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The non-concept of 'war-proneness': Naar aanleiding van H. W. Houweling and J. G. Siccama, War in the foreign policies of nations, Acta Politica, 1981 nr. 1, 67-99
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Pielou points out: '... whatever λ 's true distribution it is likely that some type III curve can be found to approximate it closely. A true type III variate may have any nonnegative value and the curve may be unimodal or J-shaped'.⁵ In other words: a Pearson type III distribution fits (almost) any data and its explanatory power is therefore very limited. To expand our argument: since the nbd is a compound Poisson, we are free to define the component Poisson distributions in whichever way we like. Houweling and Siccama postulated different groups of nations to have different, but within groups constant chances of war participation. Had they postulated that all nations had an equal, but in different time periods different probability of war engagement, the same nbd would have followed and the same fit to the data sets would have been obtained. Thus, we are not able to choose between all different compound Poisson distributions imaginable, let alone to decide into which 'fruitful directions' to steer our research into the underlying causes. Besides, rather than derive the nbd as a compound Poisson, we may obtain it as a generalized Poisson distribution.⁶ In war-proneness terminology this amounts to assuming that there are groups of nations with a certain war engagement probability, but that the number of nations per group is a random variate. (In the compound Poisson it is the war engagement expectancy which is the random variate). In this case the same fit to the data sets would also obtain, opening up an even wider field of research.

To add to the richness of research possibilities, there are several more statistical distributions, that are likely to give a good enough fit to the data sets. We mention the logarithmic and geometric series and the Poisson log-normal distributions.⁷ If one or more of those would fit the data sets at or below the chosen level of probability, more sets of war-proneness assumptions could be worked out for further scrutiny. However, 'while specific... assumptions imply a unique statistical distribution, the converse is not true; a variety of different circumstances can imply the same distribution'.⁸ Therefore, contrary to what Houweling and Siccama's paper purports⁹, war-proneness analysis does not effectively restrict the scope of research into war causation.

We conclude that war-proneness as a statistical concept is irrelevant for the study of war causation. If one consults Pielou to extract the formulae of the nbd¹⁰, one can hardly fail to notice her statement in the next paragraph that 'it is futile to try to reach conclusions about the mechanism underlying a particular observed pattern simply by examining the observed distribution of the number of individuals per unit'.¹¹ Although Houweling and Siccama have indicated that they themselves are aware of this¹², they appear to have failed to grasp its full implication, namely that their approach cannot yield worthwhile results.¹³

Notes

1. Houweling, H. W. and Siccama, J. G. (1981), 'War in the Foreign Policies of Nations: An Analysis of War-Proneness', In: *Acta Politica*, Vol. 16, pp. 67-99.
2. *Op. cit.*, p. 76.
3. Pielou, E. C. (1969), *An Introduction to Mathematical Ecology*, New York: Wiley. We used the revised edition Pielou, E. C. (1977), *Mathematical Ecology*, New York: Wiley, but checked for possible discrepancies with the first edition and found none as regards the current subject matter.
4. Houweling and Siccama (1981), *op. cit.*, note 21, p. 85.
5. Pielou (1969), *op. cit.*, p. 87.
6. Pielou (1969), *op. cit.*, pp. 83 ff.
7. Pielou (1977), *op. cit.*, Ch. 18. May, R. M. (1975), 'Patterns of Species Abundance and Diversity', In: Cody, M. L. and Diamond, J. M. (Eds.), *Ecology and Evolution of Communities*, Cambridge (Mass.): Harvard University Press, pp. 81-120. Engen, S. (1979), 'Stochastic Abundance Models in Ecology', In: *Biometrics*, Vol. 32, pp. 331-338.
8. May (1975), *op. cit.*, p. 88.
9. Houweling and Siccama (1981), *op. cit.*, Section 4, pp. 83-84.
10. Pielou (1969), *op. cit.*, p. 87. We observe that Houweling and Siccama (1981), *op. cit.*, p. 77 in their derivation of the nbd use the exact wording by Pielou, although no note to this effect is given. See also their note 21, p. 85.
11. Pielou (1969), *op. cit.*, p. 88.
12. Houweling and Siccama (1981), *op. cit.*, p. 81, line 11; p. 84, lines 11-13.
13. Houweling and Siccama (1981), *op. cit.*, p. 83, lines 15-17; p. 84, lines 18-19.