**Definition 4.12.** [292]*Having fixed the parameter* $h \in \mathbb{N}$, *we define the operation* $h + \cdot$, *which will be a function* $f_h : \mathbb{N} \to \mathbb{N}$ *given by* $f_h(n) = h + n$, *using a recursive definition: we wish to express the rules*

- $h + 0 = h \quad ,$
- $\forall n \in \mathbb{N}, h + S(n) = S(h + n) \quad .$

*To this end, set* $A = \mathbb{N}$, *and* $\mathrm{g}(n, a) = S(a)$, *we rewrite the above as recursive rules for* $f_h$

- $f_h(0) = h \quad ,$
- $\forall n \in \mathbb{N}, f_h(S(n)) = \mathrm{g}(n, f_h(n)) = S(f_h(n)) \quad .$

*This defines recursively* $f_h$. *Considering then the parameter* $h$ *as a variable, we have constructed the addition operation, and we define the operation "+" between natural numbers as* $h + n = f_h(n)$.