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plied in amounta greater than we have been ablo to squauder.

Lot us try nnother illustration, ' The German intellect is farthest removed from the Irish-the first is conscious of every step in reasoning; the second leaps over a duzen and often misses its way. The power of lenping and flying are glorions powers. One may go direct to tho top of the mountain without touching the sloughs: below. Tho German crawls through the sloughs, but he leaves behind him a good substantial road, which only requires to bo illuminated to become the much desired object-a king's highway to learning. It would be oxcecdingly plensant to follow this out into the history of science, and to observe what liashes of light have gone from various nations; but it would equally surprise us to see that the German will not bo behind even if he have nothing to collect for his fire but brushwood; he will heap it up until it becomes grand by quantity.

And how shall we apply these remarks to ourselves? If wo differ from the Germans, why shonld we imitate their modes of education ? There is a mode of training every animal, but not one mode for all. Sone will say, then, if the German is so fond of details, let him be fed upon thom; if wo like conclusiuns, let us have them, and wasto no time. But this conclusion is too hasty. It is the weakness of the German to be so fond of detail, and it is his strength to be so well acquainted with detail; it is our weakness to dislibo it, and it is our strength to overleap it. Among these apparent contradictions it seems hard to steer our course, but wo may begin thus: A trained man can be depended upon so far; an untrained man may do better, if he has genius; and who can tell what he may have? We cannot train men to be marvels, and if they were they must still submit to some extent, and the only resource left to us is to yield to the infuence of plodding in education, caring, however, to observe if any of the young thinking machines that we are polishing shew any peculiar movement which shall be indicative of progress beyond tho teacher's intention. These spasmodic wilful movements may tale plecs amongst our youtlis more rapidly than among the Germans; but it no less becomes us to look for fundanental training in the direction where it has been most successful. If our youth become weary sooner, it is well that we should seize on them as carly as possible. It is from our Teuton friends that we have received models of careful teaching from their kindergarten upwards. These infant schools were a step beyond ours-introducing practical lessons; their laboratories are the same idea carried out. Let a man touch and handle if he will learn. Let our youth be taught natural laws by secing them in action, not as abstractions only.

The first thing that will occur to many people is: "This is exactly the method of the practical English nation; the opposite has been the custom of the dreamy Germans." True we sent boys into practical life to pick up principles at randon; and those who thought enough made systems for themselves. This apprenticeship method was good when principles were on the surface; but when they aro so deeply sunk that generations have been required to find them, and when the phonomena themselres are not superficial, the method falls to the ground. No man can learn his duties in a chemical work by
appenticeshup, wh by the imitation of the action of others.

The rapiddevelopment of tho teaching of physical sciences in Germany was the result of previous training, and tho rapid dovelopment of manufactures followed immodiately.
But wo must tako the privilege of Englishmen, and rush through intermediate stages to a conclusion. It seenss to bo that in Gelmany the army of labour is organized as carefully as that for fighting. Tho unanimity is complete, and tho determination to invado our markets is strong. Every chemical work has at least ono trained chemist, and tho training is caroful. With us it is frequently considered needless to have one for largo works, as they can go by themselves, and small works cannot ifford me. Wo know very well that this is not universal, but somo of the exceptions aro more apparent than real, and at any rate wo shall defor spoaking on that point.-Chemical Netes.

On the removal of Odorous Oompounds from Alcohol by Pernanganates.

HY GEO. F. H. MARKOE, OF bOSTON.
Qcery 22.-What are the practical reactions between the permangmates and alcohol of various strengths and degrees of cleanliness; and how far can such reactions be mado arailable for producing deodorized alcohol, cologne spirit, or clean alcohol, upon a small scale, with special referenco to the alcohol recovered from thid oxtracts, and other Galenical preparations ?

It is a well known fact that tho permanganates are among the most powerful oxidizing agents at the command of the chemist ; and the caso with which they furnish nascent oxygen when mercly placed in contact with organic matter, has led to their extensive employment as diseniectants and deodorants. The power they possess of destroying disagreeable olors suggested their employment in the purification of alcohol, and some years ago a patent was granted to Mr. Atwood for a process in which permanganato of potassa was the nesent used in producing a deodorized or cologne spirit, which is well knowt to pharmacists as Atwood's alcohol. The article used by Atrood as a parifier is not the true permanganate of potassa ( $\mathrm{KO}, \mathrm{Mns} \mathrm{O}_{7}$ ), but the so-called commercial permnganate of potassa, which is in reality manganate of potassa ( $\mathrm{KO}, \mathrm{MnO} 3$ ), a much less effective oxidizing agent than the permanganate of potassa.
In the following experiments, the writer, in every instance but one, used the officinal permanganate of potassa; and tho materials rorked upon were unclean alcohols of yarious strengths, obtained in concentrating the percolates in the preparation of some fluid extracts and symips. Many moro experiments were performed than those detailed in this paper, but it is deemed sufficient to give the results of nine experiments, together with samples of the products. One of Neynaber's Pharmaceutical Stcam Stills, of one gallon capacity, was employed for the distillations, and five pints of unclean alcohol were used in cach rectification, with-100 grs. of permanganate of potassa.
Exp. 1-Fivepints of alcohol vere obtained in following the oflicinal process for the preparation of comp. syrup of sarsaparilla. By the accidental passage oi a small part of the

