ション・西・・日・・日・ション

• Assign a new atom – a *propositional indeterminate* to every propositional demonstrative: **p** to **this**, **q**_n to **that**_n. The class of Russellian propositions over this extended set of atoms is *ParPROP* (parametric propositions).

- Assign a new atom a propositional indeterminate to every propositional demonstrative: p to this, q_n to that_n. The class of Russellian propositions over this extended set of atoms is *ParPROP* (parametric propositions).
- The function *Val* renders parametric Russellian propositions in the parameters **q**_i, **q**_j, ...**q**_n(and **p**) to the sentence φ if φ contains the demonstratives **that**_i, **that**_j, ... (and loose occurrences of **this**).

- Assign a new atom a *propositional indeterminate* to every propositional demonstrative: **p** to **this**, **q**_n to **that**_n. The class of Russellian propositions over this extended set of atoms is *ParPROP* (parametric propositions).
- The function *Val* renders parametric Russellian propositions in the parameters **q**_i, **q**_j, ...**q**_n(and **p**) to the sentence φ if φ contains the demonstratives **that**_i, **that**_j, ... (and loose occurrences of **this**).
- The clauses that define *Val* are all as you would expect. The single interesting one is that for the scope operator:

- Assign a new atom a propositional indeterminate to every propositional demonstrative: p to this, q_n to that_n. The class of Russellian propositions over this extended set of atoms is *ParPROP* (parametric propositions).
- The function *Val* renders parametric Russellian propositions in the parameters **q**_i, **q**_j, ...**q**_n(and **p**) to the sentence φ if φ contains the demonstratives **that**_i, **that**_j, ... (and loose occurrences of **this**).
- The clauses that define *Val* are all as you would expect. The single interesting one is that for the scope operator:
- $Val(\downarrow \varphi)$ is the solution $p \in ParPROP$ of the equation

٠

$$\mathbf{p} = Val\varphi(\mathbf{p}, \mathbf{q}_i, \mathbf{q}_j, \dots)$$

Contexts

• The *context* for a(n use of a) sentence is a function that assigns values to every demonstrative (in our case: propositions to every loose propositional demonstrative).

- The *context* for a(n use of a) sentence is a function that assigns values to every demonstrative (in our case: propositions to every loose propositional demonstrative).
- The context *c* assigns the value *q_i* ∈ *Prop* to the demonstrative that_i.

- The *context* for a(n use of a) sentence is a function that assigns values to every demonstrative (in our case: propositions to every loose propositional demonstrative).
- The context *c* assigns the value *q_i* ∈ *Prop* to the demonstrative that_i.
- The sentence *φ* expresses the following proposition in the context *c* :

 $Exp(\varphi, c) = Val(\varphi)(q_1, q_2, ..., q_n)$

- The *context* for a(n use of a) sentence is a function that assigns values to every demonstrative (in our case: propositions to every loose propositional demonstrative).
- The context *c* assigns the value *q_i* ∈ *Prop* to the demonstrative that_i.
- The sentence *φ* expresses the following proposition in the context *c* :

$$Exp(\varphi,c) = Val(\varphi)(q_1,q_2,...q_n)$$

 What if the sentences φ₁, φ₂, ...φ_n refer to each other (through propositional connectives)?

|▲□▶▲圖▶▲≣▶▲≣▶ | 差||| 釣ぬの

If we have a sequence of sentences φ₁, φ₂, ...φ_n, we want that the proposition expressed by φ₁ should be assigned to **that**₁, etc. (and arbitrary propositions may be assigned to demonstratives with indexes greater than n).

