THEORY AND PRACTICE OF ABILITY TESTING IN ANCIENT GREECE

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Philip H. DuBois credits the Chinese with the invention of gunpowder, the invention of printing—and the invention of the psychological test! As early as 2200 B. C., a Chinese emperor is said to have examined his officials every third year; after three of these examinations, he either promoted them or dismissed them from his service. A thousand years later, more formal civil service examining procedures were introduced. Government appointments were awarded on the basis of performance in the six arts: music, archery, horsemanship, writing, arithmetic, and protocol. A thousand years after that were added tests in the geography of the empire, civil law, military matters, agriculture, and administration of revenue. These procedures continued and developed for yet another two thousand years until, in 1905, the classic literary system was abolished in favor of technological reform. DuBois legitimately calls China a "test-dominated society" (DuBois, in Barnette, 1968).

But testing was prominent in the West too. For ancient Greece, if not a test-*dominated* society, was certainly a test-*influenced* one. The Greeks were very much interested in mental and physical testing, and, in practice as well as theory, devised a rather studied sequence of ability testing. The abilities they measured represented the different facets of the ideal Greek citizen. Since the vocation of every Greek was to be a good citizen, they considered these abilities—and these tests—primarily of a vocational nature (Davidson, 1903, pp. 45-46; Dobson, 1932, pp. 8-9; Freeman, 1912, p. 275; Williamson, 1965, p. 7). The vocational nature of training and testing was more evident in Sparta, where the goal was always to prepare young men for military service, than in Athens, where the less narrow definition of good citizenship allowed greater variety in the education of the individual (Dobson, 1932, p. 25). The vocational emphasis also changed over time, at least in Athens, from an early pragmatic military persuasion to a later more liberal one. It also appears that the more the Greek system was based on political theory—e. g., in Plato's *Republic*—the more it resembled the Chinese system. As in China, then, testing in Greece was basically of a civil service sort.

Reliability and Validity

Data of any kind need to be reliable (precise) and valid (meaningful). Plato raised the question of "inter-judge reliability" when he noted that, in a competition to please the audience:

> If the tiny children are to decide, they will, no doubt give [the prize] for the man with the puppet show. . . The bigger boys for the commedian; the cultivated women, youths, and perhaps the absolute majority, for the tragedy . . . Whereas oldsters like ourselves would be likely to get the most pleasure from a

> reciter who gave a fine rendering of the Iliad, or Odyssey, or a Hesiodic poem . . . Then, who would be the rightful winner [*Laws*, 658]?

Plato was consistently concerned about the quality of evaluators:

> I observe that anyone who is to test adequately a human soul for good or evil living must possess three qualifications . . . namely knowledge, goodwill, and frankness [*Gorgias*, 487].

Test data are more reliable to the extent that procedures and conditions hold constant for all people being tested. The Greek penchant for the analytical produced a highly standardized system of training and testing. In the physical arena, training, "loosening-up" exercises, and the competitions themselves were rigidly controlled. The pedotribes—true physical *educators*—developed a system of health exercises that followed precise rules for everything from the selection of exercises to the care of the body afterwards. These rules were founded on the accumulation of Greek medical wisdom and the Hellenic inclination for analytic thought. For example, in the long jump, designed to enhance development of the legs, the ground was carefully leveled, there was a definite starting line, and the jump counted only when both footprints showed clearly in the soil. Slides, falls, and even landing with one foot ahead of the other resulted in disqualification. The situation was analogous in literature. In literary studies, the choice of authors was strictly determined. Selection of texts was based on the need of a classical culture to transmit, unabridged, the best examples of its products from generation to generation (Plato, *Laws*, 656, 700-701). Methods of study were also standardized. In expressive reading, the text had first to be deciphered (for ancient copy neither involved punctuation nor even separated words from one another). Then lines were made to scan according to the laws of prosody and metre. In competitive examinations, the children in Teos read serially, each child taking up at the point where his competitor had left off. Standardization was thus less stringent here than in physical matters since the different readers could well encounter passages of varying difficulty; only the homogeneity of the text or the perspicuity of the judges could provide the necessary control. (It is not clear, however, that this same serial approach was common to other Hellenistic cities that examined their children in expressive reading [e. g., Larrissa, Chios, and Pergamus].) Standardization contributed to the reliability of Greek test data, then, but it appears that performances were more controlled in physical than in literary testing (Marrou, 1956, pp. 126-27, 121-24, 162-66).

