

The riskiness of *Risk*

Frank Knowles

This paper is intended as a further «interim» comment on and an excursus from a stimulating paper delivered by Prof. Charles Fillmore at an NSF Symposium held in July 1989 and entitled *Towards a frame-based lexicon: the semantics of Risks and its neighbors*.¹ It also builds on work done and reported on by Sue Atkins at the SALT² Meeting held in Oxford in January 1990.³

The —correct— lexicographic strategy followed by Fillmore and Atkins was to study and categorise a bank of corpus citations embodying occurrences of the lexical item(s) of interest. In the particular instance referred to some 1770 concordance citations involving *risk* were yielded by a trawl through a 25-million word corpus available to the researchers.⁴ This provided the input data for working up a frame-based analysis and then slotting it —hopefully, without coercion— into a lexicographical mould.

This paper reports on an analysis of 1,357 citations of the German lexemes *Risiko* (1,159 citations) and *riskieren* (198 citations) as lemmata —in other words a full variety of the various running text forms of these lexemes is encountered in the corpus citations which were very kindly provided to me by colleagues at the **Institut für deutsche Sprache** in Mannheim, Germany. One particular purpose of the investigation was to investigate the German-language material containing these «international» words with a view to assessing the feasibility of applying the categorisation elaborated for English by Fillmore. A look is also taken at the treatment accorded to the given lexemes by lexicographers of monolingual German dictionaries.

It is trite to say that many things of both intellectual interest and practical use can be discovered by corpus analysis. It will not be my primary focus here to talk about collocational matters but in view of the report by Fillmore and Atkins that *to run* represented over one tenth of the verbs governing *risk* in the corpus they examined it might be pertinent to say that (*ein Risiko laufen*) occurred merely twice, which demonstrates the rarity of this formulation in German —as opposed to *Gefahr laufen* which is quite a common idiom in German. By way of an analogy with English, is it possible in English to *court a risk* as well as a *danger*? Nothing forbids such a formulation in English —the statistics of its occurrence are, however, so low that many people would involuntarily notice and «note» it. On the other hand, there were plenty

1. This paper has now been published conjointly by Fillmore and Atkins under the above title and is to be found in the *Proceedings of the 1989 NSF Symposium on the Organization of the Lexicon*.

2. SALT is an acronym for the Speech and Language Technology Club. This is a body —organisationally supported by the British Government's Department of Trade and Industry— of people interested in Language and Speech applications in Information Technology (IT).

3. I am grateful for discussions with Sue on the topic of the difficulties of achieving a satisfactory lexicographic codification of the word and associated concept of *risk* as a noun and verb in English.

4. This corpus —originally established by the *American Publishing House for the Blind*— was made available via IBM.

of occurrences of idioms —semantically and pragmatically equivalent to the English *to take a risk*, that is, to deliberately accept unpredictability and possible disadvantage —such as *das Risiko auf sich nehmen, sich auf das Risiko einlassen, das Risiko in Kauf nehmen*— of such current collocations *ein Risiko eingehen* occurred 29 times, i.e. 14.7% of the time. A number of other phrases, such as *ein Risiko (in sich) bergen*, cropped up with a frequency that indicated idiomaticity; two interesting such phrases were the doublets *Chancen und Risiken* and *Risiko und Nutzen*, cf. English *opportunities and threats* and, respectively, *gains and losses* or *cost and benefit*. Apropos of this, much more lexicographical effort needs, in my opinion, to be invested in German-speaking countries —and others!— in order to produce reliable usage guides for foreign learners. This can only be done satisfactorily by means of corpus analysis and attendant statistical tabulation.

