TALKS TO TEACHERS

William James
(passages and notations)

Psychology and the Teaching Art

“The teachers of this country ... have its future in their hands” (p. 1).

“Psychology ought certainly to give the teacher radical help. And yet I confess that, acquainted as I am with the height of some of your expectations, I feel a little anxious lest, at the end of these simple talks of mine, not a few of you may experience some disappointment at the net results. In other words, I am not sure that you may not be indulging fancies that are just a shade exaggerated” (p. 2). [*excellent psychologist that he is, James lowers the expectations of his audience; this will not be his last bit of disingenuous psychologizing*]

“It is only the fundamental conceptions of psychology which are of real value to the teacher” (p. 3).

“There *is* no ‘new psychology’ worthy of the name. There is nothing but the old psychology which began in Locke's time, plus a little physiology of the brain and senses and theory of evolution, and a few refinements of the introspective detail, for the most part without adaptation to the teacher's use. It is only the fundamental conceptions of psychology which are of real value to the teacher; and they, apart from the aforesaid theory of evolution, are very far from being new” (p. 3). [*Is this not true still today?*]

“You make a great, very great mistake, if you think that psychology, being the science of the mind’s laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use. **Psychology is a science, and teaching is an art**; and sciences never generate arts directly out of themselves” (p. 3).

“To know psychology, therefore, is absolutely no guarantee that we shall be good teachers” (p. 3).

“Ingenuity in meeting and pursuing the pupil, that tact for the concrete situation, though they are the alpha and omega of the teacher’s art, are things to which psychology cannot help us in the least” (p. 4).

“But, if the use of psychological principles thus be negative rather than positive, it does not follow that it may not be a great use, all the same. It certainly narrows the path for experiments and trials. We know in advance, if we are psychologists, that certain methods will be wrong, so our psychology saves us from mistakes. It makes us, moreover, more clear as to what we are about. We gain confidence in respect to any method which we are using as soon as we believe that it has theory as well as practice” (p. 4).

“Divination and perception [*judgment?*], not psychological pedagogics or theoretic strategy, are the only helpers here” (p. 4).

“As the most general elements and workings [of the mental machine] are just those parts of psychology which the teacher finds most directly useful, it follows that the amount of this science which is necessary to all teachers need not be very great” (p. 5).

“The amount of [psychology] which is necessary to all teachers need not be very great ... for the great majority of you a general view is enough, provided it be a true one; and such a general view, one may say, might almost be written on the palm of one’s hand” (p. 5).

The Stream of Consciousness

The most general fact of psychology is that "in each of us, when awake (and often when asleep), *some kind of consciousness is always going on* ... the second general fact is that the concrete fields are always complex" (pp. 7-8).

- "The existence of this stream [of consciousness] is the primal fact, the nature and origin of it form the essential problem, of our science" (p. 7).

- "There is a stream, a succession of states, or waves, or fields (or whatever you please to call them), of knowledge, of feeling, of desire, of deliberation, etc., that constantly pass and repass, and that constitute our inner life" (p. 7).

[The fields of consciousness] "certainly follow or accompany our brain states, and are determined by our past experiences and education" (p. 7). [*Note the constructivist tenet that perception itself is dictated by experience, i.e., sociocultural, historical, familial, personal?, and by prior knowledge*]

"'**focal object**' and '**marginal object**' … the distinction they embody is a very important one" (p. 8).

Note: James makes two critical observations about the stream of consciousness that are important to teachers.

1. The stream is not fully under the pupil's own control (i.e., the "mind may have wandered").
2. The pupil's stream is not fully under the teacher's control.

"For the most part, each field has a sort of practical unity for its possessor, and that from this practical point of view we can class a field with other fields similar to it, by calling it a state of emotion, of perplexity, of sensation, of abstract thought, of volition, and the like" (p. 9).

" … the theory of ideas …" (p. 9). [*idea as schema; foreshadows schema theory*]

The Child as a Behaving Organism

The stream of consciousness "has two functions that are obvious: it leads to **knowledge**, and it leads to **action**" (p. 11).

"Man, whatever else he may be, is primarily a practical being, whose mind is given him to aid in adapting him to this world's life" (p. 12). [*from functionalism, an explanatory approach to behavior and cognition that assumes the framework of evolutionary biology. As a philosophy of mind, functionalism is based on the premise that all mental processes derive from their usefulness to the organism in adapting to the environment, i.e., psychological processes have a function (purpose); Darwin, Spencer, Comte; Piagetian tenet of functional invariance*]

"No truth, however abstract, is ever perceived, that will not probably at some time influence our earthly action … As I talk here, and you listen, it might seem as if no action followed. You might call it a purely theoretic process, with no practical result. But it must have a practical result. It cannot take place at all and leave your conduct unaffected. If not to-day, then on some far future day, you will answer some question differently by reason of what you are thinking now. Some of you will be led by my words into new veins of inquiry, into reading special books. These will develop your opinion, whether for or against. That opinion will in turn be expressed, will receive criticism from others in your environment, and will affect your standing in their eyes. **We cannot escape our destiny, which is practical**; and even our most theoretic faculties contribute to its working out" (p. 13). [*"Everything registers."~ Karen Horney, from Self-Analysis*]

[A teacher] "should regard your professional task as if it consisted chiefly and essentially in *training the pupil to behavior*; taking behavior, not in the narrow sense of his manners, but in the very widest possible sense, as including every possible sort of fit reaction on the circumstances into which he may find himself brought by the vicissitudes of life" (pp. 13-14).

Education and Behavior

"Education is *the organization of acquired habits of conduct and tendencies to behavior"* (p. 15). [*"Knowledge helps only when it descends into habits." ~ Jerome Bruner, The Culture of Education*]

The Necessity of Reactions

"An impression which simply flows in at the pupil's eyes or ears, and in no way modifies his active life, is an impression gone to waste" (p. 17).

> ***"No reception without reaction, no impression without correlative expression,***
> —this is the great maxim
> which the teacher ought never to forget" (p. 17).

