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Gifted Child Quarterly 2007; 51; 93
DOI: 10.1177/0016986206296660

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Ten Commandments for Academic Talent Development

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Abstract: This article describes a set of 10 positively stated commandments designed to guide professionals responsible for the academic talent development of K-12 students. The first four target identification procedures, the “who” of talent development; they ensue directly from the conceptual framework of my Differentiated Model of Giftedness and Talent. The next five pertain to intervention modalities, the “how” of talent development. The last one stands alone as a reminder of the need for realistic expectations and alternative life goals. Each of them includes detailed explanations aimed at clarifying its exact meaning as well as the reasons for its inclusion in that list.

Putting the Research to Use: As opposed to the typical research article, these 10 commandments can be immediately translated into practical applications at the school, school district, or state level. Indeed, the 18 items listed in the Conclusion of the article spell out very explicitly what would happen in the daily life of a large school district if its administrators and teachers decided to implement each of them.

But administrators or professionals in charge of talent development services might want to assess first how students, teachers, and parents perceive each commandment and how ready they are to work at implementing it in their environment. The commandments could thus become, individually or as a group, discussion items at faculty meetings, workshops, or school district meetings.

I also imagine that some of my colleagues might want to use this article in their introductory course on the education of gifted and talented students. Its breadth of coverage makes it an interesting tool to address most of the controversial questions associated with the field of gifted education.

Keywords: *principles; policies; typologies; identification; programming; acceleration; grouping*

The idea for the present text grew out of an earlier project, namely to formulate a coherent set of basic statements, or rationale, concerning the nature of human abilities, gifts, and talents (Gagné, 1999). These statements, 22 in all, covered the distinction between natural abilities (aptitudes) and systematically developed ones (skills); their types and relationships; the nature and breadth of ability differences among individuals; the role of the genetic endowment; the association of giftedness and talent with outstanding natural abilities and with outstanding developed skills, respectively; and finally the prevalence of gifted and talented individuals in the general population. Except for the differentiation between giftedness and talent, none of the statements was in itself a creative insight; each of them was extracted from the existing literature in psychology and education, including of course the author’s own positions. What could be considered somewhat original was their sequential organization; I did my best to anchor the validity of each new

statement on the preceding one(s) just like a set of theorems in geometry.

As I was working on that project, I began imagining a logical follow-up to that first set, expanded to cover the subjects of identification and special enrichment provisions. My goal would be to extract again from the existing gifted literature a series of principles that would be sufficiently basic and solidly grounded to withstand the test of time. Other priorities left that project on a back burner for a few years. Then, a request for a special keynote presentation brought it back to the forefront. As I began working on that second list of principles, the idea of stating them as commandments sprang up to my mind,

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no doubt influenced by the multiplicity of such lists in popularized articles.¹ I fixed my own target at 10, creating more than the original author might appear presumptuous! The task proved more difficult than originally expected. I made draft after draft, regularly revising the list, adding a new one here, deleting another one there. I wondered at times if God had had similar problems deciding on His final 10!

God's original Ten Commandments did not break any new ground. These were guidelines that had probably been around for centuries: You shall honor God and your parents, you shall not kill nor steal, and so forth. The same goes with those I will propose here; each of them has been mentioned throughout the years by at least a few scholars in the field, sometimes by many of them. No doubt, each of these scholars, if invited to create a similar list independently, would have produced a somewhat different set of commandments. But I believe there would be much overlap; most of those placed in my own list would recur in many of these parallel lists. Indeed, the value of these 10 commandments increases in direct ratio to their endorsement by more colleagues.

The 10 commandments described below can be subdivided into two sets. The first four target identification procedures, the "who" of talent development, ensue directly from the conceptual framework of my Differentiated Model of Giftedness and Talent (DMGT; see Gagné, 2003, 2004). The next five pertain to intervention modalities, the "how" of talent development. Their relationship with the DMGT is much less direct. The last one stands alone as a reminder of the need for realistic expectations. An effort was made to phrase each of them positively; *do* statements seemed more appealing to potential users than *don't* statements. Finally, although they were worded to respect the language of professionals in academic talent (AT) development, each of them can be extrapolated easily to any other field of talent development (e.g., arts, technology, sports, science).

I - Thou Shalt Distinguish . . . Horizontally!

The first commandment invites professionals to look for qualitative differences among gifted and talented youths and adults, not only in terms of systematically developed skills (talents) but also in terms of their natural abilities (gifts). Administrators and teachers too often speak of the gifted and talented as if they constituted a homogeneous population. The expression *gifted*

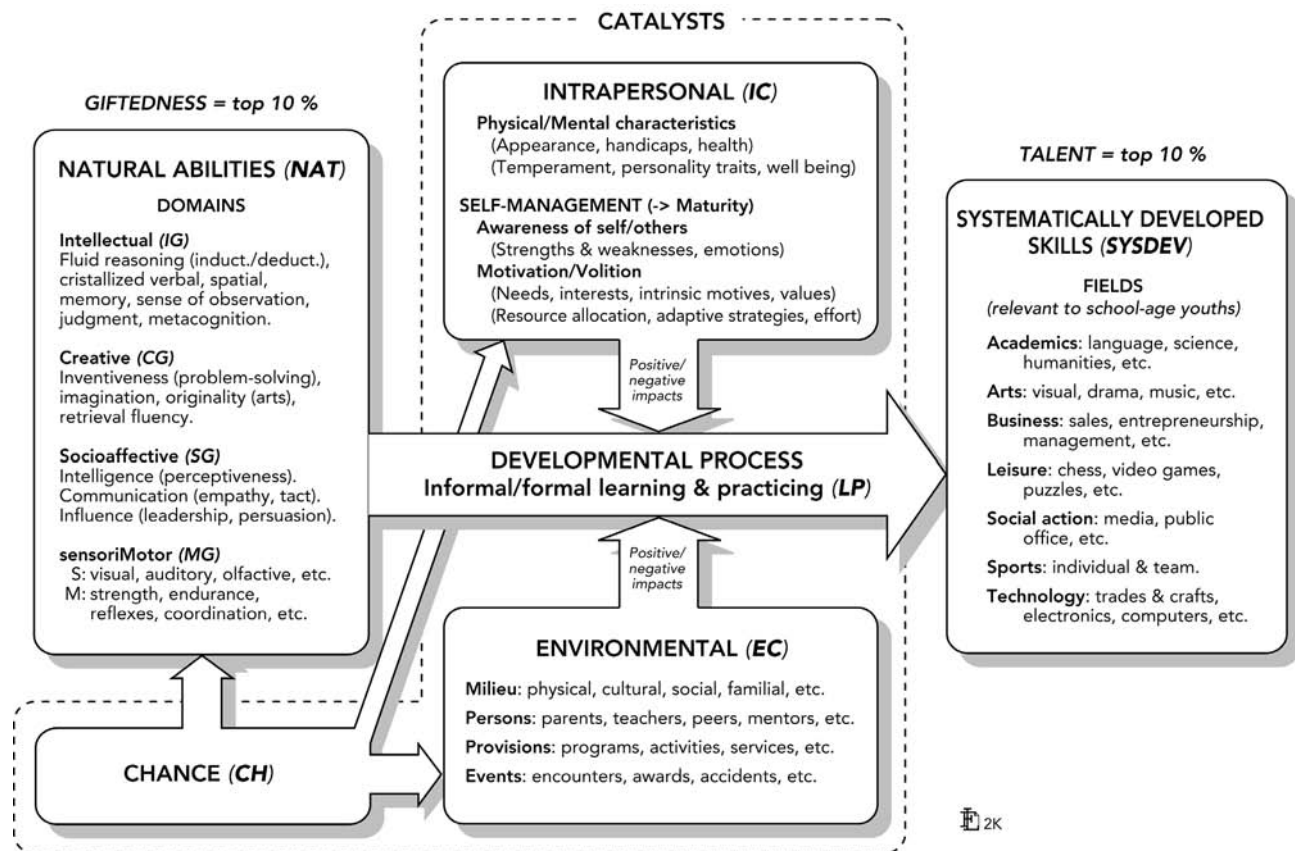
and talented itself, found in all textbooks and journals, implies little difference between the two labels; even more, the two terms are commonly substituted one for the other. Yet as I have tried to demonstrate with the DMGT, not only do gifts and talents correspond to distinct types of abilities, but both can also be subdivided into many subcategories.

Four Qualitative Perspectives

The DMGT proposes four aptitude domains (see Figure 1): Intellectual (IG), Creative (CG), Socioaffective (SG), and sensorimotor (MG). These natural abilities, whose development and level of expression is partially controlled by the individual's genetic endowment, can be observed in every task with which children are confronted in the course of their schooling. Think, for instance, of the intellectual abilities needed to learn to read, speak a foreign language, or understand new mathematical concepts; the creative abilities needed to solve different kinds of problems and produce original work in science, literature, and art; the physical abilities involved in sport, music, or woodwork; or the social abilities that children use daily in interactions with classmates, teachers, and parents. Everyone possesses "some" level of ability in each of the four domains; in other words, the giftedness domains should be called technically natural ability domains. The gifted label applies only when the ability level largely exceeds that of most age peers (see next commandment). Research has shown that these four domains entertain only low or null correlations with one another: thus, intellectually gifted individuals are not necessarily gifted creatively, socially, or physically.

Subdomains of giftedness. As shown in Figure 1, each of the four natural ability domains can be subdivided into more specific areas. For instance, specialists in the cognitive sciences mention memory as a somewhat specific ability, differentiate inductive and deductive reasoning, and consider verbal, numerical, and spatial abilities to be partially distinct (Carroll, 1993). Similarly, experts in kinesiology, the science of movement or physical abilities, have proposed various category systems to classify abilities such as strength, speed, coordination, agility, or suppleness (Bouchard & Shepard, 1994). At this point in time, there is no consensus among scholars concerning the "local geography" within the four giftedness domains. In the case of intellectual abilities, my personal choice would favor Carroll's (1993) proposal of a three-tier hierarchical structure of human abilities, whose top level is occupied by a construct called "general intelligence," usually

Figure 1
The Differentiated Model of Giftedness and Talent (2003 Revision)



labeled the g factor. Of course, the subdomains are more closely related within a given domain than are the domains themselves; this explains why, for instance, many athletes will switch from one sport to another during their early development process (Oldenziel, Gagné, & Gulbin, 2003). Similarly, very bright individuals will often hesitate between a few career paths, because their abilities guarantee their success in whatever choice they make (Rysiew, Shore, & Leeb, 1998). Inspired by the success of IQ tests, researchers have recently begun systematically measuring socioaffective abilities, whose score they have tentatively labeled emotional quotient (e.g., Goleman, 1995; Mayer, Salovey, & Caruso, 2000).

