

$$1. \{(i, n) \mid \exists P_1, P_2. \text{WROTE}(i, P_1) \wedge \text{WROTE}(i, P_2) \wedge \neg(P_1 \approx P_2) \wedge$$

$$(\exists J. \text{ARTICLE}(P_1, J, -, -) \wedge \text{ARTICLE}(P_2, J, -, -) \wedge \text{JOURNAL}(J, -, -, -))\}$$

$$2. \{(t, y) \mid \exists \text{aid}, P. \text{AUTHOR}(\text{aid}, \text{Caid}) \wedge \text{WROTE}(\text{aid}, P) \wedge$$

$$((\text{BOOK}(P, -, y) \wedge \text{PUBLICATION}(P, t)) \vee$$

$$(\exists j, p. \text{ARTICLE}(P, j, p, -, -) \wedge \text{PUBLICATION}(P, t) \wedge (\text{JOURNAL}(j, -, -, y) \vee \text{PROCEEDINGS}(j, p, y)))\}$$

$$3. \{(\text{aid}) \mid \exists P_1, P_2. \text{WROTE}(\text{aid}, P_1) \wedge \text{WROTE}(\text{aid}, P_2) \wedge \neg(P_1 \approx P_2) \wedge$$

$$(\exists \text{aid}_2. \forall P. \neg(\text{WROTE}(\text{aid}, P) \vee \text{WROTE}(\text{aid}_2, P)) \wedge \neg(\text{aid}_2 \approx \text{aid}))\}$$

$$4. \{(\text{aid}, n) \mid \text{AUTHOR}(\text{aid}, n) \wedge$$

$$\forall y. ((2015 \leq y) \wedge (y \leq 2019) \wedge \exists P. (\text{WROTE}(\text{aid}, P) \wedge$$

$$(\text{BOOK}(P, -, y) \vee$$

$$(\exists j, p. \text{ARTICLE}(P, j, p, -, -) \wedge (\text{JOURNAL}(j, -, -, y) \vee \text{PROCEEDINGS}(j, p, y))))\}$$

$$5. \forall P_1, P_2, j, p, s_1, s_2, e_1, e_2. \text{ARTICLE}(P_1, j, p, s_1, e_1) \wedge \text{ARTICLE}(P_2, j, p, s_2, e_2) \wedge (s_1 \leq e_1) \wedge (s_2 \leq e_2) \wedge$$

$$\neg(P_1 \approx P_2) \rightarrow ((s_1 \leq s_2) \vee (s_1 \geq e_2)) \vee ((e_1 \leq s_2) \vee (e_1 \geq e_2))$$

$$6. \forall P. \text{JOURNAL-OR-PROCEEDINGS}(P) \rightarrow \forall \text{aid}. \neg \text{WROTE}(\text{aid}, P)$$