"It would seem only natural to say that, since after acting we normally get some return impression of result, it must be well to let the pupil get such a return impression in every possible case. Nevertheless, in schools where examination marks and 'standing' and other returns of result are concealed, the pupil is frustrated of this natural termination of the cycle of his activities, and often suffers from the sense of incompleteness and uncertainty; and there are persons who defend this system as encouraging the pupil to work for the work's sake, and not for extraneous reward. Of course, here as elsewhere, concrete experience must prevail over psychological deduction. But, so far as our psychological deduction goes, it would suggest that the pupil's eagerness to know how well he does is in the line of his normal completeness of function, and should never be balked except for very definite reasons indeed" (p. 19). [*note James's call for immediate feedback, either from another or from one's own self; this is critical to self-regulation*]

"Acquaint them, therefore, with their marks and standing and prospects, unless in the individual case you have some special practical reason for not so doing" (p. 19). [*call for a situated cognition, for attention to the particular, for the exercise of judgment*]

Native Reactions and Acquired Reactions

"Our education means, in short, little more than a mass of possibilities of reaction, acquired at home, at school, or in the training of affairs" (p. 20).

"Every acquired reaction is, as a rule, either a complication grafted on a native reaction, or a substitute for a native reaction which the same object originally tended to provoke.

The teacher's art consists in bringing about the substitution or complication; and success in the art presupposes a sympathetic acquaintance with the reactive tendencies natively there" (p. 20).

"Without an equipment of native reactions on the child's part, the teacher would have no hold whatever upon the child's attention or conduct. You may take a horse to the water, but you cannot make him drink; and so you may take a child to the schoolroom, but you cannot make him learn the new things you wish to impart, except by soliciting him in the first instance by something which natively makes him react. He must take the first step himself. He must *do* something before you can get your purchase on him" (p. 20). [*"I go to school, but I never learn what I want to know." ~ Calvin, The Authoritative Calvin and Hobbes*]

" … that little cycle of training is complete. You have substituted the new reaction of 'begging' for the native reaction of snatching, when that kind of impression comes" (p. 21). [*in this lecture, James lays the foundation for what will become behavior modification*]

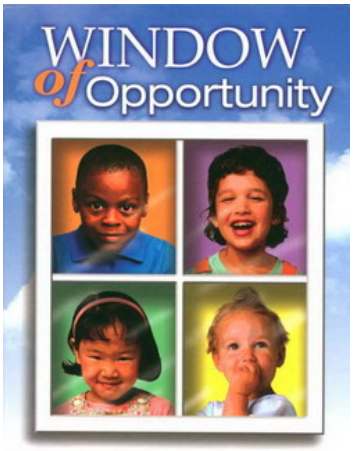
" … if the child had no memory, the process would not be educative" (p. 21).

"The first thing, then, for the teacher to understand is the native reactive tendencies,—the impulses and instincts of childhood,—so as to be able to substitute one for another, and turn them on to artificial objects" (p. 22).

"It is often said that man is distinguished from the lower animals by having a much smaller assortment of native instincts and impulses than they, but this is a great mistake. Man, of course, has not the marvelous egg-laying instincts which some articulates have; but, if we compare him with the mammalia, we are forced to confess that he is appealed to by a much larger array of-objects than any other mammal, that his reactions on these objects are characteristic and determinate in a very high degree. The monkeys, and especially the anthropoids, are the only beings that approach him in their analytic curiosity and width of imitativeness. His instinctive impulses, it is true, get overlaid by the secondary reactions due to his superior reasoning power; but thus man loses the *simply* instinctive demeanor. But the life of instinct is only disguised in him, not lost; and when the higher brain-functions are in abeyance, as happens in imbecility or dementia, his instincts sometimes show their presence in truly brutish ways" (pp. 22-23). [*Note the bow toward hereditarianism/evolutionary psychology; see Steven Pinker's The Blank Slate.*]

What the Native Reactions Are

- the **native reactions** are
  1. *fear*
  2. *love*
  3. *curiosity* - the impulse toward better cognition
  4./8. *The Ambitious Impulses*
     1. *imitation*
     2. *emulation*—the impulse to imitate what you see another doing, so as not to appear inferior ("A teacher should never try to make the pupils do a thing which she cannot do herself" p. 26; "The deepest spring of action in us is the sight of action in another" p. 27).
     3. *ambition*
     4. *pugnacity*
     5. *pride* ("*Soft* pedagogics have taken the place of the old steep and rocky path to learning. But from this lukewarm air the bracing oxygen of effort is left out. It is nonsense to suppose that every step in education *can* be interesting. The fighting impulse must often be appealed to" p. 28).
  5. *ownership*—"in education, the instinct of ownership is fundamental" (p. 29).
  6. *constructiveness*
  7. other impulses - *love of approbation, vanity, shyness, secretiveness.*



"**The law of transitoriness in instincts**—many of our impulsive tendencies ripen at a certain period; and, if the appropriate objects be then and there provided, habits of conduct toward them are acquired which last. But, if the objects be not forthcoming then, the impulse may die out before a habit is formed; and later it may be hard to teach the creature to react appropriately in those directions" (p. 31). [*windows of opportunity; influence on Gesell—genetic blueprint of development; and on Eriksonian psychosocial stages of development*]

A teacher "must start with the native tendencies, and enlarge the pupil's entire passive and active experience. He must ply him with new objects and stimuli, and make him taste the fruits of his behavior, so that now that whole context of remembered experience is what shall determine his conduct when he gets the stimulus, and not the bare immediate impression" (pp. 31-32).

The Laws of Habit

"It is very important that teachers should realize the importance of **habit**, and psychology helps us greatly at this point" (p. 33).

