what does "abnormal" mean in popper's theory?

In Popper's framework, a conditioning event B is **abnormal** exactly when conditioning on B "collapses" and becomes trivial—i.e., the conditional probability function $P(- \mid B)$ is not a genuine (finitely additive) probability measure.[1]

More formally (following the standard axiomatics): B is called abnormal iff $P(B^c \mid B) = 1$. When B is abnormal, it follows that $P(A \mid B) = 1$ for **every** event/proposition A (including $A = \emptyset$), so conditioning on B yields the constant-1 function. Equivalently, B is abnormal iff $P(\emptyset \mid B) = 1$, and these equivalent characterizations are proved as standard facts about Popper functions.[1]

By contrast, when B is **normal** (not abnormal), $P(- \mid B)$ *is* a finitely additive probability function and the Popper **product axiom** holds (so you recover the usual multiplicative behavior of conditional probability on that conditioning context).[1]

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1. ranked_truth_tables.pdf

2. image.jpg

3. pm.pdf

4. probability_table.jpg