, but I would consider them “logical” just because of their empirical basis.

Third, are you aware of the “tall poppy syndrome”? According to Wikipedia, it is “a pejorative term used in the UK, Ireland, Australia, and New Zealand to describe a social phenomenon in which people of genuine merit are resented, attacked, cut down, or criticized because their talents or achievements elevate them above or distinguish them.
from their peers” (see Wikipedia, TPS, 2011). That syndrome is an interesting situation of perceived “inverse ex post inequity”, since the “victim” is the emerging group, the tall poppies, in a situation of unequal achievements. As a last example, I will propose the case of feminist activists who consider as inequitable the much smaller percentage of women in STEM occupational fields (STEM = Science, Technology, Engineering, and Math). Yet, research has shown that most of these occupational differences are in fact attributable to very distinct career interests rather than to any form of discrimination. Pinker (2008, chapter 3) points out that the gap has remained large in spite of strong incentives to reduce it.

In summary, ex post inequalities prove nothing, strictly nothing. One needs to look at ex intra and ex ante inequalities to ascertain their potential inequity. Let’s do just that.

**Ex Intra Inequalities**

Inequalities in educational services or provisions also abound. Some of them represent clear inequitable situations, like schools in poor or ethnic neighborhoods that offer fewer services or have less experienced teachers. But, let’s just limit ourselves to talent development. Here too there is a rich diversity. Just think of music conservatories for highly talented musicians, drama schools for promising actors, all kinds of competitive teams in sports, the debating teams so popular in Australia, honors programs and residential schools for academically talented students, as well as all available forms of accelerative measures. Every field of talent development thus offers a diversity of “unequal” provisions and services, all of which, with the exception of those in general education, most consider perfectly equitable. Indeed, only the subject of ability grouping in K-12 classrooms will bring opponents to the barricades!

Arguments against ability grouping take many forms. They include unfairly extracting potential models and mentors, preventing desirable mixing between social classes – an argument based on the myth that enriched classes contain only "rich" kids – creating unhealthy competition among talentees, as well as demotivating regular classroom teachers who lose their most stimulating students through an unacceptable “creaming” of the best achievers! The main argument that bears directly on the equity issue has its roots in equalitarian ideology. A democratic and equalitarian education demands an identical curriculum and learning environment for all, for fear that differential provisions will exacerbate SES and ethnic achievement gaps. Leftist ideologues (e.g., Berthelot, 1987) will even introduce Marxist ideas, arguing that special classes for children of the “elite” – a.k.a. the rich and powerful – will contribute to maintain and secure the social status quo, namely the dominance of that elite over the “working classes”.

Supporters of special ATD services counter that this alleged social equity is totally inequitable because it does not respect individual differences in learning aptitudes, interests, and needs. Liu quotes Sapon-Shevin as follows: “Few educators would advocate equal treatment if by that we meant giving every child the same kind of educational experiences at the same pace, using the same materials, and so on” (in Liu, p. 83). For his part, Stanley (1979) used the expression “age-grade lockstep” to describe the identity in curriculum and pace forced on almost all K-12 students. Supporters also point out that the International Convention for the Right of the Child (ICRC), formally adopted by the United Nations in 1989, clearly endorses that equitable view of ex intra inequalities. Here is the beginning of Article 29: “States Parties agree that the education of the child shall be directed to: (a) The development of the child’s personality, talents and mental and physical abilities to their fullest potential” (United Nations, ICRC, 2011). They also repeat a famous quote attributed to Thomas Jefferson: “There is nothing more unequal than the equal treatment of unequal individuals." That quote perfectly parallels Tourón’s Aristotle quote. For a more detailed discussion of that debate, I emphatically suggest Benbow & Stanley’s (1996) superb analysis.
In short, I have briefly described a situation that opens the door to intense debate: some educators consider the introduction of \textit{ex intra} inequalities perfectly equitable, whereas others judge them inequitable. Said differently, the (in)equity of some inequalities often depends on one's ideological stance.

\textbf{Ex Ante Inequalities}

This third and last form of equality/equity brings us to the core of the ethnic/SES equity debate: (in)equitable opportunities, as described in J. S. Mill's definition of \textit{ex ante} equality. It is by far the most common type of (in)equity mentioned in the comments. Unequal opportunities take many forms that can be grouped into two main categories: (a) inequalities that ensue from selection procedures (e.g., the equity issue defined in \#1, inappropriate instruments or criteria, improper definitions), and (b) inequalities that precede the selection procedure itself, and contribute directly to the etiology of ethnic or SES disproportionate representations in educational situations (e.g., familial upbringing, income level, parental educational values). Note that both categories concern environmental influences; those in the (a) category belong to the \textit{Provisions} (EP) sub-component of the DMGT, and those in the (b) category belong to either the \textit{Milieu} (EM) or \textit{Individuals} (EI) sub-components (see Figure 2 in Gagné, 2011). The next two sections are devoted to these two distinct forms of perceived \textit{ex ante} inequalities, with their potential inequity.

\textbf{Procedural Inequalities (EP)}

Whether we look at educational or occupational situations, candidates are usually much more numerous than available places, forcing the adoption of selection procedures. Good selection procedures always aim to identify candidates most apt to succeed. That goal applies of course to talent development programs. To achieve that goal, program coordinators try to choose instruments that offer the best \textit{predictive power} with regard to the excellence outcomes of their specific program. The success of their search depends as much on the clarity of the outcome(s) being predicted as on the psychometric qualities of the predictors: the fuzzier the program goals, the harder the prediction task. In other words, an effective selection procedure depends on (a) clear expected outcomes, and (b) psychometrically valid predictors of these outcomes. Let us examine these two situations separately. Note that the first one will focus on the equity issue discussed in the target article (see \#1), whereas all other potential procedural inequities address issues associated with the instruments (tests, checklists, portfolios) or sources (e.g., teachers, parents, students) used as predictors of future excellence.

\textbf{Outcome-Based Inequity}

In most talent development situations, the goals talentees seek are clear: at least top 10\% excellence in a chosen field, as defined in the DMGT. That operational definition of talent usually simplifies its assessment. Of course, the fields of sports and general education offer the most objective measures; but panels of judges will compare with reasonable objectivity musical, dance, drama, or figure skating performances, as well as the productions of graphic artists. With regard to educational progress, teachers can use homework, regular exams, or more formal standardized achievement tests. But, as I argued in the target article, the goals of most typical gifted programs in elementary and middle schools are not so clear. The type of enrichment frequently adopted by regular classroom teachers or special teachers in pull-out programs rarely includes any enrichment in density (curriculum compacting) of the regular daily curriculum. Consequently, opponents will rightly challenge their exclusive access to identified IGAT students because, as stated in \#10, “it is no longer clear whether or not students really need an IGAT profile to perform in, and benefit from these gifted programs.”
In short, I argued that current gifted programs open the door widely to defensible accusations of inequity based on the doubtful relevance of the two most common predictors, IQ scores and achievement measures, used to identify participants for these programs. On the other hand, I showed that ATD provisions reinstated that strong predictor-outcome relevance.

**Predictor-Based Inequity**

Now, let's look at the predictor side of the equation. As noted above, selection instruments can take many forms and use different sources. I will discuss in turn issues brought up by the commentators with regard to achievement tests, IQ tests, alternative ability measures, as well as culturally sensitive definitions and criteria.

**Achievement Measures.** What is the best predictor of talent? Aptitudes? No, it is past or present talent-level performance. In other words, shortly after individuals enter a systematic talent development program, thus becoming talentees, they begin manifesting performance behavior that will progressively evolve over the next months and years. And the growth of these performance behaviors will tell more about the future chances of talentees to attain progressively higher levels of talent than any aptitude test battery. Simply put, if you want to predict which students will be the best achievers in Grade 5 just look at Grade 4 academic performances. Of course, the relationship is far from perfect; numerous factors can intervene during a school year or over a few years to increase or decrease students' learning process and consequent achievement. But, all in all, nothing comes close to current or past high achievement as a predictor of future excellence.

Allow me to reiterate the underlying reason for the good predictive power of achievement measures. As stated in the DMGT, talent results from the complex interaction between the four causal components: Gifts, Developmental process, Intrapersonal and Environmental catalysts. Any effect associated with one of them, including sub-component or facet-level effects, will directly influence the performance. In other words, good measures of performance will reflect with strong reliability these various causal impacts (e.g., change in interest, anxiety, will power, parental or teacher support, accidents, disease, personal trauma). Of course, it will not be possible to dissect individual causal influences; but that kind of fine analysis is rarely a major preoccupation in selection situations.

**IQ Testing.** The above description illustrates the basic and most common situation: it does not cover initial entrance to a talent development program, where individuals have not yet had a chance to try their hand at learning the knowledge and skills of a particular academic or occupational field. That's when program administrators look for other predictors, usually in the form of relevant natural abilities. In sports, talent development coordinators will often adopt measures of specific physical abilities – or anatomical characteristics – that they judge relevant predictors of future talent in their sport. In the case of gifted programs, coordinators will commonly adopt IQ tests as selection tools because so much research has shown that cognitive abilities represent the group of natural abilities most closely associated with academic achievement.

What is the relationship between theories of cognitive abilities and IQ tests? According to Luzzo & Gobet, it is a crucial question. They warn me as follows: "If Gagné wants to use IQ as a possible measure, he needs to specify the methodological framework he is using" (p. 85). Fortunately, I have a straightforward answer to that question: they will find its detailed description in Gagné (2009b). In a nutshell, I borrow my theoretical position from three related sources: (a) Jensen’s (1998) defense of the “g” construct, (b) Carroll’s (1993) hierarchical three-tier theory of abilities, and (c) a famous public declaration by 52 eminent scholars in the field of cognition (Gottfredson, 1997) called "Mainstream science on Intelligence" (MSOI). Its first three paragraphs appear in Reference Note 8. The second paragraph directly relates their definition of the concept of intelligence to its most appropriate measure: IQ tests.
Since the appearance of IQ tests in the early decades of the past century, education has entertained a love-hate relationship with them. Of course, their wide use indicates more love than hate. Yet, accusations of invalidity keep appearing again and again, particularly with regard to their use with ethnic minorities. A few commentators do bring up that issue; here are some examples. “Apparently, intelligence test results do not prove suitable as a criterion for identifying the gifted because of the culture-dependent results Gagné has already put forward” (Duan, p. 51). “A substantial part of the vulnerability to such accusations may well lie with the reliance on measures of potential ability” (Shore, p. 97).