We now turn to our primary focus. *Risk* is only one member of a semantically overlapping set of words concerned with danger and either total or partial unpredictability. In English the primary words in this set include: *risk, venture, danger, jeopardy, peril, contingency, threat, hazard, predicament, uncertainty, chance, eventuality, possibility*. German equivalences would be: *Risiko, Wagnis, Gefahr, (Be)drohung, Unsicherheit, Ungewissheit, Zufall, Eventualität, Möglichkeit*, etc. German dictionaries are not at all eloquent on the subject of *risk*: the fullest entry is that contained in the **Brockhaus Wahrig**:⁵

Risiko:

Gefahr (des Verlustes), Wagnis, das mit einer Unternehmung, Betätigung verbunden ist [*danger (of loss), venture connected with an undertaking or activity*]

Möglichkeit, daß ungünstige Folgen eintreten [*possibility that unfavourable consequences will ensue*]

riskieren:

etwas wagen, trotz des damit verbundenen Risikos, unternehmen [*to dare something in spite of the risk involved, to undertake something*]

Auge riskieren⁶ [*to steal a glance*]

dicke/große Lippe riskieren [*lit. to risk a thick/big lip, to make a cheeky/impertinent remark, to give lip*]

als Risiko, als Gefahr heraufbeschwören, sich so verhalten, daß etwas Unangenehmes, Schlimmes passieren könnte [*to give rise to risk or danger, to behave such that something unpleasant, bad might happen*]

etwas riskieren aufs Spiel setzen, Kopf und Kragen riskieren [*to risk something, to wager something, to risk life and limb*]

The only other German dictionaries worth consulting are the **Wörterbuch der deutschen Gegenwartssprache**⁷ by Ruth Klappenbach and Wolfgang Steinitz and

5. G. Wahrig *et al.*, *Deutsches Wörterbuch in sechs Bänden*, Brockhaus, Wiesbaden/Deutsche Verlagsanstalt, Stuttgart, 1983.

6. Quizzically glossed by Trevor Jones as «to run an admiring eye over a strange woman (especially in the presence of one's wife or fiancée)»! T. Jones, *Harrups Standard German and English Dictionary*, Harraps, 1974.

7. R. Klappenbach/W. Steinitz, *Wörterbuch der deutschen Gegenwartssprache*, Akademie Verlag, Berlin, 1974. The definitions of *risk* given in: G. Kempecke, *Hardwörterbuch der deuts-*

Günter Drosdowski's **Duden - Das große Wörterbuch der deutschen Sprache in sechs Bänden**.⁸

First, Klappenbach and Steinitz:

Risiko

Gefahr (des Verlustes) bei einer Unternehmung, deren Ablauf, Ausgang unsicher ist, Wagnis [*danger (of loss) in an undertaking, whose process or outcome is uncertain*]

(Wirtsch.) Gefahr, ökonomische Mittel durch unzweckmäßigen Einsatz zu verlieren oder mögliche Vorteile für die Volkswirtschaft, den Betrieb nicht zu nutzen [(*econ.*) *danger of losing economic resources via inexpedient deployment or of not gaining possible advantages for the national economy or a <public sector> business*]

{**Example:** in der kapitalistischen Wirtschaft wird das Risiko vor allem durch den Widerspruch zwischen Produktion und Markt bestimmt; in der sozialistischen Planwirtschaft entstehen Risiken bei der Planung und der Durchführung von bestimmten Maßnahmen [*In capitalist economies risk is predominantly determined by the contradiction between production and market; in socialist planned economies risks arise in the planning and execution of particular measures.*]}

This exemplification seems to be a very quotable example of intrusive encyclopaedic material in a language dictionary.

riskieren

etwas wagen [*to dare/venture*]

(etwas wagen und dabei) die Möglichkeit auf sich nehmen, daß etwas Unangenehmes eintritt [*to dare and personally accept the possibility of something unpleasant happening*]

etwas wagen und dabei die Möglichkeit auf sich nehmen, daß man es verliert [*to dare something and personally accept the possibility of losing it*]

Second, Drosdowski:

Risiko

möglicher negativer Ausgang bei einer Unternehmung, womit Nachteile, Verlust, Schaden verbunden sind [*possible negative outcome of an undertaking involving disadvantages, loss, damage*]

mit einem Vorhaben, Unternehmen o.ä. verbundenes Wagnis [*an intention/plan/undertaking etc. involving daring/venture*]

riskieren

trotz der Möglichkeit eines Fehlschlags o.ä. etwas zu tun versuchen, unternehmen [*to attempt to do, to undertake something in spite of the possibility of failure*]

chen Gegenwartssprache, Akademie Verlag, Berlin, 1984, seem to follow R. Klappenbach/W. Steinitz very closely indeed.

