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## **BIOLOGY OF AGGRESSION**

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The word “aggression” has many meanings. However, in our understanding it is a behavior that can lead to damage or destruction. For animals, aggression is necessary for survival, as human ancestors needed it. For modern people, it is a prerequisite for cruelty and violence, which can be pathological or even criminal.

In animals, there are several types of aggression: caused by fear, maternal, sexual and others. This mechanism is vital, due to it, animals are able to defend themselves, protect offspring or territory, and it helps predators to hunt.

In humans, aggression appears in different ways. Most often, it shows itself in the form of negative and destructive emotions, but sometimes aggression can be useful for a person as well. Unfortunately, sometimes superfluous aggression can develop to a mental illness associated with conduct disorders.

The main center for controlling fear and aggression in the human brain is the amygdala. This part is activated when danger signals are received from the environment. Another area of the brain responsible for aggressive behavior is the prefrontal cortex. It is responsible for controlling the signals from the amygdala, this center is responsible for calming aggression. The research that was carried out in 2000 found out that the increased level of aggression in murderers was associated with low activity in the prefrontal cortex.

Hormones are also important in the formation of aggressive behavior. Testosterone is responsible for it in both animals and humans. The research of 1989 revealed a strong relationship between the testosterone level and the degree of aggression. Serotonin is also important, low serotonin level is a prerequisite for a high level of aggression.

Other possible causes of aggression are: social, cultural, emotional, mental illnesses, brain injuries and even alcohol.

In conclusion, aggression is an important factor in the formation of human and animal behavior. By studying the causes of aggressive behavior from the side of biology, it is possible to predict and prevent violation and diseases associated with aggression, including preventing criminal behavior.

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