

Talks to Teachers

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James loved to make money and he loved to lecture to lay audiences, so there is hardly any surprise that he willingly took up the challenge to lecture to teachers, in order to boost their morale and to supply them with some useful knowledge to be derived from psychology, in particular his own two recent tomes on the subject.

James starts out to disparage psychology, or rather the notion of a 'new psychology'. In fact the old psychology starting at the time of Locke constitutes still the basics, to which has been added some physiology of the brain, a theory of evolution and possibly a few refinements of introspective detail (the contributions of James himself?). And as far as the value to teachers go, that is confined to the fundamental conceptions of psychology, and they are very far from being new. Then he goes on, writing almost prophetically about issues of teaching and didactics a hundred years later

I say moreover that you make a great, a 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. An intermediary inventive mind must make the application, by using its originality¹.

He goes on to point out that the science of logic never made a man reason rightly, as little as the science of ethics (would there be such a thing at all) made a man behave rightly. And he continues

The most such sciences can do is to help us catch ourselves up and check ourselves, if we start to reason or to behave wrongly; and to criticise ourselves more articulately after we have made our mistakes. A science only lays down lines within which the rules of art must fall, laws which the follower of the art must not transgress; but what particular thing he shall positively do within those lines is left exclusively to his own genius.

Thus he emphasizes that a choice of teaching must agree with the psychology, but that it need not be the only kind of teaching to do so. Concluding that that knowing psychology is no guarantee that we shall be good teachers. He exemplifies by

The science of psychology, and whatever science of general pedagogics may be based on it, are in fact very much like the science of war. Nothing is simpler or more definite than the principles of either. In war. all you have to do is to work

¹ John Dewey, actually a student of James, opposed this state of affairs, stating the ambition of making into pedagogy a science, so the advances and insights of each teacher, would not disappear with their expirations

your enemy into a position from which the natural obstacles prevent him from escaping if he tries to; then to fall on him in numbers superior to his own, at a moment when you have led him to think you far away; and so, with a minimum of exposure of your own troops, to hack his forces to pieces, and take the remainder prisoners. Just so, in teaching, you must simply work your pupil into such a state of interest in what you are going to teach him that every other object of attention is banished from his mind: then reveal it to him so impressively that he will remember the occasion to his dying day; and finally fill him with devouring curiosity to know what the next steps in connection with the subject are.

The problem in either case is the incalculable quantity in the shape of the mind of the opponent. And thus as theoretic strategies are of little help on the battlefield so is psychological pedagogics in the confrontation with a ralcantirant pupil, only divination and perception may do the trick. Thus, James reassures his listeners, only the most accessible parts of psychology may be of any direct use. He does of course not discourage those who find themselves caught up in the subject to pursue it further, but most of all he disavows the notion that teachers as teachers should feel it part of their duty to contribute to the science or to feel incumbent to make psychological observations in a methodical and responsible manner. On the contrary, he refers to his 'import' - Münsterberg, who points out that the teachers attitude towards a child should be concrete and ethical, while that of a scientist should be abstract and analytical. Attitudes which are hard to conjoin and are bound for most of us to conflict. Thus the worst thing that can befall a good teacher is to get a bad conscience about her profession because she feels herself hopeless as a psychologist. When all is said and done, he concludes deeper into the lectures, some teachers have naturally a more inspiring presence than others, much more liable to stimulate interest in their charges. And here general pedagogy and psychology have to admit their failures, and should hand over things to deeper springs of human personality. Those observations, although somewhat trite, still have their relevance for today, especially if for psychology, you substitute the emerging science (if science is the appropriate classification) of didactics.

After this preliminary sally to put the subject and the purpose of the lectures in proper perspective, James embarks on what is but a rather drastic synopsis of his own two volumes on the Principles of Psychology, systematically going through the major headings one by one, as to give a brief overview of the knowledge of mind, which is bound to interest everybody, at least those who entertain a mind of their own as one of their most cherished possessions. The stream of consciousness (that felicitous phrase coined by James himself) being the first. On this there is not much more to say than simply describe it, sympathetically evoking the firsthand knowledge we all have of our own. The stream of consciousness has two obvious functions, that of acquiring knowledge and that of directing action. To most people the worth of mans mental faculties is to enhance his practical affairs, while to the philosophers, this is but a subsidiary one, the theoretic life being the genuine concern of the soul. This has led to an unfortunate downplaying of the practical side of man at least in the literature. Also a misleading one, because the brain and the emergent consciousness have evolved during a long time devoid of any rational competence at all. James wants to put more emphasis on the practical consequences (just as in his philosophy he was for a weaning off of the metaphysical bent in favor of a more practical an

pragmatic attitude). In this way there will be less of a discontinuity between human and animal psychology. But above all, 'No truth, however abstract, is ever perceived, that will not probably at some time influence our earthly action'. Thus he reminds his audience, that if his words will have no practical effects, and he is not speaking about immediate but future ones, they will have been truly wasted. After all, he points out we cannot escape our destiny, which is practical, and even our most theoretic faculties are brought into play in order to contribute to its working out.