8. G. Drosdowski, *Duden — Das große Wörterbuch der deutschen Sprache in sechs Bänden*, Bibliographisches Institut/Duden Verlag, Mannheim/Wien/Zürich, 1976.

durch sein Benehmen oder Handeln eine Gefahr o.ä. bewirken, herauf-
 beschwören [*to cause/provoke danger by one's actions or behaviour*]
 durch sein Benehmen oder Handeln Nachteilen, der Gefahr des Verlustes
 aussetzen [*to expose something to disadvantage or the danger of loss by
 one's behaviour or actions*]

It does seem rather clear that the editors of major —in terms of both size and quality— German dictionaries are unwilling to partition the senses of *Risiko* into more than two classes: *danger* and *venture*. Neither do dictionaries of German synonyms —at least those available to me— begin to confront the problem. However, Crabbe's **English Synonyms Explained**⁹, from well over a century ago, contains a nice differentiation that still has some appeal:

TO HAZARD, RISK, VENTURE

All these terms denote actions performed under an uncertainty of the event: but HAZARD bespeaks a want of design and choice on the part of the agent; to RISK implies a choice of alternatives; to VENTURE... signifies a calculation and balance of probabilities: one *hazards* and *risks* under the fear of an evil; one *ventures* with the hope of a good. He who *hazards* an opinion or an assertion does it from presumptuous feelings and upon slight grounds; chances are rather against him than for him that it may prove erroneous; he who *risks* a battle does it often from necessity; he chooses the least [sic] of two evils; although the event is dubious, yet he fears less from a failure than from inaction; he who *ventures* on a mercantile speculation does it from a love of gain; he flatters himself with a favourable event, and acquires boldness from the prospect. **There are but very few circumstances to justify us in hazarding; there may be several occasions which render it necessary to risk, and very many cases in which it may be advantageous to venture.** [Emphasis by FK]

A particularly satisfactory —in my view— lexicographical treatment of *risk* is given by Gove in the **Webster's Third New International**:¹⁰

9. G. Crabbe, *English synonyms explained*, Simpkin/Marshall, 1864.

10. P. Gove, *Webster's Third New International Dictionary of the English Language*, Merriam, 1961.

1risk \ 'rɪsk, dial 'resk \ n -s [F *risque*, fr. It *risco*, *risico*, *rischio*]
1 : the possibility of loss, injury, disadvantage, or destruction
 : CONTINGENCY, DANGER, PERIL, THREAT (the infinite care and
 ~ which are involved in the dangerous mission of bomb dis-
 posal —E.A.Weeks) (foreign ships and planes refused to run
 the ~ of attack —*Collier's Yr. Bk.*) **2** : someone or something
 that creates or suggests a hazard or adverse chance : a danger-
 ous element or factor — often used with qualifiers to indicate
 the degree or kind of hazard (the wife who didn't fix her
 husband a good breakfast . . . wasn't a good ~ —W.H. Whyte)
 (must be kept clean and free from fire ~s —Peter Heaton) (a
 poor ~ for surgery) **3** a (1) : the chance of loss or the perils
 to the subject matter of insurance covered by a contract
 (2) : the degree of probability of such loss **b** : AMOUNT AT
 RISK **c** : a person or thing judged as a (specified) hazard to an
 insurer (a poor ~ for insurance) **d** : an insurance hazard from
 a (specified) cause or source (war ~) (disaster ~) **4** : the
 product of the amount that may be lost and the probability of
 losing it — compare EXPECTATION 6b **SYN** see DANGER

