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WATER AND POWER
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Why do states in arid regions fail to cooperate in sharing water resources when cooperation would appear to be in their mutual interest? And under what circumstances could they be encouraged to negotiate even when protracted conflict characterizes interstate relations? Through in-depth analysis of the history and current status of the dispute over the waters of the Jordan River basin among Israel, Jordan, Lebanon, and Syria, and its relationship to the Arab–Israeli conflict, Dr. Miriam Lowi explores the answers to these critical questions. By comparing the Jordan waters conflict with disputes in the Euphrates, Indus, and Nile River basins, she evaluates the material and ideal concerns of states with regard to sharing scarce resources with adversarial neighbors, and highlights the significance of water to both conceptions of national security and to the local environment.

*Water and Power: The Politics of a Scarce Resource in the Jordan River Basin* is a provocative study of an issue which is rapidly emerging on the international agenda because of the intimate links between environmental factors and their effects on the welfare of populations. This book will be of value to all those with an interest in the recent history and politics of the Middle East, the politics of scarcity, and resource conflicts.
WATER AND POWER
The politics of a scarce resource in the Jordan River basin

MIRIAM R. LOWI
For
Abdellah,
Jazia and Ismael
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Preface

When Israeli forces invaded Lebanon in June 1982, some observers claimed that one of Israel's objectives was to seize control of the Litani River. At the time, I found the allegation intriguing. Why would a state launch such a costly military operation for the sake of a river that, even by regional standards, was not particularly abundant? What Israeli national security concerns could possibly be epitomized by a Lebanese river? When I began graduate school at Princeton University in the fall of that year, I told my teacher, Charles Issawi, that I was interested in exploring the role – if indeed there was one – that rivers, and water in general, have played in the ongoing and unresolved Arab–Israeli confrontation. He chuckled and said: “That should keep you busy for a while.” Little did I know that ten years later I would still be studying the complex relationship between riparian dispute and inter-state conflict.

No doubt my initial curiosity with the “lure of the Litani” was quickly dwarfed by the larger, and far more engaging political issues raised by the experience in the Jordan River basin. For one, it became clear to me that there was, indeed, an intimate link between water resources and national security. In arid and semi-arid regions, such as the Middle East, water scarcity is not only a fact of life, but also, and more importantly, a material constraint to survival. Without unimpeded access to water resources, states cannot pursue the multiplicity of tasks they are expected to fulfill: provision of drinking water, development of the economy, settlement of population, provision of health care, to name but a few. The survival of the state as both a physical and political entity is dependent upon the provision of these goods. On one level, this book is addressed to the “security community” and the current debate over definitions of security that explicitly incorporate environmental concerns.

Second, my reading of the history of the conflict in the Jordan basin led me to believe that past efforts at resolving the water dispute had been misguided. In the mid-fifties and somewhat less so in the late seventies, the United States government hoped that solving the water dispute would reduce tensions in the region and facilitate the resolution of the Arab–Israeli
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conflict. By establishing a web of interdependencies in economic and welfare matters, adversaries would come to recognize their need for each other. Thus, technical cooperation would spill over into political peace. Experience would show, however, that the water dispute could not be solved, precisely because of the larger political conflict and the visceral concerns that lay at its core. Cooperation in economic and welfare matters required the prior, or perhaps, simultaneous, resolution of the “high politics” conflict. On another level, therefore, this book is addressed to the policy community. Implicitly, it cautions against trying to resolve protracted conflict by “nibbling at the edges.”

Related to the policy focus is the central issue that pervades the book: the potential for cooperation in international river basins. On yet another level, the book makes a contribution to the ongoing debate between political realists and liberal institutionalists about how to explain cooperation, and its absence, among nations. It comes out in favor of the classical realist tradition and its emphasis on the distribution of power, modified by a greater understanding of culture, history, and ideology and the ways in which they may influence political behavior. In the introductory and concluding chapters especially, the international relations community is the principal audience.

