Validity of PEM and PNC

ϕ	∨	¬	ϕ
1	1	0	1
0	1	1	0

¬	(ϕ	∧	¬	ϕ)
1	1	0	0	1
1	0	0	1	0

Validity of PEM and PNC

ϕ	∨	¬	ϕ		¬	(ϕ	∧	¬	ϕ)
1	1	0	1		1	1	0	0	1
0	1	1	0		1	0	0	1	0

If we assume that formulas can take value 0 or 1 (i.e. **principle of bivalence**), then PEM and PNC are both **valid**.

What Happens to PEM and PNC if we Drop Bivalence?