2risk \ " \ vb -ED/-ING/-S [F *risquer*, fr. It *riscare*, *risicare*,
rischiare, fr. *risco*, *risico*, *rischio*] **vt** **1** : to expose to hazard or
 danger (wasn't going to ~ his neck —Barnaby Conrad)
 (father and son were ready to ~ their futures on the book
 business alone —A.E.Peterson) **2** : to incur the risk or danger
 of : venture upon (these privateers ~ed being hung as pirates
 —*Amer. Guide Series: N. H.*) ~ **vi** : to take risks **SYN** see
 VENTURE

(FIGURE 1)

Four main sense categories are delineated with a quadripartite subdivision in one of them, the one which deals with the sub-senses of risk in its technical interpretations. We must, actually, dwell for a few moments on these technical senses: the areas of their manifestation are four: natural sciences (including, of course, mathematics and statistics), medicine, economics and business studies (notably finance, investment, and insurance); and law.¹¹ From the economist's point of view, a sound definition of *risk* —also subtendable, *mutatis mutandis*, in a legal context— is offered by Bannock¹²: «A decision is said to be subject to risk when there is a range of possible outcomes which could flow from it and when objectively known PROBABILITIES can be attached to these outcomes. Risk is therefore distinguished from uncertainty. ... the fact that objective probabilities often cannot be assigned means that many situations which in practice are called 'risky' are, on the strict definition, really subject to uncertainty, not risk.» This appears to me always to be the proper anchor-point

11. Note the existence of technical collocations —used as terms— such as: *risk aversion*, *risk analysis* (quasi-synonym: *state preference analysis*!).

12. G. Bannock et al., *The Penguin Dictionary of Economics*, Allen Lane, 1979.

for *risk* as analysts give consideration to occurrences, in text and discourse, of *risk* in its other, looser senses where semantic acuity is intended to be or seen to be less important. This last point, of course, touches on the question —which cannot be treated here— of authorial intention v. readers' perceptions.

If we return to the Webster article on *risk* we can clearly see that cross-reference to the other entries indicated sheds, of course, much more light on the semantic field as a whole whilst accepting the unfortunate fact of blurred discrimination in usage. The Webster article can nonetheless serve as a good starting point —I submit— for the semantic categorisation of even the German-language material mentioned above. It is natural to suppose and presuppose that the different sub-senses of a main entry, so to speak, are likely to show up some differentials not just of a collocational nature (as above) but also with regard to such matters as quasi-synonymic substitutability or complementation patterns.

Let us now look at this approach in terms of the categorisation process involved, highlighting the operational dilemmas confronting the lexicographer —which can on occasions force the total recategorisation of complete datasets. The first dilemma is: What are the givens? What are the dependent and what are the independent variables? Is the intellectual task to proceed directly from the text to the lexicon, from *in vivo* mode to *in vitro*? Is the correct analogy that of sorting mail, picking up individual letters and putting them into pigeon-holes, the labels on which are constant? No, not really! The intellectual task is to do justice to both the text and the lexicon —if some of the labels on the pigeon-holes need changing or new pigeon-holes need adding, then that is what must be done. The process of achieving a proper categorisation of textual lexemes is an iterative one, demanding three or more passes through the text or its concordance surrogate. The initial pass is nothing more than exploratory, sufficient to give a feel for the size and shape of the task ahead. The starting configuration for the pigeon-holes may well have pre-existed but it is likely to be subtly altered. As the input items, now becoming disparate, are tagged the human agent will involuntarily ask himself or herself: «What did I do with one of these the last time I had one?» or, even more perniciously, «Why are some of these pigeon-holes almost full when others are virtually empty?» This is the fallacy of equiprobability of alternatives which bedevils anyone involved in a classification process. Is this subliminally dictated by exterior or interior «assurances» that the underlying corpus possesses perfect symmetry and representativity? One must admit that it is indeed difficult to restrain curiosity about the way in which the frequency counts for the individual cells build up but such curiosity should be given its brief rein only when the classification process is complete. Ideally, each individual assignment should be tapped into a computer which does not display any results until all of them have been recorded! An allied dilemma is: «There **must** be something wrong with my classification system — I simply **must** put something in that empty box!» For every genotype there has to be a phenotype, doesn't there? This is the danger of reification: a name exists —or maybe I just invented one!— so the thing must exist too.