Unfortunately, neither of them elaborates on their statement. For their part, Wellisch & Brown cite a text on that subject by Callahan & Eichner (2011) on the NAGC website that allegedly questions the validity of these tests (for details see Reference Note 9).

Critics especially accuse IQ tests of cultural bias; they argue that ethnic differences on IQ tests have their source in the instruments themselves. As a consequence, they contend that IQ tests unfairly discriminate against minority students in most selection situations, both educational and occupational. That belief persists, as I observe regularly in newspapers and even professional journals, in spite of the fact that hundreds of validation studies have shown that IQ scores predict academic achievement equally well for all major ethnic groups in the United States. In other words, the lower scores of Blacks or Hispanics on IQ tests exactly parallel their lower academic results at all levels of the educational system. In one of the most widely used handbooks on testing issues, Anastasi & Urbina (1997) conclude their review of the scientific literature as follows: “In summary, comprehensive surveys and critical analyses of available studies have failed to support the hypothesis that ability tests are less valid for Blacks than for Whites in predicting occupational or educational performance” (p. 168).

Fortunately, although many media professionals still use that “bias” argument when discussing ethnic IQ differences, most professionals in education including members of the targeted minorities acknowledge that scientific fact. For instance, in the Ford (2003) chapter quoted in the target article, the author cites detailed statistics of IQ differences between Black and White students; she notes the persistence of that gap, but never alleges that instrument bias could account for them. On the other hand, some scholars still entertain – and disseminate – that myth. For instance, nowhere else but on the NAGC website, Callahan and Eichner (2011) give an overview of IQ testing in a series of web pages for parents. In a sub-section called “What are these tests like? What will the scores mean?” the two authors affirm: “There is considerable evidence that students who are economically disadvantaged, from ethnic minorities, and/or speak English as a second language generally receive a lower score on IQ tests. This is a fault in the tests, not the students” [my emphasis]. That last sentence couldn’t be more wrong. Sadly, the wide access of the NAGC web site makes that statement especially detrimental.

In summary, the scientific literature clearly supports the view that both IQ tests and achievement tests are the best predictors of academic excellence. So, what should we answer when Ford (2003) asks: “Given the persistent [ethnic] gap in the intelligence, aptitude, and achievement test scores ... one must ask why educators continue to rely extensively or exclusively on such tests for recruitment purposes. This is not just a question of access; it is also a question of equity” (p. 511). In the context of current gifted programs, as I argued above, she has a point, a very good point. But, in the context of the type of ATD provisions described in the target article, coordinators cannot avoid intelligence and achievement tests if they want maximally relevant predictors of academic excellence. This is why, by the way, a large dissemination of ATD-inspired provisions, coupled with a long-term stability of ethnic differences, could increase ethnic/SES disproportions.

**Alternative Measures.** A few commentators responded to my “procedural” equity issue with a diversity of suggestions for alternative, seemingly more equitable means of identification. For instance, Duan proposes alternative instruments that focus on basic cognitive tasks (e.g., inspection or reaction time, speed of information processing). This is
an interesting suggestion; it remains to be seen how professionals will succeed in transforming these tasks into practical and cost-efficient psychometric instruments. A strange and amusing coincidence brings both Dimaano and Hoogeveen to propose combining Renzulli’s Schoolwide Enrichment Model (SEM; Reis & Renzulli, 2009) with the ATD model (I wonder how Renzulli would feel about that!). Dimaano asserts that the SEM, “because of its identification and transitory functions … [would] produce measurably better performance in susceptible participants within a shorter period of time” (p. 42). Interestingly, that proposal parallels my personal conviction that ATD provisions designed for very young students should use generous access criteria in view of the lower predictive power of identification instruments at these young ages. Local gifted program administrators will be the ones to decide whether that openness should manifest itself through SEM activities or other means. Finally, Harder (p. 67) suggests implementing my third commandment (“Thou shalt identify … multicomponently”, in Gagné, 2007, pp. 98-100). For that suggestion to be fruitful, we need to ascertain the predictive validity of additional sources and/or instruments, above and beyond the combined predictive validity of IQ and achievement measures. That will not be an easy task.

**Broadened Criteria.** I cited in the target article some of the arguments given by minority group advocates to explain the under-representation statistics. Two themes seemed important: “broadened definitions and conceptions” (Gentry, Hu, & Thomas, 2008, p. 199) and a better “understanding of cultural diversity” (Ford, 2003, 507). These two themes reappear in some comments, especially those of Cohen and Freeman. Cohen endorses the views of many minority advocates when she complains about the lack of openness to diverse cultural views of gifts and talents, what she calls a “multicultural lens.” Citing Passow and Frasier, she argues that “gifts and talents may be overlooked due to overemphasis on standardized tests, narrow definitions of giftedness, deficit orientations, failure to consider attributes and specific behaviors in a cultural context” (p. 37). When I began reading Freeman’s comment, I couldn’t help smiling when she compared me to Don Quixote, judging me “a brave man, setting out all alone to tilt at the windmills of current thought” (p. 57). It is the second time such a comparison is made (see Borland, 1999, p. 141), this time in a much kinder way! Freeman concurs with my judgment that extensive dissemination lies far in the future, giving as her main reason worldwide cultural disparities in beliefs and provisions. She concludes: “such cultural differences change the meaning of Gagné’s assumption of ‘moral inequity’ ” (p. 58). I must confess that I did not understand that last statement. All in all, Freeman finds me a bit “too hard on American providers of gifted programs,” saying that “they cannot be all things to all people because they are themselves part of their own culture” (p. 58).

The subject of cultural diversity brings up many questions, which in my view have not yet received satisfying answers from minority advocates. Here are a few that come spontaneously to my mind. Unable to put aside my personal bias, I have structured them around the DMGT framework.

1. What would a culturally sensitive conception of giftedness look like?
2. If we consider that the DMGT offers a wide spectrum of natural abilities, where would these culturally sensitive gifts fit within the six G sub-components (see Figure 2 in Gagné, 2011)?
3. Would any of them fall outside the DMGT spectrum? If so, where would they appear with regard to the DMGT structure?
4. Since we would be looking at the development of culturally sensitive talents, which excellence goals would be highlighted?
5. How would the culturally sensitive gifts be related to these excellence goals?
6. Considering again the comprehensive coverage of fields of talent presented within the T component, which among them would be identified as more culturally sensitive fields?
7. And what would happen to academic talent development? Would it be completely sidelined?
8. How would a culturally sensitive selection process deal with the strong predictive power of IQ scores and achievement measures with regard to academic excellence?

These are just a few of the questions whose answers would help better understand the culturally sensitive theoretical views of minority advocates. Moreover, clear answers would certainly contribute to improve the identification skills of regular classroom teachers, thus alleviating current complaints about biased teacher judgments.\(^{11}\)

**Socio-Psychological Inequalities (EM & EI)**

I would be hard pressed to say how many dozens of draft pages I wrote in my efforts to react properly to all the commentators who scolded me, a few of them more strongly than others, for relegating to the sidelines the twin related issues of unequal opportunities and (minority) underachievement. After days of writing page after page, I finally realized that the opening summary already contained in #5 the "quintessence" of my response: *irrelevance*. But Cyrano de Bergerac would have said of that single word: "C'est un peu court jeune homme!" So, I will elaborate from that single word into the following paragraph.

The complex sources of the chronic ethnic and SES disproportions in most educational programs, including gifted programs, are strictly irrelevant in the logic of my argumentation simply because I chose to focus on inequity in the selection procedures. And why did I choose that specific focus? Again, the reason is simple: it seemed to explain quite well the difference between provisions that generated loud complaints (typical gifted programs) and others that did not (see list in #2 and target article). I hope that this is now clear to all. Consequently, as much as I can understand, and share, the social preoccupations of all commentators who brought up the subject of unequal opportunities, I dissociate myself from that issue, and consequently refuse to be accused of not doing something I never intended to do. Let me point out that this decision is well supported by the last paragraph of *VanTassel-Baska’s* comment. She speaks of two distinct and separate intervention "agendas". As she clearly acknowledges, my discussion of ATD programs directly addresses her first agenda about providing challenging educational services to IGAT students. *Within* that first agenda, I just tried to demonstrate that ATD programs did answer (solve?) a specific source of complaints from minority advocates, namely the procedural inequities discussed in the preceding section: nothing more, and nothing less.

Having said that, I cannot completely put aside a subject over which I literally sweated (even in the middle of a Canadian winter!) for days on end. So, I will allow myself a few additional comments, mostly questions that came to the mind of a non expert struggling to clarify his personal position on the two social issues of unequal opportunities and underachievement.

**About Equal Opportunities**

It is easy to throw concepts around when we discuss over a beer or a glass of wine. We all do that on a regular basis. But the task suddenly becomes much harder when we are asked to define concretely the concepts we use so liberally in our friendly exchanges without thinking much about their more or less fuzzy meaning. We saw a very good example of that when I tried, earlier in *Part II*, to define appropriately the terms (in)equality and (in)equity. Recall how these two apparently simple constructs suddenly became much more complex, in themselves as well as in their relationship with each other. I believe we would confront a similar terminological and conceptual challenge if we were to operationalize in the same way the concept of "(un)equal opportunity", including its synonym "level playing field".

**Defining Opportunity.** Webster’s dictionary (McKechnie, 1983, p.1255) defines “opportunity” as “1. Fit or convenient time or occasion; a combination of circumstances favorable for the purpose; suitable time, combined with other favorable circumstances.” The key expression is “favorable circumstances”, and circumstances refer to
environmental influences, but in a very broad way. What should we include within the concept of unfavorable circumstances? Said differently, how should we define its opposite, the concept of "level playing field" used by Cohen and Dracup? In fact, are the two terms really synonyms, as they appear to be in their contextual use? Spontaneously, we associate equal opportunity with ex ante environmental conditions that preceded, and paved the way to a positive adaptation to schooling. But, we could expand that basic definition to include ex intra situations, like the availability in schools with large ethnic populations of services of comparable quality as those in schools situated in White neighborhoods.

Many commentators hesitate to give concrete examples of unequal opportunities; they essentially infer them from the ex post existence of disproportions. For instance, when Cohen says “only if opportunities are increased and barriers are decreased so there is a level playing field can merit be the determinant for identification and placement in special programs to support talent development” (p. 39), she doesn't identify which opportunities need to be increased or which barriers need to be decreased. Similarly, Koichu affirms that my “focus on performance as the main entry requirement to a talent development program … [would be fair] only on condition that all the candidates for the program are given an equal opportunity to attain considerable achievements before [his emphasis] the gifted program begins” (p. 80). He judges that ex ante inequalities will have disappeared when we will observe ex post equalities. As I explained earlier, ex post statistics cannot be valid judges of equity.