In light of the current talks within the framework of a Middle East peace process, the timely nature of the subject matter of the book is obvious. To wit, a water resources working group has been meeting as part of the multilateral track of the talks. It may well be that one of the implicit objectives of the peace process is to establish “epistemic communities” in the principal issue-areas. Furthermore, with the collapse of the Soviet Union, Middle Eastern states have less room to maneuver than previously was the case. The Arabs, despairing of attaining their perceived rights in a unipolar world, may be more inclined to curry the favors of the United States, and more likely to cut a deal with Israel. Israel, in turn, may well find that the current political situation is more precarious than ever before. It too may be willing to make some compromises for the sake of bringing the protracted conflict to a close. Needless to say, this book is also addressed to the vast community of Middle East specialists and observers of Middle Eastern affairs.

In the course of working on this book many people assisted me in a variety of ways. I am happy to have the opportunity to record my gratitude to them. My greatest debt is to John Waterbury of Princeton University, whose generosity and commitment to his students are both remarkable and inspiring. Over the years, he has been my teacher, advisor, and friend.
Preface

Michael Brecher of McGill University and Janice Stein of the University of Toronto, international relations theorists with a Middle East focus, deserve special mention as well. Both read the manuscript in its entirety and offered valuable suggestions. Stephen Lintner, a senior environmental specialist with the World Bank, went through the manuscript with a fine-tooth comb. He shared with me his vast expertise on the conflict in the Jordan basin and reacted at length to my interpretations of it.

At different stages, several other people read all or parts of the manuscript and made helpful comments. I wish to thank Sion Assidon, Jameson Doig, Michael Doyle, Richard Falk, Thomas Homer-Dixon, Charles Issawi, Robert Keohane, Charles Kupchan, Marc Levy, Richard Matthew, Tim Mitchell, Thomas Naff, Susan Osman, Robert Vitalis, Steve Walt, and Arthur Westing. Needless to say, as important as their contributions have been in shaping the final version of the project, I alone bear responsibility for its contents.

The sudden death of John Vincent was a terrible blow to the international relations community and to all those who knew him. He was a superb teacher and a fine human being. He believed profoundly in the importance of dialogue and exchange among peoples and perspectives. It is with gratitude for his guidance, support, and friendship that I invoke his memory.

In the field, numerous people helped me considerably. In Syria, Egypt, Jordan, and Israel, interlocutors answered my many questions, sometimes at personal risk. Because of the sensitivity of the subject matter of this book, I promised to protect the identities of those whom I interviewed. They know who they are. I hereby express my appreciation to them. I do wish to single out for special mention a number of key figures who did not request anonymity: Sadiq al-Azm and Aziz Shukri in Syria, Mahmoud Riad in Egypt, Hamed al-Farhan and Munther Haddadin in Jordan, Mordechai Gazit, Elisha Kally and Aharon Wiener in Israel.

It is important to note that because water is a national security issue in the countries of the central Middle East, certain data are not accessible to the public, let alone to foreign researchers. As a result, in writing this book, I have had to resort to making conjectural assertions on occasion. Moreover, while I was able to review several key feasibility studies, I have refrained from citing them directly, out of respect for the concerns and interests of those who allowed me to consult them. I do not believe, however, that these “holes” detract from the larger picture I have drawn.

The conditions of my work in the Middle East were enhanced by affiliations with a number of institutions. I would like to thank the American Center for Oriental Research in Amman, the Institut Français des Études Arabes in Damascus, and the Duyan Center for Middle Eastern Studies at
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Tel-Aviv University. The staffs of the national archives in Jerusalem and in Washington, D.C., and the Freedom of Information Act services of the United States government extended assistance to me, as well.

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A number of other people remain to be thanked. Mildred Kalmus has been a great source of assistance and encouragement over the years. Gwendolyn Prothro helped with bibliographic searches, photocopying, and mailing materials when I was overseas. Bernard Lewis gave me the idea for the jacket design, and Oleg Grabar provided me with the photograph of the Madaba mosaic map from his personal library. Marigold Acland, the editor of the Middle East Library series at Cambridge University Press, and her staff, very ably handled the production and publication of the manuscript.

