In work representations of researchers about the nature of integration of cages and bodies of a plant in formation of the neural doctrine of the organisation of nervous system of animals are analyzed. Darvin's contribution to doctrine development about phytohormones and electrophysiology of plants is noted. There are considered existing in the present time of a hypothesis of the integration, based on the various experimental facts. It is noticed, that an additional impulse to the decision of a problem of integration was creation in 2005 of a new direction of physiology of plants – neurobiology plants. An essential lack of all hypotheses is the exception of a phytomeasured principle of the organisation of structure of runaway of the plant. On the basis of sequence research formation the cone of increase and development of separate elements phytomers wheat runaway offers to consider each of phytomers as rather independent system. Autonomy degree phytomers is defined by presence and degree of a maturity of components of the control system − receptors, ways of carrying out of excitation, the central regulating elements, executive elements and feedback elements between receptors and executive elements. In ontogeny plants degree of their relative autonomy is constantly transformed. All educational fabrics are offered to be considered as executive elements and sclerenchyma as the central regulating elements of system of integration of cages and plant bodies. In work the attention to critical remarks concerning the recognition for sclerenchyma only mechanical, basic function is paid. The set of unresolved questions concerning an origin, growth and development, the organisation of the cellular wall and structure of cytoplasm of cages sclerenchyma − fibres and sclereids is noted. At studying of anatomy of stalk Populus nervirubens L. among various types of cages sclerenchyma the cages similar under the form neurons of animals, the having expanded sites cytoplasms (body), long and short shoots are found out.