Other commentators do bring up specific sources of inequalities. Among them, Baker discusses at length the phenomenon of stereotype threat, but acknowledges that too many scholars and media people have “largely misinterpreted this effect as being the primary [his emphasis] explanation for the consistent racial differences” (p. 28). He also mentions, just barely, the subject of genetic differences, and concludes wisely that “researchers should continue to examine alternative frameworks to explain the apparent dominance of one group over another” (p. 28). For their part, Zhang & Chu identify four “sources” of possible causes for observed disproportions: genetics, cultural traditions, immigration of higher SES people, and cultural differences in field of study attraction. They add that “the disproportions could be caused by one or more confluent factors as mentioned above” (p. 128). Dracup does try to explain the under-representation of free school meal (FSM) students in Oxford and Cambridge. He first points out that “disadvantaged students will typically have experienced poorer quality education in their schools and colleges”, then adds that “they may also have had to overcome low family and community aspirations and even low expectations from some educators” (p. 48). Finally, VanTassel-Baska affirms: “While we know that some genetic advantages come with higher income and educational status of parents, we also know that the lack of stimulating environments of home and school coupled with lack of role models and educational interventions at critical stages of life can defer dreams out of existence” (p. 107).

The above quotes illustrate the diversity of proposed manifestations of unequal opportunities, from the biological domain (genetics), to the economic (family income), the cultural (traditions, study interests), the social (poorer schooling, immigration patterns), and finally the psychological (family aspirations, role models, stereotype threat). Looking at all these factors we have a right to ask which among them are empirically confirmed causes, and which are merely plausible hypotheses. We can also ask ourselves, even with that large diversity, if the commentators have made a comprehensive coverage of all possible factors? I have in mind, for instance, recent research about the impact of deficient pre-natal conditions (Paul, 2010) on later development. There might be many more. Finally, when an appropriate identification has been made, a major task remains: determining the strength of their individual causal influence. In other words, which among them do make a significant difference?

**From Inequality to Inequity.** When inequality sources have been clearly identified and their causal influence confirmed, the question remains of establishing the presence of
(in)equity. Of course, few would argue about the inequity of a confirmed lower quality in the elementary or high school education given to FMS students. On the other hand, is there inequity in the genetic differences that might contribute to group disproportions in natural abilities? If so, who is morally at fault? Let’s try a virtual example. First, imagine that clear empirical evidence has shown that U.S. parents of Asian descent do indeed have a more controlling approach in the education of their children. Enough testimonies (e.g., Chua, 2011; Gladwell, 2008, chapter 8; Robbins, 2006) – and probably many studies I didn’t look for! – make that premise believable. Second, imagine that other empirical research has proven that this cultural difference in parenting behavior does impact significantly Asian children’s academic achievement, thus improving their chances of entering more selective high schools or colleges (like the University of California). Should we consider that ex post over-representation inequitable? Could that be a case of what VanTassel-Baska called “inverse inequity”? Should the children of Caucasian parents be considered “victims” of unequal opportunity? If not, when do cultural or ethnic differences in parenting behavior cross the line into “inequity territory”? Will a level playing field be reached only when other ethnic groups have adopted similar educational practices, or when ex post disproportions have disappeared? These are just a few of the questions I asked myself as I tried to understand how to judge a certain situation inequitable, and who should bear responsibility, assuming of course that there is responsibility to bear and clear sources to bear it!

Correcting for Inequity. What can we do when faced with confirmed inequitable opportunities? What is the extent of our power to intervene effectively? My answer is: “very limited”. Let us again use Dracup’s example of the under-representation of free school meal (FMS) students at Oxford or Cambridge. Recall its ambiguous status as either an ex ante situation (the Oxford/Cambridge selection process excludes a larger proportion of FMS candidates), or an ex post one (there is already a similar under-representation of FMS students among candidates, so the selection process itself is fair). The second option represents of course the most probable one. What could these universities do to attract a larger number of FMS candidates? Should they modify their access criteria (e.g., lottery, positive discrimination) to facilitate FMS access? That would be a strictly political decision, the exact opposite, by the way, of the decision made by the University of California. Of course, some educators would applaud that equalitarian decision; they would use an ex post argument, alleging – just like in the Spanish PISA results – that an increased equality in representation increases equity, whatever the means to reach it. Others would consider the lower validity of these modified criteria an inequitable breach of a desirable meritocratic selection policy. Again, inequity is in the eye of the beholder!

If they maintain their procedural equality for all, should Cambridge or Oxford feel guilty in any way for that under-representation whose sources lie far in the past? Are they really accountable for that inequity? Would they have to “tolerate” it? That same dilemma applies to all other levels of schooling. How can individual schools deal with the complex sources of unequal ethnic/SES representations, either in regular programs or talent development ones? VanTassel-Baska affirms: “Schools should try to make up for the inequities of birth, of poverty, and of educational disadvantage to the extent that they can” (p. 107). I wonder if her “should try” means that they are not really doing it, which would confirm my own judgment that “making up” for these deeply rooted sources of inequalities represents an extremely difficult challenge, especially at the local level. Only regional or national long-term intervention programs have some chance of ultimately correcting, at least partially, the socio-psychological conditions underlying ethnic under-representation.

The above discussion converges to a series of conclusions: (a) unequal opportunities result from a large number of causes; (b) their precise nature and relative strength remains a source of scientific controversy; (c) the contributing causes may vary between contexts (e.g., Asians vs. Blacks, academics vs. sports); (d) the most prominent causal
factors are chronic in nature: they have been active for decades, and will probably
continue to do so for more decades; (e) that chronicity confirms their strong roots, thus
their resistance to change in spite of major social efforts to correct the situation.

If local schools and school districts have very limited power to modify the deeply
anchored social conditions that underlie unequal opportunities, what other choice do they
have but to tolerate them, and try to “make up” for them as best they can? Well, it seems
that tolerance is a cardinal sin, at least to VanTassel-Baska. She strongly blames me for
allegedly arguing that “disproportionality should be and indeed is tolerated under the
guise of meritocracy” (p. 107). If I understand her correctly, I would be using the virtuous
concept of meritocracy to camouflage (she does say “under the guise of”) my –
unconscionable it seems – tolerance of ethnic under-representation in gifted programs.

First, I do not understand why she considers my use of the meritocratic ideology a
camouflage to defend tolerance. Meritocracy plays a central and well-justified role in
defining the DMGT's ATD model. Strangely, she even acknowledges the value of the ATD
model when she affirms at the end of her comment that gifted education's first agenda
aims to “provide the most rigorous opportunities for students who are performers in the
Gagné sense, ready to move to ever higher levels of achievement within a domain”
(p. 109). Doesn’t that look like support for the ATD model's philosophy, including its
meritocratic ideology? Second, I totally disagree with her view about the immorality of my
tolerance of ethnic inequalities. Let’s discuss the many faces of tolerance.

**Tolerance and Serenity.** First it would help to define the term “tolerance”. Webster's
dictionary gives three distinct meanings: “1. to allow; permit; not interfere with. 2. to
recognize and respect (others’ beliefs, practices, etc.) without necessarily agreeing or
sympathizing. 3. to put up with; to bear; as, he tolerates his brother-in-law” (McKechnie,
1983, p. 1919). The first meaning refers to situations over which individuals hold at least
some power of authority, a power they choose either to exercise or not; these individuals
include police officers, civil servants, teachers, parents, managers, and so forth.

Individuals in authority have to decide on a regular basis whether or not they will exercise
their authority when interacting with subordinates; they opt to tolerate some behaviors
but not others, depending on circumstances, their mood, or the type of behavior. The last
two meanings address situations over which our power to effect change is very limited,
most often inexistent. They differ in terms of our attitude towards them, a positive one
(respect) in the first case, and a negative one (put up with) in the second. For instance, I do
tolerate (positively) the divergent points of view expressed by most commentators,
especially if I sense openness to dialogue. I do also tolerate (put up with) the others. In all
these cases I have little power to effect any real change. Of course, I can react and argue,
hoping that my arguments will reduce the gap between their position and mine (which is
the right one of course! ☺).

The inequity of ethnic unequal opportunities belongs of course to the third (put up with)
meaning. Not only its direct victims have to tolerate them, but also those who feel touched
by that injustice. Unequal opportunities share that third category with hundreds of similar
“tolerated” inequities. Here are just a few I encountered as I was writing these lines: the
living conditions of youths in Indian slums or Brazilian favelas, corruption by politicians or
public officers, homelessness in large cities, terrorist kamikazes in IRAK, the death
penalty for blasphemy in Pakistan, the stoning to death of adulterous men and women in
Afghanistan, the exploitation of workers from foreign countries in some Arab states, living
on less than $2 a day, dictatorship in many African countries, the slow involvement of
foreign governments in the rebuilding of Haiti, as well as the countless other inequities
that newspapers, magazines, and television bring us every day. What other choices do we
have but to tolerate (put up with) them and hope that our world will slowly improve over
the next decades (or is it centuries?)?

Of course we can sometimes intervene in minor ways, like giving to charity, or helping
some person(s) in our close environment overcome obstacles that society has put in their
path. But, as laudable as these efforts may be, they won’t affect in any significant way the
global situation. They are drops in an ocean, certainly important drops for those who are
directly touched by them, but nevertheless just “drops” in the broader situation. And it is
that global situation that we have to tolerate (put up with). As I was following the public
demonstrations in Egypt against Mubarak, one commentator pointed out that he was, after
Israel, the closest ally of the U.S. in that region. And he wisely added that in diplomacy
democratic governments have to tolerate (put up with) the more autocratic, even
dictatorial behavior of some of their “allies”. As he said: “If not, no one would be speaking
to no one!”

These musings lead me to two conclusions. First, to the extent that we cannot change
easily the complex and chronic causes of observed ethnic differences in both natural
abilities and academic achievement, we have little choice but to tolerate (put up with)
them. But “should” we do so? My second conclusion says “yes”; tolerance is not a “sin” as
VanTassel-Baska’s comment seems to imply. Think of the well known prayer: “God grant
me the Serenity to accept [a.k.a. tolerate] the things I cannot change; Courage to change
the things I can; and Wisdom to know the difference” (Serenity Prayer, 2011). We “should”
do so, not with guilt, self-inflicted or not, but with the serenity that will contribute to
maintain our mental health.

