

Water: An Advocate for Reason Win-win Solutions for the Nile Basin

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Water has become a strategic good: although there is by and large enough water on earth, it is unevenly distributed and in some regions shortages have begun to emerge, mainly due to population growth. For a long time water has also been an issue in international politics and a source of inter-state conflicts. There are about two hundred international watercourses on earth, which are inhabited by about forty percent of the world's population (Glatzl 2001). Especially in arid areas water has become a part of »high politics«; the possibilities for conflicts are increasing, writes Peter H. Gleick (Gleick 2000, p. 213). Thomas F. Homer-Dixon argues that non-renewable resources, such as oil, bear a higher potential for conflict than renewable resources. Amongst these renewables, however, Homer-Dixon argues, water is the one most likely to cause violent clashes (Homer-Dixon, 1994). Many authors therefore refer to a future of water wars.¹ The water war thesis is popular but wrong: historically no water wars can be detected (Wolf, 1998). To refer to a sheer *possibility* of wars over water or war-like *rhetoric* in international water conflicts, is no empirical evidence. On the contrary, it can be observed that water conflicts tend to be resolved by negotiations and compromise (Wolf / Hamner 2000).

However, hardly any explanatory models exist for why this is the case. Although there are many theoretical points of departure which can explain when and how water conflicts are likely to arise, they do not explain how the conflicts will be conducted – under what conditions they will be settled in a cooperative or a confrontational manner. This case study of the Nile River Basin will attempt to fill this gap. Without doubt, one of the most important and conflict-prone water disputes is taking place here, and many authors take this as the best example for their thesis of wars over water (»The Nile is a war waiting to start«; MacNeill / Winsemius / Yakushiji 1991, p. 56).

1. Compare Edig 1998; for an overview of other studies: Wolf/Hamner 2000, p. 124 ff.

This article analyzes six factors which can contribute to cooperative conflict settlement. It cannot claim, though, to provide a general explanatory model, as this would require an application of our tentative generalizations to other cases. However, at least for the Nile the factors singled out in this study can explain why cooperation amongst the riparian states is increasing in spite of the fact that the problem at the root of the conflict is becoming ever more acute.

As to terminology: conflict does not mean violence. A conflict is a situation in which different parties' incompatible tendencies to act confront each other. This can, but does not need to, lead to violence. A conflict can be resolved constructively if the actors change their tendencies to act in such a way that all parties are satisfied with the result or even gain from the new situation. This points to the term cooperation, which exists if actors coordinate their behavior in order to reach (at least some) common goals. Cooperation thus represents a constructive regulation of conflicts. If the problems at the root of the conflict get worse the potential for conflict grows but not necessarily the probability of a recourse to violent means: the decisive question is, which outcome is more probable in a given case or what can be done to change this probability. This is precisely the issue this article is concerned with.

The Conflict Over the Water of the Nile

The Nile is shared by ten different states: Egypt, Sudan, Ethiopia, Eritrea, Uganda, Tanzania, Kenya, Rwanda, Burundi and the DR Congo. At least for the first three the Nile water is vital and a limiting factor for their economic development. The lion's share of the water goes to Egypt, which is almost entirely dependent on the Nile. Following the 1959 Treaty with Sudan, Egypt can use 55.5 of the 84 cubic kilometers that constitute the average volume of water measured at the Aswan Dam. Sudan can use 18.5 cubic kilometers. The remaining 10.3 cubic kilometers are lost due to evaporation at the Nasser reservoir behind the Aswan Dam. How much water Egypt actually needs is not clear, but its use lies considerably above the contractually agreed 55.5 cubic kilometers. Mason estimated 65 cubic kilometers for 1999 (Mason 2001, p. 137). This significant difference is accounted for by the fact that Sudan still lets plenty of water leave the national territory unused and that Egypt recycles the water it has used. The Egyptian government also pursues gigantic development projects on

the North Sinai and in the desert to the west of the Nile Basin. These projects are meant to reduce the population pressure on the Nile valley but they will dramatically increase water requirements: a prognosis shows a 20 cubic kilometers rise in demand by 2017 (Mason 2001, p. 137).

