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A WANT.

Many ingenious experiments have been made to determine how long, on the average, it takes a man to receive a mental impression and respond to it by some simple action. As might have been predicted, some men feel and think much more promptly than others. It is also found that the same man's mental and nervous actions are not the same at all times; the quickness of the response varies, too, with the nature of the signal, and with the practice the observer has had in noting the same or similar phenomena.

A series of corresponding investigations of the rate at which the human mind acts in bulk is also very much needed. In them it would be not the mental action of individuals, but of classes, that would be studied: how long it takes the various grades or classes of men to receive a new idea; how long it is before the idea is generally accepted by the class and carried into practice; and what are the relative periods required for the acceptance of different sorts of ideas by different classes.

The investigation would have to be made historically, by such a man as Francis Galton or Herbert Spencer, assisted by specialists in the several departments of human progress, who would compile tables of the great discoveries in their special fields, setting opposite to each discovery of important fact or principle the time required for the several stages of its progress to general acceptance. One table, for example, would record the more important discoveries in Science, giving the date of each, the date of its endorsement by some prominent man of Science, then the time elapsing before it was accepted generally by the leaders of that particular department of Science, the time when the scientific world at large received it, the date of its adoption by men of culture, by practical men, and lastly by ecclesiastics. Other tables would mark in like manner the advance of human thought along other lines of progress, so that a comparative statement could be drawn up, showing the relative rapidities of different sorts of intellectual movements in different classes of society.

That such a scheme could not at once be carried out, with any degree of perfection or completeness, is no argument against it. It is true that only a very few scientific and other discoveries have yet permeated all classes; nevertheless the very gaps in the tables would be instructive, as evidences of the hollowness of the pretended culture of

many respectable classes, and the impenetrability of other classes to large congeries of truths. Even approximate tables would be immensely valuable; they would save such a world of anxiety!

For example, a man makes, after years of patient study, an important discovery—say in optics. He hastens to lay his achievement before the world, and naturally expects that the world will be as glad to receive as he is to publish the new truth. But somehow the world does not see it. Most likely, if the discovery be of prime importance, it will be disputed with the intensest vigor by the very men who ought to welcome it. In such a case, our unfortunately fortunate student would have simply to turn to his table book to learn that, on the average, it takes so many months for a discovery of the kind to be accepted by some acknowledged master of the science of optics; so many years before it commands the assent of opticians generally; so many decades before it is incorporated into advanced optical teaching, and so reaches the world of general culture, and so on. Then he would be able to possess his soul in patience, knowing how useless it is to expect the thoughts of the world to transcend their usual capacity for speed.

Possibly there are men, like Dr. Draper, who have learned from long experience—at least in their special departments—pretty much all that such tables would teach them; but for younger men and men of more hasty temperaments, they would be exceedingly useful. And they would be not without their uses to other than discoverers. The editor of a scientific paper has frequent need of the information they would furnish to keep him from undue impatience with the slowness of men to receive intelligence and act upon it.

A vital truth is added to the world's too limited stock, changing, perhaps, the entire aspect of a science. He takes pains to have it promptly and explicitly set before his readers. He knows that the attention of A, B, and C is repeatedly called to the truth and its bearings; yet year after year he will see them serenely teaching the old, it may be exploded, theory, as the last addition to men's knowledge in that department: A, B, C, and the rest of the alphabet standing for classes of honest and supposedly intelligent humanity, requiring respectively one, five, ten, fifty years, or more to learn anything. If our afflicted editor really appreciated the natural sluggishness of class intelligence, and could estimate the probable period required for the incubation of different ideas in different orders of men—as the suggested tables would enable him to do—would he chafe so at the persistence of error, or the halting progress of knowledge?

Personally, we often feel the need of just such specific knowledge of the varying rates of speed at which intelligence becomes incorporated in the mental furnishing of various classes of men. Then, when we should see some scientific doctrine atrociously misstated by some "leader" in literature, metaphysics, or theology, the knowledge that it requires on the average so many years, or so many generations, for a clear conception of any new scientific thought to penetrate that particular body of men, would reconcile us to its slow illumination in that particular instance. We should say—not that the misdoer was a knave or a fool, but merely that it was too soon to expect anything better in that quarter. We should not be surprised even to learn that a sensation was caused in certain circles by the bold assertion that the world is not flat; or to hear that a like effect was produced in theological circles where one of the most liberal and talented men of the English church plucks up courage to say, as Dean Stanley did the other day, in a sermon on the death of Lyall, that "it is now known that the vast epochs demanded by scientific observation are incompatible with the 6,000 years of the Mosaic chronology, and the six days of the Mosaic creation," implying that geology is right and Genesis wrong. And we might possibly be patient at still another infliction, upon confiding readers, of the mythical Three Buttes of the solar spectrum by one who professed to present the latest scientific aspect of "Chemical Radiation" in a periodical of the standing of the Popular Science Monthly.

"There are three spectra," says the writer: who quotes Dr. Draper as an authority in solar matters, but has not yet heard of his most important discoveries: "there are three spectra, one of which, the thermal, takes action upon all kinds of matter; another of which, the luminous, acts only upon a certain special form of nerve matter; while a third, the chemical, produces changes in certain compounds;" and the usual figure is given, showing "the Intensities of the Forces of the Spectrum."