What is education all about? It is about the reorganization of mental resources which will serve the student well into fitting him to his social and physical world. (In the words of Peirce. Two challenges face man. The need to feed, the need to breed.) He proposes to define education as *the organization of acquired habits of conduct and tendencies to behavior*. He starts to exemplify. The German education system ultimately wants to turn out young specialists, who may not be of any original force or intellect, but perfectly capable of when prompted to carry on independent research, knowing what apparatus to use, what sources to consult. The English on the other hand, seem more concerned with bringing out the perfect English Gentleman, a man expected to do his duty and having a set reaction to the various challenges to be confronted in the course of life.

Now learning is reception, but there cannot be any reception without reaction, no impression without a correlative expression, something James would like to be a maxim to every teacher. The importance of this cannot be overestimated and James writes, what would be highly relevant to present pedagogical discussions.

It would seem only natural to say that, since after acting we normally get some return expression of result, it must be well to let the pupil 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 rewards.

And James continues

But as far as 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.

The mind of a child is no *tabula rasa* he or she comes equipped with natural instincts and reactions, trains of associations, to which new knowledge, new reactions must be grafted, most often as additions, occasionally as replacements. Anything in order to arouse curiosity and interest must relate to previous knowledge. As James is at pains to point out, what is interesting is not the 'old' nor the wholly 'new' but to identify the 'old' in the 'new', to see it in a slightly different form and in a different context². Whatever the brain

² As James writes in his Principles. When the natives in Hawaii encountered Cook, what attracted their curiosity was not the big ship, but the smaller boats carrying the crew to the shore. To the big ships they could not relate, but the small boats reminded them of their own vessels.

appropriates it has to be able to somehow classify in order to add it to its organization. We are all collectors, he reminds us, the objects we collect are not interesting in themselves as much as they are interesting into building up a structure and fill its gaps. A collector is not passively collecting, just as the mind is not passively receiving input. Every observation, as Darwin pointed out, is in the service of an articulated question. And of course it is this sequence of questions that maintains our attention. Attention is of two kinds, he notes, one which is passive, and one which is active and deliberate, in fact voluntary. Of the two the first one is very much to be preferred, and lucky indeed the teacher is who is able to rely on the former in her teaching, because the voluntary attention is only maintained with the greatest of efforts, and only intermittently at that. The passive attention flows along and engrosses the mind unaware of itself solely focused on its object. While the active attention requires a will to stay on track. Not that it is useless, in fact it is often crucial, just as the life of a man hinges on intermittent crucial decisions, while during most of its time life is flowing along comfortably by habit alone. What distinguishes a man of genius is not his power of active attention, on the contrary those powers maybe rather poorly developed, but the passive attention to which he is almost imprisoned. The topic of his attention grows and coruscates and as a consequence ends up dominating his attentive span. No the man with a strong active attention is the lowly businessman, who is forced to repeatedly attend to his chores, to take an active interest in the affairs of customers of no intrinsic interest to him at all. This is of course all done for a definite purpose, but the way to achieve this purpose is not so smooth as that of a purely intellectual challenge, in which attention is intrinsically compelled not forced and willed.

Similarly attention can be diverted, and this is of course a steady challenge to any teacher to compete with the variety of alternative topics that vie for the attentions of her charges. It can be diverted either by negation or by substitution. The latter being preferable, as attention by negation is in the nature of a voluntary effort, when the mind is made to turn away from what it naturally craves to attend to and thus liable to lapse as soon as the force of negation wavers; while attention by substitution provides a far more permanent solution. James brings up the case of love, the attentive force so strong that nothing can negate it, only the substitution of another object of desire can deflect it.