The validity or meaningfulness of Greek tests seems to rest exclusively with estimations of the appropriateness of the content of the tests, what contemporary psychometrics aptly calls "content validity." Classical Greek culture, which influenced and was vastly influenced by the Greek educational system, emphasized the equilibrium of body and mind, and the tests were geared to reveal personal capacity in those physical and mental powers whose harmonious development constituted the whole man (Marrou, 1956, pp. 219, 116). In Sparta the system was less liberal than in Athens. Spartan education's aim was to train the heavy infantry—the Hoplites—that were responsible for Sparta's military superiority. What literary education Sparta furnished was also geared toward the development of the soldier. In older Athens (the first half of the fifth century B. C.), the need for

an effective military defined and popularized the content of physical education, and the need for citizens who could participate in the social and political life of the city resulted in the literary education. During the later classical period, however, a somewhat less utilitarian orientation defined the content of education in Athens:

> It is clear that children should be instructed in some useful things—for example, in reading and writing—not only for their usefulness, but also because many other sorts of knowledge are acquired through them. To be always seeking after the useful does not become free and exalted souls [Aristotle, *Politics*, 1338].

But the pragmatic persuasion was still evident:

> Reading and writing [are] useful in money-making, in the management of a household, in the acquisition of knowledge, and in political life . . . Drawing [is] useful for a more correct judgment of the works of artists . . . Gymnastics gives health and strength [Aristotle, *Politics*, 1338].

Gymnastics was also thought to infuse courage (Aristotle, *Politics*, 1337). As already indicated, the content of the curriculum and the methods of instruction, both in letters and gymnastics, were specified by elaborate theory passed from instructor to student (Marrou, 1956, p. 124).

Criteria for the evaluation relate both to reliability and to validity. In the Greek system, judgments of excellence—whether of physical or mental capacity—were made against either subjective or objective criteria. Physical performance—running, jumping, and so forth—was judged against the objective criteria of time, distance, etc. Mental capacity, and, to a secondary extent, physical performance, employed a more subjective criterion, observers' opinions about the goodness of the performance. The judges were sometimes "the majority of the audience" (Plato, *Laws*, 659), and sometimes "the old men" or "the elders of the tribe" (Plutarch, *Life of Lycurgus*). During the period of the well defined Hellenic Ideas (fourth and third centuries B. C.), the criteria for style were so thoroughly delineated that the subjective rivaled the objective for clarity and reliability.

Achievement Testing

Ability tests are in essence measures of a person's capacity to perform. For present purposes, ability tests might be said to include (a) aptitude tests, which are designed to reveal the probable *future* level of ability, and (b) achievement tests, which are intended to show how much the person has already learned. The Greeks tended to theorize about aptitudes and aptitude testing and actually to practice achievement testing.

Tests of physical achievement. It is clear that among the ancient Greeks there was a highly structured sequence of achievement testing in certain physical skills. The Athenian sequence of physical testing was representative of all Greece: running, leaping, discus-throwing, javelin-casting, and wrestling. Younger boys were tested in running and in the long leap, or broad jump. The races—run naked on a course covered with several inches of soft sand—included the furlong, the double furlong, the (uncommon) four furlong, and the 7, 12, and 20 furlong footraces. A

long 24 furlong (c. 3 mile) race was also run in Olympia. The shorter races called for a brief concentration of energy, the longer for persistence and endurance. Criteria for excellence included not only speed, but agility and breath control as well. Tests of leaping were judged by distance and to some extent by development of the legs (Davidson, 1905, pp. 79-80; Marrou, 1956, pp. 120-21).

