$$b^{\alpha \uparrow n} = \left(\cdots \left(\left(b^{\,\alpha} \right)^{\alpha} \right)^{\cdots} \right)^{\alpha} = b^{(\alpha^n)}$$

$$\underbrace{\phantom{\left(\cdots \left(\left(b^{\,\alpha} \right)^{\alpha} \right)^{\cdots} \right)^{\alpha}}}_{n \text{ times}}$$

Plus ambigü : $b\underbrace{\,{}^{\alpha^{\alpha^{\cdots \alpha}}}}_{n \text{ times}} = b^{(\alpha^n)}$