Occupational fields and their subfields. In the very first presentation of the DMGT (Gagné, 1985), I purposely chose the term field to facilitate the distinction between categories of gifts and categories of talents.

I was also hoping that the term would help anchor the idea that talents are associated with human occupations, any human occupation in which skills need to be learned, and that large differences are observed between barely competent individuals and highly skilled ones. The classification of human occupations is a very complex process. The categories shown in Figure 1 barely sample a few major fields, chosen to illustrate those more commonly observable among high school students. There are literally thousands of occupations in which individuals can be rightfully employed. Their classification began in the middle of the 19th century for census purposes. Classification systems progressively evolved with the growing diversity of the job market. In close association with an international effort to classify all occupations (International Labor Organization, 2003), most developed nations have adopted local adaptations, such as the American Standard Occupational Classification (Levine, Salmon, &

Weinberg, 1999), the Canadian National Occupational Classification (Human Resources Development Canada, 2003), or the Australian Standard Classification of Occupations (McLennan, 1997). These hierarchical systems define and classify thousands of occupations—including astrologers and fortunetellers—into a limited number of major categories, dozens of minor ones, and hundreds of more homogeneous small groups. A cursory examination of any of these systems should convince anyone that it is very easy in almost any occupation to distinguish competent individuals (those with close to average performance) from talented ones (those in the top 10% in terms of their mastery of the skills defining that occupation). For readers interested in simpler category systems, some have been proposed for arts or sports (e.g., Kipfer, 1997).

About IGAT

Even though the DMGT embraces all forms of gifts and talents, the fact remains that professionals in gifted education have traditionally focused their attention on one type of gift, intelligence, and one type of talent, academic. This pairing of intellectual giftedness (IG) with AT confirms the high validity of IQ tests as predictors of academic achievement. It also explains why the core of most identification systems includes IQ tests as measures of IG and school grades or standardized achievement tests as measures of AT (Coleman & Cross, 2001; Cox, Daniel, & Boston, 1985). I have proposed the acronym IGAT to designate the target population of most school enrichment programs; it would remind administrators and teachers that gifted education provisions specifically target intellectually gifted (IG) and academically talented (AT) students, those we could also call “the bright achievers.”

In a Nutshell

The first commandment enjoins educators (a) to acknowledge the large diversity of gifts and talents, as they manifest themselves in domains and subdomains of giftedness, as well as numerous fields and subfields of talent; (b) to apply these qualitative distinctions appropriately by a precise labeling of a person’s gift(s) or talent(s); and (c) to acknowledge the target population traditionally served under the umbrella label of *gifted education*, namely IGAT students.

II - Thou Shalt Discriminate . . . Vertically!

The second commandment complements the first one with its focus on quantitative differences among

gifted and talented individuals. In other words, to discriminate vertically means to acknowledge intensity levels within each type of gift or talent. Students who win a state or national competition in math or science belong to a very different group than those whose excellence does not extend beyond their neighborhood school. Similarly, the young pianist who performs with the local symphony orchestra has reached a far higher level than the little girl who won the end-of-year competition in her local music school. Educators and scholars commonly use various adverbs (e.g., moderately, highly, profoundly) to convey these differences in intensity. The present usage suffers, unfortunately, from two major problems. First, different professionals attach somewhat different meanings to these labels. Second, they are operationalized through the normal curve and its standard deviation (*SD*) units; common IQ thresholds such as 130, 145, or 160 were chosen because of their correspondence to specific *SD* markers, namely +2 *SD*, +3 *SD*, and +4 *SD*, respectively. This system does not transfer well to other forms of gifts, especially physical gifts where performances are usually expressed in speeds, distances, heights, and so forth. The normal curve paradigm applies even less to levels of talent; in music, for instance, talent is measured through competitions won, scholarships earned, and so forth. Similarly, means and standard deviations interest no one in sports; what is registered are times, distances, heights, or points won. Here again, talent manifests itself through competitions won, selection into elite teams, records broken, and so forth. Even in the case of AT, professionals will prefer to use percentiles to define high achievers, as is the case in determining who can participate in the Talent Searches (usually the top 5% on well-established achievement tests).

The Metric-Based (MB) System of Levels

In an effort to bring some order to the present situation, I have proposed a five-step system of intensity levels based on the metric system, hence its MB label (Gagné, 1998). It is an intrinsic component of the DMGT’s definition of giftedness and talent. For example, giftedness is defined as follows: “*GIFTEDNESS* designates the possession and use of untrained and spontaneously expressed natural abilities (called aptitudes or gifts), in at least one ability domain, to a degree that places an individual at least among the top 10% of age peers” (Gagné, 2003, p. 60). The importance of a prevalence estimate—the “How many?” question—follows from the normative nature of the giftedness and talent concepts. The term *normative*

Table 1
The DMGT's Metric-Based System of Levels Within
the Gifted/Talented Population

Level	Label	Ratio in General Population	IQ Equivalents	SD
5	Extremely	1:100,000	165	+ 4.3
4	Exceptionally	1:10,000	155	+ 3.7
3	Highly	1:1,000	145	+ 3.0
2	Moderately	1:100	135	+ 2.3
1	Mildly	1:10	120	+ 1.3

Note: DMGT = Differentiated Model of Giftedness and Talent.

refers to comparisons between individuals on measures that usually follow normal distributions; it is opposed to an ipsative approach, which focuses on within-individual comparisons (e.g., aiming for a personal best). Gifted and talented individuals are defined through their ability differences with “normal” individuals; the same applies to all normative concepts, such as poverty, obesity, golden age, tallness, and hundreds of others. Francis Galton, acknowledged by many scholars as the father of applied statistics—and Charles Darwin’s cousin—was among the first to argue that a proper definition of a normative concept required a clear statement of the degree of marginality of those belonging to a particular subgroup. In his famous book *Hereditary Genius*, Galton (1892/1962) applied that rule to a survey of the lineage of “eminent” Englishmen, defining eminence as a person’s presence among the top 1:4,000 in terms of renown and respect within the British adult male population.

In the DMGT, the minimum threshold for any type of gift or talent is placed at the 90th percentile (see Table 1); thus, those who belong to the top 10% of the reference group in terms of their natural abilities (for giftedness) or systematically developed skills (for talent) deserve the relevant label. Practically speaking, in a regular classroom of 30 students or so, the three highest achievers deserve to be called “academically talented” according to the MB system. Using 10% as the minimum threshold for “mild” giftedness or talent might appear overly generous to some educators. But that generosity is counterbalanced by the creation of successively more selective subgroups; they are labeled *moderately* (top 1%), *highly* (top 1:1,000), *exceptionally* (top 1:10,000), and *extremely* (top 1:100,000).² The MB system was conceived to bring order to the present chaotic diversity of label definitions; it was not meant to solve all practical identification issues, such as the unavoidable oversimplification of any system of

thresholds, the unavoidable imperfect reliability of any selection/ labeling process, the sometimes difficult choice of the appropriate reference group, and many others (for some answers, see Gagné, 1993, 1998).

Practical Implications

Just like the horizontal perspective discussed in the first commandment, the vertical perspective can transform the way educators in general and special program coordinators in particular think about gifted and talented individuals. Here are five potential impacts.

Toning down qualitative differences. It is common in the field of gifted education to state that gifted individuals differ qualitatively from average peers or that exceptionally/extremely IG individuals also differ qualitatively from those with only mild IG. For instance, a definition of giftedness defended by a group of professionals called the Columbus Group states that “giftedness is asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm” (Morelock, 1996, p. 8). In a detailed critique of that definition (Gagné, 1997), I argued strongly against any validated qualitative differences either between gifted individuals and average ones or between individuals of different levels of giftedness or talent. Indeed, using the term average to describe nongifted persons confirms the quantitative nature of all our comparisons, and so does the MB system of levels.

Using more appropriate labels. Gifted and talented program administrators should make efforts to assess precisely the level of giftedness and talent and use the relevant MB adverb to label the person’s intensity level. They should always keep in mind that an appropriate

description of a person's gift(s) and/or talent(s) requires both horizontal/qualitative descriptors (the type of gift or talent) and vertical/quantitative qualifiers (the intensity level). They should practice using descriptions such as these: "Peter is mildly [top 10%] gifted intellectually," or "Mary shows an exceptional [top 1:10,000] level of mathematical talent."

Differentiating needs more accurately. Whatever the domain or field assessed, the range of performances is as large within the gifted or talented population as it is within the regular population. As shown with measures of cognitive abilities, it commonly covers at least four standard deviations (IQ scores between 120 and 180+), more or less the equivalent of the distance separating P_3 and P_{97} individuals. In other words, extremely gifted individuals differ as much from mildly gifted ones as these differ from persons who are very deficient intellectually. Such a large range implies different talent development needs and provisions. Talent developers in many specific fields, especially in music and sports, grasped a long time ago that they needed to plan very distinct training regimens, especially with regard to learning pace (see the sixth commandment), for their highly and exceptionally talented students or athletes. We have much to learn from these fields.

Being more aware of rarity. In the MB system, one switches levels just by moving the decimal point to the right or left; it becomes easy to see how rare the extremely gifted are compared to the mildly gifted. For instance, out of a thousand mildly gifted persons, only one would be exceptionally gifted (see Table 1). Their representation drops to 1:10,000 in the general population. Imagine yourself as a full-time teacher of IGAT students in an elementary school; you work with about 30 of them each year. During a 35-year career, you will have taught just more than a thousand of these IGAT students. In other words, although you will have worked with IGAT students during your whole career, chances are you will have met just one, maybe two, exceptionally IGAT student. Now, if you teach in regular classrooms, what are your chances? Within the MB system, the answer is simple: 10 times smaller! Consequently, gifted and talented program coordinators should think first and foremost about services for their mildly IGAT students, who account for 90% of the whole IGAT population in their school district. I call them the "garden-variety" IGAT students. If program coordinators also consider the slightly different educational needs of those at the moderate level, another 9% on top of the mild ones, they will

have covered no less than 99% of all IGAT students. Shouldn't more power and exposure be given to the large majority, as stated in the next comment?

Abandoning improper hyperbole. The last comment targets an unfortunate tendency in our field to use as examples of gifted/talented behavior that of highly or exceptionally gifted/talented individuals. Extreme precocity makes for better headlines than does the more "normal" behavior of garden-variety IGAT students. But I believe there is a huge downside to that practice. Such extreme examples might convince many school administrators that giftedness and talent are indeed very exceptional phenomena, bringing them to conclude that there is little need for a significant investment of resources to cater for a handful of students. On the other hand, I believe it is quite easy to demonstrate that mildly IGAT individuals, the top three achievers in a regular classroom, already distance themselves very significantly in terms of ease and speed of learning from their average peers and would thus benefit greatly from customized educational provisions.