Other youths were trained as well in discus- and javeling-throwing and in wrestling (Dobson, 1932, p. 16). Davidson (1905, p. 18) describes Myron's *Discobolus:*

> He swings the discus backwards in his right hand, and bends his body forward to balance it. His right foot, the toes contracted with effort, rests firmly on the ground; the left is slightly lifted; the whole body is like a bent bow. In the next instant the left foot will advance, the left hand, now resting on the right knee, will swing backwards, the body will assume its erect position, and the discus will be shot forward from the right hand like an arrow. Nothing could show more clearly than does this statue the perfect organization, symmetry, and balance which were the aim of Greek gymnastics.

The discus-thrower was evaluated chiefly by the distance he achieved, but also by his coordination and by the development of his arms.

A test more concerned with coordination was javelin-hurling, which, because it demanded accuracy as well as distance, required a combination of eye-hand coordination, strength, and agility. "He who could hit the mark from the greatest distance was the most proficient scholar [Davidson, 1905, p. 81; see also Marrou, 1956, pp. 121-22]."

The primary gymnastic among the Greeks, however, and the one which with the four preceding comprised the pentathlon, was wrestling. Here two youths, chosen by lots, their bodies rubbed with oil and sprinkled with fine sand, tried to throw each other. To claim a victory, one had to throw his opponent three times. Wrestling was judged on this basis, and according to the precise use of the entire body and the manifestation of a good deal of patience and an even temper (Davidson, 1905, pp. 81-82; Marrou, 1956, p. 122).

One final test was looked upon as the apex of Greek training, for it brought together—"harmonized"—the two branches of Greek education, music and athletics. *Orchesis* was a folk ballet in pantomime that demonstrated stamina, agility, coordination, and full emotional expression of which the audience was judge. Xenophon, describing a banquet, writes:

> The manner of the dance was this: one man, putting his arms within reach, sows and drives a team; frequently turning round as if afraid. Then a robber makes his appearance. As soon as the other espies him, he seizes his arms, advances to him, and fights in front of the team. And the two did this keeping time to the flute. Finally the robber, having bound the other, carries off both him and the team; sometimes, on the contrary, the ploughman binds the robber, in which case he yokes him, with his hands behind his back, to his oxen and drives off [*Anabasis*, in Davidson, 1905, p. 83].

Spartan tests of physical achievement, although they lacked Athenian polish (especially in orchesis), were essentially the same as their countrymen's. Three

notable exceptions to the Athenian pattern, however, are found. The Spartan infant was tested for vigor and bodily conformity. If he were found healthy and promising, all was well; but if some deformity were discovered, he would be dropped from a cliff (Davidson, 1905, p. 46; Dobson, 1932, pp. 13-14). Plutarch, in his *Life of Lycurgus*, notes:

> Nor was it in the power of the father to dispose of the child as he thought fit; he was obliged to carry it before certain triers at a place called Lesche; these were some of the elders of the tribe to which the child belonged; their business it was carefully to view the infant, and, if they found it stout and well made, they gave order for its rearing, and allotted to it one of the nine thousand shares of land for its maintenance, but, if they found it was puny and ill-shaped, ordered it to be taken to what was called Apothetae, a sort of chasm under Taygetus; as thinking it neither for the good of the child itself, nor for the public interest, that it should be brought up, if it did not, from the very outset, appear made to be healthy and vigorous.