It would be a comfort to know just how long we can reasonably expect such popularizers of Science to continue in ignorance of what Dr. Draper has done to demonstrate the utter absence of any such triple division of the sunbeam; how long it will probably take them to discover that red light is as capable of producing chemical effect as violet light, and that in all probability the yellow rays seem most luminous simply because they act most energetically upon carbon compounds, such as compose the retina; but in the absence of the investigation we have suggested, such consolation is denied us. And there are such a multitude of similar cases! Therefore, we assure whoever shall prepare the tables demanded that a certain market awaits at least one copy. We will take it for personal use.

A PRACTICAL CURE FOR VAGRANCY.

When Count Rumford became the friend of the King and virtual ruler of Bavaria, he found the country swarming with beggars. In the large towns, beggary was an organized imposture, insolent, clamorous, persistent. The rural districts were overrun with tramps of all ages and every na-

tionality, who levied contributions, robbed, and tyrannized everywhere: and not only their impudence and clamorous importunity were boundless, to use the Count's own words, but they had recourse to the most diabolical arts and the most horrible crimes in the prosecution of their infamous trade. All the regular machinery for the repression of vagrancy was unavailing. The people were diheartened. Industry was well nigh paralyzed by the parasitic multitude, and the honest peasantry had become so corrupted by bad example that they would leave their work in the fields to beg of travelers on the highway. Beggary had become so common and customary that it no longer seemed shameful or infamous.

Yet the whole system fell in a day when attacked by the Count's resolute will and sterling sense. His remedy was work, fairly rewarded, so presented as to make industry as attractive as possible, but rigorously insisted on. His plans for housing, feeding, and employing the beggar class were quietly perfected; then, on the first day of January, 1790, every beggar was arrested and set to work.

The law was: No idleness, no begging, no dirt or debauchery; but work for all, good food, kind treatment, and instruction in the ways of honest living. In one day the plague of beggary was stopped. And it was not long before the majority learned to prefer the comfort, decency, and respectability of honest industry to their former squalor, idleness, debauchery, and crime. And the experiment paid financially.

Count Rumford's report of the experiment, written after it had been five years in operation, shows that it had not only banished beggary and effected an entire change in the manners, habits, and appearance of the class which had been so abandoned and degraded, but that it had made them self-supporting. The saving effected in cutting off a great source of crime was beyond estimation.

In every part of the Eastern and Middle States, especially within walking distance of our chief cities, an order of things is growing up the precise counterpart of that which the Count found in Bavaria. The tramp is everywhere—male, female, limp, lazy, insolent. Every country road swarms with them, and the country people begin to look upon them as an inevitable infliction, less dangerous when fed and sheltered than when hungry and at large. Refuse them food, and your hen roost pays the penalty. Deny them a bed in the barn, and they set it on fire. They travel in gangs and disperse to forage, levying contributions right and left. Their vagrant life suits them; and miserable as they seem to be, no proffer of honest wages for honest work will induce them to leave the road. Every season their number increases, and competition only increases their audacity. Unless the evil is differently dealt with, it will soon become as intolerable as it was in Bavaria.

No method of treatment involving large preliminary outlay for workshops, concert of action, or central authority can be looked for here; we need not one but ten thousand Rumfords. Every town must apply its own remedies: nevertheless it would not be hard to devise a plan by which the whole system of tramping could be as quickly broken up as it was in Bavaria, and that without taking the tramps from the roads they love so dearly.

Any town can inaugurate the plan by enacting and enforcing a regulation to this effect: Fix the penalty for begging—that is, professional begging—at ten days' labor on the highways for each offense; there is no danger of a falling demand for that sort of labor for the next fifty years. Give to every citizen the power to make arrests in cases of vagrancy; and for every ten days' labor by the party so arrested, credit the person making the arrest with five days toward the working out of his road tax. For his labor, give the tramp decent board and lodging, and from ten to fifty cents a day as wages, according to his efficiency. Let such a law be rigorously executed, and in a little while we should have better roads and fewer tramps.

The honest seekers for work would suffer less under such a system than they do now, when they are apt to be confounded with professional beggars, who are always in search of a job—somewhere else. If seriously in need of work and money, the temporary tramp would simply have to apply to the road master, who would never be without employment to give and fifty cents a day to pay for it. The work hunter would not be long in acquiring enough to pay his way further or to support himself until he found work in the neighborhood. Farmers and others in want of help would soon learn to resort to the road gangs to pick their men, the volunteers being free to engage themselves at any time, those under arrest when their ten days were up. The professionals would more or less quickly learn to prefer free labor at high rates to enforced work on the roads at low rates; in the meantime an enormous "waste product" would be utilized, and the highways improved at small cost to the residents. It is safe to predict that any community adopting such a plan would soon have better roads or fewer beggars—possibly both.

THE WRECK OF THE SCHILLER.

A terrible marine disaster occurred on May 7, off the Scilly Islands, near the English coast. The Schiller, a new and magnificent steamship belonging to the Eagle line, was entirely wrecked. The ship was on her voyage from New York to Hamburg, and was endeavoring to reach Plymouth, England, in the midst of a thick fog, which, for three days, had prevented observations. The captain probably mistook his position, and at ten o'clock at night the vessel struck on Retarrière reef, while under almost full steam headway. A strong gale and heavy sea speedily caused her to drift broadside on the rocks, the waves sweeping her decks, and finally, as the tide rose, carrying away her masts, which were loaded