In a Nutshell

The second commandment asks for a constant awareness of differences in intensity, from mild levels (top 10%) to extreme ones (1:100,000). If they kept in mind that vertical perspective, educators in general and gifted/talented program coordinators in particular would be in a better position to (a) label gifted and talented individuals more appropriately, (b) associate different talent development needs with different levels, (c) recognize that virtually all IGAT students identified and served belong to the mild and moderate levels, and (d) refrain from improper hyperbole in their descriptions of mild-level or garden-variety IGAT students.

III - Thou Shalt Identify . . . Multicomponently!

The third commandment targets the identification procedure, whose goal, in the context of a talent development intervention, consists of pinpointing individuals who have the best chances of benefiting maximally from special enrichment services. The targeted performance is a set of high-level skills specific of a talent field. The identification process is based on the premise that some characteristics can predict better than others the emergence of talent. The neologism

multicomponently refers to the componential structure of the DMGT (see Figure 1); it asserts that more than one component—or subcomponent—of the DMGT can contribute to the efficacy of the identification process.

A Brief Overview of the DMGT

The DMGT (Gagné, 2003, 2004) comprises six major components that contribute to the emergence of talent. A first trio, called the talent development core, includes the natural abilities or gifts (G), which act as building blocks, or constitutive elements, for the skills to be developed in a particular talent field; the developmental process itself (D), which, depending on the level of talent aimed at, can stretch over many years of systematic learning and practice; and the developed high-level skills (T), which confirm the successful outcome of the talent development process. The second trio, called the catalyst trio, incorporates three factors that, although not constitutive elements of talents, play a crucial role, facilitative or inhibitive, in the talent development process. This second trio includes intrapersonal (I) and environmental (E) catalysts, as well as chance (C) factors. The DMGT is proposed as a comprehensive framework of talent development; its components subsume all significant causes of talent emergence.

The More Significant Components

The question that underlies the third commandment is simple: Which multiple components can help identify more accurately the best candidates for a talent development program?

The IGAT components. Our field's focus on IGAT students immediately suggests two of them: natural cognitive abilities (the IG component) and AT. Using past performances to predict future ones follows from evidence: High achievers tend to remain at the top from one year to the next. As the saying goes: "Talent breeds talent." Indeed, access to elite teams or special competitions in sports depends almost exclusively on past achievements. In the case of the IG component, it is a well-documented fact that IQ scores predict school achievement better than any other characteristic, except of course past achievements. After reviewing the predictive power of dozens of variables, I as well as E, Walberg and colleagues (see Walberg, 1984) showed that IQ scores or similar measures of general cognitive functioning explained individual differences in academic achievement at least 3 times better

than any other variable. In brief, it makes perfect sense to use the IG and AT components as guides in the identification process, so long as, of course, the enrichment activities target some form of AT development (see the eighth commandment). Indeed, as mentioned earlier, surveys have shown them to be the two most common identification measures.

Looking beyond IGAT. Which among the remaining four components should receive special attention as significant predictors of talent emergence? The list of candidates includes many personal characteristics such as motivation level, will power, high self-esteem, emotional maturity, or autonomy; it also includes E factors such as family demographics, parental and teacher support, peer influences, special curricula, and so forth. The scientific literature abounds with studies demonstrating the predictive value of I and E components (see Simonton, 1994, for a particularly entertaining overview). But do some of them play a more crucial role than others? In other words, "What makes a difference?" Specialists from every major talent field have studied that question and proposed personal answers. One of the major debates opposes defenders of I characteristics with promoters of E influences. To some extent, it is associated with the well-known nature-nurture debate. I belong without hesitation to the first group, those who believe that personal characteristics make much more of a difference than outside influences (see Gagné, 2003, for more details). In a nutshell, my decision to downplay the causal role of the E component could be justified with a well-known saying: "One can bring the horse to the trough, but one cannot make it drink."

So, having chosen to advantage I catalysts, which of them would be selected? When we look at the empirical literature, three characteristics stand out repeatedly. The first one is high interest for a talent field or subfield, a component that some scholars (e.g., Deci & Ryan, 1985) have labeled *intrinsic motivation*. At the top end of the interest continuum stands passion. Although it is not an easy concept to measure precisely (Vallerand & Houliort, 2003), passion for the activities of a particular occupational field will characterize virtually all exceptionally talented individuals. Winner (1996) called this "the rage to master." Unfortunately, I believe such a high level of interest to be very rare; but less extreme levels of intrinsic motivation would suffice in most talent development situations. Interest and passion belong to the motivational aspect of human behavior; it is the energy that fuels the daily learning and practice.

The second I catalyst is perseverance or determination, the will power component. Motivation theories have traditionally confounded the goal-identification process—the why of our behavior—and the goal-reaching process—how we overcome obstacles to reach our predefined goals. Borrowing from Kuhl's work (e.g., Kuhl & Beckmann, 1985), Corno (1993; see also Corno & Kanfer, 1993) has proposed a clear distinction between these two constructs, naming them motivation (e.g., interests, needs, intrinsic/extrinsic motivation) and volition (e.g., effort, perseverance, self-control, regular monitoring), respectively. Gagné and St Père (2002) reviewed the scientific literature on the relationship between motivation and academic achievement, separating studies into two groups according to the above distinction. They showed that measures of volition predicted school achievement better than measures of interest.

The third catalyst goes under many names: autonomy, initiative, self-determination, and a few others (see Moon's, 2003, discussion of a construct she labels *personal talent*). Roughly described, it is the capacity of learners to plan and execute their training/learning program with a minimum of outside pressure from parents or teachers and to assume full responsibility for their progress or lack of progress. In other words, nobody needs to bring these learners to the trough!

In a Nutshell

The third commandment invites gifted/talented program coordinators to expand their list of identification criteria beyond IG and AT and look especially for the presence of three I catalysts: motivation, willpower, and self-management. As a mnemonic device, the multicomponents discussed here could be thought of as the five *Ps* of identification: potential, (past) performance, passion, perseverance, and . . . p-autonomy!

IV - Thou Shalt Select . . . Armsopenly!

The fourth commandment follows directly from the first two. It invites school administrators and program coordinators to broaden their outlook, both quantitatively and qualitatively, when surveying potential target populations.

The Vertical/Quantitative Perspective

The vertical opening of arms corresponds to an increase in the percentage of identified and served gifted and talented individuals, especially by revising

an administrative custom ubiquitous in the United States, which I have labeled *the 5% rule*. Surveys have shown (Gagné, 1998; Mitchell, 1988) that irrelevant of instruments and sources used to identify students for talent development activities, the total number of selected students will, more often than not, be close to 5% of the local school population. In fact, it appears that the percentage is often chosen beforehand, either as an agreed-on prevalence estimate of the IGAT population or because state regulations limit the maximum number of students admissible to "per capita" grants. But where does this 5% rule come from? It might have progressively developed as a response to the repeated use by many scholars of the +2 *SD* cutoff—IQ scores of at least 130—as the minimum threshold for IG. The associated prevalence is just less than 3%. It was then widely disseminated through the well-known "Marland Report" (Marland, 1972). The definition proposed there ends as follows: "It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of 3% to 5% of the school population" (Marland, 1972, p. 5). Whatever its origin, the 5% rule appears well entrenched in a majority of U.S. school districts.

By contrast, the MB system proposes a minimum threshold twice the size of the 5% rule, namely the top 10% on any valid measure of a natural gift or developed talent (see Gagné, 1998, for a justification of that initial threshold). To my knowledge, only one study directly compared the performance of students selected with quantitatively different criteria. Reis (see Reis & Renzulli, 1982) followed two groups of students who had been selected to receive enrichment services: the top 5% on multiple IGAT criteria and the next 5%. All the students were offered a semester-long program of activities similar to Renzulli's Type III personal research projects (Renzulli, 1979); they worked within a half day a week pull-out format. At the end, a group of judges, unaware of the students' group membership, assessed the quality of the products; they found no significant differences between the two groups. These results suggest that the 5% rule might be overly selective, at least with regard to some types of enrichment activities.

The Horizontal/Qualitative Perspective

Talent development services for gifted and talented individuals aim to identify those who show special promise in a particular field of talent, then provide the necessary resources to help them transform their natural abilities into the particular skills of their chosen

talent field. In continuity with the first commandment, gifted/talented program coordinators could open their arms horizontally by exploring new ways to serve gifted and talented individuals, both within and outside their traditional IGAT population. Here are three possible avenues.

Specializing within IGAT. Most identification procedures use global measures of academic achievement; they rarely look at performances in specific subjects. Although high achievers tend to perform well in most of them, a significant minority of students show peaks and valleys in their performances (Achter, Lubinski, & Benbow, 1996). When program coordinators decide to implement an enrichment activity for a specific academic discipline, they could allow high achievers to participate, irrespective of their performances in other subjects. Probably the most famous of such specific programs is the Study of Mathematically Precocious Youth (SMPY), initiated in 1972 (Stanley, 1996). It rapidly grew, stimulating the creation of similar services across the United States; they now identify themselves with the label talent search model (Lupkowski-Shoplik, Benbow, Assouline, & Brody, 2003). This program uses out-of-level standardized tests, for instance the SAT or the ACT, which are designed to assess the reasoning abilities of high school seniors. With these instruments, talent search professionals identify middle-school students with exceptional mathematical and verbal talents and offer them a variety of programming options, among them summer courses, which allow these exceptionally talented students to progress even further in their advanced mastery of the high-school curriculum.

Acknowledging existing non-IGAT services. The school environment, especially at the middle- and high-school levels, abounds with activities directly or indirectly related to talent development. These activities can be subdivided into three major categories: (a) competitive sports and athletics, (b) special programs in the arts (music, drama, dance, and visual arts), and (c) extracurricular activities (e.g., chess, astronomy, computers, entrepreneurship, and so forth). When they target high performers in each respective area, their participants rightly deserve the talented label, thus increasing the gifted and talented population. If these activities are open to all interested students, then it is easy to observe the participants during the first weeks or months and pinpoint those gifted boys and girls who manifest a very rapid learning pace. At that point, the resource person could group them and offer an enriched series of

activities. This subgroup would thus become engaged in a bona fide talent development process.