Spartan boys were also trained in an art relatively foreign to Athenians: larceny. The Iren, the youthful leader of a company of boys, would send:

> The eldest of them to fetch wood, and the weaker and less able to gather salads and herbs, and these they must either go without or steal; which they did by creeping into the gardens or conveying themselves cunningly and closely into the eating-houses; if they were taken in the fact, they were whipped without mercy for thieving so ill and awkwardly. They stole, too, all other meat they could lay their hands on, looking out and watching all opportunities, when the people were asleep or more careless than usual. If they were caught, they were not only punished with whipping, but hunger, too, being reduced to their ordinary allowance, which was but very slender, and so contrived on purpose that they might set about to help themselves and be forced to exercise their energy and address . . . .
>
> So seriously did the Lacedaemonian children go about their stealing, that a youth, having stolen a young fox and hid it under his coat, suffered it to tear out his very bowels with its teeth and claws and died upon the place, rather than let it be seen. What is practiced to this very day in Lacedaemon is enough to gain credit for this story, for I myself have seen several of the youth endure whipping to death at the foot of the altar of Diana surnamed Orthia [Plutarch, *Life of Lycurgus*].

There was a definite age at which it was customary to begin stealing (Plutarch, in Freeman, 1912, p. 23) and the kinds and amount of articles that could be stolen were set by law (Xenophon, in Freeman, 1912, p. 23). The purpose of this training was to develop stealth in the boys who would later be called upon to spy on potential troublemakers in Sparta (Davidson, 1905, p. 48).

Perhaps the most vicious Spartan practice, though, was the endurance test performed at the altar of Artemis (Diana) Orthia. An oracle had commanded that the people imbrue this altar with human blood, so there was a custom of sacrificing on it a man chosen by lot. In order to do away with this practice,

> [Lycurgus] ordered that, instead, cadets should be scourged before the altar, and thus the altar is covered with blood. While this is going on, a priestess, stands by, holding in her arms the wooden image [of Artemis]. This image being small, is, under ordinary circumstances, light; but if at any time the scourgers deal too lightly with any youth, on account of his beauty or his rank, then the image becomes so heavy the priestess cannot support it; whereupon she reproves the scourgers, and declares that she is burdened on their account. Thus the image that came from the sacrifices in the Crimea has always continued to enjoy human blood [Pausanias, in Davidson, 1905, p. 50].

Each boy would be whipped mercilessly until the judges decided that he showed true Spartan courage and endurance. The boys would prefer to die at the whipping-post rather than disgrace themselves and their families. They took this test so seriously, it is said, that they would actually practice it beforehand, having their friends work the scourges (Dobson, 1932, p. 18; Davidson, 1905, p. 50; Freeman, 1912, p. 29).

Now, while all of the preceding tests of individual differences in physical achievement were of an individual sort, the concept of group testing was not unknown in ancient Greece. As Spartan and Athenian boys grew older, around their eighteenth year, they entered the ranks of *Epheboi*, military cadets growing into citizenship (Capes, 1877, p. 5; Davidson, 1905, p. 49). Characteristically, Sparta had a more rigorous testing program for her cadets. There was a law, for example, that:

> The cadets should present themselves naked in public before the ephors every ten days; if they were well knit and strong and looked as if they had been carved and hammered into shape by gymnastics, they were praised; but if their limbs showed any flabbiness or softness, any little swelling or suspicion of adipose matter due to laziness, they were flogged and justiced there and then . . . [Aelian, in Davidson, 1905, pp. 41-42].

The two ephebic years were a period of continuous examination for Athenian and Spartan youth. In order to enlist in the Ephebie, the boy has to pass the State Examination, which concerned his true age and his parentage (Aristotle, in Freeman, 1912, p. 210). At the end of the first year, all Epheboi appeared before the Council and gave an exhibition of their proficiency in the use of arms and in military drill. A similar test was administered at the end of the second year, just before the successful Ephebe was given the full rights of citizenship (Davidson, 1905, p. 90):

> The first year is spent in military exercises. The second year the [common people] meet in the theatre, and the cadets, after displaying before them their mastery in war-like evolutions, are each presented with a shield and a spear and become mounted patrols of the frontier and garrison the fortresses [Aristotle, *Constitution of Athens*, in Davidson, 1905, p. 97].