About Underachievement

A few commentators (e.g., Balogh, Dracup, Dimaano, Wallace, Wellisch & Brown, Wood)
bring up a “collateral casualty” of my proposed reorientation toward ATD programs:
gifted underachieving students. Wood characterizes the problem as follows: “An issue
with Gagné’s article is the dilemma of the underachieving student in an academic setting.
The suggestion of selection by performance may remove the opportunity for students
with issues outside of their academic skills” (p. 123). The strangest accusation comes from
Wellisch & Brown. Misunderstanding completely a statement I make in the target article
(“being bright …”, p. 15), they conclude wrongly that “the inclusion of gifted
underachievers in the DMGT was perhaps too difficult to adequately assess, and may now
conveniently be dismissed” (p. 115). I have always been proud to characterize the DMGT
as the only talent development theory that offers, thanks to its precise differentiation of
the giftedness and talent concepts, a clear definition of gifted underachievement in
school: intellectual giftedness without academic talent. Why would I ever “dismiss” a sub-
group that Wellisch & Brown themselves acknowledge as present in the DMGT from the
very beginning (Gagné, 1985, p. 108)?

All commentators acknowledge that the etiology of underachievement is fairly complex
and not quite easy to pin down (see Whitmore, 1980). For instance, Harder says: “minority
children often show worse performance on tests as well as at school, due to a complex
variety of causes, not due to lesser gifts” (p. 67). And Wood points out: “performing may
not be easy in an educational setting as they may be so marginalised by the setting itself
that they are incapable of demonstrating the level of ability required to be noticed”
(p. 123). One thing is clear: except for rare cases where underachievement has its source
in intense boredom caused by the slow-paced regular curriculum, we cannot expect that
gifted underachievers will miraculously become high achievers when placed in an ATD
program. All commentators acknowledge that difficulty, and worry about what would
happen to them. The solution seems to be, as Wellisch & Brown suggest, the availability of
“an alternative pathway for underachievers” (p. 115). Hotze suggests an “institutional
effort at the very beginning of the educational process to strive for equal learning
opportunities and personal support of IGAT children in underrepresented and
disadvantaged groups” (p. 76). I also believe the solution to be outside the ATD model:
gifted underachievers, whether or not they belong to minority or low SES groups, need a
special alternative pathway, distinct from the highly challenging course offered in ATD
programs. I will leave to experts the task of engineering that pathway.
Conclusion

In continuity with the structure of the opening summary, I have tried to synthesize as systematically as possible the main observations and conclusions presented in Part II. Keep in mind that the whole series focuses on ethnically and socio-culturally differentiated measures of outcomes and causal factors.

1. Equality and equity differ in nature: equality refers to quantitative comparisons whereas equity concerns moral issues. Inequalities can create inequities, but not necessarily; equalities can also create inequities.

2. There are three distinct types of inequalities and equities: (a) in outcomes attained (ex post), (b) in services offered (ex intra), (c) in opportunities given (ex ante). All can be analyzed both qualitatively and quantitatively.

3. Outcome inequality statistics prove nothing by themselves about associated inequity.

4. Some inequalities in services are clearly inequitable (e.g., fewer services in schools in ethnic neighborhoods), but others are not. For instance, supporters of gifted education consider ability grouping a very equitable ex intra inequality, whereas opponents strongly disagree.

5. Inequalities in opportunities can be subdivided into two categories: (a) procedural inequalities (selection instruments & criteria), and (b) socio-psychological inequalities (unequal opportunities).

6. Normally, procedural equality for all means equity. But some argue differently, for instance by promoting affirmative action for Blacks in education, or for women in STEM occupations.

7. One form of outcome-based procedural inequity has its source in fuzzy program goals and content, which decrease the predictive power of the more common selection criteria (IQ and achievement scores), consequently affecting their perceived relevance. [This is the specific form of equity issue discussed in the target article.]

8. In spite of observed significant cultural differences, achievement and IQ scores are equitable measures because of their good predictive power for academic and occupational achievements.

9. The alleged cultural bias of IQ tests has strictly no empirical support: it is just a myth, but a strongly rooted one.

10. Alternative and/or broadened criteria will be useful in so far as they show proper predictive power for clearly defined outcome goals in related enrichment programs.

11. The whole subject of unequal opportunities is not relevant to the thesis defended in the target article simply because it is not part of my circumscribed definition of the targeted “equity issue”.

12. The concept of equal opportunity (or level playing field) is very complex, with a diversity of manifestations (e.g., early parenting, financial resources, educational values, family structure).

13. The empirical basis of some causal sources of ethnic differences in IQ and achievement remains controversial, as is the level of their explanatory power.

14. Despite continuing major public efforts to reduce unequal opportunities and their outcome in IQ and achievement differences, their chronicity confirms a strong resistance to change, thus continued presence for at least the coming decades. Consequently, educators have little choice but to tolerate (put up with) these unequal opportunities.

15. Most gifted underachievers would not benefit from the highly challenging content and pace of ATD programs. They require an alternative pathway that will help them overcome their unequal opportunities and bring their achievement up to the level of their gifted potential.
III – DMGT-Related Issues

Comments about the DMGT take two main forms: (a) critiques and suggestions inspired by the Academic Talent Development model (ATD), and (b) more theoretical comments and objections on the validity of the DMGT theory itself, especially excessive importance given to natural abilities coupled with insufficient causal significance attributed to environmental influences, essentially the never-ending Nature vs. Nurture debate. I will discuss these two themes in that sequence.

About the ATD Model

It might seem strange at first, but there was strictly no need to introduce the DMGT-based ATD model as support for my equity thesis. The opening summary (#6) clearly shows that it was sufficient to stress the meritocratic, achievement oriented core of the talent development provisions free from inequity accusations, especially gifted education services (e.g., Advanced Placement, selective high schools, residential high schools). Indeed, when I proposed the target article to another U.S. professional journal, two reviewers, who strongly criticized the equity part but liked the ATD section, recommended that I separate completely the two thematic issues and resubmit only the part on the ATD model. Eventually, Professor Ziegler took the whole manuscript, offering me this perfect occasion to publish for the first time my recent addition to the DMGT theory, while simultaneously proposing this controversial thesis on a special form of perceived inequity. Not only is this the first publication of the ATD model, but, as I will argue below, this model represents the first clear definition of the talent development concept in our field. To support that claim of primogeniture, I will briefly retrace the (short) history of the talent development concept in our professional writings. Then, I will discuss comments about the model itself, as well as problems that might slow its dissemination.

Talent Development in Context

Although the talent development concept is not new in gifted education, it came into common use only recently. If we move back just a few decades, the expression disappears from the titles of books or chapters, as well as subject indexes. I did observe that phenomenon in two well-known edited handbooks from that period (Barbe & Renzulli, 1975; Passow, 1979). The expression “talent development” became increasingly common after 1980. The immense popularity of Bloom’s (1985) Developing talent in young people might have helped. Soon after, Renzulli & Reis (1991) ended a seminal article on an ongoing educational reform with the following statement: “Talent development is the ‘business’ of our field, and we must never lose sight of this goal, regardless of the direction that reform efforts might take” (p. 34). Unfortunately, they did not define that key expression, nor specify if the talent in question was strictly academic or had broader application (e.g., in sports, arts, technology). It appears that they assumed, wrongly in my view, that a consensus existed about its meaning.

In the 1990s, the number of books that included “talent development” in their title grew steadily. For instance, the administrators of the Belin/Blank Center in Iowa chose that expression as the title for their series of Proceedings from the biennial Wallace symposia, while the late John Feldhusen (1992) named his theoretical model Talent Identification and Development in Education (TIDE). Even a cursory look at the tables of contents and subject indexes of recent handbooks (Colangelo & Davis 2003; Dixon & Moon, 2006; Kerr, 2009; MacFarlane & Stambaugh, 2009; Plucker & Callahan, 2007; Renzulli, Gubbins, McMillen, Eckert, & Little, 2009; Shavinina, 2009; Sternberg & Davidson, 2005) confirms the frequent use of that expression by gifted education scholars. Some of them believe that the growing use of the “talent development” expression marked a major paradigmatic change. For instance, Olszewski-Kubilius states:
In 1983, when I entered the field of gifted education, there was a paradigm shift occurring. People were beginning to use the term talent development and, in fact, my center at Northwestern University was one of the first to incorporate the term into our title – The Center for Talent Development, or CTD. This was not just semantics, although it may have appeared so to outsiders, but indicative of an important conceptual shift in thinking among leaders in the field of gifted education and those who studied exceptional ability. (2009, p. 81).

Unfortunately, she does not specify the nature of that conceptual shift. More specifically, Brody affirms:

More recently, we have seen a shift in our field away from a focus on ‘gifted education’ to one of ‘talent development,’ with the new terminology reflecting a growing realization that using a measure of general intellectual ability as a sole predictor of achievement is not adequate. (2009, pp. 93-94)

Notice how Brody associates the new expression with a distancing by professionals from an alleged reification of IQ as sole predictor of achievement. I am not sure I fully share that allegation. Anyway, this short literature review led me to one conclusion: in spite of its increased use in the technical language of the field, the term talent development remained essentially undefined. Most scholars have adopted it, just as Renzulli & Reis did, as an interesting label to describe the purported purpose of gifted programs. But, almost no one has given an explicit description of the essential characteristics of that developmental process. Among the half-dozen or so recent handbooks I examined, I found dozens of mentions of the “talent development” expression, but only two chapters in which the authors concretely try to define and describe the talent development process.

In the first one, Treffinger & Selby (2009) propose the Level of Service (LoS) approach to talent development. Its core element consists of four increasingly selective groups of activities: (a) for ALL students, (b) for MANY students, (c) for SOME students, and (d) for a FEW students. One might question the relevance of a concept of talent development applied to all students, or even many of them. The authors also identify “six foundational programming areas … with which educators can organize their work in planning programming for talent development: differentiated basics [instruction], effective acceleration, appropriate enrichment, self-directed learning, personal growth and social development, and career orientation with a futuristic perspective” (p. 637). Their presentation of these six “programming areas” puts the focus on the curriculum more so than the process itself, although the first three items are undoubtedly process-oriented. But, in my view, the whole system lacks appropriate structure as a potential “model” of talent development.

