ON THE
PROPER POSITION
IN
FRACTURE OF THE FOREARM.
IN REPLY TO SEMISUPINUS.

By JOHN CHADWICK, M.D., Bury, Lancashire.
TO THE EDITORS OF THE PROVINCIAL MEDICAL
JOURNAL.

GENTLEMEN,—I thank your correspondent, "Semisupinus," for the attention which he has given to my paper on the proper position in treatment of fractures of the forearm. He says, however, that he is "disposed to continue in the practice of setting fractures of the forearm in the middle state, between pronation and supination"—

1. From the *irksomeness* of the supine position in comparison with the semiprone one. Now, granting that the supine position is more irksome than the usual one, it does not therefore follow, that the usual is the proper one. It is always irksome to keep a set of muscles permanently on the stretch; but I contend that in proportion to the extension of the pronator muscles in treatment of this fracture, will be the extent of rotatory motion enjoyed by the patient afterwards; and it seems as easy to resist the "tendency to pronation" by suitable splints, when the pronator muscles are fully extended, as when they are only half extended; indeed, tendency to displacement is much less in all fractures after the lapse of two days from the time of setting. The arm naturally tends to the prone state after fracture; and in this state, the biceps having rolled the upper portion of the radius outwards, the pronators having rolled the lower one inwards, and the long supinators having been relaxed by flexure of the elbow, there is no restraint on any muscle, and they are all easy;—but the bone is in the worst possible posture.

2. "It is as easy to adapt the upper portion to the lower by semipronation, as it is to adapt the lower to the upper by supination; for with a splint at the back of the arm, from the elbow to the fingers, I think we command the position of the bones completely." Now, the upper portion of the bone not being displaced, but merely turned on its own axis, I should like to know how (till the bone is reunited) it can be brought into, or kept in, the semiprone position, and especially when the bone is not broken below its middle. In rotation of the hand, the radius revolves round the axis of the forearm; in doing this, it turns round its own axis in about two inches of its length at the upper end; whilst below this it rolls round the ulna. But when the radius is fractured, the whole of the upper portion turns on its own axis merely, and *cannot* be rolled back till the bone is united; so that, when fractured below the middle, it is not enough to push the lower end of the upper portion round the ulna to the semiprone position, seeing that it still remains turned on its own axis.

3. He next brings forward the result of his own experience, which seems to decide the matter against me. Some of my professional brethren here, also, who place the limb in the semiprone position, tell me that their experience of that position is quite satisfactory; but then they, like your correspondent, insist on the necessity of having the splints to extend "from the elbow to the fingers," and are very careful

not to let the hand fall into the prone posture. They have been more fortunate than I have been, or they must have overlooked some impairment of the rotatory motion of the hand. It is quite certain that many patients in this neighbourhood, after having had their arms in splints the requisite length of time, and finding themselves unable to supinate their hands, go off to bone-setters who insist on the necessity of "breaking the bone afresh," which means forcing the limb into the supine posture;—the results being, that the patient has perfect motion of the hand restored to him, and that ever after he believes himself to have been saved from permanent lameness.

Mr. Benjamin Phillips says ("Medical Gazette," May, 1840), the arm is "placed between pronation and supination, and supported by a sling across the chest; some persons place the palm against the chest, but the proper attitude is that in which the palm is directed upwards, so that, in the language of an old preceptor of mine, you can spit in it."

The "British and Foreign Medical Review," Oct., 1838, reviewing Mr. Lonsdale on Fractures, says, "Much time and space are occupied in proving that, in fracture of the forearm, the palm of the hand should not be placed against the chest. This was scarcely necessary; the common practice is not so; the dictum of our quandom instructor was, 'bring the hand so that you can spit into it.'"

Messrs. Boyer, Allan, S. Cooper, Liston, and Ferguson, recommend the semiprone posture, and I believe it is the posture generally chosen by surgeons in this country. They almost all urge the necessity of pressing the muscular substance into the interosseous space, to prevent impairment of the rotatory motions. On this point Mr. Syme says, it is "difficult to prevent the bones from approaching each other more or less, and uniting together so as to impede their rotatory motion." On the other hand, Mr. Phillips says, that "in museums, although we may see many cases of very deformed union, we very rarely see a specimen of perfect union between the bones."

Dr. Colles, of Dublin ("Edinburgh Journal," Vol. X), writes on a "fracture of the carpal extremity of the radius," for which he recommends that "a thick and firm compress be applied transversely on the anterior surface of the limb, at the seat of fracture, taking care that it shall not press on the ulna; let this be bound on firmly with a roller, and then let a tin splint, formed to the shape of the arm, be applied to both its anterior and posterior surfaces." The effect of a compress, thus applied, will be to force the lower fragment of the radius towards the supine posture.

Your correspondent brings no objection against the supine posture, except the allegation that it is comparatively irksome. He commences his note by avowing his determination to continue the middle posture, although he admits, in conclusion, that "he is inclined to believe that there do occur fractures of the radius high up, in which the supine position is best."

I hope that, after more observation and reflection on the matter, he will, in his next communication, subscribe himself, not "Semisupinus," but *Supinus*.

I am, Gentlemen,

Your obedient servant,

JOHN CHADWICK.

Bury, Lancashire, Oct. 24, 1843.