International Court of Justice

THE HAGUE

Cour internationale de Justice

LA HAYE

YEAR 1997

Public sitting

held on Thursday 10 April 1997, at 10 a.m., at the Peace Palace,

President Schwebel presiding

in the case concerning **Gabcíkovo-Nagymaros Project**

(Hungary/Slovakia)

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VERBATIM RECORD

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ANNEE 1997

Audience publique

tenue le jeudi 10 avril 1997, à 10 heures, au Palais de la Paix,

sous la présidence de M. Schwebel, Président

en l'affaire relative au **Projet Gabcíkovo-Nagymaros**

(Hongrie/Slovaquie)

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COMPTE RENDU

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Present: President Schwebel

Vice-President	Weeramantry
Judges	Oda
	Bedjaoui
	Guillaume
	Ranjeva
	Herczegh
	Shi
	Fleischhauer
	Koroma
	Vereshchetin
	Parra-Aranguren
	Kooijmans
	Rezek
Judge *ad hoc*	Skubiszewski
Registrar	Valencia-Ospina

Présents : M. Schwebel, Président
M. Weeramantry, Vice-Président
MM. Oda
Bedjaoui
Guillaume
Ranjeva
Herczegh
Shi
Fleischhauer
Koroma
Vereshchetin
Parra-Aranguren,
Kooijmans
Rezek, juges

Skubiszewski, juge *ad hoc*

M. Valencia-Ospina, Greffier

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Mr. Stuart Oldham,

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comme assistants juridiques.

The PRESIDENT: Please be seated. This morning the Court will resume its public hearings in the case concerning the *Gabcíkovo-Nagymaros Project*. Today and tomorrow the Republic of Hungary will present its second round of oral argument and the Slovak Republic will do so on Monday and Tuesday of next week.

Before giving the floor to the distinguished Agent of Hungary I would like to express, on behalf of all of the Members of the Court, our very warm thanks and profound appreciation to both Agents, their Governments and their representatives for their excellent co-operation and so ably organizing and conducting the visit which the Court made last week to the areas in both countries to which the case relates. The visit which was made at the joint request of the Parties was the first such visit in the history of this Court and I am sure it has enhanced our understanding of the issues we are requested to decide.

May I note that we have the pleasure of seeing in Court Professor Derek Bowett and we are very pleased that he is able to be here.

I now call upon the distinguished Agent of Hungary to begin the second round of oral argument on behalf of his Government. I am sorry, not the distinguished Agent of Hungary, but I see Professor James Crawford, and no less distinguished.

Professor CRAWFORD:

1. INTRODUCTION

Thank you, Sir, for part of that introduction. Mr. President, Members of the Court:

1. In introducing Hungary's reply, I should first mention the questions asked of Hungary during the first round as well as during the very successful visit made by the Court to the region. Secondly, I will discuss some points on which the Parties' positions have converged, and say something about the Court's role in relation to outstanding issues of disagreement. Thirdly, I will outline the structure of Hungary's Reply.

A. RESPONSES TO QUESTIONS; ADDITIONAL DOCUMENTS

2. In its first oral round Hungary replied in a preliminary way to questions asked by Judges Fleischhauer and Vereshchetin. In addition a question was asked by Judge Ranjeva on the fifth day, relating to the effects of the non-provision of the Soviet loan. Written replies to these questions will be provided shortly, in time for a response by Slovakia next week.

3. A number of questions were also asked during the site visit. The Vice-President asked about the relative costs of production of water through bank-filtered wells as compared with taking water from the river. Dr. Kern will respond to this today. Judge Ranjeva asked about the effects of the Treaty on the course of the boundary, including the thalweg. The Parties agree that the 1977 Treaty was not a boundary treaty and that it had no legal effect on the course of the boundary. We are co-ordinating with a view to preparing an agreed statement and illustrative map in response to Judge Ranjeva's question.

4. In its first round Slovakia mentioned a number of studies, which were held up to the Court and used to support the contention that all conceivable risks of the original project had been fully studied. Rather than simply displaying these studies for you to view from afar, Hungary will actually to refer to their contents. You will find highlighted extracts from the Bechtel Report, the Hydro-Quebec Report, the Slovak Blue Book and the PHARE Report in your folders. We are depositing with the Court the text of the UNDP-WHO Study, among others. We hope that this will facilitate the task of seeing what these various documents actually say.

B. Points of Agreement and Disagreement and the Role of the Court

5. I turn to the current state of the arguments between the Parties. In some respects there has been convergence. For example, with the sole exception of the Hungarian response to Mr. Andriessen (the original of which has been lodged with the Registrar) Slovakia did not dispute the authenticity of any of the documents referred to by Hungary in its pleadings, including Slovak Government documents. Nor does it now appear to challenge Hungary's good faith in relation to this dispute. The only express reference to Hungary's good faith was made by Dr. Tomka, who said that the questions referred to in Article 2 of the Special Agreement "do

not become irrelevant if the Court accepts that Hungary acted in good faith".[1] That is true; those questions remain, and have to be answered. But what is significant for present purposes is that - faced with my explicit and developed argument that Hungary did act in good faith, that its conduct was inexplicable on any other basis[2] - Slovakia made no response.

6. On some important legal issues the Parties have also converged. One relates to the doctrine of necessity as applied to treaty obligations. For three rounds of written pleadings Slovakia argued that that doctrine was inapplicable, now it recants.[3] Another point has even wider consequences. Slovakia no longer asserts that the 1977 Treaty created rights *in rem* or an objective legal regime. It made that argument at some length in each of its written pleadings.[4] It has now been abandoned. Instead the Treaty is seen as a joint investment treaty, analogized to a domestic building contract.[5] This change has fundamental consequences for the Slovak position, both as to the applicable law and the survival of the Treaty. An objective regime might be thought to create a fundamental law for the Parties, a sort of a constitution. A joint investment agreement is not a constitution, any more than a building contract, and there is no difficulty in treating its continuing performance as subject to the general law in force at the time. An objective territorial regime would have been relatively impervious to change, like the Mandate system or the demilitarization of the Aaland Islands. By comparison a joint investment agreement is simply an agreement *inter partes*. There is no strong presumption that it continues, no matter what changes occur. There is no presumption of interminability. All these implications attach, unobserved, to the observed change in Slovakia's position on this crucial issue.

7. On other points, Slovakia responds not by changes in its position but by - silence. For example it made no attempt to defend the wholly implausible legal interpretation given to Article 3 of the Boundary Waters Convention in the 1990 internal legal opinion which sought

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1 CR 97/7, p. 18 (Dr. Tomka).
2 CR 97/4, p. 16 (Prof. Crawford).
3 CR 97/8, p. 41 (Prof. Pellet).
4 SM, paras. 7.21-7.22; SC-M, paras. 2.35-2.38; SR, paras. 2.16-2.17, 2.22.
5 CR 97/10 pp. 63-64 (Sir Arthur Watts).

to justify Variant C.[6] Indeed Slovakia made no attempt in its oral arguments to address the 1976 Convention at all. It repeated its argument that the 1977 Treaty was a *lex specialis* which excluded the substance of the 1976 Convention.[7] That is all. Hungary of course accepts that while it was in force the 1977 Treaty was an application of certain aspects of the 1976 Convention - for example it was a contrary agreement for the purposes of Article 3, paragraph 2, which entitles each party to half the natural flow in the main channel. But there is no indication either in the 1977 Treaty or in the 1976 Convention that its provisions of the Convention - which came into force *after* the 1977 Treaty - were suppressed as distinct from applied by the 1977 Treaty. Quite the contrary. Moreover now that the 1977 Treaty is no longer seen as a regime, it is naturally subordinated to the admitted regime of the Boundary Waters Convention.

