

Is Man the Highest Animal?*

The measure of zoological rank is the specialization exhibited by all the organs, taken collectively. Specialization may be exaggerated in one or several organs, without the animal therefore attaining as a whole a high rank. This is the case in man. The measure of specialization is afforded by embryology, which shows in earlier stages the simplicity and uniformity of structure, which in later stages is replaced by complexity. The human body preserves several important embryonic features. In man we find three series of high differentiations, namely: in the brain, in the changes induced by or accompanying the upright position, and third, in the apposition of the thumbs to the other digits. These are the principal, though of course not strictly the only characteristics of man, which show that he is more specialized than any other animal. In other respects he shows a still more striking inferiority. It is of course a familiar observation that his senses are less acute than those of many animals—he has neither the keen vision of the falcon, nor the delicate scent of the dog. He is equally inferior in many structural features. His teeth are of a low mammalian type, as is shown both by his dental formula and by the presence of cusps upon the crowns of the teeth, a peculiarity of the lower mammalia, entirely lost in the horse, the elephant, and many other "brutes." His limbs show a similar inferiority, since they are little modified, preserving even the full number of five digits, and in respect of these members man stands therefore very low, lower than the cow and the pig. He plants the whole sole of his foot upon the ground, yet none except the lower mammalia, together with man and his immediate congeners, are plantigrade. So too with his stomach, which is so simple as compared with that of a ruminant, and indeed is of about the same grade as that of the carnivora. It makes, however, a still more forcible impression to learn that the human face, which we admire when withdrawn under a high intellectual forehead, is perhaps the most remarkable of all the indices that point out man's inferiority. In the mammalian embryo the face is formed under the fore brain or cerebral hemispheres. In our faces the foetal disposition is permanently retained, with changes, which when greatest are still inconsiderable. In quadrupeds the facial region acquires a prominent development leading to the specialization of the jaws and surrounding parts, which brings the face to a condition much higher than that of the foetus. Hence the projecting snout is a higher structure than the retreating human face. These facts have long been familiar to anatomists, but I am not aware that the inferiority of the human to the brute countenance has heretofore been considered a scientific conclusion by any one. Yet that inferiority is incontrovertible and almost self-evident.

The preceding statements render it clear to the reason that man is not in all respects the highest animal—and that it is a prejudice of ignorance that assumes that the specialization of the brain marks man as above all animals in the zoological system. It does give him a supremacy by his greater power of self-maintenance in the struggle of the world, but that has nothing whatever to do with his morphological rank. There is nothing in morphology that anywise justifies assigning, as is actually done, an almost infinitely greater systematic value to the specialization of the brain and a specialization of the limbs, stomach, teeth, face, etc., hence it is impossible to call man even the highest mammal. It is also doubtful whether mammals would be regarded as the highest class of the animal kingdom, were they not our nearest relatives. Let us beware of claiming to be the head of organic creation, since the Carnivora and Ungulata are in many respects higher than we. I believe that it is just as unscientific to call any one animal species the highest, as to pitch upon any one plant to stand at the head of the vegetable kingdom.—*C. S. Minot.*

Cures for Baldness.

The *Chemists' Journal* says: Dr. Xavier Landerer, of Athens, has again been so obliging as to send us some notes from the cradle of pharmacy.

Numberless remedies for baldness of French, English, German, and American origin stock our markets, but none, according to Dr. Landerer, equal in efficiency the following, which he has used and prescribed for many years past. Prepare a tincture of the cups of the *Quercus agrifolia*, which are known in commerce as valonia, and digest with it powdered cloves and cinnamon. Make a tincture by digesting the leaves of the *Laurus apollonis* in acid wine, and mix the two together. Before applying this remedy the skin of the head should be well washed with a decoction of saponaria root (*Saponaria levantica*), to cure any *exanthema pityriasis* which may be present. Instead of pomatum or hair oil, laurel oil should be used, this being the usual hair oil in vogue among the ladies of the East. Dr. Landerer calls this remedy for baldness *alexitrichon*, or hair preserver.

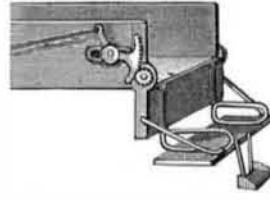
Simultaneous Telegraphic and Telephonic Messages.