- If we have a sequence of sentences φ₁, φ₂, ...φ_n, we want that the proposition expressed by φ₁ should be assigned to **that**₁, etc. (and arbitrary propositions may be assigned to demonstratives with indexes greater than n).
- A context for the sequence φ₁, φ₂, ...φ_n is a function that assigns q_i to that_i for every i ≤ n and arbitrary (non-parametric) propositions to every i > n. Let us denote the function doing this assignment for i > n by c and its extension for the indexes i ≤ n by (q₁, q₂, ...q_n, c). This latter one is a context in the previous sense

- If we have a sequence of sentences φ₁, φ₂, ...φ_n, we want that the proposition expressed by φ₁ should be assigned to **that**₁, etc. (and arbitrary propositions may be assigned to demonstratives with indexes greater than n).
- A context for the sequence φ₁, φ₂, ...φ_n is a function that assigns q_i to that_i for every i ≤ n and arbitrary (non-parametric) propositions to every i > n. Let us denote the function doing this assignment for i > n by c and its extension for the indexes i ≤ n by (q₁, q₂, ...q_n, c). This latter one is a context in the previous sense
- By the Solution Lemma, there is an unique sequence of propositions q₁, q₂, ...q_n such that for every i ≤ n

 $Exp(\varphi_i, (q_1, q_2, \dots, q_n, c)) = q_i$

• States of affairs (*soas*) are *n*-tuples of the following forms:

< H, a, c, i >, < Tr, p, i >, < Bel, a, p, i >

• States of affairs (*soas*) are *n*-tuples of the following forms:

< H, a, c, i >, < Tr, p, i >, < Bel, a, p, i >

The class of states of affairs: SOA

• Situations are subsets of SOA. The class of situations: SIT.

• States of affairs (*soas*) are *n*-tuples of the following forms:

< H, a, c, i >, < Tr, p, i >, < Bel, a, p, i >

- Situations are subsets of SOA. The class of situations: SIT.
- A situation *s* makes true (models) (⊨) an atomic proposition iff the witnessing *soa* is in *s*.

• States of affairs (*soas*) are *n*-tuples of the following forms:

< H, a, c, i >, < Tr, p, i >, < Bel, a, p, i >

- Situations are subsets of SOA. The class of situations: SIT.
- A situation *s* makes true (models) (⊨) an atomic proposition iff the witnessing *soa* is in *s*.
- It can be uniquely extended for compound propositions.

• States of affairs (soas) are *n*-tuples of the following forms:

< H, a, c, i >, < Tr, p, i >, < Bel, a, p, i >

- Situations are subsets of SOA. The class of situations: SIT.
- A situation *s* makes true (models) (⊨) an atomic proposition iff the witnessing *soa* is in *s*.
- It can be uniquely extended for compound propositions.
- The dual is a *soa* is the *soa* with the other *i*.

• \mathfrak{M} makes true resp. false the proposition p ($\mathfrak{M} \models p/\mathfrak{M} \not\models p$) if there is resp. there is no situation $s \subseteq \mathfrak{M}$ such that $s \models p$.

- \mathfrak{M} makes true resp. false the proposition p ($\mathfrak{M} \models p/\mathfrak{M} \not\models p$) if there is resp. there is no situation $s \subseteq \mathfrak{M}$ such that $s \models p$.
- *p* is true resp. false in \mathfrak{M} iff $< Tr, p, 1 > / < Tr, p, 0 > \in \mathfrak{M}$.

- \mathfrak{M} makes true resp. false the proposition p ($\mathfrak{M} \models p/\mathfrak{M} \not\models p$) if there is resp. there is no situation $s \subseteq \mathfrak{M}$ such that $s \models p$.
- *p* is true resp. false in \mathfrak{M} iff $< Tr, p, 1 > / < Tr, p, 0 > \in \mathfrak{M}$.
- \mathfrak{M} is coherent iff it does not contain a *soa* and its dual together.

- \mathfrak{M} makes true resp. false the proposition p ($\mathfrak{M} \models p/\mathfrak{M} \not\models p$) if there is resp. there is no situation $s \subseteq \mathfrak{M}$ such that $s \models p$.
- *p* is true resp. false in \mathfrak{M} iff $< Tr, p, 1 > / < Tr, p, 0 > \in \mathfrak{M}$.
- \mathfrak{M} is coherent iff it does not contain a *soa* and its dual together.
- \mathfrak{M} is a weak model iff (it is coherent and if a proposition *p* is true resp. false in \mathfrak{M} the \mathfrak{M} makes *p* true resp. false).