Finally, my husband, Abdellah Hammoudi, has contributed to this book in many ways. Most important of all, he has been my dear friend and comrade.
Preface to the paperback edition

Since Water and power went to press in the fall of 1992, the Middle Eastern region has witnessed a number of historic developments, some of which impact directly upon the politics of water. I am pleased, therefore, that this new edition allows me the opportunity to continue the story of the Jordan waters conflict up to the present. Most significant of the recent developments is that the peace process that was set in motion at the Madrid conference in the fall of 1991, in the wake of the Gulf war, has taken on a life of its own. This, I may add, had not been anticipated; prior to Iraq’s invasion of Kuwait, no one in the public domain could have predicted with any degree of certainty that a resolution of the four-decade-long Arab–Israeli conflict was about to be put back onto the negotiating table and, more importantly, would remain there for as long as it has.

These were particularly fortuitous developments for Water and power, as well. Despite the fact that the subject matter of the book had represented the focus of my research interests since the early 1980s – before the water dimension of the Arab–Israeli relationship became highly publicized – the book suddenly found itself at the center of the arena of Middle Eastern affairs and squarely within the agenda of the peace process. This, I believe, has enhanced the value of the book and suggested the need for its wider accessibility. In addition to whatever scholarly merits it may have, it can provide readers with a context within which to understand and follow these historic developments.

Following the Madrid conference, participants in the multilateral track of the peace talks met for the first time in Moscow in January of 1992. At that meeting, working groups were established in five substantive areas of mutual concern to the Arab “frontline” states and Israel: arms control, economic development, the environment, refugees, and water resources. These groups were to meet separately from the bilateral negotiating teams. The objective was twofold: first, that the multilaterals would provide support for and complement the bilaterals, with each track drawing inspiration from progress in the other, and second, that
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technical arrangements would be elaborated and agreed upon in the multilateral meetings by the time the bilateral negotiations came to a successful completion. It was hoped that some technical arrangements could be implemented even before peace.

By the spring of 1995, the water resources working group had met seven times: in Moscow in January 1992, Vienna in May 1992, Washington in September 1992, Geneva in April 1993, Beijing in October 1993, Muscat in April 1994, and Athens in November 1994. However, until September 1993 and the signing of the Declaration of principles by Palestine Liberation Organization Chairman Yasir Arafat and Israeli Prime Minister Yitzhak Rabin, discussions within the water resources working group remained at a very preliminary level. There was general consensus on the obvious: that there was not enough water in the region, that demand was growing, that water quality was deteriorating. Lengthy discussions took place on the problem of data collection, and the parties agreed that in a more favorable political climate, it would be important to share data.

In these first four meetings, substantive progress was impeded by the “high politics” conflict – the Arab–Israeli confrontation that has dominated Middle Eastern affairs, defined relations, and been at the center of wars and diplomacy since 1948. Both sides, but especially the Arabs, were reluctant to come to consensus, even on very small matters, in the absence of considerable progress toward a political settlement of the core issue of conflict: Palestinian statehood and the future status of the territories occupied by Israel in the 1967 war.

After the signing of the Declaration of principles on September 13, 1993, the atmosphere in the water resources working group improved considerably. At the meetings in Beijing and Muscat, for example, participants were beginning to think in the long term. There was a sense that for the first time, parties were entertaining the possibility – even the likelihood – that the Arabs and Israelis would be interacting on a regular basis and for the indefinite future in matters of mutual concern. The idea of common water projects of broad scope no longer seemed farfetched.

At the most recent meeting, in Athens in November 1994, the mood was especially upbeat because of the peace treaty that had been signed between Israel and Jordan just three weeks before. Despite some imprecise language and vagueness on certain details, the treaty opens up possibilities for a future of cooperation between these two former adversaries.

