Propositions accompanying the thesis

On the Orchestration of Cerebellar Output

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I. A cerebellar contribution to cognition is likely, but the question remains whether it is direct or indirect.

II. Cerebellar plasticity mechanisms should include adaptation effects of complex spike firing conditions.

III. Inferior olivary properties are crucial for spatial and temporal aspects of corticocerebellar convergence.

IV. Purkinje cell ensembles are dynamically coupled, orchestrated by the inferior olive.

V. While Purkinje cell spiking is critical for learning (i.e. "how does the cerebellar firing adapt?"), the cerebellar nuclei firing is crucial for the expression of learned spiking patterns (i.e. "how does the cerebellum support the cerebrum and contribute to behavior?"); do not mix up these interrelations.

VI. The large amount of data that comes with many neuroscience experiments these days necessitates analytical skills of neuroscientists; departments should foster this.

VII. Good research involves logic and a critical mind, both of which are vital to question results and embed them into the existing framework of knowledge.

VIII. If you do not know how to ask the right question, you discover nothing. - *W. Edward Deming*

IX. Tell me and I forget. Teach me and I remember. Involve me and I learn. - *Benjamin Franklin*

X. Some advice: keep the flame of curiosity and wonderment alive, that is the well from which we scientists draw our nourishment and energy. And also, learn the math. Math is the language of nature, so we have to learn this language. - *adapted from Michio Kaku*

XI. By all means let's be open-minded, but not so open-minded that our brains drop out. - *Richard Dawkins*