What is memory? This is a faculty central to all learning and especially to old-fashioned teaching in which learning by rote was an important component³. James rejects as naive the notion that memory is simply storage, a notion that may be even more prevalent today with the false analogies of mind with computers. There is no such thing as a separate faculty of memory in mind, it is but a consequence of a more fundamental aspect of its architecture. Mind consists of associations. Associations are linked to each other, so one calls up the other. A structure very suggestive of the modern one of interconnected neurons (well appreciated by James incidentally), although of course no one knows yet how to relate associations as such to neurological pathways. To remember something is thus

³ James is not entirely critical of the procedure, warning that its modern rejection as mere parroting conceals many of its valuable aspects of forcing a pupil to react. Obviously not knowing the meaning of what they mouth makes the whole exercise ultimately futile, but learning by heart does not necessarily preclude the acquisition of meaning. In fact learning the right and correct formulation can be an important first step for the latter.

a process of following backwards a train of associations thus in particular memories are not fixed entities, as in a computer, but are continually recreated when recalled ⁴. Thus memory cannot be improved by tricks, even if some tricks can temporarily enhance its apparent power, what makes a good memory is the richness of associations. Thus what people remember vary from individual to individual depending on the richness of their particular associations. A man on a scientific quest, and Darwin is the proverbial example, creates such an extensive web of interconnected facts, that new facts find an appropriate place and hence can always be retrieved as the pathways to it are so natural and varied. It is not a question of good memory, it is a question of a rich web of associations allowing many an alternative route⁵ The obvious purpose of learning is thus to enrich the structure of associations, which goes counter to many contemporary pedagogical fads which disparages the 'mere memorization of facts' and puts emphasis on the finding of facts. First it is not a question of memorization, the active pupil never memorizes but builds his associative structures, out of which memorization is but an unintended consequence, secondly the learning of facts is no impediment for the learning of how to find facts, in fact it is rather a prerequisite. A professional doctor or lawyer does not necessarily have the relevant facts available on his fingertips, but he has them up his extended sleeves. He knows where to find them and often quickly too, a skill never directly taught, but emerging as a consequence of years of the learning of 'mere' facts. To a layman, unburdened by facts, the corresponding task is more or less insurmountable, he does not even know where to begin to look, his ignorance is complete and he is not even able to formulate and pinpoint it. As a further illustration of the power of association, James brings up the phenomenon of a visit to the theatre in a foreign country. The foreign speaker becomes frustrated with his inability to follow blaming it on not hearing properly, the actors speaking in mumbled voices and too low. Of course the same holds also back home, it is not the sensory input which is defective, but the associative texture of the mind. A native word has so many more associations that a mere indication of it suffices to identify it. It also shows that listening is a question of interpolation. You may be formally competent in a language, but if you are unused to it, the process of interpolation is not fast enough to enable you to achieve

⁴ It is rather interesting that the retraction of a string of associations is quite different from its creation. In thought, one association leads to another, but the eventual course cannot be predicted in advance. Thus one suspects that there is a difference between how a new association is added to an old one, and how an old association is attached to a given one. Of course, and this makes the study of the mind so frustratingly as well as fascinatingly subtle. Superimposed on the working of the mind is the mind working on itself. Ransacking past associations is both an internal and an external undertaking, the mind treating its thoughts as things, and in the process of recollection, new associations are formed in the very search, which obviously will be somewhat different each time.

⁵ The parallels of mathematics should be clear. A mathematical proof is to the mind of a mathematician strings of associations which are naturally and logically connected to each other. Thus the recapture of a proof is often a rather easy thing, even if one has only been exposed to it once, and can be done so decades afterwards. What clearly is present is not the proof as such, but the many strings of thoughts of which it is made up, and which can be unravelled. Similarly a piece of music or lines of poetry are infused with associations, be they of different kinds. While to the unmusical, a piece of music is but a cacophony, to the musical mind it presents a structured set of associations, one giving the other.

coherency. This, I believe, explains the striking fact that when you acquire more exposure, your ability to follow goes almost discontinuously from having understood almost nothing, to understanding almost everything. The richer your web of associations, the quicker to find connections, as there simply are more opportunities.

Learning occurs by accumulation, but never from scratch, it always builds upon what is already present. In childhood there is somewhat more of a plasticity, and in fact there are natural instincts of curiosity, present at different stages of life, enabling new interests to get a footing and serve as a basis of growth⁶. Now the windows appearing are but brief, and one should surmise that an essential component of pedagogy is to identify those precious moments of a child's development and modify teaching accordingly. Those should present a sweet challenge to pedagogy as a science and a rich supply of empirical pathways and a wealth of inter-disciplinary connections. However, it seems that this is not something that has been pursued systematically⁷ and the prevalent notion seems to be that there is never too late to learn. But, according to the theory of maturation, if a topic is introduced after the window closes, it may very well be too late⁸. Similarly introducing a subject too early may cause unnecessary hardship and spoil for a later time. James cautions that the natural instincts of a young child are practical and concern the handling of physical objects in addition to acquiring control over the most important object of them all, its own body. Children who have mastered this stage acquire, according to James, a firm grasp on reality and a solid conviction of belonging to the same, while those unfortunate children, who have been raised in isolation, and learned mainly from books, always will feel awkward in this world and somehow stand out of the pale, being aware of this and suffering a mild melancholy as a result. Intellectual instruction should be postponed until later adolescence, especially that of philosophy, as being beyond the natural capabilities of the young⁹. As to the hazards of premature instruction, James relates an anecdote of how