8. The Slovak silence on this point has a further implication. Once the 1977 Treaty was terminated, Variant C was clearly unlawful under the 1976 Convention. Slovakia has not troubled to deny the point. But it is of some importance. Assume for example that the Court were to hold that Variant C amounted to a repudiation of the 1977 Treaty which - Hungary also having repudiated that Treaty - is no longer in force. Assume further that Variant C is, in the special circumstances of this case, somehow consistent with the principle of equitable use of international watercourses - a point fleetingly and implausibly asserted by Sir Arthur Watts.[8] It would still follow that the *operation* of Variant C would be unlawful, unless and until it was brought into compliance with the 1976 Convention through negotiations with Hungary.

9. On many other points, of course, there is still disagreement. But you will have observed how Slovakia has sought to exclude some of the more significant issues from the Court by implausible *a priori* interpretations. Such arguments are a symptom of extreme sensitivity as to substance. And the technique is endemic. For example Professor McCaffrey said the Hungarian Scientific Evaluation in the Counter-Memorial was irrelevant because it

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6 For the legal opinion see HR, vol 3, Ann. 64; CR 97/4 p. 82 (Mr. Sands).

7 CR 97/9 p. 28 (Prof. McCaffrey); CR 97/11, p. 20 (Sir Arthur Watts).

8 CR 97/11 p. 23 (Sir Arthur Watts).

was written after 1990[9]. And the same suggestion was made with respect to Phase II of Variant C — the Slovak post-diversion phase which demonstrates, if demonstration is needed, that Variant C is neither provisional nor temporary[10]. But let me refer to three more serious examples of this genre of exclusion:

* First, there was the remarkable suggestion made by Dr. Tomka that the Court has no concern whatever with the question of water management, or with the extent of the discharge régime for the Danube[11]. Now it is true that the Special Agreement, although it contained an express undertaking by the Parties to introduce a temporary water management régime, effectively prevented the Court from ruling on that temporary régime[12]. The exclusion of the Court's interim measures jurisdiction was a condition of Slovakia agreeing to submit this case to the Court. But the temporary water management régime is precisely a régime "pending the final Judgment of the Court" under Article 4. This has two clear implications — one, that in the absence of Article 4, in the absence of its express exclusion, the Court *would* have been empowered to indicate a temporary water management régime to preserve the asserted rights of the Parties; two, that its final judgment will be relevant to the question of the future water management régime for the Danube. Of course it is not the function of the Court to make discretionary decisions about water management. But the Court does have jurisdiction to determine the legal rights and obligations of the Parties arising from its determination that the 1977 Treaty, including Article 15, is or is not in force, and that Variant C is or is not lawfully operated having regard to the various obligations of the Parties with respect to the environment. All of this plainly encompasses legal issues relating to the future water management of the Danube.
* Then there was a second example of the genre of exclusion. The astonishing argument made by Professor McCaffrey that Article 27 of the 1977 Treaty prevented Hungary

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9 CR 97/8, p. 19 (Prof. McCaffrey).

10 HC-M, paras. 3.115-3.122; HR, paras. 2.90-2.93, 3.64-3.65.

11 CR 97/7 pp. 18-19 - the assertion is repeated as Dr Tomka's first and third points.

12 Special Agreement, Art 4 (2), HM, vol 3, Ann. 32. See HC-M, paras. 2.107-2.117, 4.01, 6.32; HR 2.94-2.105.

from relying on necessity *even if Hungary's scientific and environmental concerns were justified*[13], that is what he said. Professor Valki will deal with Article 27 tomorrow. The point I am making is simply this — that to argue that Hungary must, *ex hypothesi*, subject itself to serious damage to its vital interests in drinking water resources and the environment because Article 27 envisages discussions between Government plenipotentiaries, betrays very little confidence in the substance of the issue.

10. A third example of Slovakia's genre of exclusion was Dr. Tomka's assertion that the Court has no role in this case except to answer the three questions identified in Article 2, paragraph 1, of the Special Agreement[14]. All the real management issues, Dr. Tomka inferred, were to be left to the experts — which means, in its context, the water engineers. People like Mr. Julius Binder, whose persistent and long-standing attitude to this dispute you may derive, for example, from Annex 2 in your folders, and who is the person who presently controls the Danube at Gabcíkovo. Professor Kiss will return to this crucial point shortly.

11. This strategy of exclusion suggests an unwillingness to have the Court enter into the merits of this dispute, an unwillingness Hungary does not share. But the Court will no doubt itself have the concern that it is called on to adjudicate a dispute with major implications, economic and environmental, implications for the Parties, for the region and for European approaches to water management. Courts confronted with a battle of the experts often feel uneasy, and this may be accentuated when *all* the experts on both sides are speaking as advocates! Let me make just a few remarks on this issue.

12. The first point is simple. Hungary does not say that the Court has to make final determinations on disputed questions of scientific fact or opinion in order to resolve this dispute. But the Court does have to form a view as to the extent and reality of the problems — and this is easier to do in the context because these concerns have been held in the recent past by, *inter alia*, Professor Mucha[15] and Mr. Refsgaard[16], as you will see. Hungary has

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[13] CR 97/9, p. 60 (Prof. McCaffrey)

[14] CR 97/7 pp. 17-18 (Dr. Tomka).

[15] CR 97/3, p. 55 (Prof. Wheater); HC-M, Anns., vol 4 (2), Ann. 11.

[16] CR 97/3, pp. 55, 62 (Prof. Wheater, Ms Gorove); HC-M, Anns., vol 4 (2), Ann. 12.

expressed the relevant threshold as follows — the Court needs to be satisfied that Hungary had valid concerns about vital interests. Valid not in the sense that the relevant damage certainly would occur; but valid in the sense that the risks were such that a reasonable government could not be expected to run them. That threshold was met in respect of both parts of the oiginal Project. It is met now with respect to Nagymaros and Variant C.

13. The second point is that the Court has itself the vocation to act in a precautionary mode, confronted with a degree of scientific uncertainty. The Slovak denial of uncertainty is another and scarcely more subtle example of the genre of evasion to which I have referred. Faced with scientific uncertainty, but with credible risks and damages — with valid concerns over vital interests — the Court should act in accordance with the principle of precaution embodied in the Rio Declaration and embraced, however uncertainly, by Professor McCaffrey[17]. By contrast you heard Professor Pellet talking about the enforcement of the original Project through judicial process[18]. That is the antithesis of the principle of precaution.

14. And thirdly, the Court's assessment of the diplomatic positions of the Parties in the period from 1989 must be influenced by its view of the underlying scientific and environmental issues. If Hungary's expressed concerns were completely fictitious, as Slovakia asserts, if they were incredible, then the diplomatic record may be read in a particular way. If on the other hand they were substantial, were held in good faith — as Slovakia appears now reluctantly to accept — if they were valid concerns in the sense I have explained, then the position is quite different. On that footing, what happened in the period from 1989 can be seen in a quite different — I submit in its correct and true — light. The story is, briefly, the following.

15. Hungary in 1989 had legitimate concerns about this major project — combined concerns as to its costs, its viability, its impact on the environment and on drinking water. These concerns were shared by many in Czechoslovakia and by reputable international bodies.

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17 CR 97/9, pp. 33-37 (Prof. McCaffrey).