The French Minister of Posts and Telegraphs is reported to have received in Paris, from Brussels, May 21, a telegram of 53 words, and a telephonic dispatch of 119 words, simultaneously over one wire. The system employed is the discovery of Mr. Van Kesselberghe, Director of the Belgian Meteorological Bureau. It is said that the practical advantages of this invention are estimated by the French and Belgian Governments as of the utmost importance. The distance from Brussels to Paris is about 200 miles.

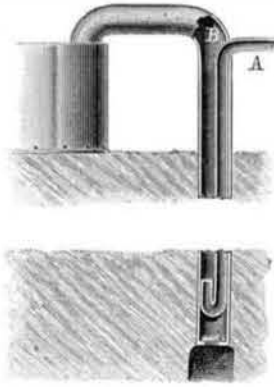
* Read before the American Association for the Advancement of Science, Cincinnati meeting, August, 1881.

MISCELLANEOUS INVENTIONS.**Step for Vehicles.**

Mr. Asa K. Owen, of Tennessee, McDonough county, Ill., has patented an improvement in seats, end gates, and steps of vehicles, by which increased facility and safety are afforded passengers in getting in and out while they are less liable to be soiled by mud. The device may be operated by the driver without releasing his hold of the lines. It is quite clearly shown in the annexed cut. The body of the vehicle is provided with an end gate, pivoted to the rear portions of the sides of the body in such a manner that it will open downward, but will be restrained from moving back beyond a vertical position when it is open. A seat of any desired kind is connected with the end gate at right angles to the latter, transversely, and held at a proper distance by means of frames that have the same center of motion as the gate, and move with it. When the end gate is thrown down the seat occupies the position of a step, and is used for getting into or out of the wagon; but when the gate is closed the seat is in position for use as a seat. When in this position the end frames of the seat rest on cleats placed on the sides of the wagon body. Hinged to the under side of the swinging seat is a step that, bears upon the bottom of the wagon body when the seat is closed, but when the seat is thrown back the step is turned down over its edge and comes near to the ground. This gate and seat can be opened and closed by means of a combination of rods and levers attached to a lever placed in reach of the driver, and controlled by him.

**An Ejector for Oil Wells.**

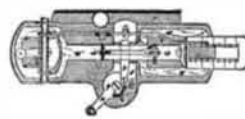
An improved device for raising oil from oil wells, for which a patent has been granted to William O. Robbins, of New York city, is shown in the accompanying engraving, in which B is a pipe extending downward to or near the oil in the well, and is provided at its lower end with a check valve, and its upper end extending to an oil receiving tank. A is a tube entering the pipe, B, through which the oil is raised, at or near its upper end, and extends down to near the bottom of the pipe, and at this point is bent so as to extend upward for a short distance, leaving the end of the tube a short distance above the bend and facing upward. The upper end of this tube is connected with an air compressor or a reservoir for compressed air, whereby air under pressure will be forced through the tube and emitted from its lower end. This compressed air



forces the oil in the pipe, B, upward and out of its upper end, thus creating a vacuum at the lower end of the pipe and causing the check valve to be raised and oil to pass in to fill the vacuum. This ejector has an advantage over other ejectors in the fact that it may be placed in the pipe of the well the same as a sucker rod, and requires no changes in lower or pumping section before it is applied.

Button Hole Attachment for Sewing Machines.

Mr. John K. Harris, of Springfield, Clarke county, O., has patented an improvement in the button hole attachment for sewing machines, for which he was granted a patent September 6, 1881, No. 246,764. The general method of making a button hole therein described is to make a series of short stitches in the cloth, upon one side of the center line, and then, after shifting the cloth laterally at the end of this line, to reverse the feed and make another series of stitches on the other side of the center line, which line is then cut open to form the button hole. But in this method of working a button hole the ends are not stayed or tied as substantially as hand-worked holes, and they are more liable to tear. In the improved attachment, by means of properly arranged devices of which we are unable to give a full description in our limited space the cloth when it is stitched along the line to the end of the button hole, is carried forward and backward across the end of the hole either in straight or curved lines as may be desired, making a perfect stay or tie for the end of the hole. Also, by a proper manipulation of the devices, a good substantial eyelet button hole, such as is required in heavy woolen goods, may be made, and also a single eyelet maybe worked without the parallel portion of the button hole. The device is shown in the accompanying engraving.

