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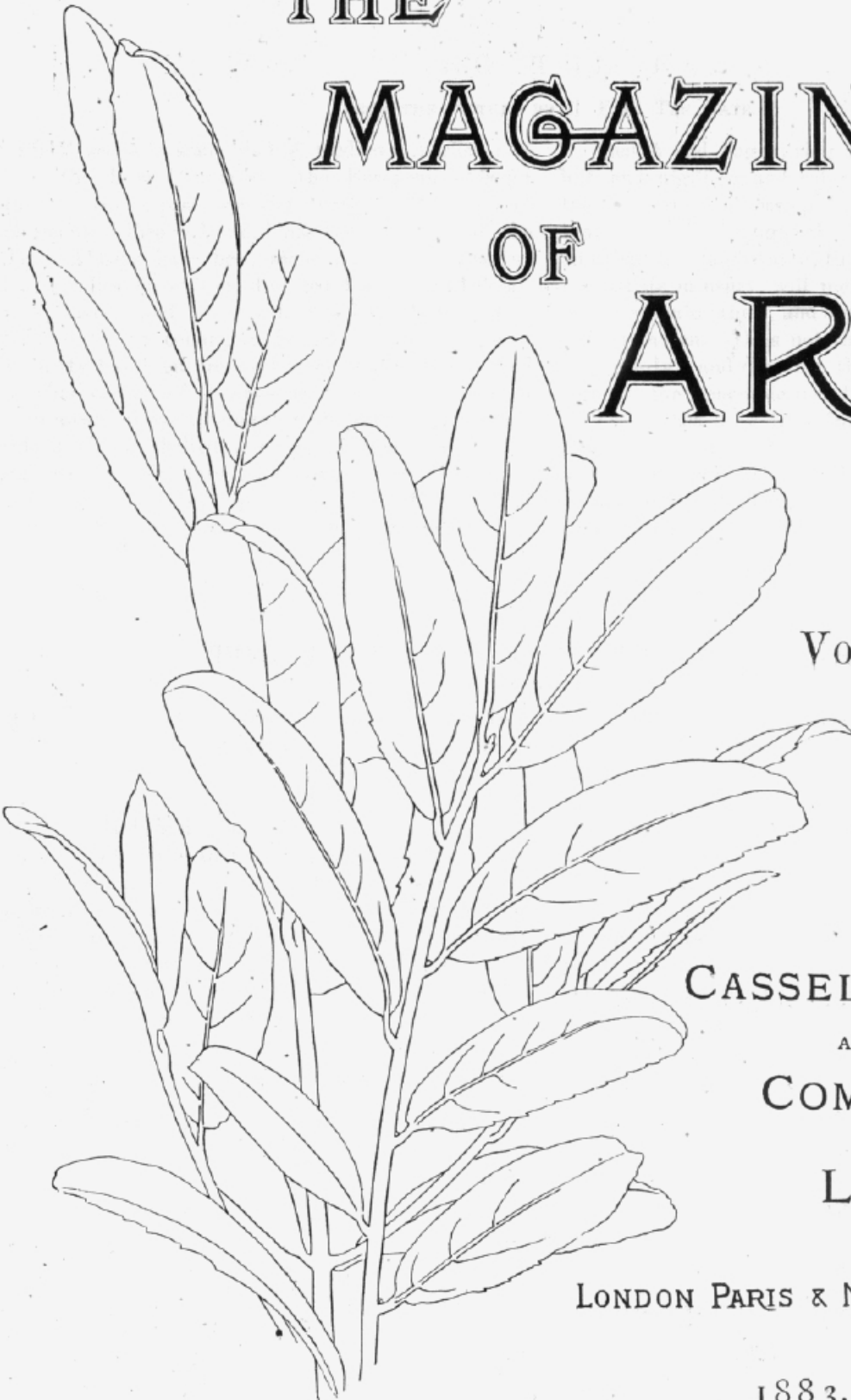
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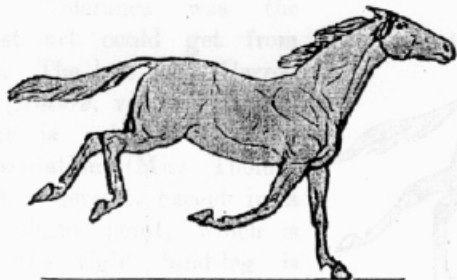


THE PACES OF THE HORSE IN ART.

IT is being hinted in many quarters—"The Horse in Motion," by J. D. B. Stillman, M.A., M.D. (London: Trübner and Co.) 1882. "Animal Mechanism," by E. J. Marey. "Int. Scient. Series." (Kegan Paul and Co.) 1874. Also, Marey in *Nature*, vol. xix.—that a new era in animal painting is about to be inaugurated. It is not a renaissance we are to expect, but a revolution; for it appears that, except now and again by accident, artists from all time have wrongly represented the paces of quadrupeds. It will be asked, What artists, what sculptors are to figure as the leaders in this new departure? whose are the epoch-making names? There are none. It is the odograph and the camera which are to be crowned with laurels. The former is a machine invented by Professor Marey for the purpose of registering the formulæ of animals' paces. Upon the products of the latter—upon instantaneous photographs of quadrupeds in

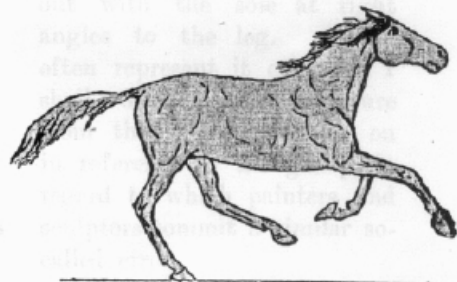
motion—Dr. Stillman's dicta are based. The odograph enables Professor Marey to say of the frieze of the Parthenon that "the greater part of the horses are represented in false attitudes." Modern works of art, he tells us, he will not permit himself to criticise; but it is evident that if he did so, the odograph would make sad havoc among them. Dr. Stillman, as the prophet of instantaneous photography, foresees that before long all the famous paintings, in which "he [the horse] is a prominent figure in the gallop, will be relegated to the museums as examples of old masters, to illustrate the progressive stages in the development of art." We are also told that already many artists are modifying their drawings so as to bring them into conformity with the truths brought to light by instantaneous photography.