Progress in the water resources working group reflects progress in the bilateral (political) negotiations and “on the ground,” on the core issue of conflict. When treaties are signed or when the Palestinian Authority
and the Government of Israel are making significant headway in implementing the Declaration of principles, participants in the water resources working group are inclined to resolve matters cooperatively. This being said, they continue to be reluctant to address the issue of regional water management and cooperation – what is considered to be optimal when exploiting the waters of an international river basin. This condition, I would argue, results from the absence of genuine political commitment thus far. A history of animosity and protracted conflict, uncertainty about the future and the intentions of “the other,” a melange of preferences and concerns, and most recently, general frustration with the stalled implementation of the Declaration of principles, lie at the core of this lack of commitment. It seems fair to conclude that considerably more progress toward the implementation of a broad political settlement – one that expands the areas of Palestinian authority beyond the Gaza Strip and Jericho – would be required before the parties entertain the specifics of basin-wide cooperation. This conclusion echoes one of the central arguments I make in Water and power.

My analysis of the Jordan waters conflict indicates that over the course of its history, the parties to the conflict were reluctant to come to technical agreements on sharing and managing water resources in the absence of a resolution of their political differences. Comparative evidence from the riparian disputes in the Euphrates and Indus basins corroborates this finding, as well. States engaged in “high politics” conflicts do not allow extensive collaboration in the sphere of “low politics,” centered around economic and welfare issues. Indeed, technical cooperation is impeded by the “high politics” conflict, because all technical matters are subsumed under the political condition and are perceived as dimensions of it. Hence, a political settlement must precede technical cooperation, and not vice versa.

Indeed, I believe that a number of arguments I made have been substantiated by recent developments in the region and within the peace process. Let me highlight these by focusing first on the Israel-Jordan Treaty of peace and second, on the implementation of certain aspects of the Declaration of principles.

On October 26, 1994, Israel and Jordan signed the Treaty of peace, bringing to a close the state of war between the two countries. Annex II of the treaty, which is reprinted at the back of this book as Appendix 5, concerns water-related matters. What is noteworthy about the water agreement is how close to or removed from the preferences of the parties it actually is. For one, there is no discussion of a large storage dam on the Yarmouk River – akin to the Maqarin dam project or later, the Unity (al-Wahdah) dam – to impound the winter flow for Jordan’s usage.
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during the long, dry summer months. Since the early 1950s, Jordan had been insisting on the need for such a facility. Over the years, its efforts in this regard were stymied by a variety of sources, both political and financial. This time, no doubt, the fact that Syria is not a party to the treaty while it is the upstream state on the Yarmouk and hence would have to be included in any discussion of a dam project, goes a long way to explaining the lacuna.

There is, however, mention of two other storage facilities on the Yarmouk. The first is a very small dam – a regulating weir, in fact – to control the flow into the King Abdullah Canal (the former East Ghor Canal). The Jordanians maintain that this will allow them access to an additional 10–20 million cubic meters (mcm) of Yarmouk water. But downstream of the diversion into the Canal, Israel has the right to offtake the excess floodwaters. A second storage dam would be built on the Jordan River somewhere south of the confluence with the Yarmouk. It is expected to provide Jordan with an average of 20 mcm per annum, as well.

By the terms of the treaty, Israel is obligated to provide Jordan with 10 mcm of desalinated water per year. For several decades, Israel had been diverting water from saline springs around Lake Tiberias into the Lower Jordan River. The treaty stipulates that within a period of four years from the signing, a desalination plant will have to be built and become operational in Israel. After giving Jordan its due, Israel will keep some portion of the remaining desalinated water. However, until completion of the plant, Israel will have to give Jordan 10 mcm of water directly from the lake.

According to the treaty, Israel has the right to pump 12 mcm per annum directly from the Yarmouk River during the summer months, and 13 mcm during the winter. Jordan is entitled to the remainder of the flow. This combined allocation is, curiously enough, what was earmarked from the Yarmouk for Israel in the Johnston Plan of the 1950s, discussed in chapter 4 of this book. (It also is somewhat less than the quantity that Israel has been taking directly from the river in recent years, although exact figures are unavailable.) Moreover, Jordan allows Israel to pump an additional 20 mcm of water from the Yarmouk in the winter, but during the summer months, Israel must transfer 20 mcm to Jordan. These quantities cancel each other out; their significance is simply one of timing. Jordan has no means of storing winter flow, although its demand during the dry season is great. Israel, in contrast, does have storage capacity, so that it can manage with a smaller allocation in the dry season. On balance, Israel has access to more or less the same amount of water from the Yarmouk as it had prior to the signing of the treaty,
while Jordan has an additional 40–50 mcm. Furthermore, the two parties are enjoined to cooperate in finding for Jordan an additional 50 mcm of water of potable quality. Absolutely no mention is made of the Palestinians’ claim to water from the Jordan–Yarmouk system.