The upstream riparian states on the White Nile (Uganda, Burundi, Rwanda, the DR Congo, Kenya and Tanzania) hardly use any water of the Nile and have alternative water resources available. Ethiopia, however, from which 85 percent of the water originates, wants to increase its use in order to achieve a secure food supply and facilitate economic development. Until the 1990s, Egypt responded with unconcealed warnings of military intervention if any moves in this direction were made. One can therefore actually consider the situation an open international conflict: the Nile is a »classic case of international resource competition« (Brunnée/Toope 2002, p. 122).

The water war thesis is popular but wrong.

However, in the 1990s a new attempt at multilateral cooperation was made which culminated in 1999 in the founding of the Nile Basin Initiative (NBI). For the first time all ten riparian countries came together (with international support) in order to plan and execute common water development projects on the Nile and to strive for a permanent regulation of Nile water use. While the demand for water is rising, as all the countries face strong population growth (between 2.4 and 3 percent annually), a simultaneous increase in cooperation can be noticed. Unilateral proceedings, combined with warlike rhetoric, have been replaced by multilateral cooperation.

Trying to explain this turn of events, the following analysis will show that a water conflict such as the one on the Nile entails very high incentives for cooperation, which render a violent escalation with uncertain outcomes comparatively unattractive and therefore unlikely.

Breaking Up the Zero-Sum Game

The Nile Basin countries need water especially for agricultural irrigation, which accounts for about 86 percent of water use in Egypt, Ethiopia and Sudan (Mason 2001). This consumptive form of use causes a zero-sum

game: what is used by one country is not available to the others. Since there are no common goals, cooperation is unlikely.

This zero-sum game, however, can be overcome. Riparian states have many interests that do not necessarily exclude each other. Great potential to generate electricity exists on the upper reaches of the White and the Blue Nile. Uganda and Ethiopia in particular could produce plenty of electricity for their own use and for export without restricting the irrigation interests of the downstream countries. On the contrary, Sudan could actually benefit from the respective upriver dams: they would regulate the strong fluctuations of the water flow to which Sudan is exposed more or less unprotected at the moment.

The second and most interesting possibility, especially on the Nile, to break up the zero-sum game is to increase the overall amount of water available. In the 1950s Egypt had opted for the construction of the Aswan Dam in order to even out the year-to-year fluctuations of the water flow. The option to do this through upriver reservoirs was rejected as these reservoirs would have been outside Egyptian territory. Egypt would have become »hostage« to its upstream neighbors. The upriver option, however, would be significantly more efficient, because the loss due to evaporation would be substantially lower than at the Nasser reservoir. Consequently, planning which incorporated the entire river basin would actually increase the overall amount of water available. This, however, would require close cooperation among the riparian states in order to secure a constant water supply for Egypt. The Nile Basin states therefore face a win-win-scenario from which every country could gain.

According to official government plans, Ethiopia could multiply its electricity production about eighty times and increase irrigational agriculture from 190,000 to 3.7 million hectares. Its water use would increase by 35 percent by 2040 (Abate 1994). A correspondingly lower net water flow would not be acceptable for Egypt. But because the Nile could then be regulated through the upriver reservoirs, the Aswan Dam could be run at a much lower level. According to Whittington and McClelland's calculations, the reduced loss through evaporation would compensate for the additional water withheld by Ethiopia. Sudan and Egypt would not have less water available to them (Whittington / McClelland 1992, p. 150). Ethiopia, on the other hand, would de facto control the Blue Nile, which accounts for 85 percent of the entire Nile water. Another example of such a win-win situation is the »Upper Nile Projects«, decided in the 1959 Treaty between Egypt and Sudan, which

have yet to be tackled. These are projects for river regulation which would make an extra twenty cubic kilometers of water available every year. Egypt and Sudan have agreed to each sharing half of the additional water as well as half of the costs. These projects are a good example of conflict parties considering a cooperative strategy that is more promising than a confrontational one.

The third important possibility to break up the zero-sum game is to increase the efficiency of water use. In particular, the irrigation methods in agriculture are highly inefficient. Egypt's plans to curb its requirements by twenty cubic kilometers over the next fifteen years, a third of today's requirement, by increasing its efficiency (improved irrigation and cultivation techniques and more recycling) shows how much untapped potential exists (Mason 2001, p. 136 f.).