Creating non-IGAT services. In view of the large number of human occupations, countless possibilities exist for the development of very focused talent development provisions. Here are just a few examples. Some students, even very young ones, harbor high natural mechanical abilities and love to work with machines, motors, or electronic equipment; why not offer them an occasion to pursue that interest in-depth? Other students manifest quite early outstanding natural abilities for fiction writing or poetry; it would be easy to offer them a supervised environment to develop these abilities into formal writing skills. During the past 15 years, computer literacy has become a prized skill in our society; again, it would be easy to identify young students who show exceptional promise in that field and offer them special fast-paced learning activities. No doubt most program coordinators could easily identify other special target populations of gifted individuals in areas where the school district has appropriate resources and help them develop their aptitudes at their own, very rapid pace. Note that these enrichment provisions need not group same-grade students. On the contrary! Because all participants would share high-level abilities and interests, older or more advanced participants could play mentorship roles with younger ones.

From Arms Open to Arms Full

If educators and gifted/talented program coordinators opened their arms vertically, the minimum threshold could rise above the 5% rule (see Renzulli, 2005). If they opened them horizontally, the traditional IGAT concept would both implode and explode into a smorgasbord of enrichment opportunities for a more diverse group of gifted and talented individuals. If we add the top 10% in general academic areas, the top 10% in drama, the top 10% in music, the top 10% in electronics, the top 10% in various sports, and so forth, we end up with many times more gifted and talented individuals than those selected by an overall 5% rule. However, by proposing a more open identification policy I am not implying that everyone is gifted or talented "in some way!" Far from that. First, there is some degree of overlap between ability domains and especially between particular giftedness domains and some talent fields. Consider, for instance, the relationship between intellectual abilities and ATs or

between physical abilities and sports. Moreover, a fair number of individuals exhibit multiple talents (Gagné, Neveu, Simard, & St Père, 1996). Still, just doubling or quadrupling their numbers within the school district would drastically change the perceptions of educators about the nature and prevalence of giftedness and talent.

In a Nutshell

In continuity with the first and second commandments, the fourth commandment enjoins school administrators and gifted/talented program coordinators to (a) expand their selection ratio by revising the unduly restrictive 5% rule and (b) broaden their definition of relevant target populations by subdividing the IGAT population according to their strengths in specific disciplines as well as identifying promising youth in arts, athletics, business, or technology. This open arms outlook would contribute to increase substantially the proportion of identified gifted and talented individuals and bring an armful of new recruits to talent development programs.

V – Thou Shalt Intervene . . . Earliestly!

With the fifth commandment, we begin focusing on the content and modalities of special educational provisions for IGAT students. The fifth commandment confronts a common administrative practice in school districts, namely to delay structured enrichment activities until at least Grades 3 or 4. Of course, this statement applies only to school districts that are providing special services to their IGAT students! The reasons for that practice are not entirely clear but appear to ensue from worries about (a) less reliable selection procedures with younger children, (b) still nonstabilized development, and (c) moving too rapidly from the playful early school environment to the more achievement-oriented regular classroom “treadmill.” Whatever the reasons invoked, that postponement policy contradicts a fundamental phenomenon, that of large individual differences in developmental pace, which give rise to precocity. And believe it or not, precocity can manifest itself . . . precociously!

About Precocity

Precocity means behaving beyond the typical behaviors of one’s chronological age. In young people, it is the hallmark of giftedness, any form of giftedness. Focusing on cognitive giftedness, I will briefly argue

here two points: (a) Individual differences in cognitive development are quite large, and (b) intellectual precocity is a far more reliable predictor of AT than is chronological age. They will serve to anchor the early intervention proposal at the heart of this fifth commandment. Concerning the first point, observations abound. Numerous case studies testify that, in extreme cases, intellectual precocity can be observed well before the second birthday, especially through early language acquisition (Davidson & Davidson, 2004; Gross, 1993). Milder forms of precocity are easily noticeable by age 4 or 5. Indeed, many children who enter kindergarten already know the whole alphabet, can write their name, read some words, and even do simple arithmetic computations. They are already better prepared than the average first grader to tackle the Grade 1 curriculum. At the same time, other children manifest clear signs of retarded cognitive development so that they are far from ready for typical academic instruction. And the size of these individual differences keeps increasing with every school year. In a recent analysis of individual differences in school achievement (Gagné, 2005), as measured by standardized achievement tests, I showed that the range of achievements among first graders already spans at least 5 school years. The highest achievers show a level of basic academic knowledge equivalent to that of average Grade 4 students, whereas the lowest achievers appear unlikely to reach average Grade 1 mastery within the next 2 years.

Concerning the second point, namely the predictive power of intellectual precocity, dozens of studies (Gagnier, 1999) have shown that the level of cognitive development, as measured by IQ and/or school readiness tests, predicts much better than chronological age a student’s academic achievement in the first grades of elementary school. The correlation between chronological age and academic achievement among cohorts of first graders ranges between .10 and .25 (Gagné & Gagnier, 2004). On the other hand, the predictive power increases above .50 when school readiness tests (or similarly built IQ tests) are used (Jensen, 1980). In terms of proportion of explained variance (r^2), the difference between the two predictors amounts to at least a 6:1 ratio! Yet virtually every school system in virtually every country of the world still maintains chronological age as the only admission criterion, no doubt for administrative simplicity. In the meantime, the vast majority of the more precocious learners stay in preschool because of their age and lose a full year of learning, impatiently waiting to pursue more challenging academic learning. When they finally enter kindergarten, they will not be allowed to accelerate to Grade 1,

even if their advanced knowledge would make that skip academically easy (see the seventh commandment).

The Early Entrance Cornerstone

Anchored on the above evidence, the fifth commandment pleads for a large dissemination of early entrance to school provisions for precocious learners. It exhorts school administrators to make this initial IGAT service the cornerstone of their school district's talent development program. It is a very sad state of affairs that although they have been around for almost a century (Rogers, 1991), early entrance provisions have never become popular. Summarizing the results of their own evaluation of the socio-affective impact of early entrance to kindergarten, Gagné and Gagnier (2004) argue that a small, but significant, percentage of unsuccessful cases of early entrance to school could explain, at least in part, the continuing resistance of many educators and parents toward that practice. Still, after examining all 68 evaluative studies of early entrance, Rogers (1991) concludes that it constitutes a very desirable initiative for the vast majority of children who benefit from it.

The benefits of early intervention are numerous. Much testimonial and survey evidence (e.g., Gallagher, Harradine, & Coleman, 1997; Ross, 1993; Winner, 1996) reveals the lack of challenge that the regular curriculum offers to academically talented students; its slow pace "turns off" a significant number of young IGAT students. The longer we wait to answer their needs for an appropriate learning environment, the more we risk exacerbating their boredom and ennui. There is a definite possibility that an unchallenging curriculum will (a) decrease the students' intrinsic motivation for learning, (b) encourage habits of laziness, (c) delay an essential confrontation with hard challenges and occasional failures, and (d) prevent the early consolidation of good study habits. The risks might remain small in the case of mildly IGAT students but appear to grow as the level of intellectual precocity increases.

One last comment. Because I called early entrance a cornerstone, it implies that it should be followed by the other building blocks of a comprehensive gifted education program, all the way from kindergarten to college.

In a Nutshell

The fifth commandment is based on the early manifestation of precocious cognitive giftedness. It demands that school administrators recognize it and

respond appropriately to the need for early enrichment it expresses. Responding "earliestly" means as early as kindergarten. Thus, the fifth commandment pleads for a generalization of early entrance to school provisions as the cornerstone of a comprehensive program of K-12 services for IGAT students. So when should we start our interventions? If still alive, Sherlock Holmes would answer: "Pre-elementary, my dear Watson!"

VI – Thou Shalt Condense . . . Foremostly!

The sixth commandment begins addressing the subject of the curricular and pedagogical provisions that can best answer the special educational needs of IGAT students. Although many scholars and professionals perceive the term *enrichment* as politically incorrect, I have chosen to use it instead of the more common term *differentiation*. In my view, the term *enrichment* clearly describes the type of differentiation specifically appropriate for IGAT students. Some might argue it suggests a "dangerous" idea, namely that IGAT students get richer while all others remain poor. We know very well that such statements are false, and we should counter them vigorously instead of backing off and adopting innocuous expressions. I consider precision and clarity in language a priority over political correctness. In other words, to paraphrase a popular saying: "If the word fits, use it!"

Four Enrichment Modalities

Soon after entering the field of gifted education, I became convinced that the concept of enrichment was the keystone, the *raison d'être* of all special educational provisions for IGAT students (Massé & Gagné, 1983). I was convinced that instead of being presented as one option among others, especially in the common expression "enrichment vs. acceleration," enrichment was the goal for every curricular modification and every format adaptation, including acceleration (see next commandment). Borrowing from various existing classifications, Massé and I distinguished four enrichment modalities: enrichment in density (DS), a synonym for Renzulli's curriculum compacting (Renzulli, 1979) or Rogers's curriculum condensation (Rogers, 2001); enrichment in difficulty (DF), which introduces more complex questions inspired by the regular curriculum but distinct from the advanced subjects introduced sooner through DS; enrichment in depth (DP), analogous to Renzulli's Type III research

projects (Renzulli, 1979), through which students can explore in more detail a given topic, within or outside the regular curriculum; and enrichment in diversity (DV), which corresponds to the introduction of short topics not included in the regular curriculum. As a mnemonic device, think of DS, DF, DP, and DV as the four *Ds* of enrichment.

Two comments are in order. First, because most special services for IGAT students combine more than one form of enrichment, it is not easy to give pure examples of these four modalities. For instance, enrichment in DP usually brings students to work on topics absent from the regular curriculum (DV), including problems that average students would judge overly difficult (DF). Second, many educators in the field of gifted education use the term *pacing* to describe enrichment in DS. Unfortunately, this term suffers from the same non-specificity as the term *differentiation* mentioned above. Pacing can mean either to increase or decrease the “normal” teaching pace to adjust to the students’ different learning abilities. Indeed, harness racing uses pacing cars to deliberately slow the horses until the starter’s gun launches the race. Consequently, its use requires a qualification (e.g., fast-paced courses, rapid or accelerated learning pace).

A Priority for Enrichment in DS

Are these four enrichment modalities equally important? I do not believe so. In fact, the order in which they were presented above reflects my own hierarchy, especially the first rank given to enrichment in DS. Why prioritize curriculum condensation? There are three major reasons. First, it binds perfectly with the developmental process most characteristic of IGAT students, their ease and speed in learning. Second, it alleviates the boredom induced by an unduly slow teaching pace, at least from the point of view of IGAT students. Third, it liberates hours of learning space, which can be used to insert other forms of enrichment (see Renzulli, Smith, & Reis, 1982).

