Testosterone in Male Songbirds May Enhance Desire to Sing, but Not Song Quality



For the male canary, the ability to sing a pitch-perfect song is critical to wooing female canaries. As the seasons change, so does song quality and frequency. The hormone testosterone plays a role in this changing song behavior.

Researchers at The Johns Hopkins University have found that introducing testosterone in select areas of a male canary's brain can affect its ability to successfully attract and mate with a female through birdsong. They also found that enhancing song activity based on testosterone in one brain area can change the size of a separate brain area that regulates song quality. These findings could shed light on how testosterone acts in the human brain to regulate speech or help explain how anabolic steroids affect human behaviors.

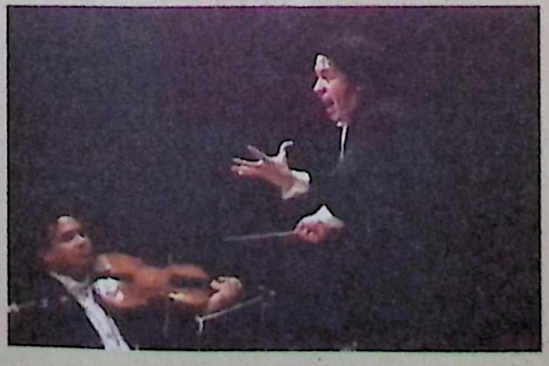
In a paper recently published in the journal *Proceedings of the National Academy of Sciences*, graduate student Beau Alward and Professor Gregory F. Ball found that when male canaries received testosterone in a specific area in the brain, the frequency of the song increased. However, the quality of songs sung did not change in comparison to the male birds that received testosterone throughout the brain.

Stress in the Orchestra: Mood Plays a Part



Even professional orchestra musicians suffer from particular stress on the day of the concert and release more cortisol, a steroid hormone. For the first time it has now been possible to demonstrate that, amongst others, the enzyme myeloperoxidase, which is regarded as a risk factor for cardiovascular disease, plays a part in the stress reaction in musicians. This effect is however dampened by an emotional factor: this is because a good mood reduces the stress-induced release of myeloperoxidase.

This is the core result of a current joint study carried out by the Institute for Occupational Medicine at the MedUni Vienna.



The stress reactions in 47 musicians and the conductor of the Austrian radio symphony orchestra, the ORF, were examined at the dress rehearsal and on the following day, the day of the premier, at Vienna's Musikverein. Saliva and blood samples were taken for the purpose of producing a cortisol profile and to measure the myeloperoxidase, which plays a major role in inflammatory processes – these were taken before and after each performance, as well as during the concert and rehearsal intervals.