

in his power out of the stroke set to him. The greatest mechanical power is when the oar is at right angles to the rowlock. 'Work' is not placed at the same distance in all boats, but more or less in all the arms have begun to bend to row the stroke into the chest almost as soon as the oar has passed the right angle to the rowlock. Though the body should continue to swing back till the arms overtake it and the oar reaches the chest, yet from the instant that the elbow-joint begins to bend the stroke greatly decreases in physical power. Yet the diminution of physical power takes place at a time when the mechanical power of the oar is greater than it was at the commencement of the stroke. The further the body swings back, the later is it necessary for the arms to commence their bend, and consequently a greater amount of that work at which the mechanical power of the oar is greater, and is done with still rigid arms, and with use of the body and loins.

In teaching a man to swing back he should be told to hold his head well up. The weight, if thrown back, assists his swing, while if hanging forward it acts in the contrary direction. A very common fault of beginners is to be constantly looking at their chests, as if to see that they are well opened at the finish. It is like a man looking round in a glass to see if his coat fits him behind. Even if it did fit him before, the shape is disordered the moment he turns his head and neck to reconnoitre himself. He does best to allow some other person to inform him of the fit while he holds himself straight; and so with an oarsman—if he wants to make sure that his chest is open, let him hold up his head and trust to being told, at least, if it is not then open.

FAULTY FINISH.

As a sample of how one fault breeds others dependent upon it, let us take that of finishing the stroke with the biceps instead of the muscles behind the shoulders. Who ever saw a man who so finished, who did not also hollow his chest more or less, fail to sit thoroughly well up at the finish, and, finally, be irregular in his swing, to slow at first off the chest, with a bucket at the last to make up for lost ground (unless he saved the necessity for bucketing by only reaching out so far as he could without an extra rush at the end of the recovery, in which case rowing short is substituted for bucket)? The connection of all these faults can be traced. By finishing with the biceps the arm is bent more acutely at the elbow than in the orthodox finish. Then, if the elbows are kept close to

the sides, the bend of the arm brings the hands too high at the finish, thus the oar goes too deep—another fault in this variation. If the hands are maintained at the right level, the oar is saved from going deep. This can only be secured by dog's-earing the elbows, for they must go somewhere (the finish with the biceps bends the arm too acutely to admit of both hands and elbows being in correct position—one or other must give place, i. e., take up a wrong position). In either case, whether the hands are too high or the elbows too square at the finish, a bad recovery of the hands from the chest results; in the former version from the labour of bringing out a deeply buried oar, in the latter version from the position of the arms at the commencement of the recovery, for a man with his elbows at right angles to his ribs has not half so much power to push his oar away from him as one whose elbows are alongside of his body. The next stage is that the body, instead of being briskly led in its swing forward by the shoot of the hands, has to lead them, and the result of a lurch of the body against the oar, before the hands are well out, is a slouch and hollowing of the chest. All this wastes time in the recovery, and the lost time has to be made up by a bucket at the end of the swing, or a compromise in the way of a short reach, or getting late into the water.

WRONG GRASP.

A faulty hold of the oar is generally at the root of scores of faults—a too full grasp with the whole flat will be deadening the play of the wrist, causing the oar to sink deep, cramping the finish, and so hampering recovery, swing, time, etc. Thus of two pupils both may be rowing deep, both hanging at the chest, both late in swing forward, and bucketing, yet each from a different primary cause.

A loosening of the outside hand of the oar may be sometimes cause, sometimes effect. It may come from dog's-earing elbows, for an arm in this position is very prone to shirk its work at the finish from the inconvenience of its posture; or 'vice versa' the dog's-earing of the outside elbow only, the inside one being finished properly, will be the result of a loosened hand in most cases. The hand being loose, the work of the hand instinctively slackens with absence of work, the impulse to go on with the motion of the shoulder muscles at once vanishes, the hand has to get out of the way and to follow the oar home, and this it does with the more