The second and third passes through the lexical data in textual situ assist quality control but unless computer software can group and redisplay the clusters formed, for further inspection, an ultimately satisfactory description —in terms of reliability and validity— will remain elusive. Reliability means: if you —or someone else following an agreed code book or procedural manual— did it all again tomorrow, or next week,

would you achieve the same result? The answer —proven so many times by the behaviour of «raters» in sociological research— is: no, you wouldn't! Maybe we in our own field of investigation into the lexicographical process need to conduct experimental research to shed light on the dimensions of this fickleness of human judgement, to which individual classifiers can easily and genuinely succumb and to which teams of them, supposedly acting in concert, are notoriously prone. The validity question is: are you actually assigning and describing what you set out to assign and describe? These are conundrums well worthwhile pondering over.

The impressive classificatory apparatus developed by Fillmore and Atkins rests on a conceptual framework which posits that, in terms of direct object complementation, the semantics of complements are distinct in the following instances: *he risked his life* and *he risked financial ruin*. In the first case the complement can be categorised as a **treasure** which its possessor, naturally, does not wish to lose. In the second case it is a question of a **disaster** which the investor, say, does not wish to encounter. Yet it could be posited that the phrase *he risked his life* is merely an ellipsis for *he risked the loss of his life*. Is not *he risked his life* synonymous with *he risked death*? (We cannot say in English **he risked his life* synonymous with *he risked death*? (We cannot say in English **He risked life*, although we can indeed say *he risked his death*.) This contention appears to be borne out indirectly if we compare derived sentences from these two utterances: *he ran the risk of death* and **he ran the risk of life*. The second of these sentences demonstrates the ellipsis nicely: it has —for reasons of intelligibility— to be amended to *he ran the risk of the loss of his life* or, less clumsily, *he ran the risk of losing his life*. Whether there is in speakers' minds on such occasions any «feel» for the probability of death, i.e. 7% or, arbitrarily, 70% can only be a matter for conjecture. If there were any discrimination in such circumstances then one would expect the «7% situation» to be encoded as *he risked his life* and the «70% predicament» to be expressed as *he risked death*, presumably! An analogous, cross-cultural/cross-language observation seems apt: the French «public notice» phrase *danger de mort* contrasts with —and is actually much more direct than, semantically— its German counterpart *Lebensgefahr!* On a similar note, a recent newspaper article in Great Britain about a certain Middle East leader contained, in mid-paragraph, the comment *he risks popularity, if he does not...* One might have expected the formulation *he risks unpopularity, if he does not...* but the two statements are synonymous, if not exactly then certainly approximately. If «mid-corpus» insights such as the above are maintained after reflection many hours of patient work —at least, potentially— stand to be thrown away.

The analysis of the German-language material proceeded initially according to the Fillmore and Atkins conceptual framework but in the course of the analysis some adaptation of the framework was undertaken on a provisional basis. As far as the set of verb citations for *riskieren* was concerned a seven-fold system «emerged», so to speak, from the analysis, plus a small rump of items deemed «unclassifiable» on grounds of inadequate citation length, e.g. headlines, etc. The details of this scheme and the results obtained from applying it are as follows:

Danger	42	21.2 %
Exposure	39	19.7 %
Finance	10	5.1 %
Gamble	42	21.2 %

Law	11	5.6 %
Medicine	5	2.5 %
Treasure	29	14.7 %
Unclassifiable	20	10.1 %
TOTAL	198	100.0 %

TABLE 1

With respect to the tabulation of the noun *Risiko* a nine-slot table (eight substantive categories, plus «unclassifiable») was formed, as follows:

Danger	200	17.26 %
Exposure	6	0.52 %
Finance	243	20.97 %
Gamble	86	7.42 %
Law	78	6.73 %
Medicine	339	29.25 %
Possibility	38	3.28 %
Technology	138	11.91 %
Unclassifiable	31	2.68 %
TOTAL	1,159	100.00 %

