$$\text{curv-linear } EH(g) = \int^{M} \overset{*}{\mathrm{Tr}}\ \mathrm{Ric}\ g_{M} = \int^{M} \overset{*}{\mathrm{Tr}}_{\gamma}\ \mathrm{curv}\ D_{A}$$

$$\text{curv-quadratic } YM(A) = \int^{M} \overset{*}{\mathrm{tr}}\, g_{M} \left(F_{A} {:} F_{A}\right) = \int^{M} \overset{*}{\mathrm{tr}}_{\gamma}\, F_{A}^{2}$$

$$D_{A} F_{A} = 0$$

$$D_{A} = d_{A} + \varepsilon\, \delta_{A}$$

$$D_{A}^{2} = \varepsilon\, \mathrm{ev}_{g} \left(\partial_{A}^{2}\right) - \frac{\varepsilon}{4}\ \mathrm{tr}\ \mathrm{Ric}\ g_{M} + F_{A}$$

$$\Omega^{*}(M{:}\ \mathrm{End}\ \mathcal{S}) \xrightarrow{\text{quant}} \Gamma(M{:}\ \mathrm{End}\ \mathcal{S})$$

$$\omega \mathbin{⧗} \chi \mapsto \gamma_{\varepsilon} \left(\sigma_{\mathrm{Ch}}^{-1}(\omega)\right) \ltimes \chi$$

$$D \ast \daleth = \gamma_{\varepsilon}(d \daleth)$$

$$D \text{ odd Dirac}$$