

The Bio-Cybernetic Feedback-system of the organ of mastication

Wrong positioned teeth with occlusal dysfunction will lead to various forms of dysfunction by lever arm forces to the temporomandibular joints, spasm and pain of the various muscles of mastication, head and shoulders.

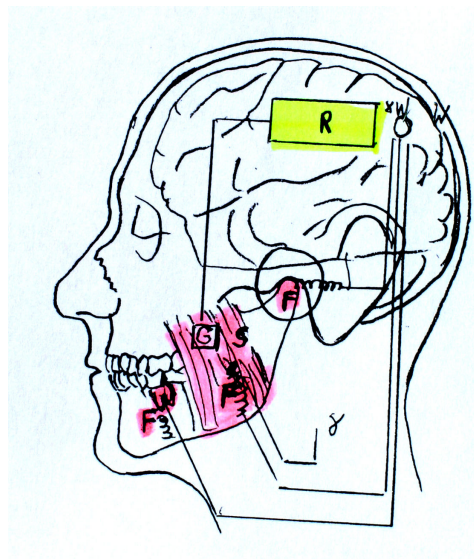


Fig.: Bio-Cybernetic Feedback-System of the craniomandibular system [G.H. Schumacher, "Die Funktionelle Anatomie", Hüthig Verlag 1985, Basics of Bio-Functional Orthodontics, BFO].

- R - central regulator- station
- F - sensors, receptor-systems (ends of nerves in parodontium of teeth, TMJ, muscles)
- G - the adjusting regulator G is the force produced by the chewing muscles
- S - the distance covered by the muscle contraction
- X - is the magnitude of regulation-order
- W - the set point (Sollwert) of the order, given by the brain, X_w - the standard deviation,
- Y - the magnitude of regulation
- γ - the setting of sensitivity (Empfindlichkeitseinstellung)