Some authors (e. g., Davidson, 1905, p. 89) consider the entirety of these two years to constitute the State Examination.

Tests of mental achievement. But the Greeks—at least the Athenians—were not so imbalanced as to concern themselves only with the physical. Although Sparta offered her youth only token training in reading and writing, Athens had a well rounded process of intellectual training. Even in classical Athens, however, it seems that physical tests both outnumbered and were more esteemed than intellectual tests. Marrou notes that "school examinations" took place in Cos on the 29th day of the month of Artemission, athletics tests on the 5th, 7th, 11th, and and 25th, and furthermore, that when the competitions were other than athletic, they tended to emphasize moral rather than the intellectual matters (1956, pp. 149, 399, 188). On the other hand, formal tests of mental achievement did indeed take place. Plutarch (in Marrou, 1956, p. 399) mentions a school examination before the assembly. Plato, before admitting students to his class, apparently imposed an arithmetic test on them (Freeman, 1912, pp. 180, 196). Xenocrates, Plato's successor, found an applicant deficient in music, geometry, and astronomy and refused to admit him "for you give philosophy no chance of getting a grip on you [Diogenes Laertius, in Freeman, 1912, p. 196]." Even the Spartans staged tests in music for 10 or 12 year old boys in front of the Altar of Diana Orthia. And the medical "faculty" at the Museum in Ephesus created an annual competition for advanced medical students which lasted two days and consisted of four parts: surgery, instruments, thesis, and problem. In later years, during the first century B. C., there was a generous gymnasiarch at Priene who organized competitions in philology as well as gymnastics (Marrou, 1956, pp. 18, 193, 188).

With these exceptions, though, intellectual testing in classical Greece seems to have been more a natural part of the learning process, the "give-and-take" in the relationship between teacher and student, than a formal public phenomenon. Plato, for example, describes a reading lesson:

> When boys have just learnt their letters, they recognize any of them readily enough in the shortest and easiest syllables, and are able to give a correct answer about them. But in the longer and more difficult syllables they are not certain, but form a wrong opinion and answer wrongly . . .
>
> When boys come together to learn their letters, they are asked what letters there are in some word or other [*Politics*, in Freeman, 1912, p. 91].

Alphabetical puzzles were popular vehicles for teaching letters, this one from Euripides:

> First such a circle is measured out
> By compasses, a clear mark in the midst.
> The second letter is two upright lines,
> Another joining them across their middles.
> The third is like a curl of hair. The fourth,
> One upright line and three cross-wise infixed.
> The fifth is hard to tell: from several points
> Two lines run down to form one pedestal.
> The last is with the third identical [in Freeman, 1912, pp. 89-90; the concealed name is Theseus].

Freeman (1912, p. 112) notes that, in a music lesson:

> First the master played an air, and then the boy had to repeat it while the master criticized.

Plato, again, recalls a lesson in arithmetic for older boys:

> [The teacher] was proving something to us about square roots, namely that the sides [or roots] of squares representing three square feet and five square feet are not commensurable in length with the line representing one foot, and he went on in this way, taking all the separate cases up to the root of seventeen square feet. Then for some reason he stopped. The idea occurred to us, seeing that these square roots were evidently infinite in number, to try to arrive at a single collective term by which we could designate all these roots [*Theaetetus*, 147].

Aristotle, in his early career, apparently taught rhetoric; he would set a theme and his students would be required to deliver harangues on the topic "in rhetorical fashion" [Freeman, 1912, p. 203].