Riparian states can adapt their behavior and overcome the zero-sum game. But securing a constant water or food supply is only part of the solution. There might be opposing interests that need to be taken into consideration for a cooperative solution. This requires multilateral negotiations and agreements.

Awareness of Mutual Dependence

The case of the Nile clearly shows how the willingness to cooperate grows with the riparian countries' awareness of their mutual dependence. A severe drought occurred between 1979 and 1987 in Eastern Africa and in the Sahel zone. During this time the annual water volume fell by more than half on average. Unexpected strong rainfall in the early summer of 1988 averted a bigger catastrophe. But it also led to severe floods in Khartoum. Without the Aswan Dam the drought would have led to serious famine in Egypt. Since the water volume of the Nasser reservoir fell to a third of its usual level all Nile Basin countries became aware of the impending water crisis. Especially Egypt realized its dependency and its vulnerability (Bulloch / Darwish 1993).

Ultimately this made Egyptian political thinking more favorable towards cooperation with the upriver states. In 1992, Egypt, Sudan, Uganda, Rwanda, Zaire and Tanzania founded the »Technical Co-operation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (TECCONILE)«, a multilateral forum for cooperation. Ethiopia, Eritrea, Kenya and Burundi took part as ob-

servers. Although TECCONILE was built on pre-existing cooperation structures, dating back to the 1977 Hydromet project for the exchange of hydrological and meteorological data, it superseded its primarily technical goals by far. The goal formulated was »to assist the participating countries in the determination of their equitable entitlements to the use of the Nile« (Mohammed 1995, p. 176). Among other things, TECCONILE was to establish a framework convention incorporating all riparian states. Although this has not yet been achieved, the principal ability of the Nile riparian countries to engage in cooperation has become manifest. It reflected the enhanced awareness of mutual dependency that arose in the early 1990s.

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The realization of the downstream riparians that they depend on the actions of the upstream riparians is not the only factor here; another one is the discovery that a comprehensive planning covering the entire river system would promise efficiency gains such as the ones considered in the win-win situation above. It had become obvious that cooperative projects can avert catastrophes such as floods or droughts: Ethiopian dams, for example, could have reduced the Khartoum floods of August 1988. Cooperation can help not only to realize win-win situations but also to avoid lose-lose scenarios.

Power Asymmetries

The typical asymmetry in a conflict over river water, i.e. the power of the upstream user to deprive the downstream user of water, was leveled out by two factors in the case of the Nile. On the one hand, the upriver countries were not able to realize their potential, because they were politically too unstable. On the other hand, Egypt was able to enforce its will without having to take into consideration the interests of the other states due to its military, political and economic supremacy. Egypt's political and military dominance lent a certain credibility to repeated warnings of military intervention and made it a realistic political option for Egyptian politicians (Bulloch / Darwish 1993).

Since the early 1990s, however, the upstream riparian states have been articulating their growing need for water due to population growth and their desire for economic development. At the same time, their ability to make use of their hydrological advantage has been increasing. Especially Ethiopia is slowly consolidating internally. It has started to build many little dams with its own financial means. In the long run, it is hoping for private foreign capital in order to finance bigger projects. The power asymmetry on the political, economic and military level is shifting to the benefit of the upriver riparians. Simultaneously, hydrological power asymmetries, which are determined principally by topography and geography, are growing. The more the power asymmetries on both levels balance each other, the less likely unilateral acts will be and the more likely it is that there will be a cooperative regulation of the conflict. Water conflicts have several different layers. They offer a differentiated range of possibilities to arrive at solutions. Simple power asymmetries such as upstream user versus downstream user provide an inappropriate orientation. Although geography determines the range of options open to the riparian states, it is not enough to explain the structure and the outcomes of interaction between states (compare Elhance 1999).