⁶ Man has instincts as well as animals, and in fact he may very well have more instincts than any other organism, a fact obscured by his propensity of replacing instinctive behavior with rational and deliberate action. Examples of basic instincts are fear and curiosity, and in normal pedagogy the latter should be worthy of far more attention than the former.

⁷ Admittedly the work of Piaget is famously geared towards identifying natural stages in learning. But his work, I believe, has to a large extent been ignored and not developed, the very rigidity of his schemes, invariable in a pioneering effort, having had a discouraging effect.

⁸ I used to believe that learning to bicycling is an example, that it is in fact impossible for an adult to learn the skill. However, there is a certain absurdity in this assumption, as the bicycle is a recent technological invention introduced by adults not by small children. Tolstoy acquired a bicycle in his sixties and learned to ride it fairly quickly, Henry James also learned to bicycle late in life, but maybe with not the same success. Clear is though that the learning must involve more of an effort and be riddled with larger risks, a child is in state of motor extension, and falls are normally harmless and natural events of the day. A more striking example is the learning of foreign languages without an accent. It seems to be generally assumed that this is impossible, except possibly in a few exceptional cases, after the onset of puberty.

⁹ The fact that especially small children are prone to ask metaphysical questions such as who made God should not be taken as an indication of any deeper interest in philosophy, but more of a sporadic and mindless application of schemes of inquiry.

one of his relatives tried to impart the meaning of the 'passive voice' to a young girl. The relative had said that 'Suppose you kill me: you who do the killing are in the active voice, and I, who am killed, am in the passive voice.' 'But' the girl asked puzzled 'how can you speak if you are killed?'. 'Oh well you may suppose that I am not quite dead'. The next day when the child was asked in class she responded that 'it is the kind of voice you speak with when you are not quite dead'.

One important consequence is that while an individual continues to learn and develop throughout most of his life, the accumulation follows rather narrow channels set out in his youth. One cannot postpone to later age what one chooses not to do now, and few are the people indeed, who after the age of say twenty-five, add to their repertoire a genuinely new interest. Thus education in younger years is so important and its defects can never be compensated for¹⁰. It is also important to constantly cultivate the interests once instilled lest they wither and die. James brings once again up the case of Darwin, who lamented that in his youth he enjoyed poetry very much and adored the plays of Shakespeare, finding particular pleasure in his historical dramas, but who in his mature age found all of that tedious for want of continuous application. So engrossed had he become in his professional life.

One aspect of learning also probably neglected in modern pedagogy is the importance of imitation (or its slightly more elevated notion of emulation. James hints at a distinction, without bothering to making it precise). Man is a social animal and imitation is something that goes on unconsciously, and something that should be taken advantage of, especially in the early years of schooling. The very fact that children consent to show up to school at all is a manifestation of the imitative urge. Related to imitation is the notion of competition, the awakening of feelings such as rivalry, not usually condoned let alone encouraged. But James distinguishes between the noble and generous form, normally present in the child, and the greedy and spiteful which is developed in later life. To outdo a rival is simply the extreme form of imitation. As such it is a powerful one we should use in our teaching, and hence James is very doubtful as to the desirability to abolish marks, grades, distinction, prizes and other recognition of effort. In fact it is a curious fact that while the tradition to reward intellectual achievement has been repeatedly put in question, the tradition to honor athletic has never been similarly discounted, In fact without competition there is no athletics, as James notes, no one running by himself would be incited to perform at his maximum if not egged on by others catching up on him. The same is true even for animals, a horse needs to be egged on to gallop at top speed. So James think that appealing to pride and pugnacity has a natural place in the class room. Pugnacity is not merely a form of physical combativeness, it can also manifest itself as a refusal to be beaten by any kind of difficulty, and thus is what makes us feel 'stumped' and challenged and foster a spirited and enterprising character. And here James is worth being quoted in full, relevant as he is to the pedagogical fads of the modern day, pedagogical ideas often having a much longer pedigree than their practitioners are usually aware of.

¹⁰ The present fad for so called 'life-long learning' is less a concern for individual enrichment, which according to the previous theory can only be narrowly developed, than a euphemism for the vagaries of modern economical realities ignoring continuity of competence. This ties in with James observation that in later years the only possible incitement to new intellectual pursuits is narrow personal advantage.