- "Habit is second nature, or rather ... ten times nature" (p. 33).
- "Ninety-nine hundredths or, possibly, nine hundred and ninety-nine thousandths of our activity is purely automatic and habitual, from our rising in the morning to our lying down each night" (p. 33).
- "we are ... mere bundles of habit, we are stereotyped creatures, imitators and copiers of our past selves" (p. 34). [*see Bargh on "automaticity"*]

"Since [habit], under any circumstances, is what we always tend to become, it follows first of all that the teacher's prime concern should be to ingrain into the pupil that assortment of habits that shall be most useful to him throughout life. Education is for behavior, and habits are the stuff of which behavior consists" (p. 34). ["*Knowledge helps only when it descends into habits." ~ Jerome Bruner, The Culture of Education*]

- "***We must make automatic and habitual, as early as possible, as many useful actions as we can***, and as carefully guard against the growing into ways that are likely to be disadvantageous" (p. 34).

- "The more of the details of our daily life we can hand over to the effortless custody of automatism, the more our higher powers of mind will be set free for their own proper work. **There is no more miserable human being than one in whom nothing is habitual but indecision**" (p. 34). [*Although James's observations regarding habit provide support for associationist (e.g., behaviorist) conceptions of human behavior, note that he makes it amply clear that the essence of humanness (i.e., higher powers of mind) lies outside habitual behavior; he will emphasize this in the chapter on the will; and see "automaticity"*]

Practical maxims about habit:

1. In the acquisition of a new habit, or the leaving off of an old one, we must take care to *launch ourselves with as strong and decided an initiative as possible* (p. 34).
2. *Never suffer an exception to occur till the new habit is securely rooted in your life* (p. 35).
3. *Seize the very first possible opportunity to act on every resolution you make, and on every emotional prompting you may experience in the direction of the habits you aspire to gain* (p. 35).
   "A 'character' … is a completely fashioned will,' and a will, in the sense in which he means it, is an aggregate of tendencies to act in a firm and prompt and definite way upon all the principal emergencies in life" (p. 36).
4. *Don't preach too much to your pupils or abound in good talk in the abstract* (p. 36).
5. *Keep the faculty of effort alive in you by a little gratuitous exercise every day*—do every day or two something for no other reason than its difficulty (p. 38).

"Every good that is worth possessing must be paid for in strokes of daily effort" (p. 37).

"New habits *can* be launched … on condition of there being new stimuli and new excitements. **We are spinning our own fates, good or evil, and never to be undone**. Every smallest stroke of virtue or of vice leaves its never-so-little scar. The drunken Rip Van Winkle excuses himself for every fresh dereliction by saying, 'I won't count this time!' Well, he may not count it, and a kind Heaven may not count it; but it is being counted none the less. Down among his nerve-cells and fibres the molecules are counting it, registering and storing it up to be used against him when the next temptation comes" (p. 39). [*James foreshadows role that neural structures in brain functioning play on the acquisition of behavior*]

"Could the young but realize how soon they will become mere walking bundles of habits, they would give more heed to their conduct while in the plastic state" (p. 39).

The Association of Ideas

"It is astonishing how many mental operations we can explain when we have once grasped the principles of **association**" (p. 42).

There are two fundamental laws of association: [*foreshadows work of E. L. Thorndike*]

- the **Law of Contiguity**

  "The *Law of Contiguity* tells us that objects thought of in the coming wave are such as in some previous experience were *next* to the objects represented in the wave that is passing away. The vanishing objects were once formerly their neighbors in the mind. When you recite the alphabet or your prayers, or when the sight of an object reminds you of its name, or the name reminds you of the object, it is through the law of contiguity that the terms are suggested to the mind" (p. 40). [*Pavlovian, classical conditioning; Gestalt Law of Proximity*]

- the **Law of Similarity**

"The *Law of Similarity* says that, when contiguity fails to describe what happens, the coming objects will prove to *resemble* the going objects, even though the two were never experienced together before. In our 'flights of fancy,' this is frequently the case" (p. 40). [*one of the Gestalt Laws of Perceptual Organization*]

"Those laws *run* the mind: interest, shifting hither and thither, deflects it; and attention, as we shall later see, steers it and keeps it from too zigzag a course" (p. 42).

"The entire routine of our memorized acquisitions is a consequence of nothing but the Law of Contiguity. The words of a poem, the formulas of trigonometry, the facts of history, the properties of material things, are all known to us as definite systems or groups of objects which cohere in an order fixed by innumerable iterations, and of which any one part reminds us of the others" (p. 41).

"Your **pupils, whatever else they are, are at any rate little pieces of associating machinery**. Their education consists in the organizing within them of determinate tendencies to associate one thing with another,—impressions with consequences, these with reactions, those with results, and so on indefinitely. The more copious the associative systems, the completer the individual's adaptations to the world" (p. 41). [*James is foreshadowing the importance of enriching students' "associative systems," i.e., network structures, that is, "building up useful systems of associations in the pupil's mind" (p. 42); "Knowledge is a system of transformations that become progressively adequate." ~ Jean Piaget*]

"The 'nature,' the 'character,' of an individual means really nothing but the habitual form of his associations. To break up bad associations or wrong ones, to build others in, to guide the associative tendencies into the most fruitful channels, is **the educator's principal task**. But here, as with all other simple principles, the difficulty lies in the application. Psychology can state the laws: concrete tact and talent alone can work them to useful results" (p. 42). [*As he does throughout the lectures (he will say later, "it is in the fulfillment of the rule that the difficulty lies" p. 48), James emphasizes (a) the critical importance of particularity and (b) the need to chaperone understanding with judgment and reason*]

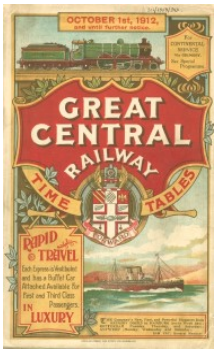
"In working associations into your pupils' minds, you must not rely on single cues, but **multiply the cues** as much as possible. Couple the desired reaction with numerous constellations of antecedents,—don't always ask the question, for example, in the same way; don't use the same kind of data in numerical problems; vary your illustrations, etc., as much as you can" (p. 44).