18 CR 97/11, pp. 46-48 (Prof. Pellet).

The concerns had earlier been suppressed under the governing system of state science in which careers could be made or destroyed depending on the acceptability of positions taken. In the new environment of 1989-1990, the Czechoslovak authorities were initially understanding about this situation, although they were understandably concerned about the impact on their investment upstream, an investment hardly greater than Hungary's. But within a short time, the demands of those who wanted the original Project and peak power prevailed, and Variant C was conceived by the Bratislava State construction company — I should say reconceived, because the idea had been studied several times before. It may have been seen initially as a way of bludgeoning Hungary back to the original Project, but very soon it became the way to acquire sole control and benefit over the Danube. The die was cast by the end of 1990 or early 1991 at the latest. Hungary was offered no choices, by those who made the actual decisions. Listen to one of them speaking: "We proved as we proceeded with Variant C that Slovaks are capable of building a big project and this was one of the examples of how we deserved to have our own State ... [The environment] is just a fog around the problem and the problem is the border ... The 1977 Treaty was a problem [for Hungary] because it recognized current borders."[19] Thus Julius Binder, speaking last month of his own motivations and aims in constructing Variant C. And he ought to know.

C .Structure of Hungary's Reply

Mr. President, Members of the Court:

16. In the course of its presentations over the next two days, Hungary will seek to point out where possible the areas of agreement or at least of convergence between the Parties, and to focus on the essential remaining areas of disagreement. Inevitably a reply of this kind has to be selective and responsive; it builds on what has been written and said, which we will not repeat and do not withdraw. In this context I should add that Hungary will reply in writing to the PHARE Project or to the PHARE Report. But that we have annexed in your folders two documents which will be annexed to that reply from Professor Somlyody and Dr. van Rijn, both of whose names were referred to in the Slovak first round.

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19 *Reuters World Service*, 29 March 1997; Judges Folder, Ann. 2.

17. The structure of Hungary's oral reply is as follows:

* Professor Kiss will complete this *Introduction* by analysing the role of the Court under Article 2 of the Special Agreement, responding to Dr. Tomka's assertion that all the Court has to do is answer the questions identified in Article 2, paragraph 1, without any concern for the future.

* There will follow three presentations on the *original Project.* Ms Gorove will discuss the studies relied on by Slovakia to show that the original project had been fully examined and all problems fully taken into account. Dr. Kern will examine Slovak arguments on the impacts of the original Project. Mr. Sands will deal with the issues of environmental law inherent in the 1977 Treaty and in general international law, and with their relation to the suspension and termination of works.

* There will then be three presentations on *Variant C.* Professor Nagy will deal with Slovakia's argument that Variant C is equivalent to the original Project. Professor Wheater will deal with the impacts of Variant C, and will provide an initial appraisal of the PHARE Report which, despite the unduly short time available, Hungary has had independently refereed. Professor Dupuy will deal with the timing and legality of Variant C.

* There will then be three presentations on the *Termination of the Treaty and Other Legal Consequences*. Professor Valki will deal with the Slovak arguments from Article 27 of the Treaty. I will show that the 1977 Treaty has never been in force between the Parties to this case. Professor Dupuy will deal with the other major legal consequences.

* Finally, Professor Carbiener will discuss the vital issue of the sustainable development of the Project Area — the future which Dr. Tomka is so anxious you should not consider. He will be followed by the Agent, who will introduce and then read Hungary's submissions in this case.

Mr. President, Members of the Court, I thank you for your attention and would ask you to call on Professor Kiss.

The PRESIDENT: Thank you, Professor Crawford. Professor Kiss please.

M. KISS :

2. THE SPECIAL AGREEMENT AND THE APPLICABLE LAW

Monsieur le Président, Messieurs les Juges,

1. Au début de la procédure orale j'avais l'honneur de présenter un tableau des règles de droit international qui me semblaient devoir être prises en considération au cours du présent litige. Permettez-moi d'y revenir à la lumière des déclarations de nos contradicteurs slovaques, et cela pour deux raisons. La première est la tentative de M. l'agent de la Slovaquie de réduire considérablement les dimensions temporelles du différend qui vous est soumis. La réfutation de cette tentative – qui constituera la première partie du présent exposé – entraînera nécessairement quelques considérations sur la situation juridique qui prévaut à l'heure actuelle et qui devra déterminer les règles applicables au différend. Ces considérations feront l'objet de la deuxième partie de l'intervention.

Nous nous tournerons donc d'abord, avec votre permission, vers les allégations de M. Tomka concernant

I. LA DUREE DU DIFFEREND

2. Qu'a dit M. Tomka dans sa plaidoirie du 24 mars dernier ? Il a rappellé, à juste titre, que les trois questions posées à la Cour au premier paragraphe de l'article 2 du compromis sont au coeur du présent différend. Toutefois, il entendait réduire le différend à ces questions. Je cite les propos qu'il a tenus à ce sujet :

> "The Parties have put to the Court under the Special Agrement specific questions concerning the actions of Treaty parties at or during identified periods of time precisely because the answers to those questions will resolve the dispute between Hungary and Slovakia. Yes, I repeat, Slovakia"

et, un peu plus loin:

> "Those questions are specific – and for good reasons. They require specific findings from the Court. Moreover, the Court's answers will settle the dispute between Hungary and Slovakia. There will be no continuing dispute."[20]

[20] Voir CR 97/7, p. 17-18.

3. Cette volonté de restreindre dans le temps la mission donnée à la Cour est nettement contraire au compromis, mais aussi aux faits de la présente affaire.

4. Quant au compromis, trois de ses dispositions s'y opposent. En premier lieu, le quatrième alinéa du préambule affirme la volonté des parties de soumettre à la Cour le différend relatif au projet Gabcíkovo-Nagymaros **sous tous ses aspects**. Cette phrase qui établit très nettement l'intention d'aboutir à un règlement global explique non seulement l'article 2 du compromis, mais le compromis tout entier et, en particulier son article 5 relatif au futur régime des eaux du Danube, qui devra être fondé sur votre arrêt. Elle éclaire la tâche de la Cour, mais aussi celle des Parties : il ne s'agit pas de trancher une discussion académique sur les comportements respectifs de la Hongrie et un Etat disparu, mais de statuer sur la condition présente et future d'une région

5. Deuxièmement, et surtout, selon l'article 2, paragraphe 2, du compromis, la Cour est priée de déterminer les conséquences juridiques pour les Parties des réponses aux trois questions énoncées au paragraphe 1. La Cour est donc compétente pour déterminer toutes les conséquences juridiques, droits et obligations, qui découlent pour les Parties des réponses aux trois questions spécifiques concernant le différend sous tous ses aspects. M. Tomka semble croire, à tort, que l'article 2, paragraphe 2, n'a pas d'importance, alors que cette disposition définit une part essentielle de la compétence et des tâches de la Cour. Bien sûr, si le traité de 1977 est encore toujours en vigueur, les conséquences qui en découlent pour les Parties devront être précisées : construire ou démolir. A cet égard le Professeur Pellet était tout à fait clair. De même, si le traité est considéré comme n'étant plus en vigueur, les conséquences devront être définies en ce qui concerne les relations juridiques entre les parties, y compris l'utilisation durable et équitable des cours d'eau internationaux et l'application de la convention de 1976. En fait, les deux Parties étaient d'accord dès la procédure écrite pour estimer qu'il n'appartenait pas à la Cour de déterminer, dès cette phase de la procédure, le montant d'éventuelles réparations qu'elles pourraient devoir payer, ni de se préoccuper des questions spéciales concernant les modalités de l'exécution de l'arrêt[21].

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[21] Voir RH, n° 159.