In the other chapter, Jarvin & Subotnik (2006) propose an elite talent development model with two main focus areas: (a) the description of a three-step developmental path, namely from innate abilities to competencies, from competencies to expertise, and finally from expertise to scholarly productivity/artistry (SP/A); (b) an analysis of the major facilitators and inhibitors of talent development for each of these three consecutive steps. I found that their model came somewhat closer to my own image of what a talent development model should include. Although the authors identify their model as “the SP/A model of academic talent development” (p. 203), their last developmental stage shows an openness to a diversity of fields well beyond the announced “academic” status of the model. Still, except for an interesting description of the three stages (the DPS facet within the DMGT’s D component; see Gagné, 2009a, p. 67), Jarvin & Subotnik’s model does not really describe the diverse characteristics of a developmental process. Their chapter gives primary importance to environmental influences.

A fair critique would exceed the limits of this rejoinder. It would require that I describe more extensively these two distinct proposals, compare them, then show how they significantly differ from the definition of academic talent development I proposed in the target article. Interested readers have the necessary references to perform by themselves that comparative analysis.
ATD Elaborations

Quite a few commentators had things to say about the ATD, either to just point out omitted subjects or to propose diverse additions to the target article description. Although I could offer as an alibi the limited space available in an article format, still many of the points brought up about omitted contents would have been omitted anyway! That is why I warmly thank these commentators for their interesting suggestions.

Omissions. Some commentators just briefly pointed out what they judged to be missing contents. For instance, Liu mentioned that I “did not say much about motivation”, adding that “this topic should be of major importance in discussions about talent development and the equity issue” (p. 84). Luzzo & Gobet judge that my “article neglects the role of emotions” (p. 85). Finally, Araújo & Davids state: “Although Gagné’s model mentions the environment, he does not explicitly explain how environment-individual interactions occur” (p. 24). All these comments are quite correct of course. It did not seem necessary at the time to elaborate more extensively either on the DMGT theory itself or on the ATD model. With regard to the subjects of motivation and emotion, Liu and Luzzo & Gobet should find a more substantial discussion of these two important intrapersonal catalysts in the lead article of a recent High Ability Studies thematic issue on the subject of motivation (Gagné, 2010). In the case of Araújo & Davids I will come back to their “environmental” issue in the next section.

Comprehensiveness. After pointing out that there were “some major points missing regarding each of these elements which I would like to add” (p. 59), Grassinger systematically proposes additions or precisions for each of the six ATD characteristics. Although he does not adopt the appropriate DMGT conceptualization and terminology (e.g., using “domain” instead of “field” for mathematics, or associating mathematics with giftedness instead of talent), his suggestions remain easy to understand. I might argue here and there with minor comments, but I basically endorse Grassinger’s summative statement at the end of his comment. I will certainly come back to them when I prepare a more extensive description of the ATD model.

Curriculum. In the case of Shore, the focus is on curriculum issues (the first ATD characteristic), more specifically on a pedagogical approach called “inquiry-based instruction”. He considers his emphasis to differ from mine in the following way: “I think much more attention needs to be on the provision of suitable programs rather than on identification” (p. 97); he insists that “defensible educational provision needs to trump identification” (p. 98). I can understand that perceived divergence within the context of the target article, with its emphasis on unfair identification practices. On the other hand, Shore missed an important precision, namely that “an ATD program will be defined first and foremost by its content, an enriched content of course” (Gagné, 2011, p. 14). Apart from that minor disagreement, I find Shore’s suggestion a worthwhile contribution to a more detailed description of the ATD curriculum.

Identification. Most commentators who bring up the identification issue (the third ATD characteristic) argue for early identification, a subject very dear to my heart. Recall my fifth commandment: “Thou shalt intervene … earliestly!” (Gagné, 2007, p. 102). Terrassier even makes this issue the core of his comment. Just like Balogh, he worries that late identification, and of course intervention, might consolidate undesirable behaviors, especially loss of “motivation and interest for school and knowledge” (p. 101). Harder and Duan believe that early identification would help compensate for the negative effects of inadequate family conditions; Duan points out that it would make it “less likely they would miss the critical period during which abundant learning opportunities should be provided” (p. 51). Hotze concurs, saying “that the moral issue of equity also means undertaking any institutional effort at the very beginning of the educational process to strive for equal learning opportunities” (p. 76). I can’t agree more with these arguments. Still, I am frequently amazed by the resilience of so many bright students who maintain...
their IGAT status in spite of the daily boredom they endure in the slow-paced regular classroom.

MacDonald alone strongly argues against early identification. He brings in research from the field of sports to support his view that early identification does not predict very effectively later excellence in sports. Since I could not examine in detail the research he cites in support of his position, I have little to say about his conclusion, except that this special view from the world of sports does not have its parallel in general K-12 education. Finally, Wallace's comment brings up a very special identification question as part of her interesting analysis of 12 successful schools identified across the UK school system. She describes these successful schools as located “in a wide variety of social/economic areas”, and having “a mixture of multilingual and multi-ethnic pupils” (p. 112). Moreover, “they have been judged to be successfully transforming high potential into high performance” (p. 112). Since these schools do not seem to have any selective status in terms of access modalities, I wondered what was the percentage of high potential and high performance students with regard to the DMGT’s top 10% parameter. That central question follows from a statement Wallace makes in her text where she scolds me for not addressing “the important issue of the need to create opportunities for all students to discover [her emphasis in all cases] their potential talents and abilities” (p. 111). She seems to believe that everyone is gifted, a belief I certainly cannot share. Apart from that doubt about her operational definitions of “gifted” and “talented”, I applaud her commitment to develop “a curriculum of opportunity for all learners” (p. 112).

Acceleration. Heinbokel devotes most of her comment to the specific issue of accelerative enrichment (the sixth ATD characteristic). She strongly defends it, yet acknowledges its limited popularity in the two countries she has worked in: the United States and Germany. That pessimistic assessment perfectly parallels the views of most supporters of that most useful measure (see Colangelo, Assouline, & Gross, 2004). And it brings back to my mind Borland’s apt remark on the subject.

“Acceleration is one of the most curious phenomena in the field of education. I can think of no other issue in which there is such a gulf between what research has revealed and what most practitioners believe. The research on acceleration is so uniformly positive, the benefits of appropriate acceleration so unequivocal, that it is difficult to see how an educator could oppose it.” (1989, p. 185)

Implementation Issues

From various comments on the implementation of ATD programs, I retained two themes: (a) the slow expected pace of their dissemination, and (b) their impact on the (broader) equity issue.

Slow Dissemination. Recall my own pessimistic (realistic?) prediction that “extensive dissemination lies far in the future” (Gagné, 2011, p. 20). That lament has echoes in a few comments (e.g., Cobley & McKenna, Fiebig, Persson). For instance, Cobley & McKenna fully endorse my “visionary” proposition, quoting that “there is nothing more practical than a good theory” (p. 33). Yet, as practical as it might look to them, as well as those who are already implementing ATD services, they see the ATD model as conflicting with the educational philosophy of many UK educators. Consequently, Cobley & McKenna envision a slow and difficult implementation of ATD provisions, which they attribute to “the current climate of UK schools” (p. 33). Fiebig also believes in the low probability of a rapid dissemination. As she points out, “one cannot ignore that overhauling the entire educational system would require expansions of existing infrastructure and substantial financial resources” (p. 54). I cannot agree with Fiebig that the implementation of ATD provisions requires such major changes; many school systems have already succeeded quite well in implementing some prototypes. I rather believe that the main obstacle, as is usually the case with most services in gifted education, lies in strongly resistant negative attitudes. Changing them will require much more effort than making administrative adjustments!
Persson's warm accolade and full endorsement of my positions really touched me. His main worry concerns obstacles, especially in Europe, to a wide dissemination of the meritocratic ATD model in schools. He introduces competing social ideologies, especially social constructivism and fears of elitism. He associates these two ideologies, judging that it "is a problem particularly to social constructivist school systems ... which often also run on the basis of more or less socialist ideologies" (p. 94). I totally share his view that my ATD prototypes “directly confront the near-sacred political [his emphasis] principles of an inclusive school system embraced by most of Europe” (p. 94; see Dracup for that type of argument). Persson believes that “trying to introduce ATD in Europe would at least in some countries very likely be a case for political will over scientific sense and empirical fact” (p. 94). With my limited knowledge of European educational systems, I cannot judge whether Persson's diagnosis is overly pessimistic, or just plainly realistic. Others, like Pérez & Beltrán, appear decidedly more optimistic when they point out that "in Europe, this model is especially interesting due to the concept of developed abilities" (p. 91).

Impact on Equity. I stated in the target article, then reiterated in the opening summary (#11) my conviction that the dissemination of ATD programs would not decrease ethnic-based disproportionate representations in our field: it would probably increase them. In my view, the data from New York selective high schools, University of California freshmen, as well as Advanced Placement registrations and success rates, speak for themselves. Two simple reasons support that prediction: (a) the strong relevance of IQ and achievement measures as predictors of future performance in meritocratically inspired ATD programs, and (b) the chronically lower performances of Blacks and Hispanics on measures of these two crucial predictors. What do the commentators say? Zhang & Chu propose an amusing metaphor to illustrate my prediction: the straw (the ATD model) that won't succeed in breaking the camel's back (unequal opportunities of ethnic/SES minorities). On the other hand, Hoogeveen scolds me because I accept "rather easily that ... [my] program will not reduce ethnic disproportion, but maybe even increase it. It sounds like ... [I am] saying: 'we are not to blame, and others aren't either" (p. 72). I confess that I did not really understand her admonition.

Questioning the DMGT Itself

A few commentators did not address the two main themes of equity and meritocracy, but targeted the DMGT itself. Since the DMGT was not a central theme in the target article, I could have left aside these comments, and just send the commentators to other proper references, especially a recent major chapter on the defense of the giftedness concept against those I called "Antinat" (against natural abilities) researchers (Gagné, 2009b). In the interest of the general reader, who might have a limited knowledge of the DMGT, I decided to offer at least short responses to their objections. Opponents to the DMGT profess a common ideology: they tend to reject the existence of natural abilities, what they like to call "innate talent", while at the same time emphasizing the critical influence of environmental factors. Allow me to label that ideological syndrome "environmental bias", or EB for short. I have given priority to that particular issue. After that discussion, I will complete this Rejoinder with two short subjects: (a) the proper rationale underlying gifted education services, and (b) the pursuit of development goals other than academic excellence.

Environmental Bias and the DMGT

Environmentally biased (EB) scholars have always existed in the social sciences, at least as far back as the time of Skinner's behaviorism. It serves as scaffolding for many educational theories, including some we observe in the field of talent development.