TABLE 2

The partial differences in labelling are due to the distinction of part of speech status for *riskieren* and *Risiko*. The role of nouns as the premier part of speech for technical discourse cannot be ignored in such a contrast. This factor particularly affects the use of the word *risk* in a **legal, financial, medical** or more general **technological context**. In these cases the assumption must be, in fact, that the claim is made that *risk* is being used in its strict sense as a technical term. This implies that underlying the discourse is the knowledge or awareness that the word *risk* is justifiable only if some more or less quantified estimate of probability or likelihood primes its use. Ideally, such estimates should be made on the basis of objective, experiential data from analogous situations. Yet how do you assess the probabilities when making a statement about *the risk of nuclear war*? This is always fraught with problems—sometimes to the point of impossibility—and is a contingency that statisticians know and argue about among themselves, most notably those who have developed the school of Bayesian statistics operating on «subjective probabilities».

It is instructive to perform a synonym substitution test upon corpus citations. The underlying assumption is that *risk* acts as a «descriptor» for associated words in the same semantic field. The aim of the substitution test is to determine whether one or more of these associated words can replace *risk* without materially altering meaning or frustrating comprehension. In the case of **gamble** the «betting odds» are clearly very much in the picture but could no longer be said to be primary, objective or accurate—the chief stimulus can often be excitement for its own sake, sought and welcomed by people of a quite literally «happy-go-lucky» disposition. It is obvious that gambling in this sense should occur in sports—a blend of skill and chance—and in artistic, «self-revelatory» contexts such as painting or the theatre. Surprisingly, per-

haps, the label **gamble** appears to be justified in many contexts of a political nature, particularly where opposing political forces are sparring or opposing politicians are «duelling» with each other.

Much seems to revolve around the idea of personal control over a situation. If such control cannot be maintained at all or can be only partially retained then the door is opened to uncertainty and many different eventualities. It can be tantamount to surrendering to unpredictability. As these various eventualities become probable rather than merely possible so risk grows. *Risk* can, of course, designate either **possibility** or **probability** as such. Of course, if it is a question of loss of control then the notion of **hazard** looms large; if, on the other hand, personal control has been deliberately relinquished in some measure the notion of **venture** comes to mind. **Exposure** can be exactly that: identification as the human agent in some precarious situation; it can also be exposure to shame, opprobrium, ridicule or laughter. One must also beware of the subtle interplay, and occasionally conflict, between descriptor labels and occurrences of these self-same «words» in the corpus citations under examination.

In any investigation of this sort there are always items of data which defy classification because of ambiguity: *getting married is always a risk* —several of our labels could be attached to that one! Also to *one risk can never justify another*. Maybe readers would like to try out their own assignments on the following corpus sentences:

Wer würde es riskieren, eine Psychologie des deutschen Volks zu schreiben?

Who would risk writing a psychology of the German people?

Der Bankier suchte für seinen Mittagsweg die schmalen Schatten und riskierte zwei Minuten Zeitverlust.

For his midday route the banker sought out the confined shadows and risked losing two minutes' worth of time.

Seelisch Kranke dagegen werden als unkalkulierbares Risiko eingestuft.

The mentally ill, on the other hand, are classified as an incalculable risk.

Mit welchem Risiko die Verantwortlichen schon von je her zu leben haben, zeigt die 1979 von den USA gestartete Venus-Sonde, die ihr Ziel nie erreichte, weil in ihrem Kurskorrektur-Programm ein Komma mit einem Punkt verwechselt wurde.

With what risk those in charge have had to live since time immemorial is shown by the Venus probe, launched by the USA in 1979, which never reached its destination because a comma was mistakenly inserted into its course correction program instead of a full stop.

Selbst wenn man aber Zweifel daran haben sollte, ob die Frucht einer Empfängnis wirklich schon eine menschliche

Person sei, bleibe es «objektiv eine schwere Sünde, das Risiko eines Mordes auf sich zu nehmen».

Even if a person might have doubts about whether the embryo arising from a conception is a real human being already, it remains «a serious sin, in objective terms, to take upon oneself the risk of murder».

Perhaps giving this paper was a risk!