Concerning the first reason, it is worth noting that most cognitive psychologists acknowledge the close relationship between intelligence and learning speed. One of the most influential among them, the late John B. Carroll (1997), affirmed: “Experts have largely neglected what seems to be an obvious conclusion to be drawn from the evidence from IQ tests: that IQ represents the degree to which, and the rate at which, people are able to learn” (p. 44). Similarly, in her review of the practical impact of intellectual abilities, Gottfredson (1997) stated, “Although researchers disagree on how

they define intelligence, there is virtual unanimity that it reflects the ability to reason, solve problems, think abstractly, and acquire knowledge” (p. 93). Examined from the perspective of their outcome, namely academic achievement, learning abilities vary immensely among students at every grade level. As mentioned in the previous commandment, I recently analyzed the developmental norms of a well-known achievement test, the *Iowa Tests of Basic Skills (ITBS) Survey Batteries* (Gagné, 2005). Three observations from that study are relevant here. First, the range of individual differences between the slowest and fastest learners already spans at least four grade levels by Grade 1. Second, that range more than triples between Grades 1 and 9. Third, even within the IGAT population, achievement differences span many grade levels by the end of elementary school. Here is one small example. In Grade 3, students at the 90th percentile achieve as well as average Grade 5 students, but the very best achievers in that same grade level have developmental scores comparable to those of average Grade 9 students! Just within that top 10% group of third grade IGAT students, the range of basic academic knowledge spans no less than 5 school years.

Faced with such a large spread of learning abilities, teachers must decide which teaching speed will best serve the needs of the majority. In their desire to maximize the percentage of students moving to the next grade level, they consistently choose a pace slow enough to fit even below average students. Indeed, studies have shown that average teachers adjust their teaching pace to the learning pace of students close to the 25th percentile (Reis et al., 1993). It becomes clear why the slow learning pace of the regular classroom, with its constant repetitions and revisions, generates much boredom and, sometimes, stronger expressions of frustration among IGAT students. It parallels what we said earlier about the demotivating impact of delaying early entrance to school for young precocious children. My most vivid analogy is that of a commuter stranded on a highway at rush hour. Enrichment in DS would act for these students just like the special left lane offered to commuters with passengers. The motivational impact of curriculum compacting no doubt compares with the pleasure felt by those drivers as they enter that lane and rapidly accelerate to their normal cruising speed. The third and last reason to prioritize enrichment in DS is almost self-evident; by condensing the regular curriculum, we create precious space for other learning activities, hopefully enriching ones! Thus, to provide enrichment in DF, DP, or DV, teachers must first, and foremost, create appropriate room through DS.

In a Nutshell

The sixth commandment marks the entrance into the what and how of IGAT services. Their key purpose is enrichment. Four enrichment modalities are identified: DS, DF, DP, and DV. The need for enrichment opportunities originates from the recognition of very large individual differences in learning ability (ease and speed) between the slowest and fastest learners. This commandment argues for the priority of curriculum condensing (or compacting) over the three others, because the faster pace (a) directly responds to IGAT students' core characteristic, their ease and speed in learning; (b) contributes to relieve the major source of boredom for IGAT students; and (c) liberates hours of learning time, which become available to offer other forms of enrichment.

VII – Thou Shalt Accelerate . . . Asneededly!³

The seventh commandment defends one of the most controversial concepts in educational circles, namely the academic acceleration of IGAT students. Because acceleration and enrichment in DS are closely related, they need to be clearly distinguished: Academic acceleration is a specific form of DS that crosses grade level boundaries (Gagné, 1986). Common examples of accelerative provisions include early entrance to school, grade skipping, grade telescoping (e.g., 3 years in 2), advanced placement courses, and many others (Southern & Jones, 2004). As I argued elsewhere (Gagné, 1986), the term *acceleration* should be used if, and only if, a student progresses through the grade levels more rapidly or earlier than normal, either in a given subject or across all of them. Although curriculum compacting/condensing “accelerates” a student’s progress within a grade level’s curriculum, it should not be included among forms of academic acceleration. Professionals in gifted education frequently place enrichment and acceleration in opposition, especially when they consider these labels to represent different educational provisions for IGAT students (e.g., Assouline & Lupkowski-Shoplik, 2003; Clark, 1997; Coleman & Cross, 2001; Schiever & Maker, 2003). It is an unfortunate practice because it negates the enriching impact of accelerative provisions, which, as argued above, are just an intensive form of enrichment in DS. This is why I insist in labeling this group of administrative services *accelerative enrichment*, an expression that clearly portrays the goal pursued through these administrative decisions.

About Acceleration

As mentioned above, accelerative enrichment provisions are embedded in controversy. On one hand, we find a wealth of research data demonstrating their value and quasi-total lack of any detrimental effects; on the other hand, most educators and parents express strong resistance toward their use. The resistance has been intense enough that it has seriously curbed their dissemination. Indeed, out of all possible accelerative enrichment provisions available, only one, the advanced placement program, has grown tremendously since its introduction in 1952 (Colangelo, Assouline, & Gross, 2004a). Limited dissemination resides in the ambivalent—and often clearly negative—attitudes many educators harbor toward all forms of academic acceleration. Defenders of accelerative enrichment find these attitudes difficult to explain in view of the positive conclusions of hundreds of empirical evaluations of the academic and socio-affective impact of all accelerative options. Borland (1989) summarizes that conundrum as follows: “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” (p. 185). Similar statements abound in the gifted education literature, including a remarkable metaphor with medical practice proposed by Durr (1964, p. 96). The title of the Templeton report (Colangelo et al., 2004a)—*A Nation Deceived: How Schools Hold Back America’s Brightest Students*—is itself a powerful statement on the controversial nature of accelerative enrichment provisions. But how positive is the scientific literature on the academic and socio-affective impact of acceleration?

Rogers (1991) identified 19 reviews of accelerative enrichment that cover most of the 20th century. Without exception, they paint a very positive picture of their impact on the vast majority of students involved. Rogers’s own literature review and meta-analysis outranks all previous ones as the most comprehensive and definitive. Not only did she make major efforts to unearth every published study since 1929, she also grouped the 314 she found by type of acceleration. To examine the academic, social, and psychological impact on accelerants of each individual option, she adopted a special meta-analytic technique called best-evidence synthesis, whereby the quantitative and qualitative analysis targets only those studies on a topic that meet clearly stated a priori criteria of methodological soundness. Rogers concluded her review with the following general statement:

If nothing else, the synthesis compiled here lays to rest two major misconceptions about acceleration. The first misconception has been that “acceleration is acceleration,” that is, all forms of acceleration are basically the same. As this study has shown, each of the 12 forms of acceleration has a very different pattern of outcomes for gifted learners. . . . The second misconception has been that acceleration may have negative or damaging social and emotional consequences for gifted learners. In fact, this study has shown that there are minimal social and emotional effects for the majority of accelerative options. (pp. 200-201)

Rogers’s global judgment does not mean that the rate of success is 100%. Some researchers have pointed out that the typical evaluation of accelerative provisions (a) does not include many students who did not adapt well and left the accelerated group and (b) sometimes downplays negative results (Cornell, Callahan, Bassin, & Ramsay, 1991). Others have noted that advocates of accelerative enrichment too often underestimate the negative impact on school administrators, teachers, and parents of any case of maladjustment following an accelerative decision (Gagné & Gagnier, 2004). Rogers (1991) herself notes the following:

One would assume that with so great a number of studies as the research base for acceleration that the academic, socialization, and psychological outcomes of at least the most widely practiced forms would have been established. Such has not been the case. For academic outcomes, the picture is fairly clear, but for socialization and psychological adjustment, more is not known than is known. (p. 200)

Still, the weight of the evidence (see Colangelo, Assouline, & Gross, 2004b) strongly supports all forms of accelerative enrichment, even the most radical ones, such as skipping three or more grades. Such positive results do not surprise those talent development specialists who work outside academic circles. Educators in most other fields of human activity, especially in music and sports, automatically endorse and apply accelerative enrichment. As soon as these teachers or trainers observe exceptional precocity, they immediately offer these young pianists, violinists, gymnasts, swimmers, and so forth special programs that keep pace with their rapid progress and bring them to as high a competition level as they are ready to challenge. Finally, contrary to many popular enrichment services, for instance

pull-out classes, accelerative options are administratively simple to implement and extremely cost effective. Think for example of early entrance to school, grade skipping, advanced placement courses, independent study, or online classes.

From Minimal to Radical Acceleration

Accelerative enrichment often brings to mind its most radical forms. Indeed, a few students learn so easily that they can run up the rungs of the K-12 stepladder with an ease and speed that arouses the envy of most peers, even highly bright ones. And our tendency to hyperbole (see the second commandment) may bring many of us to illustrate the phenomenon of academic acceleration with examples of radical progress. This is in no way different from the public’s fascination with prodigies, whatever the field in which their extraordinary talents manifest themselves. Yet there are forms of accelerative enrichment available to any IGAT student, even to many students who would not be so labeled according to the DMGT’s operational definitions of giftedness and talent. Among the least selective accelerative provisions, we could mention the advanced placement program, whereby talented junior and senior high school students can accumulate college-level credits in a large diversity of subjects through special courses offered within their high school curriculum.

But one of the most widely applicable forms of academic acceleration would be the following long-term program of grade telescoping, called a five-in-four. Imagine that a school district decides to implement a special school program in which the 6-year elementary curriculum will be compressed into 5 years of regular schooling. To save that 1 full year, selected students will cover each year about two additional months (20%) of the regular curriculum. The interesting question concerns the proportion of all students in an average school district who would be able to cover that slightly condensed curriculum without any additional effort. Throughout the years, I have asked thousands of teachers and administrators in keynotes and workshops for their estimate. By and large, group averages range between 25% and 40%. In other words, according to these frontline experts, at least a third of all school children could easily save 1 full year of schooling during their elementary curriculum if provided with a minimal amount of enrichment in DS in their daily school life. These generous estimates should surprise no educator with a firsthand knowledge of daily classroom activities. In the literature

review of their study on curriculum compacting, Reis et al. (1993) cited research showing (a) that students' textbooks had been significantly "dumbed down" during the previous decade; (b) that, from one grade to the next, these textbooks contained a growing percentage of repetitious materials; and (c) that a large percentage of students achieved passing grades on pretests taken before opening their textbooks. They concluded the following:

A mismatch seems to exist between the difficulty of textbooks, the repetition of curricular material in these texts, and the needs of our high ability learners. It is reasonable to conclude that many of these students spend much of their time in school practicing skills and learning content they already know. (p. 3)

The above analysis makes it clear that on a strict academic basis, literally millions of U.S. students could easily cover the K-12 curriculum at least 2 or 3 years faster than the pace imposed by the age-grade lockstep of the education system. A final note: The seventh commandment specifies "asneededly," which means that these accelerative options should be examined each time within-grade enrichment activities do not (or no longer) satisfy the learners' needs. To facilitate the assessment of these needs, researchers at the Belin/Blank Center in Iowa have developed the *Iowa Acceleration Scale* (Assouline, Colangelo, Lupkowski-Shoplik, Lipscomb, & Forstadt, 2003).