Mild Environmental Bias. A large part of the professional talent development literature, not only in education, but also in arts, business, or sports, examines the impact of all types (EM, EI, or EP) of environmental variables on the growth of talent. As an example,
retrospective interviews of eminent individuals frequently leave the distinct impression that they (or the interviewer!) attribute to significant persons, especially their parents, the lion's share of causal influences in the emergence of their talent (Bloom, 1985; Cox, Daniel, & Boston, 1985; Hemery, 1986). Opposing scholars have even found for that “bias” a name that aptly conveys its primacy: the Standard Social Science Model or SSSM (Tooby & Cosmides, 1992). Note that the SSSM mindset extends its tentacles all the way to school personnel, media people, as well as laypersons. Just think of the first question journalists ask when they try to make sense of atrocious events like the recent shooting in Tucson (AZ): “What could have happened in Jared Loughner’s past to explain such a terrible behavior?” In other words, they are spontaneously looking for early familial influences (these questions almost condemn the parents without proper evidence), or more recent environmental influences (like Sarah Palin’s “aggressive” web site!)\(^{15}\).

One need not actively belong to that ideological orientation to be affected in a milder way by its ubiquity. For example, just think of the concept of “unequal opportunities”, so central to the analysis of ethnic disproportions. Very few scholars dare bring up other sources of influence, like intrapersonal dispositional factors (e.g., motivation, personality traits, perseverance) or even genetic factors. As I said earlier, the expression “minority/SES under-representation” will automatically bring to mind unequal opportunities as the crucial etiological factor, or group of factors. I did observe environmental leanings in many comments, even from colleagues who have adopted the DMGT as their theoretical framework. Here are just a few examples.

“We should focus on providing opportunity in schools and should make school so exciting that the poorest child aspires to become a doctor, chemist, or historian” (Cohen, p. 38).

“The trap of environmental factors cannot be avoided, since the expression of any ability takes place within the person’s environment” (Guenther, p. 63). “[The problem of equity] becomes a universal problem, with greater consequences for those who find themselves deprived of an adequate education: whether this is due to a family, cultural, or economic deficit, their ethnic group or any other cause that implies a lack of equity” (Tourón, p. 104).

“For some children performing may not be easy in an educational setting as they may be so marginalised by the setting itself that they are incapable of demonstrating the level of ability required to be noticed” (Wood, p. 123). These spontaneous tendencies to stress environmental influences are quite understandable – to some extent – in view of (a) the better visibility of environmental influences over other sources (e.g., genes, mental states), and (b) the tendency, when thinking about I or G influences, to interpret them as the direct product of environmental influences.

**Strong Environmental Bias.** The pool of commentators did include a few strong believers of the EB ideology, for instance Baker, MacDonald, Reutlinger & Till, and especially Araújo & Davids. I will briefly react to what seemed to me the core of their opposition to the DMGT. First, Baker questions my “assumption that asymmetries in the distribution of intelligence (or other correlates of ‘giftedness’ or ‘talent’) across racial groups reflect ‘real’ (i.e. stable, biological) differences” (p. 27). I felt uncomfortable with his apposition of the terms “stable” and “biological”. My understanding of stability strictly involves long-term duration (or chronic status) of some phenomenon, which is exactly the case for ethnic/SES differences in IQ and achievement measures (#4 in opening summary). It says nothing about etiology, biological or otherwise.

Second, as I understand his comment, especially his long second paragraph, MacDonald complains that I give undue importance to natural abilities over a diversity of environmental factors. Focusing on the field of sports, he discusses more extensively two of them, relative age effect (RAE) and birthplace, to argue strongly against early identification. Then, on the basis of these examples, he concludes:

[These environmental factors] demonstrate that fostering talent in youth is a highly complex issue and that multiple factors will impact a child's athletic development. This appears to be inconsistent with the vision of talent development put forth by Gagné which suggests that special attention should be given to certain individuals, regardless of the other factors outlined above. (p. 90)
MacDonald will probably be surprised that I totally agree with the first of these two sentences. Indeed, it closely parallels a conclusion that has appeared in every description of the DMGT over the past decade. Here is a recent quote: “In a nutshell, talent emergence results from a complex choreography between the four causal components, a choreography that is unique to each individual” (Gagné, 2009a, p. 76). Note that this quote comes from the chapter MacDonald cites in his reference list. I have no idea why he didn’t notice it. Now comes my question to him: “How can that sentence be inconsistent with my vision of talent development when it looks like a clone of my own key conclusion about the complex dynamics at play in the talent development process? I would also suggest a more appropriate rephrasing of MacDonald’s second sentence: “This appears to be inconsistent with the vision of talent development put forth by MacDonald (and other EB thinkers) which suggests that overwhelming attention should be given to environmental influences, regardless of the other factors outlined above.”

Third, Reutlinger & Till’s comment focuses on my alleged lack of recognition of environmental factors. They affirm: “the different participation rates of the ethnic groups, as pointed out in the target article, can be better explained with a stronger orientation toward environmental influences. Therefore the DMGT Model doesn’t include strongly enough the aspect of the environment as catalyst” (p. 95). I found this comment a novel – and amusing – way to criticize the DMGT. I will point out to them that I labeled “catalysts” the I and E causal components to distinguish them from the G component. The G component does have a special role in the DMGT because I consider natural abilities as “building blocks” of the specific skills and knowledge that characterize each type of talent. Still, just like the G component, Intrapersonal and Environmental catalysts have a full “component” status within the DMGT. Consequently, I cannot understand Reutlinger & Till’s complaint, unless as an expression of the typical EB ideology.

Finally, Araújo & Davids use their whole comment to present the basics of their own “ecological” view of talent development. In essence, they argue that “the DMGT model is biased towards the individual, based on assumptions that gifts and talents are entities to be acquired or possessed by individuals” (p. 23). That statement, whose alleged assumption I do indeed endorse, sets the scene for a major divergence in perspective between their position and mine. I will not discuss in detail here their theory, which I have not examined in depth. Their citations would no doubt enlighten me on the reasons why my DMGT, with its affiliations to a “traditional behavioral science” that emphasizes the “acquisition of enriched internal states” suffers from an organismic asymmetry [their emphasis] in its approach to understanding human behavior, neglecting the role of environmental constraints” (p. 23). Allow me to disagree with that alleged neglect, when one of the four causal components of talent emergence covers a large diversity of environmental influences. Their peculiar terminology, especially their use of the terms “affordances” and “effectivity”, appears directly borrowed from the late Richard Snow’s well-known aptitude theory (see Snow, 1992; Snow & Lohman, 1984; Talbert & Cronbach, 2002), which I extensively criticized in a long personal letter to him, as well as exchanges with David Lohman (see Reference Note 16; also Gagné, 2009b, pp. 160-165).

The DMGT’s Balanced Perspective. The DMGT offers, in a unique way, a comprehensive map of all potential causal influences of talent emergence, conveniently structured into components (G, D, I, E), sub-components (e.g., GI, TA, IM, DI), as well as third-level facets (e.g., GIV, GIN, GIS for the three dimensions – verbal, numerical, spatial – of the RADEX; see also Gagné, 2010, for facets within the I component). To my knowledge, no other theoretical view of talent development offers such breadth and logical structure, and applies to all fields of potential excellence. Of course, the DMGT highlights the special role of high natural abilities or gifts; I do believe in their existence as spontaneously developing entities with strong biological roots in biological processes. Moreover, not only do they contribute to the crucial differentiation between giftedness and talent, but I also describe them as the very building blocks of the knowledge and skills that define a particular field of talent. Still, all four causal components (G, I, D, E) act
in concert to foster the emergence of talent. That comprehensive perspective (and its figural representation) makes it easier not to focus unduly on just one of the components, a tendency that can be observed not only among scholars (e.g., Ericsson's deliberate talent, Araújo/Davids and others' environmental bias), but also among professionals and laypeople. For instance, consider the quasi reification of effort and perseverance in the Asian culture, as described by Cohen in her comment, by Gladwell (2008) in his “rice paddies and math tests” chapter 8, and very recently in Amy Chua's (2011) very controversial “tiger mom” book. Correctly used and understood, the DMGT should help every person interested in the talent development process keep in mind the complex etiology of talent emergence.

Of course, the talent development process always involves all the components, albeit in different ways and different strengths at different times over its whole course. This is why I tend to smile when someone emphasizes a single component as if it were THE causal explanation of the observed talent. Look at the following example: “without a violoncello, instruction and family support Yo Yo Ma could not become an outstanding cello player” (Guenther, p.63). Such examples, proposed most of the time to highlight some environmental influence, bring to my mind two closely linked reactions. First, I could replace the first few words in many ways: “without exceptional natural abilities for music, Yo Yo Ma ...,” or “without a passion for music in general and for that particular instrument, Yo Yo Ma ...,” or “without thousands of hours of deliberate practice, Yo Yo Ma ...,” or “without the strong will power needed to maintain that heavy schedule of practice, Yo Yo Ma ...” Second, I could point out the thousands of young boys and girls who, every year, start cello lessons; most of them quit within a year or two, and just a few ever reach professional status. In brief, there is much more to becoming a Yo Yo Ma than just being placed in a propitious environment that offers the cello, the instruction, and the family support.

The Yo Yo Ma illustration brings to the foreground the most important question in talent development: “What makes a difference?” I have yet to read another scholar in our field confronting head on, as I do, the delicate and complex question of the relative importance of all known causal factors of talent emergence, not just environmental ones as EB researchers do. It has appeared in all the chapters on the DMGT published over the last decade (e.g., Gagné, 2003, 2004, 2009a). Again, this is not the place to elaborate on the subject. Here is a recent summary that will give a glimpse of my current position.

“What Makes a Difference? Do some components generally – on average – exercise more powerful influences on talent emergence? My own review of the existing literature has brought me to propose the following downward hierarchy among the four components: G, I, D, E. I have discussed this hierarchy in detail elsewhere (e.g., Gagné, 2003, 2004). But, creating a causal hierarchy should not make us forget that in most situations all components play a crucial role in the talent development process. In a nutshell, talent emergence results from a complex choreography between the four causal components, a choreography that is unique to each individual.” (Gagné, 2009a, p.76)

A Proper Rationale for Talent Development

Luzzo & Gobet state that “the DMGT model focuses on the social utility of youngsters, but does not take into account their personal experiences and feelings” (p.85). When I read that comment, I could not retrace any part of the target article where Luzzo & Gobet could have extracted that alleged focus, especially since I disagree with their statement. I retained their critique because it addresses a crucial question with regard to proper advocacy in gifted education: “Why is it important to develop the talent of all gifted children? Which ideology should guide our defense of their right to a special education?” In his effort to answer that question, Borland (1989) identified two basic rationales that professionals, teachers, and parents put forth to buttress the importance of special educational provisions for IGAT students. The first one, called the national-resources approach, presents gifted children as “a vast untapped resource that should be identified and exploited for the common good” (p.27). It is similar to Luzzo & Gobet's “social utility” focus. The second one, which Borland calls the special-educational approach, is based on
their outstanding natural ability to learn. As Borland argues, students should be offered special services “not because they promise to be productive adults or because they fit an expert's profile of the gifted child, but because they demonstrate pronounced educational needs that can only be met by the provision of a special or modified curriculum” (p. 31). It is clear that Borland prefers the second approach … as I do!