6. Toutefois, la tâche de la Cour selon l'article 2, paragraphe 2, n'est certainement pas limitée au passé, à des questions d'indemnisation et de dommages. Elle embrasse toutes les conséquences juridiques qui découlent des réponses aux trois questions, y compris les conséquences pour le comportement futur des Parties.

7. Le troisième point renforce ce qui vient d'être dit : aux termes de l'article 5, paragraphe 2, du compromis, les Parties devront entreprendre des négociations immédiatement après que l'arrêt leur a été transmis, pour déterminer les modalités de son exécution. Si un accord intervient entre eux, le différend sera éteint – mais seulement à la date de cet accord. Sinon, selon l'article 5, paragraphe 3, une des deux Parties pourra demander à la Cour de fixer, dans un second arrêt, les modalités de l'exécution du premier arrêt. C'est ce second arrêt qui pourra alors mettre définitivement un terme au différend.

8. On ne saurait donc considérer **en droit** que le début du fonctionnement de la variante C représente la fin de la période que la Cour devrait prendre en considération. Toutefois, il y a aussi tout le poids des **faits**, celui de l'énorme masse d'eau que depuis son accession à l'indépendance la Slovaquie a détournée et continue à détourner du Danube au détriment de la Hongrie. Il est peu probable que sans ce détournement des eaux du Danube nous serions

aujourd'hui présents devant votre haute juridiction. Comment affirmer dans ces conditions qu'il n'y a pas de différend à l'heure actuelle, qu'il n'y a plus aucune question litigieuse depuis la fermeture du Danube en octobre 1992 ? C'est ainsi que nous sommes amenés à nous tourner vers

II. La situation juridique actuelle

9. Puisque, contrairement aux affirmations de M. Tomka, le différend entre la Hongrie et la Slovaquie continue, il est important de faire le point de la situation actuelle en droit. Pour commencer, je voudrais rappeler que le traité de 1977 n'existe plus. D'une part, la Hongrie a démontré l'illégalité de la variante C, dont la construction a, par voie de conséquence, mis fin au traité de 1977. D'autre part, la constatation par la Hongrie de cette illégalité dans sa note verbale du 19 mai 1992 et les conséquences juridiques que cette dernière en a tirées ont suffi en elles-mêmes pour mettre fin au traité.

10. Ainsi, il n'y a aucune règle juridique sur laquelle le détournement du Danube pourrait être fondé et nous retombons dans le droit commun régissant les relations des deux Etats voisins comportant d'une part un certain nombre de traités bilatéraux et multilatéraux auxquels la Hongrie et la Slovaquie sont actuellement parties contractantes ainsi que, d'autre part, le droit international général. Je voudrais me tourner d'abord très brièvement vers le droit international général.

11. Le premier fait, fondamental, que vous avez pu constater de vos propres yeux lors de votre visite sur les lieux, est qu'une très forte proportion des eaux du Danube a été détournée. La Slovaquie produit ainsi de l'électricité sans le moindre bénéfice pour la Hongrie mais à son détriment. C'est un cas d'enrichissement non seulement sans cause, mais illicite, contraire à toutes les règles de droit, quel que soit le système juridique vers lequel on se tourne.

12. Comme cela a été rappelé plusieurs fois dans la présente instance, les Etats doivent veiller à ce que les activités qui relèvent de leur compétence respectent l'environnement dans d'autres Etats. Il s'ensuit que les dommages à l'environnement doivent être prévenus, en appliquant, au besoin, le principe de précaution. .

13. La situation juridique qui existe à l'heure actuelle comporte aussi des obligations conventionnelles pour les deux Parties à la présente instance. Elles ont été énumérées dès le premier jour des plaidoiries hongroises.

14. Il convient, par contre, d'insister ici sur certains traités, déjà cités[22]: les conventions relatives aux frontières et leur régime qui définissent la frontière sur le Danube par le thalweg du lit navigable du fleuve, ainsi que le traité de 1956 relatif à la frontière d'Etat qui soumet toute activité concernant le fleuve à un accord spécial entre les riverains[23]. La convention de 1976 entre la Hongrie et la Tchécoslovaquie, concernant la réglementation en matière d'eaux frontalières, a une importance particulière, elle vise toute activité de gestion exercée sur les eaux frontières susceptible de modifier les conditions hydrologiques naturelles, et notamment l'aménagement hydro-électrique du fleuve. Il interdit aux deux Parties de se livrer, sans s'être mises d'accord, à des activités de gestion des eaux qui porteraient atteinte aux conditions hydrologiques conjointement définies. Elle leur impose aussi l'obligation de faire fonctionner les équipements d'une manière telle qu'aucune d'entre elles ne cause de dommage à l'autre[24].

15. Il y a lieu d'ajouter à ces traités bilatéraux les conventions multilatérales concernant la navigation et les pêcheries, également citées dans les premières plaidoiries[25].

16. Parmi les traités plus récents devant être appliqués dans la présente situation il convient de citer en tout premier lieu la convention de Rio de Janeiro, de 1992, sur la diversité biologique, en vigueur entre les deux Parties. Cette convention impose aux Etats l'obligation de ne pas causer de dommage à l'environnement dans d'autres Etats, ainsi que celle de conserver la diversité biologique et d'utiliser ses éléments d'une façon durable. Aux termes de l'article 22 de cette convention, ses dispositions s'appliquent, même si elles sont contraires à des traités existants pouvant causer de sérieux dommages à la diversité biologique ou constituant pour elle une menace. Ainsi, fait exceptionnel qui mérite d'être souligné, des

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22 Voir CR 97/2, n° 9-10.

23 En particulier, voir les articles 3, 14 et 19 de la convention. MH, annexes, t. 3, p.155 et MH, n° 4.29-4.32.

24 Voir MH, annexes, t. 3, p.227 et MH, n° 4.33-4.35

25 Voir CR 97/2, n° 11-12. et MH, n° 4.40- 4.4 4 ainsi que 4.48-4.49.

règles protégeant des espèces menacées d'extinction et leurs habitats peuvent déroger à des dispositions conventionnelles déjà existantes.

17. On considère généralement que la convention de Berne relative à la conservation de la vie sauvage et du milieu naturel en Europe, du 19 septembre 1979, déjà citée, et dont le titre est suffisamment éloquent pour qu'il soit nécessaire de dire davantage de son contenu, précise, dans un cadre régional, les obligations découlant de la convention sur la diversité biologique.

18. Ainsi, **nous ne demandons pas à la Cour de choisir entre le respect des traités d'un côté et le respect de l'environnement de l'autre, mais de faire assurer le respect des deux, en faisant observer des traités protégeant l'environnement, y compris, bien entendu, ceux qui protègent les ressources en eau.**

Monsieur le Président, Messieurs les juges, nous arrivons ainsi à nos

Conclusions

19. M. l'agent de la Slovaquie a souligné avec raison l'importance fondamentale des réponses de la Cour aux trois questions posées par le compromis. Toutefois, on ne saurait oublier que la Cour a aussi vocation de déterminer les conséquences juridiques actuelles et futures de ses réponses aux questions, conséquences indispensables pour montrer la voie vers un avenir nécessairement fondé sur la coopération en bonne foi entre les deux Etats voisins.

Monsieur le Président, Messieurs les Juges, je vous remercie de votre bienveillante attention.

Mr. President, may I ask you now to call on Ms Gorove?

The PRESIDENT: Thank you so much, Professor Kiss. I call now on Ms Gorove.