Older students in Athens spent considerable time learning the rules of rhetoric, and:

> Before long the principles must be applied to compositions of their own, and essays and themes became the order of the day . . . But the exercises must be brought in time under the professor's eye, to be examined and corrected, and to serve as evidence of progress made. Their fluency of speech was trained meantime, and all the rules of dialectic learnt. It was not enough for them to bring their essays carefully prepared on subjects long ago suggested; they must learn to improvise on any question laid before them, show their perfect self-possession and easy grace in extempore debate. [Capes, 1877, p. 83].

Spartan culture dictated a "laconic" style of speech and a certain special wisdom. After supper, the master stayed with the boys:

> And one of them he bade to sing a song, to another he put a question which required an advised and deliberate answer; for example, Who was the best man in the city? What he thought of such an action of such a man? They used them thus early to pass a right judgment upon persons and things, and to inform themselves of the abilities or defects of their countrymen. If they had not an answer ready to the question, Who was a good or who an ill-reputed citizen, they were looked upon as of a dull and careless disposition, and to have little or no sense of virtue and honor; besides this, they were to give a good reason for what they said, and in as few words and as comprehensive as might be; he that failed this, or answered not to the purpose, had his thumb bit by the master [Plutarch, *Life of Lycurgus*].

To the other Greeks as well, social competence required an ease in intellectual skills:

> The Greeks, especially the Athenians, laid the greatest stress on reading well, reciting well, and singing well, and the youth who could not do all these was

> looked upon as uncultured. Nor could he hide his want of culture, since young men were continually called upon, both at home and at more or less public gatherings, to perform their part in the social entertainment [Davidson, 1905, p. 75].

Aptitude Testing

But achievement tests make up only part of the story of ability testing. If achievement tests study acquired abilities, aptitude tests seek to determine in advance the ability to learn or perform. The conception of specialized aptitudes and the desirability of having tests of behavior which will indicate in advance latent ability appears repeatedly in the political theories of Plato, who seems to have regarded tests as considerably important in the constitution of his ideal state. In the *Republic*, he bases his notion of testing on individual differences, explaining that "our several natures are not all alike but different. One man is naturally fitted for one task and another for another [*Republic*, 370]." If individual differences are taken into consideration, the result is that "more things are produced, and better and more easily" [*Republic*, 370]. Plato's conclusion, then, is simply that "there must be a selection," especially of those who will be State leaders, and that the selection must be based on tests of body and soul (*Republic*, 412).

> Then we must pick out from the other guardians such men as to our observation appear most inclined through the entire course of their lives to be zealous to do what they think for the interest of the state and who would be least likely to consent to do the opposite . . . I think, then, that we shall have to observe them at every period of life, to see if they are conservators and guardians of this conviction in their minds and never by sorcery or by force can be brought to expel from their souls unawares this conviction that they must do what is best for the state . . . .
>
> It becomes our task, then, if we are able, to select which and what kind of natures are best suited for the guardianship of a state . . . And he who as a boy, lad, and man endures the test and issues from it unspoiled we must establish as ruler over our city . . . But the man of the other type we must reject [*Republic*, 412, 374, 414].

Tests of physical aptitude. Physical aptitude tests in Plato's theory are advanced competitions in gymnastics, similar to those achievement tests already described as routine in Greek practice, but different in one important respect. Plato reacted strongly against the competitive spirit in sports that led to "idle vainglory"; his aim was to restore athletics to its original purpose as a preparation for war. Consequently, he ordained that all physical events be carried out in full battle array, and that only those sports with immediate military benefit be permitted (*Laws*, 795-96, 830; Marrou, 1956, p. 70). Hence "stand-up wrestling" was to be emphasized, as well as other events, like running, to test the potential leaders' swiftness, agility and strength, because Greeks, especially those who govern:

> must be keen of perception, quick in pursuit of what they have apprehended, and strong, too, if they have to fight it out with their captive [*Republic*, 375].

These tests should be judged by only the most competent specialists who would select as successful only the very best performances (cf. *Republic*, 409, 411; *Laws*, 659).