"We think of our acquaintances … as characterized by certain '**tendencies**.' These tendencies will in almost every instance prove to be tendencies to association. Certain ideas in them are always followed by certain other ideas, these by certain feelings and impulses to approve or disapprove, assent or decline. If the topic arouse one of those first ideas, the practical outcome can be pretty well foreseen. 'Types of character' in short are largely types of association" (p. 45). [*It is this feature of habit and association that permits us to make statements such as "Oh, that is so her!"; thus, coming to know each other is coming to know our habits, our tendencies*]

Interest

"Since some objects are natively interesting and in others interest is artificially acquired, the teacher must know which the natively interesting ones are; for other objects can artificially acquire an interest only through first becoming associated with some of these natively interesting things" (p. 46).

The law of acquired and native interests: *"Any object not interesting in itself may become interesting through becoming associated with an object in which an interest already exists. The two associated objects grow, as it were, together; the interesting portion sheds its quality over the whole; and thus things not interesting in their own right borrow an interest which becomes as real and as strong as that of any natively interesting thing"* (p. 47).



- "An idea will infect another with its own emotional interest when they have become both associated together into any sort of a mental total" (p. 47).
- "The most natively interesting object to a man is his own personal self and its fortunes. We accordingly see that the moment a thing becomes connected with the fortunes of the self, it forthwith becomes an interesting thing" (p. 47).

  "What more deadly uninteresting object can there be than a railroad time-table? Yet where will you find a more interesting object if you are going on a journey, and by its means can find your train" (p. 48)?

- *"From all these facts there emerges a very simple abstract program for the teacher to follow in keeping the attention of the child: Begin with the line of his native interests, and offer him objects that have some immediate connection with these"* (p. 48).
- *"Next, step by step, connect with these first objects and experiences the later objects and ideas which you wish to instill. Associate the new with the old in some natural and telling way, so that the interest, being shed along from point to point, finally suffuses the entire system of objects of thought"* (p. 48). [*James foreshadows the strategy of scaffolding; also Ausubel and advanced organizers.*]

"The odd circumstance is that the borrowing does not impoverish the source, the objects taken together being more interesting, perhaps, than the originally interesting portion was by itself" (p. 47).

"The child will always attend more to what a teacher does than to what the same teacher says … I have seen a roomful of college students suddenly become perfectly still, to look at their professor of physics tie a piece of string around a stick which he was going to use in an experiment, but immediately grow restless when he began to explain the experiment." (p. 46).

***"It is in the fulfillment of the rule that the difficulty lies"* (p. 48).**

"The difference between an interesting and a tedious teacher consists in little more than the inventiveness by which the one is able to mediate these associations and connections, and in the dullness in discovering such transitions which the other shows" (p. 48).

- "… storytelling must constantly come in" (p. 47).
- "Anecdotes and reminiscences will abound in her talk; and the shuttle of interest will shoot backward and forward, weaving the new and the old together in a lively and entertaining way" (p. 48). [*Elkind's proximal and distal experience*]
- "When the geography and English and history and arithmetic simultaneously make cross-references to one another, you get an interesting set of processes all along the line" (pp. 48-49). [*James foreshadows the integrated curriculum*]
- "If you wish to insure the interest of your pupils … make certain that they have something in their minds *to attend with*, when you begin to talk. That something can consist in nothing but a previous lot of ideas already interesting in themselves, and of such a nature that the incoming novel objects which you present can dovetail into them and form with them some kind of a logically associated or systematic whole" (p. 49). [*Ausubel's advanced organizers; Bruner's spiral curriculum; "read to find out"*]

"An adult man's interests are almost every one of them intensely artificial: they have slowly been built up" (p. 49).

Attention

"Whoever treats of interest inevitably treats of **attention**, for to say that an object is interesting is only another way of saying that it excites attention" (p. 51).

"In addition to the attention which any object already interesting or just becoming interesting claims—**passive attention** or spontaneous attention, we may call it;—there is a more deliberate attention,—**voluntary attention** or attention with effort—which we can give to objects less interesting or uninteresting in themselves" (p. 51). [*see modern conceptions of overt and covert attention; bottom up and top down*]

"All that we need explicitly to note is that, the more the passive attention is relied on, by keeping the material interesting; and the less the kind of attention requiring effort is appealed to; the more smoothly and pleasantly the classroom work goes on" (p. 51).

"Voluntary attention cannot be continuously sustained,— it comes in beats … [it] is only a momentary affair. The process, whatever it is, exhausts itself in the single act; and, unless the matter is then taken in hand by some trace of interest inherent in the subject, the mind fails to follow it at all" (p. 51).

"One often hears it said that genius is nothing but a power of sustained attention … [but] the sustained attention of the genius, sticking to his subject for hours together, is for the most part of the passive sort. **The minds of geniuses are full of copious and original associations**" (pp. 51-52). [*mastery/learning goal orientation; Csikszentmihalyi and flow state; "He isn't a genius, he is a professor—a being whose duty is to know everything, and have his own opinion about everything, connected with his field." ~ William James, letter to Carl Stumpf*]

"The teacher who can get along by keeping spontaneous interest excited must be regarded as the teacher with the greatest skill" (p. 53). [*"The greatest learning experiences, for me, were almost always the greatest personal experiences. It is hard to know which came first: interest in what was said or interest in the sayer." ~ Christina Nehring, "The Higher Yearning*]

"Recapitulations, illustrations, examples, novelty of order, and ruptures of routine,—all these are means for keeping the attention alive and contributing a little interest to a dull subject. Above all, the teacher must himself be alive and ready, and must use the contagion of his own example" (p. 53). [*passion in teaching; modeling*]

"But when all is said and done, the fact remains that **some teachers have a naturally inspiring presence** and can make their exercises interesting, whilst others simply cannot. And psychology and general pedagogy here confess their failure, and hand things over to the deeper spring of human personality to conduct the task" (p. 53). [*"Genes matter." ~ Gregory House*]

"The genius of the interesting teacher consists in sympathetic divination of the sort of material with which the pupil's mind is likely to be already spontaneously engaged, and in the ingenuity which discovers paths of connection from that material to the matters to be newly learned. **The principle is easy to grasp, but the accomplishment is difficult in the extreme**" (p. 55).