**Perspective Delineator.**

An invention by which accurate perspective drawings can be rapidly and conveniently made, has recently been patented by Mr. Girard M. Perk Van Lith, of New York

city. A box of suitable size is provided with a cover which consists of glass set in a frame hinged to the box. The hinges are fitted with stop lugs that allow the cover to be opened to a right angled position, but no further, and a brace that is pivoted to the box is then raised against the frame, and it is securely held in position. A slide is fitted for vertical movement in a socket piece at the front of the box, and may be adjusted to any height desired, where it is retained by a set screw. The box is placed on a suitable stand with the cover raised, and the eyepiece adjusted according to the distance of the object. The operator then closing one eye, applies the other to the eyepiece, and then traces the outlines of the object seen through the glass, on its inner surface, with a soft lead pencil. By tracing afterward on the outside of the glass with a copying liquid all the lines already marked on the inside, and placing a dampened drawing paper over these lines and rubbing slightly with the hand over the back of the paper, a correct perspective sketch from nature appears on the paper.

Detachable Handle for Teacups, etc.

Among the recently patented novelties we find a detachable handle for teacups, invented by Mr. John W. Davis, of Marion, Marion county, S. C. The handle may be of a strip or narrow plate of spring metal, but it is preferred to make it of a single piece of spring wire, which may be plated with gold, silver, or nickel, if desired. The handle is made of two strands to give it sufficient width to prevent turning sideways on the cup. The handle is bent so that the prongs that pass over the edge and inside the cup extend outwardly from each other at their ends to prevent the handle from turning laterally on the cup. These prongs and the handle on the outside of the cup are formed so that when the thickness of the cup is passed between them, the elasticity of the metal of the handle will cause it to be held with sufficient firmness for safe handling of the vessel and its contents. This handle is cheap, ornamental, and durable, and gives to plain cups all the advantages of those that have permanent handles, and at less expense, and they are not liable to be broken off.

Protection to Inventors.

In the Senate, May 19, Mr. Call submitted the following resolution, which was ordered to lie on the table and be printed:

Resolved, That the just exercise of the power granted to Congress in Section 8, Article 1, of the Constitution, "To promote the progress of science and useful arts, by securing for limited time to authors and inventors the exclusive right to their respective writings and discoveries," requires such amendment of the laws as will secure to the people of all the States and Territories, without prejudice because of any conditions of poverty, equal rights and equal opportunity in the beneficial use of their inventions and discoveries, and to reasonable compensation for the time, labor, skill, and knowledge applied and expended in making and improving such inventions.

That it is referred to the Committee on Patents to consider the subject, and to report a bill to the Senate which shall provide either for an extension of patents, or for the commencement of the life of a patent at the period of its successful introduction into public use, or for a royalty on such invention diminishing gradually, and with the amount realized from it, or otherwise providing relief or protection where new and useful inventions have been, or shall be made by persons whose poverty and limited means have deprived them of the beneficial use of the right to the said invention, or from obtaining a reasonable compensation from the same; also providing adequate protection to the people against excessive charges or vexatious suits, or against the exclusive right to inventions, as an oppressive monopoly.

It might be useful in this connection to have an authoritative definition of "oppressive monopoly," as applied to patent rights. Seeing that the inventor takes from the public nothing which it previously enjoyed, but simply offers for a consideration something new, something which may be declined and dispensed with if the price is excessive, the phrase, "the use of the exclusive right to inventions as an oppressive monopoly," seems to us to be simply a contradiction in terms.

Immigration and Wages.

Discussing the enormous ability of this country in providing occupation for larger and larger bodies of laborers without risk of a surfeit in the labor market, the *Boston Commercial Bulletin* points out that while the population of the United States has increased nearly 25,000,000 since 1860, about 6,000,000 of the number being immigrants, the diversity of our industries, made possible by a protective tariff, has absorbed the increase with ease, and has not been satisfied. This is evident from the fact that while the cost of the necessaries of life, both food and clothing, is no higher, and in most cases, is lower now than then (excepting, of course, certain brief abnormal periods), wages in both agricultural and manufacturing pursuits are everywhere higher, and a good deal higher. The wages of woolen mill operatives average 40 per cent higher in 1882 than in 1860; those of cotton mill operatives about 35 per cent higher; of mechanics in wood and iron about twenty-five per cent higher. Farmers in the west are getting more for their produce than they did in 1860, although the consumer pays less now than then; this is due to the improvements in and decrease in the cost of transportation. Wages paid by farmers are about 30 per cent higher now than then.