Immanuel Kant's contradictory subtlety of four syllogistic figures

This paper adopts and keys to the translated arguments (following) by the anonymous author of:

en.wikipedia.org/wiki/The_contradictory_Subtlety_of_the_Four_Syllogistic_Figures

for Immanuel Kant (1762), "The contradictory subtlety of the four syllogistic figures proved", (Die falsche spitzfindigkeit der vier syllogistischen figuren erwiese).

The Meth8 modal logic prover checks five models using system VŁ4, a variant of Łukasiewicz' quaternary logic. Symbols are:

~ Not, & And, > Imply, = Equivalent, + Or, # necessity (all), % possibility (some),
vt tautologous, nvt not tautologous, T Tautologous, E Evaluated (designated truth values)

Section III Of pure and mixed ratiocination

III: LET: p thing, q immortal, r man, s Socrates

(((~p=r)>(~r=q))&(s=r))>(~s=q) ; nvt (III.1)

```
FTTT TTTT TTTT TTTF   UEEE EEEE EEEE EEEU   UEEE EEEE EEEE EEEU   UEEE EEEE EEEE EEEU   UEEE EEEE EEEE EEEU
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

(((~p&q)=r)&(s=r))>(s=q) ; nvt (III.2.1)

```
TTTF TTTT TTTT TTTT   EEEU EEEE EEEE EEEE   EEEU EEEE EEEE EEEE   EEEU EEEE EEEE EEEE   EEEU EEEE EEEE EEEE
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

((((~p&q)=r)>(~r=q))&(s=r))>(s=q) ; nvt (III.2.2)

```
TTFF TTTT TTTT FFTT   EEUU EEEE EEEE UUEE   EEUU EEEE EEEE UUEE   EEUU EEEE EEEE UUEE   EEUU EEEE EEEE UUEE
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

Section IV In the so-called first figure only pure ratiocinations are possible, in the remaining figures only mixed ratiocinations are possible.

IV.1: LET: p A, q B, r C

((r=q)&(p=r))>(p=q) ; vt (IV.1)

IV.2: LET p A, q B, r C

((~q=r)&(p=r))>(p=~q) ; vt (IV.2)

IV.3: LET: p mammals, q air breathers, r animals

((#p=q)&(#p=r)) > (%p=q) ; nvt (IV.3.1)

```
NNTT TTTT NNTT TTTT   EEEE EEEE EEEE EEEE   UUEE EEEE UUEE EEEE   IIEE EEEE IIEE EEEE   PPEE EEEE PPEE
EEEE
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

(((#p=q)&(#p=r)) > (%r=p)) > (%r=q); nvt (IV.3.2)

```
TNCC FFTT TNCC FFTT   EEUU UUEE EEUU UUEE   EUEE UUEE EUEE UUEE   EIPP UUEE EIPP UUEE   EPII UUEE EPII
UUEE
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

IV.4: LET: p man, p+p persons, q learned, r stupid, s pious

(((~r&p)=q) & ((%q&(p+p))=s)) > ((%s&(p+p))=~r) ; nvt (IV.4.1)

```
FTTT TTTT TTTT TNTT   UEEE EEEE EEEE EEEE   UEEE EEEE EEEE EUEE   UEEE EEEE EEEE EIEE   UEEE EEEE EEEE
EPEE
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

((((~r&p)=q)>((~q&(p+p))=r)) & (((%q&(p+p))=s)>
((%s&(p+p))=q))) >((%s&(p+p))=~r) ; nvt (IV.4.2)

```
FCTC TNTN FTFT TCTF   UUEU EEEE UEUE EUEU   UEEE EUEU UEUE EEEU   UPEP EIEI UEUE EPEU   UIEI EPEP UEUE
EIEU
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

((((~r&p)=q)>((~q&(p+p))=r)) & (((%q&(p+p))=s)>
((%s&(p+p))=q))) >((%s&(p+p))=~r) ; nvt (IV.4.2)

```
FCTC TNTN FTFT TCTF   UUEU EEEE UEUE EUEU   UEEE EUEU UEUE EEEU   UPEP EIEI UEUE EPEU   UIEI EPEP UEUE
EIEU
Model 1               Model 2.1             Model 2.2             Model 2.3.1           Model 2.3.2
```

Eq IV.1 and IV.2 are tautologous; all others are not tautologous.

This shows that the comments in the article as to how to fix up the syllogisms are mistaken, but nevertheless renders Kant's essay as a historical record to bear the logic of the time.