- "If the topic be highly abstract, show its nature by concrete examples; if it be unfamiliar, make it figure as part of a story; if it be difficult, couple its acquisition with some prospect of personal gain. Above all things, make sure that it shall run through certain inner changes, since no unvarying object can possibly hold the mental field for long. Let your pupil wander from one aspect to another of your subject, if you do not wish him to wander from it altogether to something else, variety in unity being the secret of all interesting talk and thought" (p. 56).

"A knowledge of such psychology as this which I am recalling can no more make a good teacher than a knowledge of the laws of perspective can make a landscape painter of effective skill" (p. 55).

"**Effort always has to go on** … the interest which the teacher, by his utmost skill, can lend to the subject, proves over and over again to be only an interest sufficient *to let loose the effort*" (p. 55).

"Do not, then, for the mere sake of discipline, command attention from your pupils in thundering tones. Do not too often beg it from them as a favor, nor claim it as a right, nor try habitually to excite it by preaching the importance of the subject. Sometimes, indeed, you must do these things; but, the more you have to do them, the less skillful teacher you will show yourself to be. Elicit interest from within, by the warmth with which you care for the topic yourself, and by following the laws I have laid down" (p. 56). [*"[A teacher] should add sweetness in all his instructions; and by a certain tenderness in his whole carriage, make the child sensible that he loves him, and designs nothing but his good." ~ John Locke, Some Thoughts Concerning Education*]

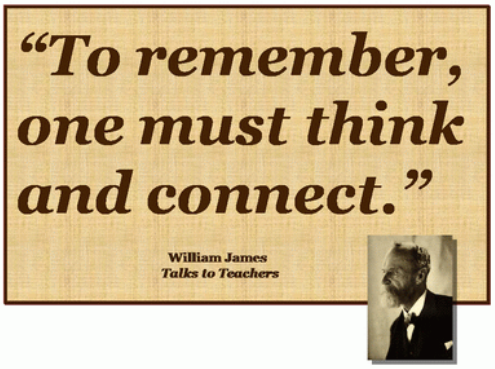
"**The relation of all these things to the native genius of the instructor is too obvious to need comment again**" (p. 56). [*"The great skill of a teacher is to get and keep the attention of his scholar," John Locke*]

"There is unquestionably a great native variety among individuals in the type of their attention. Some of us are naturally scatter-brained, and others follow easily a train of connected thoughts without temptation to swerve aside to other subjects. This seems to depend on a difference between individuals in the type of their field of consciousness. In some persons this is highly focalized and concentrated, and the focal ideas predominate in determining association. In others we must suppose the margin to be brighter, and to be filled with something like meteoric showers of images, which strike into it at random, displacing the focal ideas, and carrying association in their own direction" (p. 56). [*James introduces field dependence/field independence*]

"No one need deplore unduly the inferiority in himself of any one elementary faculty. This concentrated type of attention is an elementary faculty: it is one of the things that might be ascertained and measured by exercises in the laboratory. But, having ascertained it in a number of persons, we could never rank them in a scale of actual and practical mental efficiency based on its degrees. **The total mental efficiency of a man is the resultant of the working together of all his faculties**. He is too complex a being for any one of them to have the casting vote. If any one of them do have the casting vote, it is more likely to be the strength of his desire and passion, the strength of the interest he takes in what is proposed" (p. 57).

"No matter how scatterbrained the type of a man's successive fields of consciousness may be, if he really *care* for a subject, he will return to it incessantly from his incessant wanderings, and first and last do more with it, and get more results from it, than another person whose attention may be more continuous during a given interval, but whose passion for the subject is of a more languid and less permanent sort" (p. 57). [*"When anyone is thoroughly interested in some object and cause, he throws himself into it; he does so, as we say, 'heartily,' or with whole heart. The importance of this attitude or disposition is generally recognized in practical and moral affairs. But it is equally important in intellectual development. There is no greater enemy of effective thinking than divided interest … when a person is absorbed, the subject carries him on." ~ John Dewey, How We Think, p. 31*]

Memory



"The phenomena of memory are among the simplest and most immediate consequences of the fact that our mind is essentially an associating machine" (p. 58).

"Paths frequently and recently ploughed are those that lie most open, those which may be expected most easily to lead to results" (p. 59).

"Recollection is a resultant of our associative processes" (p. 59).

"We have to distinguish between [memory's] potential aspect as a magazine or storehouse and its actual aspect as recollection now of a particular event. Our memory contains all sorts of items which we do not now recall, but which we may recall, provided a sufficient cue be offered. Both the general retention and the special recall are explained by association" (p. 60). [*James introduces the duel storage model of memory that Atkinson and Shiffrin will put forth 60 years later.*]

"An educated memory depends on an organized system of associations; and its goodness depends on two of their peculiarities: first, on the persistency of the associations; and, second, on their number" (p. 60). [*cf., Piaget*]

"The 'secret of a good memory' is the secret of forming diverse and multiple associations with every fact we care to retain. But this forming of associations with a fact,—what is it but thinking *about* the fact as much as possible? Briefly, then, of two men with the same outward experiences, *the one who thinks over his experiences most*, and weaves them into the most systematic relations with each other, will be the one with the best memory" (p. 61).

"There can be no improvement of the general or elementary faculty of memory; there can only be improvement of our memory for special systems of associated things; and this latter improvement is due to the way in which the things in question are woven into association with each other in the mind. Intricately or profoundly woven, they are held: disconnected, they tend to drop out just in proportion as the native brain retentiveness is poor" (p. 61).

