Computing with ‘Logically Possible Partly-Fregean Interpretations’

Let \( h \) be the meaning assignment determined by the logically possible partly-Fregean interpretation in (53) of the handout “Fregean Interpretations.”

(i)  \[
    h((\lambda P_4 \exists x_3 (\text{man'} \ x_3) \& (P_4 \ x_3))) = \quad \text{(by definition of Politics+\( \lambda \))}
\]

(ii) \[
    h( F_\lambda ( P_4, F_\exists (x_3, F_\text{And}(F_\text{Concan} \text{man}, x_3), F_\text{Concan}(P_4, x_3))) = \quad \text{(by homomorph. of h)}
\]

(iii) \[
    G_\lambda ( h(P_4), G_\exists ( h(x_3), G_\text{And}( G_\text{Concan}( h(\text{man}), h(x_3)), G_\text{Concan}( h(P_4), h(x_3)))) = \quad \text{(by def. of h)}
\]

(iv) \[
    G_\lambda ( f(P_4), G_\exists ( f(x_3), G_\text{And}( G_\text{Concan}( f(\text{man}), f(x_3)), G_\text{Concan}( f(P_4), f(x_3)))) = \quad \text{(by def. of f)}
\]

(v) \[
    G_\lambda ( f(P_4), G_\exists ( f(x_3), G_\text{And}( G_\text{Concan}( mn, f(x_3)), G_\text{Concan}( f(P_4), f(x_3)))) = \quad \text{(by def. of G_\lambda)}
\]

(vi) The function \( L \) such that if \( g \in J \), \( L(g) = \)

The function \( p \) with domain \( D_{<e,t>,E} \) such that for any \( x \in D_{<e,t>,E} \),
\[
    p(x) = G_\exists ( f(x_3), G_\text{And}( G_\text{Concan}( mn, f(x_3)), G_\text{Concan}( f(P_4), f(x_3))) (g(P_4/x)) = \quad \text{(by def. of G_\exists)}
\]

(vii) The function \( L \) such that if \( g \in J \), \( L(g) = \)

The function \( p \) with domain \( D_{<e,t>,E} \) such that for any \( x \in D_{<e,t>,E} \),
\[
    p(x) = 1 \quad \text{iff there is an } y \in D_{e,E} \text{ such that }
    G_\text{And}( G_\text{Concan}( mn, f(x_3)), G_\text{Concan}( f(P_4), f(x_3))) (g(P_4/x))(x_3/y) = 1 \quad \text{(by meta-logic)}
\]

(viii) The function \( L \) such that if \( g \in J \), \( L(g) = \)

The function \( p \) with domain \( D_{<e,t>,E} \) such that for any \( x \in D_{<e,t>,E} \),
\[
    p(x) = 1 \quad \text{iff there is an } y \in D_{e,E} \text{ such that }
    G_\text{And}( G_\text{Concan}( mn, f(x_3)), G_\text{Concan}( f(P_4), f(x_3))) (g(P_4/x)(x_3/y)) = 1 \quad \text{(by def. of G_\text{And})}
\]

(ix) The function \( L \) such that if \( g \in J \), \( L(g) = \)

The function \( p \) with domain \( D_{<e,t>,E} \) such that for any \( x \in D_{<e,t>,E} \),
\[
    p(x) = 1 \quad \text{iff there is an } y \in D_{e,E} \text{ such that }
    [\text{The function Conj such that if } g' \in J, \text{ then Conj}(g') = 1 \quad \text{iff }]
    G_\text{Concan}( mn, f(x_3))(g') = 1 \quad \text{and } G_\text{Concan}( f(P_4), f(x_3))(g') = 1 \quad \text{(by meta-logic)}
\]
The function $L$ such that if $g \in J$, $L(g) =$

The function $p$ with domain $D_{<e,t>,E}$ such that for any $x \in D_{<e,t>,E}$,

$p(x) = 1$ iff there is a $y \in D_{e,E}$ such that

$G_{\text{Concat}}(mn, f(x_3)) \cdot (g(P_4/x)(x_3/y)) = 1$ and $G_{\text{Concat}}(f(P_4), f(x_3)) \cdot (g(P_4/x)(x_3/y)) = 1$

= (by def. of $G_{\text{Concat}}$)

The function $L$ such that if $g \in J$, $L(g) =$

The function $p$ with domain $D_{<e,t>,E}$ such that for any $x \in D_{<e,t>,E}$,

$p(x) = 1$ iff there is a $y \in D_{e,E}$ such that

$mn((g(P_4/x)(x_3/y))(f(x_3) \cdot (g(P_4/x)(x_3/y)))) = 1$ and $f(P_4)((g(P_4/x)(x_3/y))(f(x_3) \cdot (g(P_4/x)(x_3/y)))) = 1$

= (by (53))

The function $L$ such that if $g \in J$, $L(g) =$

The function $p$ with domain $D_{<e,t>,E}$ such that for any $x \in D_{<e,t>,E}$,

$p(x) = 1$ iff there is an $y \in D_{e,E}$ such that

$i(g(P_4/x)(x_3/y))(x_3)) = 1$ and $g(P_4)(x_3)(P_4)(g(P_4/x)(x_3/y))(x_3)) = 1$

= (by def. of ‘Logically Possible Partly-Fregean Interpretation')

Thus, $h((\lambda P_4 \exists x_3 ((\text{man'} x_3) \& (P_4 x_3))))$ is computed to be a constant function on variable assignments.

- It maps every variable assignment to the function $p$, which is the characteristic function of the set of $<e,t>$ functions $f$ which map some man to 1.
- Thus, it maps every variable assignment to the ‘set of properties that some man has’

Note the parallel to our model theoretic semantics from the handout “Preliminaries”:
Let $\mathcal{M}$ be the model defined in (13) of “Preliminaries”. Let $g$ be any variable assignment based on $\mathcal{M}$.

$$[[((\lambda P_4 \exists x_3 ((\text{man'} x_3) \& (P_4 x_3))))]]^{M,g} =$$

The function $p$ with domain $D_{<e,t>,E}$, range $D_{t,E}$ and for all $x \in D_{<e,t>,E}$,

$p(x) = 1$ iff there is a $y \in D_{e,E}$ such that $i(y) = 1$ and $x(y) = 1$