Ms GOROVE:

3. THE ORIGINAL PROJECT: STUDIES, CONCERNS AND VIABILITY

1. Mr. President, Members of the Court, the aim of my presentation today is three-fold. First, I will establish, contrary to Professor McCaffrey and Mr. Wordsworth, that studies carried out on the Project in the periods to 1989 were inadequate. Second, I will show, contrary to Professor McCaffrey, that Hungary acted reasonably in suspending in May 1989 and later abandoning its works at Nagymaros, as well as in suspending works on the closure at Dunakiliti in July 1989. Third, I will address Dr. Mikulka's arguments on flood control and navigation in the context of the viability of the Project.

I. THE INADEQUACY OF THE STUDIES ON THE PROJECT (PRE-1977 TO 1989)

2. In discussing the adequacy of studies on the original project, Slovakia dealt with four periods: (1) pre-1977; (2) 1977-1988; (3) 1989; and (4) the period between 1989 and June 1990. Any studies subsequent to June 1990, and especially to May 1992, it viewed as irrelevant,[26] with the apparent exception of the PHARE Report.

3. A theme common to Slovak presentations was that economic, not environmental, reasons motivated Hungarian actions.[27] Hungary has never denied that economic issues were

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[26] CR 97/8, p. 19 (McCaffrey).

[27] See e.g. CR 97/8 at p. 18; CR 97/7 at p. 21.

relevant in 1981, or continued to be relevant in 1989 and subsequently. It is Slovakia who seeks to erect a rigid barrier between economics and environment, whereas the truth is that the two are linked. The costs of development, including the impact on the environment, have to be taken into account in deciding whether to proceed with development.[28] Throughout the 1980s environmental arguments were relied on neither to hide or replace economic concerns but to shed light on aspects which had been inadequately investigated. In any case, Slovakia's arguments as to Hungarian motivations in the 1980s are irrelevant. As will be shown, Financial reasons were not the decisive factor in Hungarian suspension and abandonment of work.

[28] See HC-M, paras. 2.14-2.19; Vol. 2, chap. 7.3.

A. The Pre-1977 Period

4. Let me first address the pre-1977 period. Mr. Wordsworth highlighted the importance of this period, asking were studies done prior to 1977 such that the parties "knew what they were doing" when they entered into the Treaty? He concluded affirmatively pointing in particular to three groups of studies: (1) the Czechoslovak Bioproject, (2) a study carried out by UNDP and WHO on Hungarian water quality management,[29] and (3) a study summarized in Annexes 23 and 24 of Slovakia's Memorial and in the Hungarian Academy of Sciences 1994 Bibliography.

5. I should first briefly summarize what the original project was as of 1977. First, there was a planned discharge of 50 m^3/s per second during the vegetation period and 0 m^3/s during the winter months. Second, a very substantial regime of peak power was envisaged which Dr. Kern will discuss shortly. All the pre-1977 studies focused on this version of the Project, a version which Slovakia has never attempted to defend.[30] Thus, it is surprising that Slovakia considers the pre-1977 research to be "the most thorough."[31]

(1) The Bioproject

6. Turning to the Bioproject, Hungary has not seen the set of 15 reports, 21 volumes, 72 published articles and 17 non-published works it constituted; we do not have it. And this Court does not have it, because in spite of Hungary's numerous requests to Slovakia detailed in Annex 5 in your folders, Slovakia has not produced it. Instead, Mr. Wordsworth referred to a 1984 Protocol of a meeting of the Joint Operational Group as evidence that the Bioproject documents were formally handed over to Hungary.[32] A signed copy of this Protocol,[33] however, refers only in one sentence to the handing over of the "*plans*" of the Bioproject – I stress the word "plans."

7. More likely, what was indeed handed over at the end of 1984 was the plan for an "update" of the Bioproject. Otherwise, why would Czechoslovakia wait seven years to hand

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29 UNDP/WHO Project, Terminal Report, No. HUN/71/505-HUN/PIP001.
30 97/8 at p. 36 (Mucha).
31 CR 97/7, p. 47 (Mr. Wordsworth).
32 CR 97/7, p. 44 (Mr. Wordsworth).
33 Annex 8 in your folder.

over such voluminous materials and why would the handover warrant only one sentence in the minutes of the meeting? Indeed, those involved in the Joint Operational Group in 1984 confirm that a plan for an update to the Bioproject was handed over in 1984.[34] The Bioproject itself was not handed over.[35]

8. But what is the update? In its oral pleading, Slovakia stated that there were 2 updates to the Bioproject in the mid-1980s.[36] In its Counter Memorial it stated that the Bioproject Update was carried out in 1984.[37] In its Reply it stated that the Update was carried out in 1986.[38] The confusions and uncertainties are such that we can doubt whether even the Slovak counsel have seen the Bioproject or its update or its updates.

9. And, what do we know of the Bioproject? Its name, but not its content. Since it has not been produced, its merits cannot be evaluated. Slovakia stated "it would be difficult to imagine a more complex or complete examination of the effect of the Project on the environment".[39] Well, I can only say that it is possible to imagine anything about a Bioproject no one has ever seen.

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34 M. Farkas, OVIBER, Deputy Leader of the Hungarian Delegation to the Joint Operational Group, oral discussions, 9 April 1997.

35 *Ibid.*

36 CR 97/7, at p. 60.

37 SC-M, para. 9.78.

38 SR, para. 7.56.

39 SC-M, para. 4.06.

(2) The UNDP/WHO Report

10. Turning to the UNDP/WHO Report of December 1976 described as "comprehensive" by Mr. Wordsworth.[40] Hungary has deposited a copy with the Registrar.[41] The Report is extensive, comprising three hefty volumes amounting to a few thousand pages addressing plans for water quality management along the Hungarian Danube and Sajo Rivers, indeed it is quite hefty. The Report devotes 4 1/2 pages, 4 1/2 pages to the Project, as well as 3 further pages of pictures. Nonetheless, Mr. Wordsworth asserted that the Report "shows that prior to the conclusion of the 1977 Treaty, the Hungarian Government must have been fully informed of potential Project impacts on water quality and was in a position to ensure the minimization of impacts in the light of the evidence available." Mr. Wordsworth is mistaken on both points.

11. Because the Project had not been studied by the UNDP/WHO team of experts, they recommended that a study programme on the Project's impacts to water quality be elaborated **(Illus No 3.1)**.[42] They found that the Project would cause significant changes which would require "*preliminary* investigations" to be carried out to determine the impacts to water quality.[43] Further, they suggested the establishment of a monitoring network in order to formulate a future model.[44] Indeed, contrary to Mr. Wordsworth's assertions about the Report, the Report supports Hungary's position that at the time of entering into the Treaty there was no plan to evaluate the effects of the Project on water quality, no proper monitoring network, and no detailed studies on the expected effects of the Project.

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40 CR 97/7, p. 46 (Mr. Wordsworth).

41 *Pilot Zones for Water Quality Management in Hungary*, UNDP/WHO Project, Terminal Report, No. HUN/71/505-HUN/PIP001, referred to in CR 7/7, at p. 45-47.

42 *Ibid*., p. I-62; see contra CR 97/7, p. 62.

43 UNDP/WHO Project, Terminal Report, at p. V-16.

44 *Ibid*., at p. III-102-103.