Needless to say, the water-related portion of the treaty is, at least on paper, very important. If implemented, Jordan will be somewhat better off, while Israel will not be worse off. Besides, the document opens the door to an era of cooperation in water matters. This, in itself, makes Annex II a historic document. Nonetheless, as those in the policy domain know all too painfully well, signing a treaty and all that that entails may be considered relatively easy when compared with the next step in the process – the implementation of the treaty. If the process of implementation boggs down, the local population may become frustrated and the treaty itself is threatened. This is precisely what we have been witnessing in the Israeli–Palestinian arena in the winter of 1994–95. But before turning to the Declaration on interim self-government arrangements, let me speculate on why the Israeli–Jordan treaty was signed in the first place, and its implications for the central thesis of this book, that adversarial states will not come to technical agreements over sharing water resources in the absence of a resolution of their political conflict.

The peace treaty between Israel and Jordan was signed in October 1994 in the absence of a bona fide Israeli–Palestinian settlement on the core issue of statehood. No doubt, a combination of factors urged Jordan in this direction. For one, King Hussein must have felt that the economic crisis that had beset Jordan since the Gulf war was not on the wane, and that there would be no respite until there was peace with Israel. On a number of occasions over the decades, as I document in Water and Power, Jordan had been interested in arrangements with Israel that would have provided relief from economic constraints. Insofar as the water dispute was concerned, Jordan had hoped for the implementation of some variation of the “Johnston Plan” in the 1950s. And it certainly wanted a riparian agreement with Israel and Syria in the late 1970s and early 1980s so that it could build a dam on the Yarmouk River. Jordan’s public posture had always been one of non-collaboration with Israel. However, it is fair to assume that because of the long border it shares with Israel, as well as a number of mutual concerns – not least among them, access to a common body of water – Jordan would have sought cooperative arrangements with Israel long ago, had the political situation permitted.

When the Palestinian leadership and the Israeli government entered into the process that culminated in the signing of the Declaration of principles, both the Jordanian and the Syrian governments were annoyed; they perceived the Palestinians’ having gone ahead without them as a
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betrayal of Arab solidarity. However, once the Palestinians signed the Declaration, the Jordanians probably felt that the stage was set for them to make their own move. It was not that Jordan viewed the Declaration of principles as a “high politics” settlement— it would be very difficult to sustain such a claim. Rather, the Jordanian government most likely viewed the document as a step in the direction of a “high politics” settlement: a prelude to other international agreements. This provided Jordan with the opportunity to proceed openly in the pursuit of its own national interests. Indeed, for about one year prior to the signing of the treaty, Jordan and Israel had been meeting regularly with the United States in a Trilateral economic committee to discuss technical issues of mutual concern. Nonetheless, for a variety of reasons which are elucidated in chapters 4, 5 and 7, Jordan would not have taken the initiative to sign an agreement with Israel before the Palestinian leadership.

As for the Israeli–Palestinian relationship, joint committees have been set up, in keeping with the stipulations of the Declaration of principles, in a variety of technical areas, including water resources. Unfortunately, several of these bilateral committees have made little headway to date, and the water resources committee has barely gotten off the ground, precisely because of the impasse at the political level. Progress toward the transfer of rule in the West Bank to the Palestinian Authority has reached a bottleneck, and the Palestinian people, with their future uncertain and their expectations faltering, have become increasingly disillusioned. Besides, with the question of Palestinian statehood in limbo, water resources have low priority as a subject for immediate discussion. Again, this is what I argue in Water and power: that states engaged in a protracted conflict will not make progress in resolving seemingly technical matters of mutual concern when their political differences remain unresolved.

