



Alpha and beta error

As of 3.2011, Dr. Rolf Signer (Edit 22.9.2011, Florian Stellmacher; Translation)

Term

When deciding, fundamental errors can occur.

Alpha error (Type I error): The occurrence of a circumstance is rejected – but it still occurs.

Beta error (Type II error): One supposes the occurrence of a circumstance – but it does not occur.

«Organising a party» – Alpha error(double risk dilemma)

One rejects the hypothesis, that no rain will fall.

Because one assumes it will rain, one decides to remain indoors to avoid the "worst case".

However, it does not rain during the party.

The resulting effect is neither the best nor the worst of all effects to be expected.

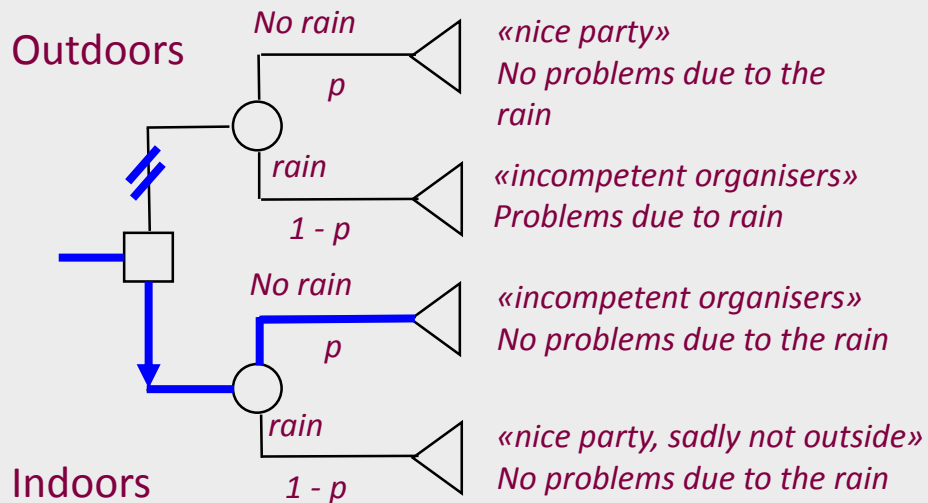


Image: R. Signer

«Organising a party» – Beta error (double risk dilemma)

The hypothesis, that no rain will fall is assumed.

Because one assumes that no rain will fall, one decides to have the party outside: striving for the "best case".

However, it rains during the party.

The resulting effect is the worst of all effects.

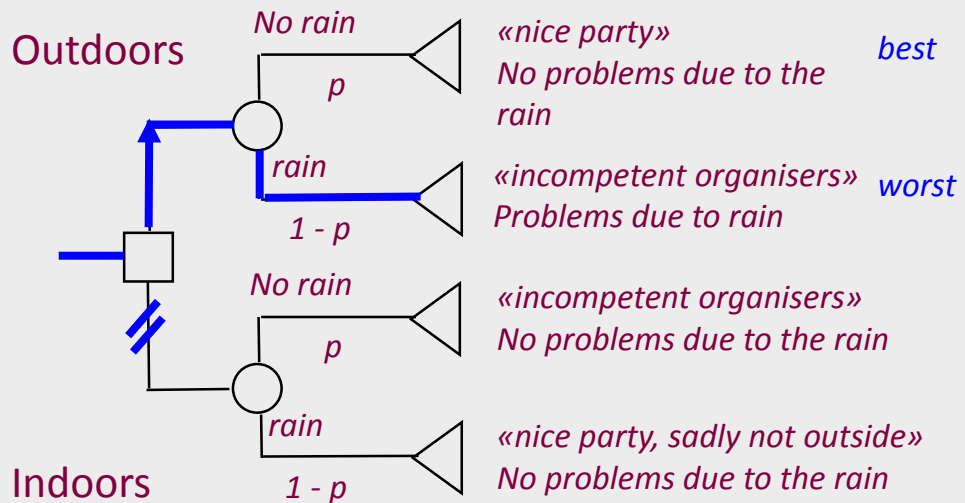
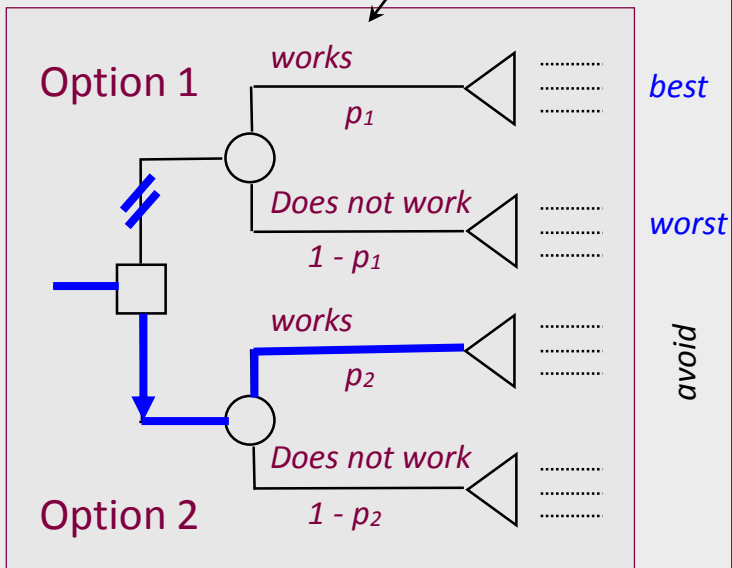


Image: R. Signer

The general form of the alpha and beta error in the double risk dilemma.

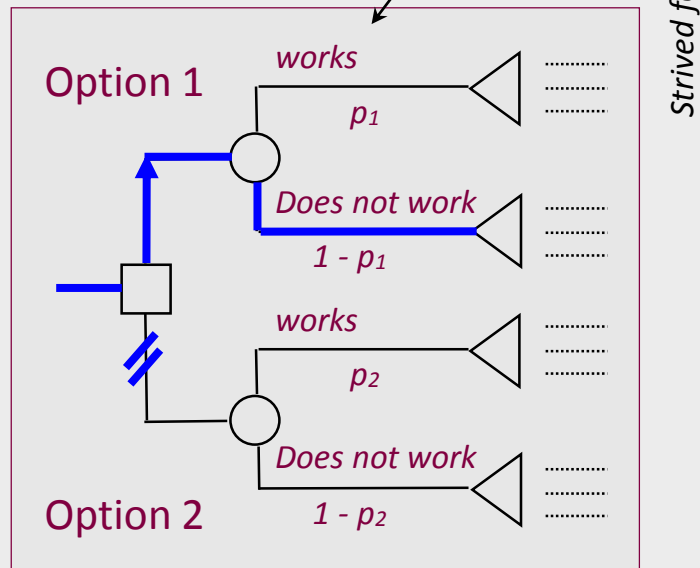
Alpha error

Rejected by mistake



Beta error

Assumed by mistake



Conclusion

When deciding, fundamental errors can occur.

Considering both types of errors is of decisive importance when handling circumstances in spatial planning.



Signer, R. (1994): Argumentieren in der Raumplanung. Zürich