(3) Other Studies

12. As to the assorted studies listed in Annexes 23 and 24 of the Slovak Memorial or in the Bibliography of the Hungarian Academy of Sciences, Slovakia is, if I may so put it, painting by numbers. In its eyes, large *numbers* of studies mean that the Project was thoroughly studied. What matters is numbers, not content. But even the summaries of the summaries contained in the Bilbliography and the titles of the studies show that very few of them dealt with expected impacts of the Barrage System. Rather, they focused on technical aspects or suffered from gaps in data.[45] For example, the UNDP/WHO Report pointed out that although Hungary and Czechoslovakia had been sharing data for years in the framework of the Boundary Waters Commission, Hungary could not get access to other data from Czechoslovakia. The reason: Czechoslovakia had declined to join Hungary in participating in the joint UNDP/WHO study![46]

13. Nonetheless, Mr. Wordsworth claims that the pre-1977 studies were in line with international practice at the time, relying on a sentence from the 1990 Hydro-Quebec Report **(Illus No 3.2)**.[47] But Mr. Wordsworth takes the sentence completely out of context. The Hydro-Quebec Report was comparing the *deficiencies* of the contemporary studies to those in North America - not their merits.

14. In sum, the Bioproject has apparently been seen by no one in this Court room. The UNDP/WHO water quality study devoted 4 1/2 pages to the Project. And assorted studies listed in Slovakia's Annexes and in Hungary's 1994 Bibliography do not begin to support Mr. Wordsworth's assertions that the "potential risks were known prior to Treaty signature".[48] It cannot be said that Hungary acquiesced in 1977 to the significant risks which the Project is now known to pose.

15. Even if Hungary was aware of potential risks prior to 1977, that would not preclude Hungary from pleading fundamental change of circumstances or necessity.[49] If it can be

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45 HC-M, paras. 1.24-1.41; HR, paras. 1.66-1.73.
46 Oral Discussions with Professor L. Somlyódy, April 1997.
47 CR 97/7, p. 45, citing Hydro-Quebec, SM, Vol. 3, Ann. 28, at p. 239.
48 CR 97/7, p. 47.
49 As Slovakia argues: CR 97/7, pp. 39, 48.

shown that in 1989 Hungary was reasonable in its belief that there was a probability of significant risk from carrying out further work on Nagymaros, or in its belief that closing the Danube could cause significant and irreversible harm, it is not relevant that in 1977 the risks had been envisaged as possible. In 1989 they were real. Must Hungary build a destructive barrage in 1989 or 1997 because of the inaccuracies and deficiencies of studies in the 1960s? That would be "enforcing outmoded science" with a vengeance.[50]

B. 1977-1988

Mr. President, Members of the Court:

16. I now turn to the 1977-1989 period. Slovakia formulates three arguments for this period, painting a rosy picture of *(a)* the *number* of studies carried out; *(b)* their *conclusions*; and *(c)* in particular the conclusions of the 1985 *Hungarian Environmental Impact Statement*. Throughout, Slovakia also attempts to portray Hungarian actions as motivated by economic, not environmental, concerns.

(1) The Numbers *of Studies*

17. I turn first to Slovakia's attempts to show that large numbers of studies were carried out between 1977 and 1989.[51] If one actually reads the studies of that period, it becomes clear once again that only a narrow range of topics is covered and that no overall conclusion as to the Project can be derived from them. As described by the Hungarian Academy of Sciences in June 1989, of the 340 commissioned research projects, only 24 had addressed water quality, hydrobiological and ecological topics but "*without giving answers to the questions propounded*."[52]

18. To take just one example, Slovakia mentions numerous studies on water quality prior to 1989 and refers in particular to Dr. Somlyódy's study. What did he say in response? "The contrary is true: only a few, occasional studies were made." His letter is in Annex 9 in your folders.

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50 Sir Robert Jennings, Foreword to P. Sands, *Principles of International Environmental Law* (1995) xiv.

51 Annotated References to the Bos (Gabcíkovo)-Nagymaros Danube Barrage System Project, Hungarian Academy of Sciences, Budapest 1994.

52 HAS Report, 23 June 1989, HM, Anns., Vol. 5 (Part 1), Ann. 7, p. 135 (emphasis added).

(2) Conclusions *of some of the Studies*

19. As to the conclusions of the studies in this period, Hungary has summarized in its Reply a number of the studies which raise concerns.[53] Slovakia does not dispute that the concerns were raised, rather, it attempts to show that the problems were resolved, that positive conclusions were arrived at. This is simply not so.

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[53] See HR, paras. 1.85-1.91; Vol. 3, Ann. 10.

20. As to Nagymaros, concerns had been raised about many factors, including: (1) increased sediment deposition;[54] (2) colmatation;[55] (3) consequent damage to bank-filtered wells, including those which provide Budapest with its water supply;[56] (4) risk to karst waters;[57] and (5) harm to flora and fauna along the riverbanks.[58] As to Dunakiliti and Gabcíkovo, concerns had been raised about (1) significantly decreased water discharge into the Danube and the lack of inundations, [59] (2) likely impacts on flora, fauna and ecological values of the area;[60] (3) negative impacts to surface water quality and dangers of eutrophication;[61] (4) dangers to drinking water reserves;[62] (5) the changes in the groundwater regime[63] with its corresponding effects for agriculture,[64] forestry,[65] and soils; [66] and (6) incorrect assumptions about seismic risk.[67]

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54 B. Hock, *GNBS Water Quality,* VITUKI March 1985, summarized in HR, Anns., Vol. 3, Ann. 10.

55 HAS Operational Group, 30 April 1983. See also Perczel K. *et al.*, 17 February 1985. Both summarized in HR, Annexes, Vol. 3, Ann. 10.

56 HAS, 1981; Berczik-Tóth, November 1981; HAS Operational Group, 30 April 1983; K Perczel *et al*, 17 February 1985, and the *Opinion* of the HAS on his Proposal, 28 June 1985. See also B. Hock, VITUKI, March 1985; L. Bárdóczy, S. Mikolics, VIZITERV, 1987; These reports are summarized in HR, Anns., Vol. 3, Ann. 10.

57 K. Perczel *et al*, 17 February 1985; Á. Lorberer, VITUKI, 1987; Á. Lorberer, VITUKI, 1988; all summarized in HR, Anns., Vol. 3, Ann. 10.

58 HAS, 30 April 1983; GNBS Water Quality, VITUKI, March 1985; *Report on GNBS Water Quality Research*, VITUKI, March 1985;; all summarzsed in HR, Anns., Vol. 3, Ann. 10.

59 The amount of water to be discharged into the Danube has always been a crucial issue. Studies examined the possibility of the Danube receiving more water. See e.g., WWF, Lösing, 1986, excerpts reprinted in HC-M, Annexes, Vol. 4 (Part 1), Annex 3; *Report of the Polinszky Commission*, 28 April 1982. Some concluded that even with 500 m^3/s, there would be negative effects on floodplain forests; B. Keresztesi, 6 September 1982. Others concluded that the decrease in the groundwater table could alter the production of agriculture significantly, or that the planned 50-200 m^3/s discharge was inadequate to ensure quality of groundwater; see M. Erdélyi, 1983. Others insisted that the planned mitigation measures would not work, requiring that 600 m^3/s be discharged into the riverbed at Dunakiliti; K. Perczel *et al*, 17 February 1985; *Opinion* of the HAS on his proposal, 28 June 1985; Slovak Environment and Landscape Protectors Association, Bratislava, September 1988; all are summarized in HR, Annexes Vol. 3, Annex 10.

60 I. Daubner, 1981; J. Holèik, 1982; VITUKI, *GNBS Water Quality Research*, March 1985; Research Institute of HAS on Soil Sciences and Agrochemics, *Report on the works done for VIZITERV*, 1986; J. Czifra, 1987.