We have of late been hearing much of the philosophy of tenderness in education; 'interest' must be assiduously awakened in everything, difficulties must be smoothed away. 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.

James goes on and exhorts that the pupil should be made to feel ashamed of being scared at fractions, that its pride and pugnacity should be roused, making him rush at his difficulties with an inner wrath at himself, thereby manifesting one of his best moral faculties. In fact James admonishes the teacher that never rouses this pugnacious excitement.

Ownership is another useful impulse, occurring early in life, and which can be advantageously taken care of. The collecting instinct, to which we have briefly referred to above, ultimately stems from notion of ownership and the concomitant desire for accumulation. This collective impetus is of course unrelated to any rational desire but often is just a collection for the sake of collecting, but that does not contradict the fact that much of intellectual pursuit is a form of collection. James speculates that no good naturalist ever became of anyone who had not an exceptional collective urge as a boy.

Habit is a pet concern of James. In fact most of our actions are habitual, and another purpose of an education is to instill good habits and stamp out bad habits. Habits are foremost a stratagem of economy, and it is a great advantage to have many of our actions becoming semi-automatic and relieve the will from continual application. This of course can work both ways, hence the insidiousness of bad habits, the eradication of which is always a difficult project, where every setback undoes much previous work geared towards its completion. Habits are of course both muscular and intellectual, and as to the latter, they could be rather abstract. The habit of effort being probably one of the most crucial, and certainly one that should be daily exercised, because good habits which are allowed to lapse disappear and may be very hard to revive.

As to practical problem of attracting the attention of a pupil and instilling a new interest, James observes that, especially young children pay more attention to what you do than to what you say. (Which might be a consequence of the imitative urge.) As to interest, the most practical way is to connect a new topic to an old interest and thereby borrowing from the latter, a kind of borrowing that has the paradoxical result that it does not diminish the original interest by the transference, on the contrary it enhances it, as interest is generated by associations, and the more associations, the more interesting, as it is more likely to engage the imagination. Now the most interesting thing to most men is their personal well-being, and of course, anything that can be directly connected to that enjoys a huge advantage. James takes as an example the traveller whose interest in his own efficient transportation gets engrossed in studying a time-table, and wonders what could be more deadly uninteresting by itself.

People may differ widely as to their mental capacities, some have minds like wax, on which even the most desultory sensation is able to make an impression, thus ending up with great retentive ability, while others are less fortunate in that respect. But the total mental efficiency of a mind is the result of the working of all his faculties and cannot be reduced to some simple skills. And also to attain success in your chosen pursuit what

ultimately matters is the passion you carry to it. Thus the pupil who may cut a sorry figure in examinations may in the long extended examination which life will set us, do much better than those that are merely glib and ready reproducers.

The final topic is that of will. Brushing aside the question of free will, to which James is metaphysically committed¹¹, will is about compounding impulse with inhibition. Whatever will be strongest will win. An oft quoted example is James explaining how we get out of bed in the morning. The impulse is to get on with the day, all kinds of duties expect to be performed. Inhibition is furnished by the coldness of the room as opposed the warmth and snugness of the bed. When both factors are equally strong we are in a case of deliberation, the mind may be active, but no action results. But say that we momentarily forget about the inhibition, then we find ourselves up without really knowing how we arrived at the decision, we only know that we are up, as if we were propelled by another force. On the other hand if we had managed to increase the impulse by further appreciating the urgency of getting up, we would feel as if the act was a virtuous one, duty overcoming mere indolence. Melancholics are laboring under great inhibition, and thus their lives are listless and inactive, but not only sorrow can inhibit you, even great joy has a similar effect of paralysis, although those effects are not so lasting, as great joy is not, unlike depression, a sustainable feeling. The greatest minds are those that act in face of inhibition, literally overcoming themselves. An oriental despot knowing no inhibitions whatsoever has no need of any greater ability in exercising his will, he will succeed in action until people tire of his way and have him killed. The same with conversation, where mendacity, treachery, obscenity are allowed unhampered expression, conversation is indeed brilliant, far more brilliant than when compunctions tie the tongue. The great hero of will-power, should not be a man like Napoleon, who disregarded all the usual inhibitions, while men like Lincoln and Gladstone, scrupulously kept them, sticking to the constitutional rules.

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¹¹ At one point he vehemently denies being a materialist, he cannot see any possible way how consciousness can be produced by nervous machinery. As to the free will, if it be true he would find absurd that the belief as such could fatally be forced upon our acceptance.