Existing Cooperation and Confidence-building

How constructively conflicts, such as the one on the Nile, can be handled depends on the wider political context and also on their history, i.e. on the way the conflicts have been dealt with in the past. This points to problems in the case of the Nile. The region has been marked by political instability and tensions between the countries. This constitutes a historical handicap. On the one hand, the relations amongst the riparian states were marked by the Cold War, with the USA and the Soviet Union exerting a strong influence on the Nile Basin countries. On the other hand, there are many disagreements between them that are not directly related to the Nile but nevertheless influence the Nile conflict: border disputes (Egypt-Sudan, Kenya-Sudan, Ethiopia-Eritrea), support for rebel groups in other countries (e.g. Ethiopia-Sudan, Uganda-Sudan), participation in civil wars such as the one in the Congo, and others. Moreover, economic relations between the Nile riparian states are rather thin. Altogether, they are a heterogeneous bunch with regard to ideological orientation, political and economic systems, religion and ethnic affiliation. Almost all of

them are affected by internal conflicts or political instability. Three of the Nile Basin states, Burundi, Rwanda and the Congo, are actually heading for collapse.

But the conflict over the Nile has by no means always been confrontational. The example of Egyptian-Sudanese relations, especially the 1959 Treaty, shows that a water regulating regime can function despite all the political problems between the countries. This treaty can, therefore, serve as an example for an agreement between all Nile Basin states. On the other hand, the various treaties regulating the use of the Nile water which go back to the colonial powers were made in a tradition of bilateral cooperation that has been rather damaging to multilateral conflict resolution: »The various treaties have served not only to entrench the competitive attitudes [...], but, more fundamentally, have enforced, even encouraged, separate and competitive identities among the Nile Basin states.« (Brunnée/Tooze 2002, p. 146). Thus, Ethiopia is suspicious of any attempts at multilateral cooperation initiated by Egypt because it tends to consider them as covert attempts to secure Egyptian interests.

Projects such as Hydromet are very significant for common collection and evaluation of meteorological, geological and hydrological data. The availability of such data is an indispensable prerequisite for cooperative projects. It is the only way win-win scenarios can be developed, for example, by allowing sites to be identified at which flood-regulating dams can be built without too much water being lost through evaporation. Moreover, the exchange of data is itself a confidence-building measure which can serve as a first step towards more cooperation: »[...] data exchange [...] must not be seen as an end in itself but as a necessary process to provide decision makers with the informational resources they require for coordinated or cooperative management and decision making [...]. The outcomes of such an exchange occurring as part of an overall coordinated or cooperative management process are likely to reinforce the cooperative process and result in tangible benefits in the long term.« (Chenoweth/Feitelson 2001, p. 511)

The various projects under the heading of the Nile Basin Initiative (NBI) pursue this goal. There is still too little reliable data on the Nile. Except for Sudan and Egypt, no other Nile riparian country has researched its natural resources in depth. For them, the Nile has not been of such importance as for Egypt and Sudan. Besides, they lack know-how and money. This, however, could come partly from Egypt and partly from international organizations and donor countries willing to support

cooperative projects. Such prospects could provide another big incentive to solve water conflicts in a cooperative way.

International Law and Water Conflicts: How Legitimate Are the Different Positions?

Of the various Nile Treaties, only the Egyptian-Sudanese Treaty of 1959 and the Agreements of 1949 and 1952/53 between Egypt and Uganda (or respectively Great Britain as the colonial power) for the construction of the Owen Falls Dam at the exit of Lake Victoria are still valid *de facto*. Except for the laws on shipping regulations, globally valid legal instruments concerning the use of international waters do not exist. The 1997 »Convention on the Law of the Non-navigational Uses of International Watercourses« (»Watercourse Convention«), adopted by the UN General Assembly, has yet to come into force. Nevertheless, this convention and the so-called »Helsinki Rules« of 1966 provide codes of principles that can function as normative guidelines. Although they are not legally binding, the Nile Basin states relate their arguments to precisely these principles in order to make their positions more legitimate. Two of the principles which can be found in the Watercourse Convention and the »Helsinki Rules« are of particular importance: the »obligation not to cause significant harm«, which reflects the classic position of the downstream riparian, and the principle of »equitable and reasonable utilization« which especially Ethiopia refers to. A detailed inquiry into the forms the relation between these two conflicting principles can take is beyond the capacity of this article (see Ule 1998 on this issue). However it should be stated that the international legal debate has centered for a long time on the question of which of the two has priority. Each party to the Nile water conflict used to back up its position with recourse to the respective principle – a stalemate situation.