61 É. Bartalis, VITUKI, 1978; Á. Berczik, J. Tóth, *Remarks concerning GNBS*, November 1981; B. Hock, VITUKI, 1983; J. Tóth, 1983; VITUKI, 29 March 1984; K. Perczel *et al*, 17 February 1985; B. Hock, *GNBS Water Quality Research*, VITUKI, March 1985; J. Németh, F. Skobrak, 1985; P. Benedek, 1986; Zs T. Dvihally, 1987; T. Kiss-Keve, 1987; B. Hock, VITUKI, 1987; all summarized in HR, Annexes, Vol. 3, Annex 10.

62 WWF, *Position,* August 1989, in HC-M, Anns., Vol. 4 (Part 1), pp. 349-354. See also Á. Berczik, J. Tóth, *Remarks on GNBS*, November 1981; HAS Operational Group, 30 April 1983; Perczel *et al*, 17 February 1985; all summarised in HR, Anns,, Vol. 3, Ann. 10.

63 E. Varrók, VITUKI, 1978; O. Haszpra, VITUKI, 1979; I. Daubner, 1981; Á. Berczik, J. Tóth, November 1981; J. Holèik, 1982; *Conference on Ecological Questions related to GNBS*, 6 September 1982; M. Erdélyi, 1983; HAS Operational Group, 30 April 1983; K. Perczel *et al*, 17

21. All of these before 1989. I do not suggest that all of these studies concluded negatively about the Project. Nor did they fully analyze all the impacts. The studies of the 1980s characteristically called for a more detailed assessment of the issue; many indeed called for an integrated EIA, before as well as after Hungary's 1985 environmental impact statement.[68] Nonetheless, the concerns raised in those studies were of such a serious nature that they should have been addressed more fully and comprehensively. But when they were not addressed, and when later studies again raised and confirmed the same serious concerns, a reasonable government would have had no choice but to act as Hungary did in 1989. Slovakia fails to realize that a thousand parts, disassembled, do not make up a whole.

(3) Hungary's 1985 EIS

22. In this context Hungary's 1985 Environmental Impact Study is of particular relevance. It is 67 pages long. About 1/30 the size of the 1976 UNDP/WHO Report and about one-half of the length of the 1989 Somlyódy study. The latter two studies focused on water issues; the 1985 Study covered about 10 topics or so.

23. The 1985 Study suffered from some major limitations and constraints. In particular, a major constraint at that time was the gathering and utilization of data **(Illus No 3.3)**. As

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February 1985; Research Institute of HAS on Soil Sciences and Agrochemics, *Summary of the Works so far completed in the field of pedology within the framework of the agreement on the co-operation between the Hungarian and Slovak Academies*, 1986; Research Institute of HAS on Soil Sciences and Agrochemics, *Report on the Works done for VIZITERV*, 1986; Research Institute of HAS on Soil Sciences and Agrochemics, *Report on the Works done for VIZITERV*, 1987; Research Institute of HAS on Soil Sciences and Agrochemics, *The Expectable Effects of GNBS on Soils (Summary of works done in cooperation between Hungarian and Slovak Academies)*, 13 May 1987; all summarized in HR, Annexes, Vol. 3, Annex 10.

64 Á. Berczik, J. Tóth, November 1981; *Report of the Polinszky Commission*, 28 April 1982; *Conference held on ecological questions related to the GNBS*, September 1982; HAS Operational Group, 30 April 1983; K. Perczel *et al*, 17 February 1985; Research Institute of HAS on Soil Sciences and Agrochemics, *Summary of the works so far completed in the field of geosciences within the framework of the agreement on the co-operation between the Hungarian and Slovak Academies*, 1986; Research Institute of HAS on Soil Sciences and Agrochemics, *Report on the works done for VIZITERV*, 1986; all summarised in HR, Anns., Vol. 3, Ann. 10.

65 A. Berczik, J. Tóth, November 1981; HAS, 30 April 1983; Letter from Keresztesi to the Conference held on ecological questions related to the GNBS, September 1982; Halupa, 1985; Halupa, August 1986; Halupa, November 1986; all summarized in HR, Anns., Vol. 3, Ann. 10.

66 J. Holèik, 1982; L. Halupa, November 1986; Research Institute of HAS on Soil Sciences and Agrochemics, *Report on the works done for VIZITERV*, 1987; HAS Research Institute on Soil Sciences and Agrochemics, 13 May 1987; all summarized in HR, Anns., Vol. 3, Ann. 10.

67 See Scientific Evaluation, HC-M, Vol. 2, Chap. 6 and accompanying Annexes.

68 HAS, Operational Group, 30 April 1983; HAS *Position Paper*, 20 December 1983, HC-M, Anne,. Vol. 3, Ann. 36; HAS *Opinion*, 28 June 1985, HC-M, Vol. 3, Ann. 39.

Czechoslovakia's National Report to UNCED in 1992 pointed out a "[a] chief problem...[was] the fragmentation of attempts at monitoring different aspects of the environment...."[69]. As Mr. Wordsworth pointed out, some 30 organizations were tasked with carrying out Project research.[70] Hungary too suffered from similar problems and its fragmented database did not allow for a truly comprehensive study.

24. Furthermore, there were serious constraints as to what scientists could say. Scientists were paid by the State; research was sponsored by the State. Critics of the State lost their jobs. The studies prior to the late 1980s avoided controversial conclusions. They focused on narrow issues within narrow parameters.

25. These problems were compounded because of the secrecy laws. Many of the studies were considered "top secret" or for "internal use" only and were not permitted to be published.[71] As a result, the contributors to this 1985 Study had to work in isolation of one another, without access to background contributions from other fields. For example, the scientists preparing the materials on ecological changes would not have access to the studies on anticipated groundwater changes.[72]

26. But what of the 1985 Study's quality **(Illus No 3.4)**? Mr. Wordsworth called it "first rate in terms of its substance."[73] Yet, there are only 12 lines on nature protection in the entire 1985 stSdy and the only natural value in the Szigetköz is thought to be a "single more or less natural plant community." In fact, the Study recommends changing the species of trees and only addresses impacts to fish in the economic context. In addition, there were serious errors in the Study's underlying assumptions. For example, it states that "the groundwater does not

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69 Czechoslovak Academy of Sciences and the Federal Committee for the Environment, National Report of the Czech and Slovak Federal Republic, United Nations Conference on Environment and Development, March 1992. Excerpts are contained in Annex 3.

70 CR 97/7, p. 60.

71 See Statement of the Hungarian Academy of Sciences Concerning the Standpoint of the Ministry of Environment Protection and Water Management, 8 March 1989, in HR, Vol. 3, Ann. 55.

72 See HM, para. 3.52.

73 CR 97/8, p. 13.

play any role of importance for agriculture[74] but also significantly underestimates the amount of sedimentation deposited in the reservoir.[75]

27. In general, the 1985 Study provides a somewhat incomplete picture, raising concerns in some areas, but not addressing them. For example, it noted that groundwater variability would be lost, but it drew no conclusions. Or, as to upstream impacts, it noted the difficulty of reliably forecasting the contamination of riverbed fine sediments.[76] And as to the impacts of the Project on bank-filtered wells, the Study called for utmost care upstream of Nagymaros, noting that "occasional water quality deterioration can occur."[77] As to the wells downstream of Nagymaros it stated that "It is necessary to re-evaluate the former plans and pay utmost attention to the existing and potential drinking water resources."[78]

28. In sum, the 1985 study was not the comprehensive study that Slovakia described. It is separate from major constraints of the times. In fact, the Hungarian Academy of Sciences recognized its limitations in June of that year, stating that: "The incomplete state of ecological research has not ceased to exist with the completion of the EIA."[79]

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74 1985 EIS, p. 16.