In a Nutshell

The seventh commandment defends the use of academic acceleration for IGAT students, an enrichment in DS that breaks down the artificial walls of grade levels. It invites educators to inform themselves about the highly positive academic and socio-affective impacts of all forms of accelerative enrichment, especially by consulting the recently published *National Report on Acceleration* (www.nationdeceived.org). This objective assessment of accelerative provisions should help them put aside negative preconceptions and adopt a more open mind when they examine the various available provisions to better serve the educational needs of IGAT students.

VIII – Thou Shalt Enrich . . . Relevantly

The eighth commandment targets the content of enrichment activities instead of their format. In this

respect, the relative importance of the four *Ds* becomes marginal. It goes without saying that the planning of enrichment activities belongs to the E component of the DMGT. Why broach the question of relevance? Because it seems to be a significant problem, especially in the case of DV enrichment done by regular classroom teachers. Almost a quarter of a century ago, Julian Stanley, the founder of the SMPY, which evolved into today's talent searches, pleaded for more relevant enrichment activities, especially accelerative ones. In a major public address, Stanley (1979) complained that educational acceleration was frequently replaced "by often vacuous or irrelevant so-called educational enrichment" (p. 17), a term he considered to be little more than "a euphemism for busywork, fun-and-games, and whatever special subject the school wants to offer its many varieties of talent" (p. 18). This harsh judgment was soon after reinforced by the authors of a national survey of enrichment practices in U.S. school districts (Cox et al., 1985). They summed up their views of existing services in the early 1980s as follows:

From a national perspective the efforts to improve education for our most capable students look fragmented and discontinuous. . . . Even in the separate locations—the districts, the individual schools—programming for the gifted or for superior students is likely to be hit-or-miss, more often characterized by zeal than informed by systematic planning. (pp. 42-43)

I believe that if these authors were to repeat their national survey today, they would come to the same conclusions. No substantial changes have been made during the past 25 years, either in state commitment or in the increase of school districts' active involvement in the implementation of enrichment provisions for their IGAT students (see, for instance, Archambault et al., 1993). More about that in the next commandment.

The relevance of enrichment activities can be judged from two distinct perspectives. The first and in my view most important one is subjective; it is relevance with respect to the talented learner's abilities, interests, needs, and personality. Talent development through enrichment is first and foremost an effort to create the most appropriate learning environment that will maximize the transformation of a person's gifts into socially useful talents, keeping constantly in mind that person's I catalysts, especially his or her passion(s). The second criterion for relevance is sociocultural; it associates the

creation of a special curriculum to the educational values and priorities of a nation or other large social group. Let us explore briefly each of these two perspectives.

Subjective Relevance

When learners are very young, third parties usually make judgments of subjective relevance. Parents will take the initiative to ask for their child's early entrance to kindergarten; school psychologists will assess the relevance of that enrichment option. Sometimes, parents might ask their children if they want to enter school earlier. Soon, however, the learners themselves begin to identify what they want to do, what their interests are, even what might be their long-term career goals. Scarr and McCartney (1983) called this active selection process among innumerable choices constantly available in the environment "niche building." At some point, students become the primary agents of their talent development planning. Parents and educators need to acknowledge that subjective component as early as possible. As an example, when the SMPY professionals began offering, in the mid-1970s, fast-paced summer math courses to the highest scorers in their first talent searches, most of them 13 or 14 years old, all the correspondence was directly addressed to the prospective students themselves, to the occasional dismay of their parents (Stanley, 1979)!

Subjective relevance is nested within the more global sociocultural relevance perspective. Educators rarely create custom-made curricula based on individual learners' needs. But most curricula, even at the elementary level, include optional activities to choose from as well as occasions to pursue personal projects when regular learning tasks are completed. This allows bright students to select, just like in a cafeteria, learning activities they judge more relevant to their personal goals and interests. This can be done at a small or microlevel, as is the case with short-term activities, those that do not extend beyond a few weeks, at most a semester. Think, for instance, of students choosing a particular research project (e.g., Renzulli's Type III) within a pull-out program or high school students choosing among various advanced placement courses. Other choices have a more macroscopic impact on a person's life plans. Such is the case when high school students decide whether to attend a residential high school for IGAT juniors and seniors, apply for an honors undergraduate program, or accept a proposal to accelerate radically, that is skip more than two grade levels.

Sociocultural Relevance

The concept of sociocultural relevance targets educational specialists who specialize in designing special curricula for IGAT individuals. In some cases, the special curriculum is designed to help regular classroom teachers better respond to the needs of their few IGAT students. Such is the case with van Tassel-Baska's Integrated Curriculum Model (VanTassel-Baska, 2003) or with the National Association for Gifted Children's recent endorsement of the parallel curriculum (Tomlinson et al., 2002). In other cases, the special curriculum defines the mission of a full-time enriched learning environment. Such curricula are found in special residential high schools (Kolloff, 2003), highly selective public high schools (e.g., the Bronx School of Science, the Peter Stuyvesant High School or the Hunter schools in New York City), or charter schools and magnet schools (e.g., the well-known Roeper School in Detroit). These special curricula attempt to consider simultaneously the dominant social values about what should be taught in schools, the specific educational philosophies of their founders or leaders, and the general needs and interests of their predefined target population. These comprehensive curricula do not prevent, of course, adding some subjective relevance by providing some degree of individualization to cater to more personal needs within that target population.

One of the best known among these special curricula is the international baccalaureate (IB) program (see Coleman & Cross, 2001). It was initially designed for a network of schools in the major capitals of the world where foreign diplomats could send their children. As they moved from one posting to the next, the children would find a new school with the same program, thus facilitating their adaptation to frequent displacements. Many school districts in the United States and other countries soon realized that the IB curriculum was a very interesting answer to their query for a good, prepackaged curriculum for their IGAT students. Thus were born IB programs everywhere. For instance, in Quebec, where few educators dare use the label *gifted* for fear of being accused of elitism, IB programs have become the solution of choice for school districts anxious to serve their IGAT students. From just about half a dozen 15 years ago, these (mostly high school) programs have grown to well over 70. Their high selection ratio, about 15% of all applicants—themselves already self-selected as high achievers—confirms that Quebec IB programs cater to IGAT students.

In a Nutshell

The eighth commandment targets the content of enrichment activities offered to IGAT students within the K-12 education system. The major concern expressed, that of relevance, originates from recurring observations by professionals in the field of sloppily planned and implemented activities by many regular classroom teachers. Relevance can be ensured in two different ways, either as the subjective relevance expressed through the personal choices of target IGAT students or as the sociocultural relevance observed in well-constructed prepackaged curricula. These well-structured enrichment curricula often imply the full-time grouping of IGAT students, another very controversial question I will now turn to in the next commandment.

IX – Thou Shalt Group . . . Fulltimely!

The ninth commandment enjoins educators to aim as much as possible for the full-time grouping of IGAT students. What are the bases for such a strong statement?

A Touchy Subject

Before answering the why question of grouping, I must confess my recurring discomfort each time I have to broach that subject. Regular classroom teachers could easily perceive a demand for full-time, even part-time, grouping as a personal attack on their competence and/or dedication toward the IGAT students in their groups. And, most of the time, the audience at my keynote speeches comprises a majority of regular classroom teachers who are hoping to find at these conferences resources that will help them better answer the special learning needs of their bright achievers. To counter that initial understandable reaction, I need, before going any further, to make clear a point concerning the characteristics of the regular classroom teachers attending gifted and talented conferences. I would argue that they constitute a special, nonrepresentative minority of teachers whose care for the special needs of IGAT students well exceeds that of their average peers in the profession. In other words, without denying that there are many more interested regular classroom colleagues than just those who attend gifted/talented conferences, their number remains small, small enough for the total percentage not to exceed 10% to 15%. My point is that a vast majority of the colleagues of these teachers would not prioritize pursuing

professional development activities associated with the education of IGAT students. This majority is the main target for my argument in favor of full-time IGAT grouping. By the way, I purposely use the expression IGAT grouping instead of ability grouping to make it clear that my arguments do not necessarily apply to all forms of grouping.

The Dearth of Enrichment

Twenty-five years ago, the Richardson Foundation financed a large survey of enrichment practices in U.S. school districts. The results were published in a little book called *Educating Able Learners: Programs and Promising Practices* (Cox et al., 1985). That little book remains to this day one of those early readings in the field that strongly influenced my beliefs and convictions concerning the special enrichment provisions that ought to be prioritized. I cannot recommend it highly enough to everyone interested in the field; it overflows with common sense and practical ideas. The authors devote a chapter to summarize the results of their national survey of gifted services. They queried more than 4,000 school districts on their use of 16 different types of enrichment provisions. For each type mentioned, they included a few questions that would allow them to judge how well that particular service was implemented in the district. The results were not very encouraging. First, about 75% of the districts sampled did not complete the survey, not a very good sign of active involvement in IGAT services! Among the 1,172 school districts sending back completed surveys, 5,930 different services were mentioned, about 4.5 on average per district out of the 16 options proposed. But although the authors had defined very generous criteria for “substantial” implementation, they judged that fewer than half of these services reached a minimal threshold of quality. Just more than 60% of the districts identified enrichment activities in the regular classroom as one of their services; the analysts judged that only 25% of them were offering it with a minimal quality level. Here are some of the problems mentioned:

If we look at the Enrichment programs [in the regular classroom], we see that 58 percent of those reporting said that the students were involved in enrichment activities of some kind for fewer than three hours a week. That hardly constitutes a “program” of enrichment. Those activities involved “all the class” in 26 percent of the cases, which means that there was no special

effort among that 26 percent to offer programs specifically geared to the needs of able learners. (Cox et al., 1985, pp. 37-38)

About a decade later, the National Research Center of the Gifted and Talented conducted a large survey of ongoing enrichment practices in U.S. school districts (Archambault et al., 1993). Again, the results were, to put it mildly, disquieting. A representative U.S. sample of more than 7,000 third- and fourth-grade teachers received a detailed questionnaire “designed to determine the extent to which gifted and talented students are receiving differential education in the regular classroom setting” (Archambault et al., 1993, p. 2). The results revealed that most of the enriching activities were offered less than a few times a month. Moreover, these activities usually targeted the whole class, leaving little specific enrichment for IGAT students. The authors concluded as follows:

The results of this survey paint a disturbing picture of the types of instructional services gifted students receive in regular classrooms across the United States. It is clear from the results that teachers in regular third and fourth grade classrooms make only minor modifications in the curriculum and their instruction to meet the needs of gifted students. (p. 5)

In summary, the vast majority of IGAT students in U.S. elementary and middle schools have almost no access to even the most basic forms of enrichment, let alone more advanced or consistent services. A few might stumble, one particular year, on a teacher who decides to offer them some occasional enrichment opportunities; others might encounter for a year or two occasional pull-out activities. But “unfailingly” is not part of the administrators’ vocabulary when it comes to dispensing appropriate special services to the IGAT population.