In the early 1990s, the UN debate on the Watercourse Convention changed things. the convention did not give priority to one of the two principles but linked them to each other. Simply: alongside a general obligation to cooperate and exchange data, the Convention established the rule that harm to other riparian states must be avoided. If harm cannot be avoided indemnification needs to be negotiated. In this way, the principle of »reasonable and equitable utilization« is to be observed; a catalogue of criteria defines the terms »reasonable« and »equitable«. The

Convention thus established a new mechanism which can reconcile competing claims. Riparian states began to consider the claims and interests of the others as principally legitimate: »Neither side was left with any convincing way to promote the legal priority of their position.« (Brunnée/Toope 2002, p.152)

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Almost simultaneously with the adoption of the Convention, the Nile Basin countries appointed an expert group to work out a framework convention in line with existing international law, identifying and integrating principles which are applicable to the case of the Nile (Tafesse 2001, p. 110). The influence of legal norms could not have been more obvious. In the 1999 »Policy Guidelines« of the Nile Basin Initiative, adopted by the relevant water ministers, the opposing principles were explicitly connected: »subsidiary action programs will build on principles of equitable utilization, no significant harm and cooperation.« (<http://www.nilebasin.org>)

To what extent the Nile states will actually give up their earlier positions when it comes to the negotiations over concrete user rights remains to be seen; the decisive test would be the planned framework agreement among all Nile riparians. The fact that the water ministers did not accept a formulated proposal in August 2000 because some substantial questions had not been addressed shows just how far the Nile River states still have to go. But even if old patterns of argumentation and legitimacy cannot be cast off immediately, the convention as an authoritative up-to-date legal document has contributed considerably to increasing cooperation in the Nile Basin. Norms of international law which regulate water conflicts and recognize fundamental claims of all Nile Basin states improve the prospects of a constructive conflict resolution, even if the norms are not binding for all parties. The very general and vague wording of texts such as the Watercourse Convention is an advantage rather than a disadvantage, because every water conflict has its own unique structure that needs to be considered separately. Legal norms can only provide a frame, specific regulations have to be made by the riparian states.

The Importance of External Actors

The case of the Nile clearly shows that third parties can have an important role in conflict resolution: donor countries and international organizations, especially the World Bank, offer crucial help to resolve conflicts constructively. Their primary interest is the stability of a strategically important area. To cite an example: the German federal government considers its engagement explicitly in connection with security issues. In the context of an encompassing security concept, Germany sees development cooperation as one of the pillars – alongside security and foreign policy – of a comprehensive policy aiming at stable international peace.

The World Bank not only provides finance; on request it also coordinates international support for projects within the Nile Basin Initiative, because it considers it »a unique forum for the Nile states to pursue cooperative economic development and environmental management, which is fully in line with the World Bank's mission to fight poverty« (<http://www.worldbank.org/afr/nilebasin/faq.htm>). The World Bank makes cooperation and consent on the part of the Nile Basin states a precondition for its engagement. The »Operational Policy 7.50« for projects on international watercourses stipulates that all riparian states have to consent to planned projects, otherwise the project will not be (co-)financed by the World Bank. Such a regulation, which indirectly supports the enforcement of legal norms like those of the Watercourse Convention, functions as an engine of international cooperation, as seems to be the case with the Nile Basin Initiative (Mason 2001, p. 149 f.).

As the history of multilateral forums of cooperation since the 1960s shows, there is a large number of projects the Nile Basin states could carry out in common. But implementation has usually failed because of political instability and a lack of finance. The international organizations and donor countries can at least provide money and technical know-how to the Nile states and thereby offer strong incentives for cooperation: »The Nile basin may be considered an ecological unit by many, but the only common ground between the states concerned is a greater or lesser dependence on international aid. No hydraulic works can be financed without external funding which takes into account consequences for co-riparians.« (Beschorner 1992, p. 61) Especially for Ethiopia this is an important motive to participate in the NBI.

The World Bank, UNDP and donor countries have acted as catalysts in the Nile River Basin; they have been helping to transform interaction

among riparian states from a sterile and often confrontational exchange of positions into a cooperative approach to the implementation of concrete plans. Financial incentives are not the only explanation, though. With the initiatives they have promoted (ranging from Hydromet over TECCONILE to the NBI), the World Bank and UNDP have created forums for dialogue among experts and politicians of all countries concerned. In this way they have helped to point out potential win-win situations, to increase awareness of interdependence and to build up trust. These multilateral forums for cooperation have ultimately led to the slow growth of mutual interests, which are a necessary prerequisite for any cooperation.