"The best possible sort of system into which to weave an object, mentally, is a *rational* system. Place the thing in its pigeon-hole in a classificatory series; explain it logically by its causes, and deduce from it its necessary effects; find out of what natural law it is an instance,—and you then know it in the best of all possible ways" (p. 62).

"Most men have a good memory for facts connected with their own pursuits" (p. 62).

"'Cramming' seeks to stamp things in by intense application immediately before the ordeal. But a thing thus learned can form but few associations. On the other hand, the same thing recurring on different days, in different contexts, read, recited on, referred to again and again, related to other things and reviewed, gets well wrought into the mental structure" (p. 64). [*again, research on human learning has shown that James is correct about the problematic nature both of rote learning and of cramming*]

"Your memory for facts of a certain class can be improved very much by training in that class of facts, because the incoming new fact will then find all sorts of analogues and associates already there, and these will keep it liable to recall. But other kinds of fact will reap none of that benefit …learning poetry by heart will make it easier to learn and remember other poetry, but nothing else; and so of dates; and so of chemistry and geography" (p. 64). [*subsequent research proved James correct about the limits of "transfer"; "The mind is not a complex network of general capabilities … but a set of specific capabilities, each of which is, to some extent, independent of the others and is developed independently. Learning is more than the acquisition of the ability to think; it is the acquisition of many specialized abilities for thinking about a variety of things." ~ Lev Vygotsky, Mind in Society*]

"Man is too complex a being for light to be thrown on his real efficiency by measuring any one mental faculty taken apart from its consensus in the working whole. Such an exercise as this, dealing with incoherent and insipid objects, with no logical connection with each other, or practical significance outside of the 'test,' is an exercise the like of which in real life we are hardly ever called upon to perform. In real life, our memory is always used in the service of some interest: we remember things which we care for or which are associated with things we care for" (p. 66). [*was James prescient re the current climate of high-stakes testing, NCLB, IQ*]

"The preponderance of interest, of **passion**, in determining the results of a human being's working life, obtains throughout. No elementary measurement, capable of being performed in a laboratory, can throw any light on the actual efficiency of the subject; for the vital thing about him, his emotional and moral energy and doggedness, can be measured by no single experiment, and becomes known only by the total results in the long run" (p. 66).

"The total impression which a perceptive teacher will get of the pupil's condition, as indicated by his general temper and manner, by the listlessness or alertness, by the ease or painfulness with which his school work is done, will be of much more value than those unreal experimental tests, those pedantic elementary measurements of fatigue, memory, association, and attention, etc., which are urged upon us as the only basis of a genuinely scientific pedagogy. Such measurements can give us useful information only when we combine them with observations made without brass instruments, upon the total demeanor of the measured individual, by teachers with eyes in their heads and common sense, and some feeling for the concrete facts of human nature in their hearts" (p. 67). ["*If you are a wise man you will observe your pupil carefully before saying a word to him." ~ Jean Jacques Rousseau, Emile*]

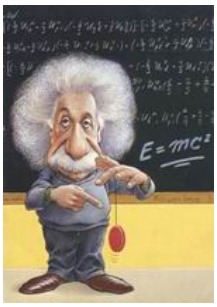
"Depend upon it, no one need be too much cast down by the discovery of his deficiency in any elementary faculty of the mind. What tells in life is the whole mind working together, and the deficiencies of any one faculty can be compensated by the efforts of the rest. You can be an artist without visual images, a reader without eyes, a mass of erudition with a bad elementary memory. **In almost any subject your passion for the subject will save you.** If you only care enough for a result, you will almost certainly attain it. If you wish to be rich, you will be rich; if you wish to be learned, you will be learned; if you wish to be good, you will be good. Only you must, then, really wish these things, and wish them with exclusiveness, and not wish at the same time a hundred other incompatible things just as strongly" (p. 67). [*see Dewey on "wholeheartedness," How We Think*]

"The teacher ought always to impress the class through as many sensible channels as he can. Talk and write and draw on blackboard, permit the pupils to talk, and make them write and draw, exhibit pictures, plans, and curves, have your diagrams colored differently in the different parts, etc.; and out of the whole variety of impressions the individual child will find the most lasting ones for himself. **In all primary school work the principle of multiple impressions is well recognized**" (p. 68).

"The art of remembering is the art of thinking.
When we wish to fix a new thing in either our own mind or a pupil's,
our conscious effort should not be so much to impress and retain it
as to connect it with something else already there.
The connecting is the thinking;
and, if we attend clearly to the connection,
the connected thing will certainly be likely to remain within recall" (p. 70).

"Things which we are quite unable definitely to recall have nevertheless impressed themselves, in some way, upon the structure of the mind. We are different for having once learned them … It is but a small part of our experience in life that we are ever able articulately to recall. And yet the whole of it has had its influence in shaping our character and defining our tendencies to judge and act" (pp. 69-70). ["*Sometimes a simple, almost insignificant gesture on the part of a teacher can have a profound formative effect on the life of a student." ~ Paulo Freire, Pedagogy of Freedom*]

"We are all too apt to measure the gains of our pupils by their proficiency in directly reproducing in a recitation or an examination such matters as they may have learned, and inarticulate power in them is something of which we always underestimate the value" (p. 69). ["*What children can do with the assistance of others might be in some sense even more indicative of their mental development than what they can do alone." ~ Lev Vygotsky, Mind in Society, p. 85*]



"Be patient and sympathetic with the type of mind that cuts a poor figure in examinations. It may, in the long examination which life sets us, come out in the end in better shape than the glib and ready reproducer, its passions being deeper, its purposes more worthy, its combining power less commonplace, and its total mental output consequently more important" (p. 70).