Mission Impossible!

Some of my colleagues would probably argue that we could solve the situation by intensifying training activities with both acting teachers and those in undergraduate teacher training programs. Have they stopped to assess the immensity of the task? There are approximately 3.4 million teachers in the American K-12 school system. How can so many individuals be reached? Even focusing on teachers in training remains a daunting task. How can that be done when

the vast majority of these training programs already offer no significant amount of time to sensitize future teachers to the IGAT population? How can appropriate training be achieved when most of my colleagues in Colleges of Education have to fight with hands and teeth to obtain a few hours’ worth of basic information on that special population? On the subject of teacher training, Croft (2003) notes the following:

The most recent *State of the States in Gifted and Talented Education Report* (Council of State Directors of Programs of the Gifted, 1999), however, found that only 3 of 43 responding states indicated that classroom teachers have more than 3 contact hours in either preservice or inservice training in gifted education. . . . At least 8 states that require special programming for gifted students do not require any special training of the teachers who provide that programming. At least 19 states do not require any training in gifted education, even for teachers who work primarily with gifted students. (p. 566)

How can appropriate teacher training be possible when many states do not require any specialized training to teach IGAT populations while others ask for just a minimal amount of hours on that subject?

Apart from the problem of population size, many other difficulties undermine efforts to build the skills—and attitudes—that will make regular classroom teachers effective dispensers of enrichment services. First, there is a problem of priorities; and the Number 1 priority is to maximize the percentage of students who will pass and move on to the next grade level. Those at risk of failing are certainly not the IGAT students. Consequently, most teachers focus their efforts on helping those who struggle to achieve. Second, there is a problem of workload. The mainstreaming trend of the past two decades has increased the heterogeneity of the regular classroom. Many students with serious learning difficulties or behavior problems who were formerly placed in special classes have been brought back to regular classrooms. Teachers regularly complain that they are not given enough additional resources to cope with this increase of students with important learning difficulties. Third, a fairly large percentage of teachers are not attracted to IGAT students; many of them do not hesitate to openly express negative opinions toward these students (Gagné, 1983). What are the chances of modifying these attitudes and bringing these teachers to invest some of their energies into planning enrichment activities for their IGAT students?

In summary, looking at the numerous challenges facing those who would make it their goal to adequately prepare regular classroom teachers to offer enrichment to their few IGAT students, my prognosis is very clear: mission impossible!

Why Fulltimely

The Richardson Survey revealed that the enrichment provision most frequently mentioned by the school districts who answered the survey was part-time special classes, commonly called pull-out classes. Nearly three fourths (72%) said they used that option, although only about half of them (47%) were judged to have substantial pull-out services. The authors of the Richardson study are not very kind toward the pull-out model, describing it as a prototype of the fragmented and discontinuous service approaches typical of U.S. school districts. They do acknowledge the many strengths of the pull-out model (e.g., ease and speed of implementation, training of just a few teachers, visibility, and ease of evaluation) but point out that “the weaknesses of the approach, however, are a cause for concern” (Cox et al., 1985, p. 43). Here are the major weaknesses: (a) they offer a part-time solution to a full-time problem, (b) what happens in the pull-out classes is divorced from what happens in the child’s regular class, (c) they engender frictions between the gifted specialists and the regular classroom teachers, (d) they usually cost more than full-time programs, (e) they give a false sense of accomplishment to school administrators, and (f) schools that begin with pull-out classes tend to stay with that limited approach.

In a chapter devoted to “What Works Best: Some Promising Practices,” Cox et al. (1985) briefly describe a series of programming initiatives they found exceptionally interesting, such as schools that have adopted the IB curriculum, long-term internships and mentor programs, advanced placement and early entrance to college, intensive summer schools, and special schools with a focus on specific subject matters (e.g., arts, math and science, music). Note that most of the prototypes described imply full-time grouping. It is worth noting that the research literature on grouping unequivocally confirms its positive academic and socio-affective impacts, so long as this administrative decision leads to a truly enriched curriculum (Kulik, 2003).

In a Nutshell

The ninth commandment addresses a subject as controversial as the theme of acceleration. Yet the opposition to the full-time grouping of IGAT students

remains hard to understand in view of both the positive research evidence and the accumulated evidence on the almost total lack of any enrichment activities specifically targeting talented students in regular classrooms. The teachers’ priorities at all levels of the K-12 educational system target the learning difficulties of students at the other end of the achievement continuum. The low priority of IGAT students’ needs is reflected in their nonappearance in the curriculum of most preservice teacher training programs. In that context, responding adequately to the special educational needs of fast learners becomes literally a “mission impossible!” That inescapable conclusion leads directly to the generalization of full-time grouping as the only way to create appropriate conditions for an enriched curriculum. To summarize the main advantages of full-time grouping, first, it answers a permanent problem with a full-time solution; second, it facilitates the enrichment of all subject matters in the regular curriculum; and finally, it does not require adding a (costly) teacher to the school’s personnel.

X – Thou Shalt Dream . . . Eyeswideopenly!

Precocity and promise are generators of dreams, dreams of high achievement, fame, eminence, and fortune. How many young students who begin emerging among their peers start dreaming of pursuing that lead far into the future and reaching eminence, whether in a profession, an art field, an athletic field, or even a hobby? How many parents will do the same when they are told of their child’s giftedness or when they observe them winning an early local prize or entering an accelerated training program? How many teachers or trainers perceive their most talented protégés as future experts or internationally recognized figures in their field? The prevalence of such dreams remains unknown; biographers will occasionally report how famous individuals (or a parent or a teacher) predicted very early their eventual eminence (see Kenneson, 1998). Yet little is known about the dreams of millions of youth who begin traveling the road to eminence but fail to reach its end. It is also very likely that many promising youth abandon themselves to dreams of future eminence but will never share them until the goal is reached or close at hand.

If the 10th commandment advises all parties concerned to dream “eyeswideopenly,” it is for two main reasons. First, in most cases, these dreams will never materialize; not only will many promising youth never

emerge among the talented, but also, a large majority of those who reach talent-level performances will never exceed mild or moderate forms of talent. As we will see below, many hurdles pave the way from early talent to peak performance. Second, highly gifted youth should keep their eyes wide open for alternate more modest or noncompetitive dreams, which, although less flamboyant, can fill a person's life with feelings of deep achievement and satisfaction. Both self-actualization and social impact can take many forms.

An Obstacle-Filled and Funnel-Shaped Course

Those who dream of eminence will, in the course of their talent development process, face two major hurdles. First, they will need to coordinate successfully the action of many contributive ingredients; a deficiency in a single essential one could easily jeopardize the whole talent development process. Second, although there is a large pool of dreamers at the beginning of the trek to eminence, few places are available on the podium of fame.

The complex choreography of talent development. The DMGT reminds us that there is much more to talent than high natural abilities. Although the gifts act as the building blocks for the developed high-level skills typical of a particular talent field, the building itself requires the positive contribution of four additional inputs: (a) a long process of learning and training, which is supported by appropriate (b) I and (c) E catalysts, as well as (d) some degree of luck. As I explained elsewhere (Gagné, 2000), each component plays an essential role in the talent development process, but none is in itself sufficient to ensure a successful outcome. So many things may go wrong. For instance, some individuals do not value talented achievements as a worthwhile goal, preferring instead the anonymity of average performances; others have temperamental handicaps (e.g., excessive shyness, self-doubts, undue anxiety) that sabotage their efforts and interactions with others; others were raised in an environment lacking the necessary resources to foster the development of their talent; some young athletes are prone to accidents that affect their training and, ultimately, their chances of progressing at the fast pace their gifts would allow. There is no limit to the reasons one could list to explain how a gifted individual might never emerge among the talented in a particular field. In summary, talent ensues from a complex

choreography between the DMGT's five causal components; moreover, the higher the level of talent sought, the more complex the required interactions will be, and the more numerous the chances of failure will become.

Little room at the top. Even if they reach the MB system's initial (mild) level of talent, individuals will still be far from fame and eminence. Which brings the question "How selective is the concept of eminence?" What would be the size of the population of eminent individuals within a state or nation? No doubt that individual estimates would vary; still, few would propose any ratio larger than 1:1,000, which would still create a subgroup of at least 100,000 individuals within the U.S. adult population. To my knowledge, only one scholar proposed a clear operational definition of the concept of eminence. More than a hundred years ago, Francis Galton studied the family relationships of eminent Englishmen; he aimed to demonstrate that genius runs in families, thanks mainly to the transmission of good gene pools. To circumscribe his sample, Galton (1892/1962) analyzed biographical dictionaries and determined that a ratio of 1:4,000 (250 per million) achieved his goal of setting aside individuals whom society recognized to have made outstanding contributions to society. For lack of competing prevalence estimates, let's adopt Galton's operational definition as a reasonable measure of eminence. Using the MB system's basic threshold for talent, namely the top 10% in any field, then the statistical chances for young mildly talented individuals of ever reaching eminence in their chosen field would be approximately 1:400. In other words, for lack of room at the top, 399/400 of these talented youngsters would fall short of Galton's definition. No doubt that more generous definitions could be proposed. Still, the basic argument remains: Only a tiny subcategory of young talented individuals will reach Galtonian eminence in their field.

There is collateral evidence for this little-room-at-the-top theory. A first example comes from Terman's famous longitudinal study of highly gifted children (average IQ of 150; most of them among the top 1:1,000) selected in the early 1920s when they were pre-adolescents, then followed for decades, well into their golden age. When these "termites" reached middle age, the 1955 follow-up questionnaire examined their professional achievements and successes, especially those of the male subgroup whose members had, at the time, much better career opportunities than women. The evidence provided (see Terman & Oden, 1959) reveals that barely a dozen or so, about 2% of

that very select sample, would have been judged eminent by Galton's standards. Another study, retrospective in design, surveyed a large sample of alumni from New York's very selective Hunter College Elementary School (HCES; Subotnik, Kassan, Summers, & Wasser, 1993). Just as in the Terman study, cohorts of students admitted each year to HCES had IQ averages around 150. About 600 of them enrolled between 1948 and 1960 were invited, when in their 40s, to complete a 17-page survey largely based on the 1955 follow-up questionnaire used by Terman and his associates. Just more than 200 of them completed the detailed survey. After examining their professional accomplishments, the researchers concluded the following: "By societal standards, this group of adults is relatively successful at midlife in terms of professional accomplishment. However, they have not yet made a significant mark on their respective fields" (Subotnik et al., 1993, p. 10). In other words, not a single one of them had become eminent.