It is important to bear in mind just how little water there is in Israel, Jordan, and the West Bank. This factor, coupled with the rising demands of states and peoples in arid and semi-arid regions, with high population growth rates and considerable agricultural sectors, illuminates the extent to which margins are narrow in the development and utilization of water resources. Even if we assume that a mutually satisfactory political settlement is implemented and unitary basin-wide development is adopted, it is highly likely that the waters of the Jordan–Yarmouk system will prove to be insufficient for meeting the needs of the peoples of the basin. (Needless to say, Jordan and Israel were well aware of this when they signed the peace treaty. They may have felt that it made little sense to fuss about a few tens of mcms of water when, in fact, potential water deficits in the coming decades may be in the order of several hundreds of
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mcms.) This being the case, a variety of solutions to scarcity must be considered.

Technological solutions at the national level in the form of water augmentation and management systems are one obvious avenue to explore. To date, the Israelis and the Jordanians have independently pursued a number of such techniques: cloud-seeding, desalination, wastewater reuse, dam-building, etcetera. Obviously, if these techniques were to be implemented cooperatively, they could have a greater mutual benefit by virtue of states sharing technology, expertise, and data. Intra-regional solutions are another avenue to explore. There are a number of possible scenarios. For one, water could be "imported" from outside the immediate area. The past decade has witnessed a flurry of research activity in the domain of water transfers, with the result that there are currently a variety of imaginative schemes to transport water from relatively wet zones. Another intra-regional solution that could be envisioned is the trade of oil for water in the Middle East. Iraq and Turkey would be logical partners in such an enterprise at some future date. Yet another possibility is that Gulf states would help finance desalinization schemes in exchange for some other valued good. There is certainly no shortage of potential solutions. However, all of them – indeed, all except for unilateral solutions – require a favorable political climate.

No doubt, the resolution of protracted conflict would open up vast possibilities for functional cooperation. But this must not be viewed as the entire solution to resource scarcity. In addition to resolving their political disputes, the states of the central Middle East must take bold steps to curtail excessive and wasteful consumption of water, especially by their agricultural sectors. This means that they must reconsider the size and importance of agriculture in their economies, revise the choice of crops grown, and adopt the most effective water-conservation technologies.

Revamping agriculture does not require the end of regional political conflict. However, if conflict is not brought to an end, states in arid regions will be forced to rely on sub-optimal solutions of a purely domestic and piecemeal nature. Given the stresses on water supplies in Israel, Jordan, the West Bank, and the Gaza Strip – among them, the absence of additional unexploited sources, population growth trends, and recurrent drought conditions – basin-wide and intra-regional arrangements for sharing and utilizing water are crucial for the long-term stability of the region. The implementation of the Declaration of principles in its entirety and progress towards final status negotiations are the essential first steps in that direction.

Princeton, March 1995

xxv
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AMER</td>
<td>Associates for Middle East Research, Data Base (Philadelphia, Pa.: University of Pennsylvania)</td>
</tr>
<tr>
<td>BBC</td>
<td>BBC: Summary of World Broadcasts, part 4: the Middle East</td>
</tr>
<tr>
<td>FBIS</td>
<td>United States, Foreign Broadcast Information Service, Daily Report: Middle East, Africa, and Western Europe, 1967</td>
</tr>
<tr>
<td>FOI</td>
<td>Freedom of Information Act, Government of the United States</td>
</tr>
<tr>
<td>FRUS</td>
<td>Foreign Relations of the United States, 1952–1954 vol. 9</td>
</tr>
<tr>
<td>INA</td>
<td>National Archives of the State of Israel</td>
</tr>
<tr>
<td>USG/CFA</td>
<td>Testimony before the House Committee on Foreign Affairs: Subcommittee on Europe and the Middle East, <em>The Middle East in the 1990s: Middle East Water Issues</em> (Washington, D.C., 26 June 1990)</td>
</tr>
<tr>
<td>USG/DS</td>
<td>Declassified document on West Bank water provided to the author by the Government of the United States, Department of State (n.d.)</td>
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<tr>
<td>USNA</td>
<td>United States National Archives</td>
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