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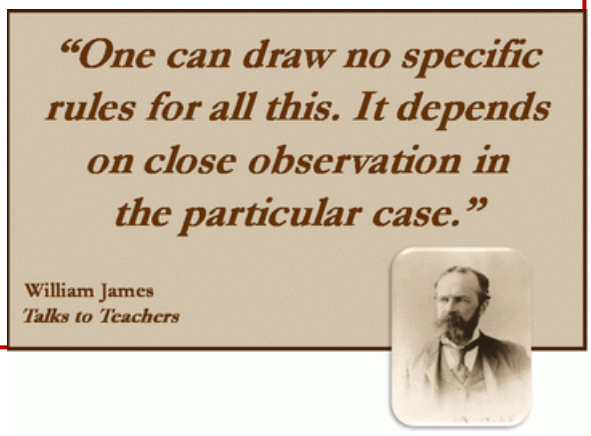

The Acquisition of Ideas

"The process of education, taken in a large way, may be described as nothing but the process of acquiring ideas or conceptions, the best educated mind being the mind which has the largest stock of them, ready to meet the largest possible variety of the emergencies of life" (pp. 71-72). [*"Knowledge is a system of transformations that become progressively adequate." ~ Jean Piaget*]

"In all this process of acquiring conceptions, a certain instinctive order is followed. There is a native tendency to assimilate certain kinds of conception at one age, and other kinds of conception at a later age" (p. 72). [*nod toward Piagetian conception of the nature of operations but without emphasis on discontinuity*]

"Feed the growing human being, feed him with the sort of experience for which from year to year he shows a natural craving, and he will develop in adult life a sounder sort of mental tissue, even though he may seem to be 'wasting' a great deal of his growing time, in the eyes of those for whom the only channels of learning are books and verbally communicated information" (pp. 72-73).

"It is not till adolescence is reached that the mind grows able to take in the more abstract aspects of experience, the hidden similarities and distinctions between things, and especially their causal sequences. Rational knowledge of such things as mathematics, mechanics, chemistry, and biology, is now possible; and the acquisition of conceptions of this order form the next phase of education. Later still, not till adolescence is well advanced, does the mind awaken to a systematic interest in abstract human relations—moral relations, properly so called,—to sociological ideas and to metaphysical abstractions" (p. 73). [*"formal operations"*]

"Just as many a youth has to go permanently without an adequate stock of conceptions of a certain order, because experiences of that order were not yielded at the time when new curiosity was most acute, so it will conversely happen that many another youth is spoiled for a certain subject of study (although he would have enjoyed it well if led into it at a later age) through having bad it thrust upon him so prematurely that disgust was created, and the bloom quite taken off from future trials. I think I have seen college students unfitted forever for 'philosophy' from having taken that study up a year too soon" (p. 73). [*support for "readiness"?*]

"I heard a lady say that she had taken her child to the kindergarten, 'but he is so bright that he saw through it immediately.' Many school children 'see' as immediately 'through' the nambypamby attempts of the softer pedagogy to lubricate things for them" (p. 74). [*what would James have said about the "self-esteem movement"?*]

"In the last resort, the teacher's own tact is the only thing that can bring out the right effect" (p. 74). [*judgment*]

Apperception

Apperception "means nothing more than the act of taking a thing into the mind" (p. 77). [*Note that James here defines apperception as "perception," i.e., the process of acquiring, interpreting, selecting, and organizing sensory information; apperception is, and this is the manner in which James uses it, the process of perceiving new experience "in relation to past experience"; eastern concept of the samskara (or sanskara)*]

"The gist of the matter is this: Every impression that comes in from without, be it a sentence which we hear, an object of vision, or an effluvium which assails our nose, no sooner enters our consciousness than it is drafted off in some determinate direction or other, making connection with the other materials already there, and finally producing what we call our reaction. The particular connections it strikes into are determined by our past experiences and the 'associations' of the present sort of impression with them" (p. 77). [*"What a man sees depends on what he looks at and what his previous experience has taught him to see." ~ Thomas Kuhn, The Structure of Scientific Revolutions*]

"The product is a sort of fusion of the new with the old, in which it is often impossible to distinguish the share of the two factors" (p. 77).

The Law of Economy—"in admitting a new body of experience, we instinctively seek to disturb as little as possible our pre-existing stock of ideas. We always try to name a new experience in some way which will assimilate it to what we already know. We hate anything *absolutely* new, anything without any name, and for which a new name must be forged. So we take the nearest name, even though it be inappropriate" (p. 78). [*foreshadowing Piaget's explanation of assimilation*]

- In later life ... a new idea or a fact which would entail extensive rearrangement of the previous system of beliefs is always ignored or extruded from the mind in case it cannot be sophistically reinterpreted so as to tally harmoniously with the system" (p. 78).

- "This economical tendency to leave the old undisturbed leads to what we know as 'old fogyism'" (p. 78) "... but there are young fogies, too. Old fogyism begins at a younger age than we think. I am almost afraid to say so, but I believe that in the majority of human beings it begins at about twenty-five" (p. 79).

"If an educated man is a group of organized tendencies to conduct, what prompts the conduct is in every case the man's conception of the way in which to name and classify the actual emergency. The more adequate the stock of ideas, the more 'able' is the man, the more uniformly appropriate is his behavior likely to be. The essential preliminary to every decision is the finding of the right *names* under which to class the proposed alternatives of conduct. He who has few names is in so far forth an incompetent deliberator. The names—and each name stands for a conception or idea—are our instruments for handling our problems and solving our dilemmas" (p. 81).

"The conceptions acquired before thirty remain usually the only ones we ever gain" (p. 82). [*Sigh*]

"It may well solemnize a teacher, and confirm in him a healthy sense of the importance of his mission, to feel how exclusively dependent upon his present ministrations in the way of imparting conceptions the pupil's future life is probably bound to be" (p. 82).

"The process of apperception is a resultant of the association of ideas. The product is a sort of fusion of the new with the old, in which it is often impossible to distinguish the share of the two factors. When we listen to a person speaking or read a page of print, much of what we think we see or hear is supplied from our memory. We overlook misprints, imagining the right letters, though we see the wrong ones; and how little we actually hear, when we listen to speech" (p. 78).

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The Will

“Volition ... takes place only when there are a number of conflicting systems of ideas, and depends on our having a complex field of consciousness” (pp. 85-86).