Alternative Perspectives

The preceding section covered the initial reasoning that gave rise to the 10th commandment, namely that most dreamers of exceptional achievements will face very hard awakenings. As the manuscript evolved, I identified two additional interpretations for the "dream eyeswideopenly" warning: (a) keep your eyes open for more modest but equally desirable forms of eminence, and (b) open your eyes to totally different non-competitive long-term developmental dreams.

Garden-variety eminence. Keeping one's eyes wide open does not just mean remaining realistic about the probabilities of reaching an exceptional goal; it can also mean readjusting the contents of our dreams to fit our perceived capacities. I strongly disagree with the common adage that almost anyone, with enough motivation and determination (the passion and perseverance in the third commandment), can reach almost any goal. During the past three centuries, literally hundreds, if not thousands, of individuals made their first moves to become President of the United States. How many reached the top? But if there is little room at the top of the achievement pyramid, the available space increases dramatically just a bit below the tip. Although there are precious few places for musical soloists of international renown, thousands of seats are available in big and small orchestras around the world. Although very few can become members of an Olympic team, thousands more can find satisfaction in performing as highly (MB system) talented sportsperson

in literally dozens of athletic fields. Much room also exists to emerge in almost every occupational field. One can find cabinet makers whose order books are full months in advance because of the exceptional quality of their work; architects who remain unknown nationally or internationally but whose projects make the envy of their colleagues at a local or state level; teachers who gain their colleagues' respect and may win district-level or state-level prizes for excellence in their work; chefs who might not make the cover of a food magazine but will fill their restaurant because of their local reputation. Our society will never have enough of these highly but not exceptionally or extremely talented achievers in various occupational fields.

I need to mention an even more modest and subjective—but highly desirable—meaning of the concept of eminence, namely the one people use when they think of a spouse or a child as the most "eminent" person in their life. For instance, was there in your past a teacher who made a mark on you in a very special way and became "eminent" in your memory? Haven't you met in your adult life at least one trade person (a mechanic, a plumber, an electrician, a carpenter, etc.) who impressed you with his or her skills and became in your mind "eminent" within that trade? How about a little known fiction writer whose book you read years ago and still remains a memorable experience? Or a journalist whose viewpoints you are always waiting to read in your local newspaper? Or a little known painter whose canvasses you saw in a small gallery, buying one because you found his work so beautiful? Is there a neighbor, a colleague, or a friend whom you admire deeply because of some exceptional behavior, such as taking care of a handicapped child, overcoming a major personal handicap, or giving most of their free time to a volunteer organization? And isn't that the same for most people around us, all of them having their personal gallery of "eminent unknowns." All these talented individuals enjoy to some extent real eminence in the mind of some people around them. Their fame might not extend beyond local borders, but their talent has an undeniable impact in the lives of at least a few in their immediate circle.

Noncompetitive dreams. The second alternative approach to "eyeswideopen" dreams questions altogether the competitive approach to talent development. Are there not ways to fully develop one's talents in a strictly ipsative direction? In his longitudinal study of highly gifted individuals, Terman asked them at midlife about their personal definition of a successful life. Five

major categories of achievements were mentioned (Terman & Oden, 1959, p. 152): (a) the realization of personal goals and a sense of achievement, (b) a happy marriage and home life with children, (c) adequate income for comfortable living, (d) contributing to knowledge or welfare of mankind and leaving the world a better place, and (e) peace of mind and emotional maturity. The authors concluded the following:

Even failure to rise above the lowest rungs of the occupational ladder does not necessarily mean that success in the truest sense has been trivial. There may have been heroic sacrifices, uncommon judgment in handling the little things of daily life, countless acts of kindness, loyal friendships won, and conscientious discharge of social and civic responsibilities. (Terman & Oden, 1959, p. 152)

Similarly, as part of their follow-up of alumni from the HCES, Subotnik et al. (1993) interviewed 74 respondents to the long survey questionnaire, asking them, among other things, about their aspirations at various stages in their lives. They discovered that “only a few acknowledged having had any goals” (p. 76) and “far greater numbers said they’d had little or no motivation at all” (p. 77); “equally lacking in ambition to achieve career greatness were the many others who stated, often in strikingly similar terms, that their goals were simply to enjoy life” (p. 78). The authors concluded the following:

The administration of Hunter hoped to produce happy, well-rounded people who used their intelligence to enhance their own quality of life. It seems clear that, in the majority of cases, they succeeded very well. Our subjects’ main motivations were, and are, to enjoy their lives. They generally succeeded in their careers despite a striking lack of passion to excel. Presumably, most worked just hard enough to reach a significant level of comfort. (p. 92)

Borland (1989) identified two basic rationales that professionals in the field of gifted education advance 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). The second one, which he 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).

Borland clearly prefers the second rationale, judging “the improbability, if not the impossibility, of predicting future giftedness [to be] the major practical liability of the national-resources approach” (p. 30). The above discussion adds another perspective to Borland’s very apt distinction, namely the need to respect a highly talented individual’s personal life goals, even when these goals take a more self-oriented, even hedonistic, orientation or when the altruistic outlook remains circumscribed to family and close friends. As shown by the above two quotes, very few young talented persons will ever perceive themselves as a “national resource!”

In a Nutshell

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.

Conclusion

What would happen in the daily life of a large school district if its administrators and teachers decided to implement the 10 commandments summarized in Table 2? Here is a brief overview of some of the observed effects:

Natural abilities (gifts, potential) would be clearly distinguished from systematically developed skills (talents, achievements). [Commandment I]

A large diversity of gifts and talents would be clearly identified and labeled. [Commandment I]

Thanks to a clearly set minimum threshold, the size of the gifted/talented population would be precisely known. [Commandment II]

Table 2
Summary of the 10 Commandments for Academic Talent Development

I	Thou shalt . . . DISTINGUISH	HORIZONTALLY
II	Thou shalt . . . DISCRIMINATE	VERTICALLY
III	Thou shalt . . . IDENTIFY	MULTICOMPONENTLY
IV	Thou shalt . . . SELECT	ARMSOPENLY
V	Thou shalt . . . INTERVENE	EARLIESTLY
VI	Thou shalt . . . CONDENSE	FOREMOSTLY
VII	Thou shalt . . . ACCELERATE	ASNEEDEDLY
VIII	Thou shalt . . . ENRICH	RELEVANTLY
IX	Thou shalt . . . GROUP	FULLTIMELY
X	Thou shalt . . . DREAM	EYESWIDEOPENLY

Thanks to the MB system of levels, each student's degree of exceptionality would be identified. [Commandment II]

Gifted/talented coordinators would be able to pinpoint behavioral differences between individuals at mild levels, as opposed to high or exceptional levels, of giftedness and talent. [Commandment II]

The identification process would include not only the typical measures of IG (IQ as potential) and AT (grades) but also potentially relevant indices of motivation (passion), volition (perseverance), and personality (p-autonomy). [Commandment III]

Efforts would be made to identify and serve students possessing non-IGAT types of gifts and talents. [Commandment IV]

There would be a constant concern by all personnel to identify gifted and talented individuals in all types of school-based and after-school activities. [Commandment IV]

School districts would refrain from predetermining the prevalence of the gifted/talented population. [Commandment IV]

As a result of the three preceding policies, the percentage of identified gifted/talented students would increase considerably. [Commandment IV]

Instead of applying the common age-based entrance threshold, school districts would implement an early entrance provision based on appropriate school-readiness measures; it would allow as many as 10% of the more precocious learners to enter kindergarten or first grade early. [Commandment V]

As recognition of large individual differences in ease and speed of learning, enrichment in DS would be institutionalized in every classroom. [Commandment VI]

Thanks to the preceding practice, all teachers would fill the liberated time with other forms of enrichment (DF, DP, DV). [Commandment VI]

Beyond early entrance, a diversity of accelerative enrichment provisions would cover all grade levels of the K-12 curriculum. The typical age/grade lockstep would consequently disappear as the universal pacing for every student. [Commandment VII]

The school district would offer in at least one elementary and one middle school a special fast-paced track available to at least 30% of the school population. That fast track would reduce by at least 1 year the length of the progress through the grades covered. Within that fast track, further enrichment would be available to faster learners. [Commandment VII]

Enrichment activities would be much more systematically planned at all grade levels, especially with regard to students' interests and passions. [Commandment VIII]

To facilitate the delivery of appropriate enrichment by teachers, full-time IGAT grouping would begin as early as the number of students would allow it. [Commandment IX]

The local gifted/talented policies and practices would be guided by a desire to respond to the students' immediate educational needs; their well-being and personal development would be prioritized rather than a preoccupation for a long-term high return on that educational investment. [Commandment X]

It is a very huge dream! So keeping in mind the 10th commandment, I will not hold my breath as I follow the evolution of gifted/talented services during the next two or three decades!

Notes

1. A draft of the present text served as the backbone for a featured speaker address at the Fifteenth Biennial World Conference for Gifted and Talented Children, held in Adelaide, Australia, August 1-5, 2003. The fact that the conference was held "down under" possibly suggested the idea of presenting these principles as "commandments" from Up Above!

2. Some scholars who have studied extreme IG (e.g., Gross, 1993; Hollingworth, 1942; Morelock & Feldman, 2003) use the adverb *profoundly* to label their subjects. In most cases, these individuals have obtained IQ scores of 180 and higher, placing them in a category whose ratio approximates 1:1 million. But, too often, the adverb has been applied to lower IQ levels, usually anything beyond the fourth (IQ = 160+) standard deviation (e.g., ERIC, 2002; Lubinski, Webb, Morelock, & Benbow, 2001; Rogers & Silverman, 1997). Adding that adverb as the descriptor of a sixth level (1:1 million) in the MB system would be perfectly acceptable; if anything, it would help standardize its meaning. Yet I still doubt it would be adopted in other domains of natural abilities or in any field of talent.

3. As the present article neared completion, the Templeton Foundation published a "National Report on Acceleration" (Colangelo et al., 2004a, 2004b), an impressive advocacy and literature review of accelerative provisions. I thought of rewriting the text of the seventh commandment to incorporate quotes from that

document but judged that the present format complemented the Templeton document as well as recognized appropriately Rogers's seminal work in that field. Still, the *Templeton Acceleration Report* will probably become a well-deserved standard reference on the subject of acceleration. Both volumes of the report are available in print free of charge; they can also be downloaded in PDF format from <http://nationdeceived.org>.

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