I brought up that question in my tenth commandment “Thou shalt dream … eyeswideopenly!” (Gagné, 2007). Here is how I summarized its contents.

The 10th commandment cautions talented youth as well as their educators and parents against dreaming of fame and eminence with their eyes shut. On the long road to unparalleled excellence, young talented children will need to overcome many I and E obstacles as well as face the very restricted definition of eminence. Dreaming “eyeswideopenly” means not only to remain aware of these major hurdles but also to open one’s eyes to more modest but still highly desirable achievement goals. It also suggests keeping one’s eyes wide open to noncompetitive ways of pursuing the actualization of personal gifts toward more self-oriented life goals. (p. 114)

Alternative Developmental Goals

A few commentators question the challenging academic excellence goals proposed as the second characteristic of an ATD model. Here are the most relevant quotes I noticed on that specific subject. “An issue that is not really addressed in the model or in the equity argument is the end point of talent development” (Cohen, p. 38) “Rather than focusing on enrichment of academic talent in children, an important aspect is development of creativity, including helping young people connect to areas of passion and encouraging very hard work and commitment to practice that may lead to creative productive giftedness” (Cohen, p. 38). “I suggest that academic talent is not the only game in our field; rather, we need to observe and listen to our children, providing the supports needed to optimize their potential” (Cohen, p. 38). “So talent development should not concentrate on the best performance and functioning, but on the best development with respect to responsibility towards oneself, towards all the ‘others’, and towards nature” (Weyringer & Patry, p. 120). “An effective program of academic talent development addresses not only the skills necessary to be eminent in a field, but also the whole person” (Wood, p. 124).

I will limit my comments to four main points. First, I cannot agree with the substitution of anything else for the talent excellence goals that characterize the ATD model. Although I agree that “academic talent is not the only game in our field”, I believe that the pursuit of academic competence in the various subjects of the general K-12 curriculum remains a priority goal for all students, including talentees. How else can we justify the energy and time invested by countless specialists in the design of that national curriculum, including the closely argued negotiations that accompany even minor changes to its content? Second, critics should keep in mind the specific nature of the DMGT as a TALENT development model/theory, a major point I keep stressing in DMGT-related publications. Here is an example. “The DMGT is a talent-development model. It is NOT a model representing a person’s total personal development; it was not designed to address questions of moral or ethical development, or consider the growth of personal maturity” (Gagné, 2009a, p. 75). Consequently, I must disagree with Cohen’s blame that I do not address the nature of the “end point for talent development”. My introduction of academic excellence goals as the second characteristic of a good ATD program seems a clear enough answer.

Third, when I read Cohen’s suggestion to substitute the development of creativity for the enrichment of academic talent, I sensed a “Renzullian” influence, namely his distinction between “schoolhouse giftedness” and “creative-productive giftedness” (Renzulli, 2005). I cannot agree with the “rather than” at the beginning of her sentence because it implies abandoning academic excellence as a goal, a goal whose importance I stressed in my first comment above. Moreover, I cannot see why they have to be opposed (either or), instead of being pursued in parallel within the enriched curriculum of any ATD program. By the way, that would be my main critique of Renzulli’s distinction. Finally, I would agree only partially with Cohen’s statement that “eminent adults are known for their creative work,
not for being just good at something” (p. 38). I can think of many eminent lawyers whose fame rests more on exceptional power of analysis and eloquence than on creativity, journalists whose eminence has grown because of the strength of their judgment and wisdom more so than any creative writing, actors who achieve eminence thanks to the quality of their rendition of other people’s creations, musicians who achieve eminence through an exceptional technical mastery and sensitive expression of composers’ creative works, and so forth. In other words, talent-level creative productivity mainly characterizes a few specific fields of talent, like science, engineering, fiction writing, musical composing, choreography, or graphic arts. Moreover, major studies have shown (e.g., Park, Lubinski, & Benbow, 2008; Subotnik et al., 1993; Terman & Oden, 1959) that the vast majority of talented individuals, even highly talented ones, do not become “eminent” in any significant way. Properly defined eminence, as Galton did so well (Galton, 1892/1962), will apply to very few individuals. In other words, as I stated in the tenth commandment, “there is little room at the top” (Gagné, 2007, p. 113).

Fourth, the above comments do not mean that I do not approve of the parallel goals mentioned by the three commentators quoted above. No doubt that parents and educators should try to foster personal maturity and civic sensitivity, among other things. But, because these parallel goals would be influenced by a different set of causal influences – not just environmental ones, by the way! – acting with a distinct dynamic, they cannot appear within the DMGT model itself. Maybe we could imagine a model of personal development similar in structure to the DMGT, but whose main expected outcome would be some form of personal and social maturity. The causal components would of course include natural abilities, but they would no longer be the building blocks, “just” the catalysts. The building blocks might be temperamental predispositions, with their genetic anchoring, that would progressively transform themselves into appropriate personality traits (in spite of Araújo & Davids’ disagreement). Of course, that brief spurt of creative thinking would need to be worked at much more carefully. Maybe another project when I get old!

Conclusion

During the polishing phase of this rejoinder, I had to check back regularly in the comments for the accuracy of my quotes. I kept finding statements that I was tempted to include and discuss. Fortunately, I resisted. I have no doubt overlooked many valuable contributions from the commentators, but I believe to have included the gist of what I wanted to say. I hope to have at least quoted everyone accurately. I sure tried to do so because I imagine them being as frustrated as I am when facing inaccurate attributions. Again, I offer my sincere thanks to all the commentators for their generous contribution.

Reference Notes

1 The target article, commentaries and this rejoinder can be downloaded from www.iratde.org/journal/issues (Issue 1/2011). Readers who have difficulty accessing any of the referenced articles or chapters about my work can just email me; it will be a pleasure to send them an electronic copy. For better readability the commentaries are cited only by the authors’ names (set in italics), full references can be found in my reference list.

2 I observed only one instance of what I would call “verbal aggressiveness”: The last paragraph of Dracup’s comment. I will only say this: He might have found my “extreme position” as unconvincing as the “all children are gifted” argument, but if he reads all other comments he might feel lonely with his un-conviction!

3 As will be seen mainly in Part II, the specific writing I adopted, using “(in)” on some occasions, means to convey the complexity of a situation where equalities mix with
inequalities, and equity with inequity. Of course, I will use the most relevant term wherever possible.

4 Just like Dracup (see p. 45), Liu judges that the statistical G/T disproportion data displayed in Table 1 “are outdated and the current situation might be fundamentally different” (p. 83). They should consider that I found these statistical data in the most recent edition of one of the best handbooks in the field (Colangelo & Davis, 2003). I could have quoted slightly more recent, but essentially comparable data (see Gentry, Hu, & Thomas, 2008, p. 197), but they were not in table format. I might add that the recurring discussion of the subject in recent publications confirms the stability of the situation. As an example, Worrell (2009) affirms: “It is a truism to note that African American, American Indian, and Latino youth are underrepresented in gifted and talented education (GATE) programs relative to their percentage in the population of school-age children” (p. 149).

5 I took for granted that I had differentiated in the target article the term “program” from the terms “provision” or “service”, as I usually do when using them. I introduced that terminological distinction rather recently in my oral presentations of the ATD concept. They are distinguished as follows: The term program designates a structured set of talent development provisions or services that covers ideally the full K-12 system, at least a complete level (e.g., primary, high school). My only exception is the expression “gifted program(s)”, which I keep using because of its ubiquity in the professional literature and its well-known meaning, although that term really represents provisions or services.

6 I find very interesting the fact that nobody discusses the ubiquitous Asian over-representation in every sphere of education (notice the “except Asians” in the next note), although its very presence automatically creates, just like in communicating vessels, some degree of under-representation in other ethnic groups. It also raises important questions about the (in)equity of social factors. I leave to experts the task of examining that phenomenon in detail, not just to ascertain the sources of that over-representation, but also to bring the discussion of that specific situation within the broader equity issue.

7 First, VanTassel-Baska has me say that “the inequity issue in gifted education in the United States, identified as the underrepresentation of African Americans and Hispanics, is not a relevant one because these groups are underrepresented in other areas, and no one complains” (p. 107). That is a very distorted presentation of my position. As clearly restated in the opening summary, the inequity issue I target is not the under-representation itself, but the perceived unfairness in selection procedures. This is a huge – and unfair – distortion of perspective. That basic misinterpretation colors other subsequent statements. For instance, according to her, I allegedly assert “that inequity in the distribution of minority students (except Asians) in gifted programs is a reality to be seen as tolerable as long as no one complains about it” (p. 107). Again, the “complaints” I target are not “the inequity in the distribution, as she states incorrectly, but the perceived unfairness of the selection procedures.

Second, she introduces incorrectly the concept of “reverse inequity” (see main text for details).

Third, contrary to what she states, I do not “contend” – its use in the context sounds more like “claim” or “allege” than “state” or “explain” – that tail-end amplification exacerbates the perception of the problem. I simply describe a strictly factual statistical phenomenon that most educators and scholars are not aware of, yet has an important impact on representation statistics in fields that focus like ours on non-normal behaviors or characteristics.

Fourth, contrary to another of her assertions, I do not exclude AP courses or other accelerative measures. Indeed, acceleration is implied in the first characteristic of the
ATD model, namely enriched curriculum; it also reappears explicitly in the sixth one, flexible progress. What I argued was that these provisions (see note 5 above) could not be labeled ATD programs because they did not implement one important ATD characteristic, namely continuity over at least a few years. I took care to point out that these provisions could play an important role as desirable additions within a global ATD program (cf. Gagné, 2011, p. 16).

Fifth, she distorts the first of my alleged two major points as follows: “That disproportionality should be and indeed is tolerated under the guise of meritocracy” (p. 107). I will discuss in the main text the question of tolerance.

