EEG and ECoG (Electrocorticogram) can be used successfully to initiate direct brain communication with locked-in patients but fail in completely locked-in patients. Possible reasons are explained and some new solutions with first data presented. In chronic stroke the author's team together with L. Cohen's group at NIH have shown motor restoration of paralysed hand in chronic stroke without residual movement using non-invasive MEG/BCI. However generalization from the BCI-clinic to the social reality was poor. A new strategy for invasive and non-invasive BCI in chronic stroke is demonstrated and first data presented.

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