The Actors and their Options

The Nile conflict is a complex game and no simple solutions can be found since conflicts of interests and possibilities for cooperation exist on different levels. The main question however is: will the status quo with regard to water use, which is mainly reflected in the Egyptian-Sudanese Treaty of 1959, last or not? The advantage of multilateral cooperation such as the Nile Basin Initiative is that *all* participants can go a considerable way towards pursuing their strategies, whereas the regulation of the Nile conflict up to now has given some parties the feeling that they have received rather less than their fair share. A constructive, cooperative regulation is possible and in the end benefits all parties, not only the up-river states who complain about the unjust status quo.

Egypt's first priority is a secure water supply for the country. Therefore, cooperation with the upstream states is a double-edged sword: on the one side, Egypt can clearly profit from common projects, on the other side, it also has to recognize other countries', especially Ethiopia's, claims and therefore allow for a possible decline in water supply in the future. To find a permanent regulation for the conflict right now would have the advantage that Ethiopia still needs outside help. Should the country stabilize in the medium term and be able to finance its dam projects itself or with private capital, the interest in a compromise with Egypt would decrease (Tafesse 2001, p. 91 f.).

Sudan's interest is best described as »economic development«: it bears an immense potential for irrigation agriculture and for hydropower which it can only use if it stabilizes politically. With regard to water policies, Sudan is facing a dilemma. On the one hand, it is bound to

cooperate with Egypt, due to the 1959 Treaty, from which it benefits. On the other hand, an expansion of irrigation agriculture is best pursued in cooperation with Ethiopia. In the long run, an Ethiopian-Sudanese cooperation could be very attractive for both countries. But so far, Egypt has been doing its utmost to prevent this. The great advantage of a multilateral cooperation, such as the NBI, is that Sudan can make use of both options. Advances in flood control or data exchange become possible without the country having to give up its strategic cooperation with Egypt. The participation of third parties in the NBI process also increases Sudan's chance to attract foreign capital.

Ethiopia's primary interests are economic development and a secure food supply. Without the extension of irrigation agriculture, Ethiopia cannot feed its growing population; in addition, water power could produce plenty of electricity, which could be sold abroad for foreign exchange. The question of finance is a core aspect if Ethiopia faces the choice of having to develop its water resources unilaterally or in multilateral cooperation. The multilateral alternative seems more promising. In this way, Ethiopia can also benefit from the technical expertise of the international organizations and donating countries. However, international organizations tie loans to the consent of the other riparians.

The situation is similar for the *remaining Nile states*. But since the water of the Nile is not as important to them as it is to Egypt, Ethiopia and Sudan, they have so far shown a »wait-and-see attitude« (Waterbury 2002, p. 33). But this situation could change when population growth makes the equatorial states more dependent on Nile water use.

Considering the conditions that facilitate cooperative and therefore constructive solutions to the conflict over the Nile water, six factors stand out as important:

- ▶ the possibility to increase the overall water supply, thus breaking up the zero-sum game of water consumption;
- ▶ the awareness of mutual dependence;
- ▶ divergent power asymmetries (beyond the natural hydrological one) that can balance each other;
- ▶ a legacy of existing initiatives of conflict resolution and confidence-building;
- ▶ international legal norms – albeit not yet binding – which regulate water conflicts and recognize all essential claims by the riparian states;
- ▶ external actors interested in constructive conflict regulation and providing incentives for cooperation among the riparian states.

These factors taken together explain why the Nile conflict can increasingly be regulated in a cooperative manner. This holds even if the problems at the root of the conflict – water shortages and the desire for economic development – become more acute, which is very likely in the case of the Nile. Our analysis thus contradicts the assumption, prevalent in part of the international relations literature, that a higher conflict potential makes a recourse to violence more likely. Do we have to expect a war over the water of the Nile? No. Do we have to expect serious conflicts among the Nile Basin states? Yes, but due to their specific structure, they bear a high incentive for cooperation. It is not unlikely that, as an American participant of the so-called water-for-peace talks between Israel and its Arab neighbors in the 1960s put it, water is »an eloquent advocate for reason« (Wolf 1994, p.39).

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