finally the arcs embouch into a path leading to an effector organ; and that their final path is common to all receptive points where­soever they may lie in the body, so long as they have connexion with the effector organ in question. Before finally converging upon the motor neurone the arcs converge to some degree. Their private paths embouch upon *internuncial* paths common in various degree to groups of private paths. The terminal path may, to distinguish it from internuncial common paths, be called *the final common path.* The motor nerve to a muscle is a collection of final common paths.

Certain consequences result from this arrangement. One of these is the preclusion of essential qualitative difference between nerve-impulses arising in different afferent nerves. If two conductors have a tract in common there can hardly be essential qualitative difference between their modes of conduction; and the final common paths must be capable of responding with different rhythms which different conductors impress upon it. It must be to a certain degree aperiodic. If its discharge be a rhythmic process, as from many considera­tions it appears to be, the frequency of its own rhythm must be capable of being at least as high as that of the highest frequency of any of the afferent arcs that play upon it; and it must be able also to reproduce the characters of the slowest.

A second consequence is that each receptor being dependent for final communication with its effector organ upon a path not exclusively its own but common to it with certain other receptors, such nexus necessitates successive and not simultaneous use of the common path by various receptors using it to *different or opposed* effect. When two receptors are stimulated simul­taneously, each of the receptors tending to evoke reflex action that for its end-effect employs the same final common path but employs it in a different way from the other, one reflex appears without the other. The result is *this* reflex or *that* reflex, but not the two together.

In the simultaneous correlation of reflexes some reflexes com­bine harmoniously, being reactions that mutually reinforce. These may be termed *allied reflexes,* and the neural arcs which they employ *allied arcs.* On the other hand, some reflexes, as mentioned above, are antagonistic one to another and incom­patible. These do not mutually reinforce, but stand to each other in inhibitory relation. One of them inhibits the other, or a whole group of others. These reflexes may in regard to one another be termed *antagonistic',* and the reflex or group of reflexes which succeeds in inhibiting its opponents may be termed “ prepotent ” for the time being.

*Allied Reflexes.—*The action of the principle of the final com­mon path may be instanced in regard to "allied arcs ” in the scratch-reflex as follows. If, while the scratch-reflex is being elicited from a skin point at the shoulder, a second point distant 10 mm. from the other point but also in the receptive field of skin, be stimulated, the stimulation at this second point favours the reaction from the first point. This is well seen when the stimulus at each point is of subminimal intensity. The two stimuli, though each unable separately to invoke the reflex, yet do so when applied both at the same time. This is not due to overlapping spread of the feeble currents about the stigmatic poles of the two circuits used. Weak cocainization of either of the two skin poles annuls it. Moreover, it occurs when localized mechanical stimuli are used. It therefore seems that the arcs from the two points, *e.g.* R*a* and R have such mutual relation that reaction of one of them reinforces reaction of the other, as judged by the effect on the final common path.

This reinforcement is really an instance of summation in the final common path. So also is the effect to which Exner has given the name of “ bahnung ” a phenomenon of frequent occurrence in reflex reactions. Suppose a stimulus (A) be applied which is too weak to elicit the reflex which were it stronger it could evoke. It is found that a second stimulus (B) also of itself too weak to evoke the reflex, will evoke the reflex if applied at a short interval after the application of (A). The two stimuli sum in their effect upon the final common path. The “ receptive field ” of a reflex is really the common area of commencement of a number of allied arcs. And reflexes whose arcs commence in receptive fields even widely apart may also have " allied ” relation. In the bulbo-spinal dog stimulation of the outer digit of the hind foot will evoke reflex flexion of the leg, and stimulation of each of the other digits evokes prac­tically the same reflex; and if stimulation of several of these points be simultaneously combined the same reflex as a result is obtained more readily than if one only of these points is stimulated. And to these stimulations may be added simul­taneously stimulation of points in the crossed fore foot; stimulation there yields by itself flexion of the hind leg; and under the simultaneous stimulation of fore and hind foot the flexion of the leg goes on as before, though perhaps more readily; that is, the several individual reflexes harmonize in their effect on the hind limb. Further, to these may be added simultaneous stimulation of the tail and of the crossed pinna; and the reflexes of these stimulations all coalesce in the same way in flexion of the hind limb. Exner has shown that, in exciting different points of the central nervous system itself, points widely apart exert " bahnung" for one another’s reactions and for various reflex reactions induced from the skin. Thus reflexes originated at different distant points, and passing through paths widely separate in the brain, converge to the same motor mechanism (final common path) and act har­moniously upon it. Reflex arcs from widely different parts con­join and pour their influence harmoniously into the same muscle. The motor neurones of a muscle of the knee are the *terminus ad quern* of reflex arcs arising in receptors not only of its own foot, but from the crossed fore foot and pinna and tail, also undoubtedly from the otic labyrinth, olfactory organs and eyes. Thus, if we take as a standpoint any motor nerve to a muscle it consists of a number of motor neurones which are more or less bound into a unit mechanism among the reflex actions of the organism a number can all be brought together as a *group,* because they all in their course converge together upon this motor mechanism, this *final common path,* activate it, and are in harmonious mutual relation with regard to it. They are in regard to it what were termed above " allied ” reflexes.

*Antagonistic Reflexes.—*But not all reflexes connected to one and the same common final path stand to one another in the rela­tion of “ allied reflexes.” Suppose during the scratch-reflex a stimulus be applied to the foot not of the scratching side, but of the opposite side. The left leg, which is executing the scratch­reflex in response to stimulation of the *left* shoulder skin is cut short in its movement by the stimulation of the *right* foot, although the stimulus at the shoulder to provoke the scratch movement is maintained unaltered all the time. The stimulus to the right foot will temporarily interrupt a scratch-reflex, or will cut it short or will delay its onset; which it does of these depends on the time-relations of the stimuli. The inhibition of the scratch-reflex occurs sometimes when the contraction of the muscles innervated by the reflex conflicting with it is very slight. There is interference between the two reflexes and the one is inhibited by the other. The final common path used by the left scratch-reflex is also common to the reflex elicitable from the right foot. This latter reflex evokes at the opposite (left) knee extension; in doing this it causes steady excitation of extensor neurones of that knee and steadily inhibits the flexor neurones. But the scratch-reflex causes rhythmic excitation of the flexor neurones. Therefore these flexor neurones in this conflict lie as a final common path under the influence of two antagonistic reflexes, one of which would excite them to rhythmical discharge four times a second, while the other would continually repress all discharge in them. There is here an antagonistic relation between reflexes embouching on one and the same final common path.

In all these forms of interference there is a competition, as it were, between the excitatory stimulus used for the one reflex and the excitatory stimulus for the other. Both stimuli are in progress together, and the one in taking effect precludes the other’s taking effect as far as the final common path is concerned; and the precise form in which that occurs depends greatly on