The principal, although not the only fact which is leading to this expected revolution is that at



THE PACES OF THE HORSE IN ART.—I.

no instant during the gallop are the limbs of a horse actually in the position with which every one is familiar as suggesting the animal at full speed. The inference drawn is that all artists, from Phidias to Géricault, have been

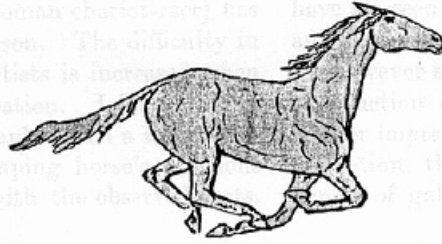


THE PACES OF THE HORSE IN ART.—II.

wrong, and that they must make a fresh start, or if they do not it will only be because (so Dr. Stillman says) "there is too much capital invested in works of art all over the world to allow the innovation." What is to be substituted for the ordinary representation of the gallop? Dr. Stillman has published a series of instantaneous photographs (most valuable in their way) representing all the positions a horse's limbs pass through during the stride. Any or all of these artists are to make use of. Figs. 1, 2, 3, 4 are drawings from the photographs, and are put forward as examples of what we are told we ought to expect from artists. If this were not an age of superstitious faith in anything that clothes itself as a deduction or calls itself scientific, if instincts were not unduly discredited, men would smile at the "facts" and trust the artists. But in mid Nineteenth Century argument must be met by argument. I therefore propose to offer some reasons for believing that we are not on the eve of a revolution in the representation of locomotion.

The first thing which strikes one is that only in representing the gallop are scientific men in a position to give authoritative lessons to artists. The walking pace, Professor Marey says, consists in putting down in succession the right fore-foot, left hind, left fore, right hind; and he says that two feet are always on the ground, so that the horse is at one moment laterally, at another diagonally supported. He tells us further that a horse going down hill with a load may have three feet on the ground at once, but only in these circumstances. Accepting this teaching, there are thousands of pictures we must cease to admire. One does not need to go far in the examination of the works of animal painters to be convinced that walking horses are more commonly represented with three feet upon the ground than with two. Some years ago one of the horses in Miss Thompson's "Roll-Call" was severely attacked, and proved incorrect by scientific men, odograph in hand. Tolerance was the utmost art could get from truth. The late Prof. Garrod says (*Nature*, vol. x., p. 40):—"It is evident that the representation (Miss Thompson's) is correct, except in a very slight point, which is that the right hind-leg is on the ground, though just on the point of leaving it,

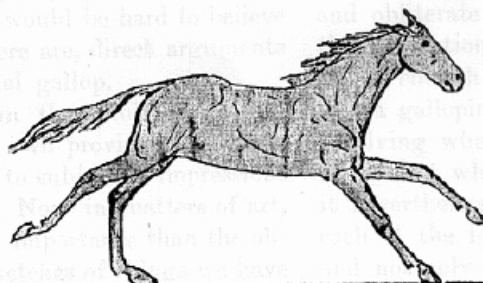
whereas it ought to be just off it, because in walking there are never more than two legs on the ground at the same time." This was written in 1874. At that time what I must call camerism was not invented. Art, if it did not believe in itself, had to accept this gracious concession to its weakness. But Dr. Stillman has come to the rescue, saying, "A horse (walking) never rests on two legs . . . one of the reserve feet holds the ground till the other has the start." If the observations of



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pace by the camera had come out before those by the odograph, science would have accepted Miss Thompson's horses and condemned some other artists'. If the never of Marey and the never of Stillman are both accepted, walking horses must be represented with all four feet on the ground or with none. Probably, in the meantime, artists, if they trouble themselves about the matter, will be inclined to accept both dicta, in so far as each one verifies some of their own observations.

Against the artistic conception of trotting, science has little to say. It appears that in this pace first one and then the other pair of diagonal feet reach the ground. This artists are admitted to have observed. Speaking roughly, they represent trotting in one of two ways: either with one diagonal pair of feet depicted as supporting, or at the moment when all four hoofs are in the air. All the feet raised suggests a fast trot, the other position a slow one. The remarkable thing is that this convention is not merely conventional. The artist has observed what the ear of science has noted (see Figs. 7 and 8)—viz., that in a fast trot the moment of suspension is the longest pause in the cycle of the stride, whilst in the slow trot it is very short. Professor Marey tells us that his experiments "confirm the standard theory of the trot." They do so except in one particular, which is brought to light by Dr. Stillman's photographs. It appears from these that when the trotting horse is in suspension, the fore-foot farthest in advance is stretched straight out with the sole at right angles to the leg. Artists often represent it curved. I shall discuss this departure from the "truth" later on in reference to the gallop, in regard to which painters and sculptors commit a similar so-called error.



THE PACES OF THE HORSE IN ART.—IV.

If artists are in the main correct about the slower paces,