The MSOI document takes the form of a series of 25 short statements on the nature and measurement of intelligence, on the validity of IQ scores, as well as the origin and stability of individual and group differences. The MSOI appeared in the December 13, 1994, issue of the Wall Street Journal. The first three statements, reproduced below, precisely circumscribe the concept of general intelligence.

1. Intelligence is a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings – “catching on”, “making sense” of things, or “figuring out” what to do.

2. Intelligence, so defined, can be measured, and intelligence tests measure it well. They are among the most accurate (in technical terms, reliable and valid) of all psychological tests and assessments. They do not measure creativity, character, personality, or other important differences among individuals, nor are they intended to.

3. While there are different types of intelligence tests, they all measure the same intelligence. Some use words or numbers and require specific cultural knowledge (like vocabulary). Others do not, and instead use shapes or designs and require knowledge of only simple, universal concepts (many/few, open/closed, up/down). (Gottfredson, 1997, p. 13)

According to Wellisch & Brown, Callahan and Eichner affirm: “IQ and other achievement tests are now often used only as a last resort to provide evidence of intellectual giftedness” (p. 115). I could not imagine that major scholars in gifted education would make such a statement. I visited the website, and could not retrace any similar affirmation. Instead, I found the following statement in a section called “What can you expect as a result of IQ testing?”: “IQ is the best overall predictor of school achievement and educational success; hence intelligence tests are often one of the assessments used to identify exceptional general intellectual ability in children” (Callahan & Eichner, 2011). This quote directly contradicts Wellisch & Brown’s citation!

This conclusion directly contradicts one of Dracup’s comments about IQ and achievement measures. He affirms: “These may be the most common instruments, but they are not necessarily the best” (p. 47). He doesn’t identify what other means would be better. Of course, the “best” predictive power depends, as stated earlier, on the type of outcome being predicted. With regard to academic excellence goals, I cannot imagine any better predictors than these two measures.

Cobley & McKenna question the capacity of teachers and researchers to “accurately and reliably measure ‘natural ability’ and ‘competencies’” (p. 34). I cannot agree with that strong judgment against teachers as sources of information for gifted programs. Research has shown (e.g., Gagné, 1994; Hoge & Cudmore, 1986; Siegle & Powell, 2004) that well-trained teachers do produce fairly accurate lists of gifted or talented students. Of course, they need a clear description of the characteristics to look for, which brings forth the issue of clear outcome goals.
That virtual example parallels an ongoing debate in New South Wales (Australia). It has its origin in the much higher performance of young Asians on the entrance exam to the local network of selective high schools. This gives them a priority in the choice of the “best” selective schools, with the result that one of them, the highly rated James Ruse Agricultural High School, has now a student population composed of over 90% young Asian students.

Balogh proposes a much broader identification approach, thanks to which “even underachieving emerging talentees get into our programs” (p. 30). I heartily applaud this promising approach that appears to correct the causes of underachievement. Yet, I can’t help asking myself how they succeed in fitting underachievers in an ATD program. How can they fully implement the model’s six characteristics, especially its highly condensed curriculum? If indeed their program does so, it should be publicized much more extensively.

Two strongly critical judgments against the DMGT do not belong to that ideological tendency. In the first case, Dracup asserts: “I have a major concern about this statement [a quote from my target article, 2011, p. 10] which applies to much of Gagne’s argument: It is the conflation of measures of attainment and performance with measures of ability and potential” (p. 45). I understood “conflation” to mean “fuse, melt, or join together”. First, I could not find any such “conflation” in the quoted sentences. Second, I find that objection rather strange since the DMGT, as everyone knows, is the only talent development theory that clearly differentiates high potential (giftedness) from high attainment (talent), and takes pains to explain how each of the two constructs will usually be measured in its different forms, either “domains” of giftedness or “fields” of talent (see Gagné, 2004, 2009a).

For his part, Koichu doubts that “the influence of natural abilities or innate talents on achievements can be operationally separated from the influence of the environmental factors” (p. 80). I have difficulty understanding that argument. Although I would tend to agree that most empirical studies in education do limit themselves to exploring only one independent variable at a time, I could cite dozens of studies that try – and often succeed – in doing just that: Separate the relative causal influence of two or more variables. In one personal publication (Gagné & St Père, 2002), we first did a literature review of studies that had tried to measure the relative influence of IQ (a G variable) and “motivation” (an I variable measured as either IM or IV) on academic achievement (a T variable). Then, we described a similar empirical study in a Quebec high school. There are literally hundreds of other studies like that one.

David Brooks, a columnist for The New York Times, was among the few journalists who highlighted the “mental illness” hypothesis. He wrote:

In short, the evidence before us suggests that Loughner was locked in a world far removed from politics as we normally understand it. Yet the early coverage and commentary of the Tucson massacre suppressed this evidence. The coverage and commentary shifted to an entirely different explanation: Loughner unleashed his rampage because he was incited by the violent rhetoric of the Tea Party, the anti-immigrant movement and Sarah Palin. (Brooks, 2011)

The following text, titled “A critique of Richard Snow's aptitude theory”, is an excerpt from one of my unpublished manuscripts.

To ensure a faithful presentation of the basic tenets of Snow’s definition of aptitude, I barely paraphrased his own words (from a pivotal 1992 article in Educational Psychologist), and those of his colleagues who assembled and discussed his thoughts in the commemorative book already mentioned. Snow’s definition. His definition of aptitude leans heavily on Gibson’s concept of affordances. Snow defines them as follows: The affordances of a situation are what it offers the person, what it provides or furnishes, for good or ill. The term implies a complementarity of person and situation, as in an ecological niche. A niche is a place or setting that is appropriate for a person – a combination of situational components into which the person “fits”. Using that definition, Snow argues that aptitudes are affordances, which means that they are properties of the union of person and environment that exhibit the opportunity structure of a situation and the effectiveness structure of the person in fitting that situation, that is, in taking
advantage of the opportunities afforded for learning. Said differently, an aptitude is an interface between an inner environment (the person) and an outer environment (the instructional treatment situation). Aptitude differences are invisible when inner and outer environments are perfectly adapted to one another. When the outer environment is demanding, however, limiting properties of the inner environment, called inaptitudes, show through at the interface as aptitude differences. Instructional treatment redesign seeks to circumvent these inner limiting properties (inaptitudes) by adapting the outer environment or by changing the inner environment (removing the inaptitudes by direct training).

**Colleagues' interpretation.** In the commemorative book on Snow's theory of aptitude [see Talbert & Cronbach, 2002], the authors give an early definition of aptitude that differs somewhat from the above paragraphs. They first mention that, according to Snow, the term aptitude should refer to being equipped to work at a particular kind of task or in a particular kind of situation. They then note that the concept of aptitude is especially close to that of readiness (as in “reading readiness”), suitability (for a purpose or position), susceptibility (to treatment or persuasion), proneness (as in “accident-prone”). And they continue as follows: “In this book we use the term aptitude to mean degree of readiness to learn and to perform well in a particular situation or in a fixed domain.”

**Comment.** This short comment will barely scratch the surface of my views about Snow's theory of aptitudes. One thing is clear: I strongly disagree with most of the views expressed in the preceding paragraphs. Basically, I cannot accept such a broad and inclusive view of the concept of aptitude. Anastasi and other measurement specialists kept complaining of the excess meanings acquired by the concept of aptitude. What I saw in Snow's theory was a deliberate effort to create excess meaning. More specifically, I cannot agree with a view of aptitude that includes aspects of the environment (aptitudes are properties of the union of person and environment). My own definition will focus strictly on intrapersonal characteristics. Secondly, I cannot agree with a definition that makes aptitude almost synonymous with readiness. As we will see later, the term readiness is much broader than the extension I wish to give to the term aptitude. Thirdly, I cannot agree with a definition that closely associates aptitude with “suitability”, “susceptibility”, and especially “proneness”. Just trying to imagine an “aptitude for accidents” makes my mind cringe! These associations excessively broaden the core of the concept. Fourthly, I cannot even accept that the part of his definition that mentions intrapersonal characteristics includes motivational (conative) and personality (affective) components.

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17 As part of the recent 2.0 update of the DMGT (Gagné, 2009a), I proposed three distinct “basements” under the behavioral phenotypes that characterize the DMGT variables: (a) Genotypic foundations, (b) physiological (endo)phenotypes, and (c) anatomical (exo)phenotypes. I concluded that presentation as follows:

The present section should make clear that natural abilities neither are innate nor appear suddenly at some point during a person's early – or later – development. Just like any other type of ability, natural abilities need to develop progressively, in large part during a person's younger years; but they will do so spontaneously, without the structured learning and training activities typical of the talent development process. (p. 75)

18 To illustrate that complexity, I analyzed the short biography (in Readers' Digest) of an exceptionally talented young, blind, classical guitarist born in the middle of the Vietnam war (Gagné, 2000). I aimed to show how useful a tool the DMGT could be when dissecting the diverse causal influences that pave the way to excellence.

19 EB researchers probably noticed that the E catalysts appear on the lowest rung of my hierarchy. They will find my detailed argumentation for such a placement in the cited references, especially Gagné, 2004. Since then, I have introduced an additional argument for the lower placement of the E component. In older versions of the DMGT, environmental catalysts appeared below a central arrow that graphically illustrated the developmental process as a progressive transformation of gifts into talents. In the 2.0 update (see Figure 2 in Gagné, 2011), I moved up the E catalysts, placing them partially behind the intrapersonal catalysts. The partial overlap signals the crucial filtering role that the I component plays with regard to environmental influences. Except for a limited direct E influence on the developmental process (the narrow arrow at left), the bulk of environmental stimuli have to pass through the sieve of an individual's needs, interests, and personality traits. All human beings – indeed all living things – continually pick and choose which stimuli will receive their attention.
References


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The Author

Professor Françoys Gagné is a French Canadian from Montreal, Quebec. He obtained in 1966 his Ph.D. in Educational Psychology from the University of Montreal. Dr. Gagné has spent most of his professional career in the department of Psychology, at l’Université du Québec à Montréal (UQAM). After a decade of research on student evaluations of teaching, he became interested in talent development in the late 1970s. Although his research brought him to study a variety of subjects within the field of gifted education (e.g., attitudes toward the gifted and their education, peer nominations, developmental profiles), he is best known internationally for his theory of talent development, the Differentiated Model of Giftedness and Talent (DMGT), which has been endorsed by various educational authorities as their framework to define their target population and plan intervention provisions.