Tests of mental aptitude. Predictions of suitability for state office—tests of intelligence, character, and "the broad test of experience"—are of extreme importance in Plato's theory (Lodge, 1947, pp. 241-42). Plato himself provides descriptions of the nature and function of his proposed intelligence tests:

> We must exercise them in many studies, watching them to see whether their nature is capable of enduring the greatest and most difficult studies, or whether it will faint and flinch as men flinch in the trials and contest of the body [*Republic*, 503].
>
> And they well be required to gather the studies which they disconnectedly pursued as children in their former education into a comprehensive survey of their affinities with one another and with the nature of things [which constitutes] the chief test of the dialectic nature and its opposite. For he who can view things in their connection is a dialectician; he who cannot, is not [*Republic*, 537].
>
> And it will be your task . . . to promote them by a second selection from those preferred in the first, to still greater honors, and to prove and test them by the power of the dialectic to see which of them is able to disregard the eyes and other senses and go in to being itself in company with truth [*Republic*, 537].

Tests of character are oriented to personality characteristics required of leaders:

> We must look for those who are the best guardians of the indwelling conviction that what they have to do is what they at any time believe to be best for the state. Then we must observe them from childhood up and propose for them tasks in which one would be most likely to forget this principle or be deceived, and he whose memory is sure and who cannot be beguiled we must accept and the other we must cross off from our list [*Republic*, 413].
>
> To prove their courage, then, citizens will be required to take part in a monthly military practice in which there will be real dangers and casualties [*Laws*, 829-31; *Republic*, 537, 539].

And:

> We must conduct the children to war on horseback to be spectators, and wherever it may be safe, bring them to the front and give them a taste of blood . . . [*Republic*, 537].
>
> Just as men conduct colts to noises and uproar to see if they are liable to take fright, so we must bring those lads while young into fears, and again pass them into pleasures, testing them much more carefully than men do gold in the fire . . [*Republic*, 413].
>
> And if we want an inexpensive and comparatively harmless pleasure to serve . . . as a test of [anger, lust, pride, etc.] . . what can we find more suitable than the sportive touchstone of the winecup, provided only that it is employed with a little precaution? . . . Rightly controlled fellowship over our cups affords a disclosure of our native disposition [*Laws*, 649, 652].

And, finally, the broad test of experience:

> After that you will have to . . . compell them to hold commands in war and the other offices suitable to youth, so that they may not fall short. . . . And in these offices, too, they are to be tested to see whether they will remain steadfast under diverse solicitations or whether they will flinch and swerve . . . And at the age of fifty years those who have survived these tests and approved themselves altogether the best in every task and form of knowledge must be brought at last to the goal [*Republic*, 540].

Only those candidates, then, whose performance in these tests shows them to have the abilities required of Greek statemen shall be permitted the burdens and honors of the highest offices in the republic.

Summary and Conclusions

It seems apparent that in their testing practices the Greeks were primarily concerned with physical achievement, only secondarily with mental capacity. In political theory, however, the "two pillars of the temple" moved closer to equilibrium. In theory and in practice, they seem to have had at least a rudimentary conception of what modern psychometric theory calls reliability and validity, and they outlined an extensive sequence of tasks designed to discriminate among competitors according to criteria quite clear to the Greek mind.

The Greeks, as DuBois indicated about the Chinese, "recognized that relatively short performance under carefully controlled conditions could yield an estimate of the ability to perform under less rigorously controlled conditions and for a longer period of time [DuBois in Barnette, 1968, p. 254]." The Chinese, without a university system, used their tests to select scholars for government positions; the Greeks, with an established educational process, used theirs for very similar purposes, though probably with less fanfare and more adherence to a clear notion of the Ideal.

That there was any mutual influence between these Eastern and Western cultures would be very difficult to establish, But that each, for their own purposes and in their own styles, developed systems of ability testing which in many instances seem remarkable similar to our own, seems very hard to dispute.

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