“The interesting thing to note is the extreme delicacy of the inhibitive machinery. A strong and urgent motor idea in the focus may be neutralized and made inoperative by the presence of the very faintest contradictory idea in the margin” (p. 86).

“Few of the ideas that flit through our minds do, in point of fact, produce their motor consequences. Life would be a curse and a care for us if every fleeting fancy were to do so” (p. 86).

“Nothing is easier than to indulge in a picture of the fatalistic character of human life. Man's conduct appears as the mere resultant of all his various impulsions and inhibitions. One object, by its presence, makes us act: another object checks our action. Feelings aroused and ideas suggested by objects sway us one way and another: emotions complicate the game by their mutual inhibitive effects, the higher abolishing the lower or perhaps being itself swept away … This is the so-called ‘associationist’ psychology, brought down to its radical expression: it is useless to ignore its power as a conception. Like all conceptions, when they become clear and lively enough, this conception has a strong tendency to impose itself upon belief; and psychologists trained on biological lines usually adopt it as the last word of science on the subject. No one can have an adequate notion of modern psychological theory unless he has at some time apprehended this view in the full force of its simplicity” (p. 86). [*Note how James will take on behaviorist thinking most directly*]

“Voluntary action is at all times a resultant of the compounding of our impulsions with our inhibitions” (p. 87). [*id and superego?*]

“Action that proceeds to extremities regardless of consequences, on the other hand, is the easiest action in the world, and the lowest in type … But not to proceed immediately to extremities, to be still able to act energetically under an array of inhibitions.—that indeed is rare and difficult” (p. 88). [*“In everything, it is no easy task to find the middle.” ~ Aristotle, Nicomachean Ethics, Book II, #9*]

“Where mendacity, treachery, obscenity, and malignity find unhampered expression, talk can be brilliant indeed. But its flame waxes dim where the mind is stitched all over with conscientious fear of violating the moral and social proprieties” (p. 88). [*James takes a stand on the strangulating effect of political correctness*]

“You perceive now what your general or abstract duty is as teachers. Although you have to generate in your pupils a large stock of ideas, any one of which may be inhibitory, yet you must also see to it that no habitual hesitancy or paralysis of the will ensues, and that the pupil still retains his power of vigorous action” (p. 89).

“Your task is to build up a *character* in your pupils; and a character, as I have so often said, consists in an organized set of habits of reaction” (p. 90). [*“Cultivating character is a legitimate—indeed, an inevitable—function of education.” ~ Amy Gutmann, Democratic Education; “Nothing spoils fun like finding out it builds character.” ~ Calvin, Calvin and Hobbes—Attack of the Deranged Mutant Killer Monster Snow Goons*]

“Our volitional habits depend, then, first, on what the stock of ideas is which we have; and, second, on the habitual coupling of the several ideas with action or inaction respectively” (p. 90).

The search for the “right conception” (p. 90).

"Psychology can state your problem in these terms, but you see how impotent she is to furnish the elements of its practical solution. When all is said and done, and your best efforts are made, it will probably remain true that the result will depend more on a certain native tone or temper in the pupil's psychological constitution than on anything else" (p. 89). [*"All learning is in the learner, not in the teacher." ~ Plato, Phaedo*]

In what does a moral act consist? "It consists in the effort of attention by which we hold fast to an idea which but for that effort of attention would be driven out of the mind by the other psychological tendencies that are there. **To think, in short, is the secret of will, just as it is the secret of memory**" (p. 91). [*"The origin of action ... is choice, and that of choice is desire and reasoning with a view to an end. This is why choice cannot exist either without thought and intellect or without a moral state; for good action and its opposite cannot exist without a combination of intellect and character." ~ Aristotle, Nicomachean Ethics, Book VI, #4*]

"Thus are your pupils to be saved: first, by the stock of ideas with which you furnish them; second, by the amount of voluntary attention that they can exert in holding to the right ones, however unpalatable; and, third, by the several habits of acting definitely on these latter to which they have been successfully trained" (pp. 91-92).

"Our acts of voluntary attention, brief and fitful as they are, are nevertheless momentous and critical, determining us, as they do, to higher or lower destinies" (p. 92). [*"The origin of action … is choice." ~ Aristotle*]

"The exercise of voluntary attention in the schoolroom must therefore be counted one of the most important points of training that take place there; and the first-rate teacher, by the keenness of the remoter interests which he is able to awaken, will provide abundant opportunities for its occurrence" (p. 92).

"The free-willist believes the appearance to be a reality: the determinist believes that it is an illusion. I myself hold with the free-willists,—not because I cannot conceive the fatalist theory clearly, or because I fail to understand its plausibility, but simply because, if free will *were* true, it would be absurd to have the belief in it fatally forced on our acceptance. **Considering the inner fitness of things, one would rather think that the very first act of a will endowed with freedom should be to sustain the belief in the freedom itself.** I accordingly believe freely in my freedom; I do so with the best of scientific consciences, knowing that the predetermination of the amount of my effort of attention can never receive objective proof, and hoping that, whether you follow my example in this respect or not, it will at least make you see that such psychological and psychophysical theories as I hold do not necessarily force a man to become a fatalist or a materialist" (p. 93). [*James had previously written, "My first act of free will shall be to believe in free will."*]

"I beg you, that you make freemen of your pupils by habituating them to act, whenever possible, under the notion of a good. Get them habitually to tell the truth, not so much through showing them the wickedness of lying as by arousing their enthusiasm for honor and veracity" (p. 94). [*"Man must develop his tendency towards the good." ~ Immanuel Kant, Thoughts on Education, #12*]

"I cannot but think that to apperceive your pupil as a little sensitive, impulsive, associative, and reactive organism, partly fated and partly free, will lead to a better intelligence of all his ways. Understand him, then, as such a subtle little piece of machinery. And if, in addition, you can also see him *sub specie boni*, and love him as well, you will be in the best possible position for becoming perfect teachers" (p. 95).

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