75 1985 EIS, p. 41 ("70-75 million m^3 during 100 years which is 1.3 cm/year for the total area of the reservoir."); see contra Phare Report, 1995.

76 1985 EIS, p. 40.

77 1985 EIS, p. 44.

78 1985 EIS, p. 44.

79 HM, Vol. 5, Ann. 3; see also HM, paras. 3.53-3.54.

II. THE REASONABLENESS OF HUNGARIAN CONCERNS IN 1989-91

29. Turning to the critical year of 1989, the question that has to be asked is: if so many concerns had been raised and no comprehensive study carried out, why then did Hungary agree to a Protocol in February 1989 accelerating the investment?

30. First, as described by Professor Crawford, the content of the 1989 Protocol was actually agreed to on 12 January 1988, at the plenipotentiary level, after two years of negotiations.[80] Second, when the Protocol was agreed upon, the Reports and Studies were for the most part not allowed to be published, as I have already described. Although this was still the case in 1989 - the ban on publication - NGOs and other bodies became more resolute and began to violate this publication ban.

1 Nagymaros

31. What happened between early 1988 and May 1989 which led to Hungary's suspension of works on the Nagymaros Barrage? The studies summarized in Hungary's Reply reveal that a large number of significant concerns were raised in that period which supplemented and expanded upon the concerns raised in the early and mid-80s.[81] Information was gradually becoming public; scientists were beginning to have access to studies in complimentary fields.

32. Although Dr. Kern will deal with the substance of Hungary's concerns with peak power production and Nagymaros later this morning, describing the studies in further detail, it must be noted that the production of the first reports by an independent organization was of critical importance. The March[82] and May Reports of Infort/Ecologia confirmed the seriousness of the concerns of Hungarian scientists, recommending suspension of work at Nagymaros.[83]

33. Further studies completed between the initial suspension of construction on Nagymaros in May 1989 and October 1989[84] again confirmed the gravity of the danger to the

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80 See CR 97/4 at 17 (Prof. Crawford); HM, para. 3.71.

81 HR Annexes, vol 3, Annex 10.

82 HM, vol 5 (part 1), annex 5.

83 HM, vol 5 (part 1), annex 6.

84 HR, paras 1.86-1.91; HC-M, paras 2.27-2.45. These reports included, for example, the Hardi Report, the Report of an Independent expert group set up by the Hungarian Government, the Reports of Various Ministerial Expert Committees, a Report of the Hungarian Academy of Sciences, and a Report of the Hungarian Ministry of Environment Protection and Water Management.

Budapest bank-filtered water supplies. Not only were there volumes of Hungarian studies, for example the World Wild Life Fund's August 1989 Report concluded that construction at Nagymaros must not be completed.[85] And as to the 1989 Study of Dr. Somlyódy he described that the Project could cause potential erosion downstream of Nagymaros causing a thinning of the filter layer.[86] This, in turn, would have grave consequences for the Budapest water supplies. Professors McCaffrey and Mucha have stressed that Professor Somlyódy suggested two options to avoid risks to the Budapest water supplies. But I again refer you to his letter in Annex 9, where he points out that the option of having a to build one barrage after another to compensate erosion is not really an option. Indeed, it was irrealistic.

(3) Dunakiliti and Gabcíkovo

34. Pre-1989 studies relating to the upstream sector suffered from the same limitations as affected studies of Nagymaros. They did, however, lay serious concerns related to the impoundment at Dunakiliti with its corresponding large reservoir and the significantly decreased water discharges into the Danube with the Danube receiving no more than one-tenth of its traditional amount[87]. Although Dr. Kern returned to the substance, substantial confirmation of these concerns was provided in 1989, for example in the March and May INFORT/Ecologia Reports,[88] and again in the August 1989 WWF Report.[89] Both independent reports recommended that work be stopped.

35. Dr. Somlyódy, cited by Slovakia to show how carefully everything had been studied, had this to say about the adequacy of studies for this sector **(Illus No 3.5)**: "we selected three fundamental problems for illustration: (I) the [dissolved oxygen] regime in the Mosoni Danube; (ii) eutrophication of the planned Dunakiliti Reservoir and (iii) the possible impact of the reservoir inundation on groundwater quality. We raised two questions (for each case): (a) are impact assessments available? (b) if not, can we exclude potential negative impacts? The

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85 HC-M, vol 4 (part 1), annex 4.

86 HC-M, vol 4 (part 2), annex 13, at 576.

87 These studies are listed and summarized in detail in Hungary's Reply: see HR, para 1.91 and vol 3, annex 10.

88 HM, vol 5 (part 1), annexes 5, 6.

89 HC-M, vol 4 (part 1), annex 4).

answer was “no” to all six questions, clearly indicating that water quality issues were largely overlooked.”

36. Czechoslovak institutes were beginning to express their views. An expert team of the Czechoslovak Academy of Sciences in February 1988 found that unfavourable effects because of groundwater levels were likely to be experienced.[90] In September 1988 the Slovak Landscape and Environment Protection Association recommended a larger discharge into the Danube bed.[91] The Biological Section of the Czechoslovak Academy of Sciences warned of the endangerment to the aquifer from the impoundment and the threat to the ecosystems. In fact it recommended the abandonment of Nagymaros in order to diminish the overall ecological impacts of the whole system.[92]

37. To summarize, by the second half of 1989, there were serious grounds for concerns. Hungary did not act unreasonably in seeking to ensure that further studies be carried out, and that no irretrievable steps be taken in the meantime.

(4) Relevance of Economic Concerns

38. But what of the Agent for Slovakia's claims that Hungary suspended and abandoned Nagymaros for financial reasons that “Hungary put economic concerns ahead of water quality.”[93] The distinction is a false one, but the statement is also wrong in fact. The economic calculations of the time pointed in the direction of continuing with the Project - although without attempting to factor in the longer-term environmental costs or loss of other values.

39. The National Planning Office prepared four economic analyses at the request of the Hungarian Government in 1989 **(Illus No 3.6)**.[94] Its Preliminary Report prior to Hungarian suspension concluded that the financial expenditures would be greater if Nagymaros were abandoned. And prior to Hungary's abandonment, the Office issued its final report concluding that “there is no significant difference as regards investment costs between the original project

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90 Summary in HR, vol 3, annex 10.
91 Ibid.
92 HC-M, vol 3, annex 43.
93 CR 97/7, p. 21.
94 See Norgaard, HR, vol 3, app 4, at 174-177.

and the abandonment of the Nagymaros barrage."[95] The Office that was advising the Government could not have been more clear.

(5) Hungarian Requests for Further Studies in 1989

40. Counsel for Slovakia complained of Hungarian inconsistency in not seeking a comprehensive assessment or EIA to be carried out in 1989.[96] But this is precisely what Hungary did. Studies and reports were instituted by the resolution suspending works at Nagymaros;[97] the two Prime Ministers;[98] and another Government resolution.[99] Moreover, the Hungarian Deputy Prime Minister wrote to his Czechoslovak counterpart requesting *inter alia* that intergovernmental expert groups be established to review the conditions under which water quality requirements of Article 15 of the 1977 Treaty could be met.[100] Subsequently, the Hungarian Prime Minister suggested third party involvement in a joint comprehensive environmental study[101] which was renewed in 1990,[102] and again in 1991.

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95 Report, p 7.
96 CR 97/8, p. 10 (Mr. Wordsworth).
97 HM, paras 3.75.
98 HM, para 3.78.
99 HM, para 3.81.
100 HM, para 3.82.
101 HM, para 3.85.
102 E.g. by Prime Minister Nemeth in January 1990 (HM, para 3.105), and March 1990 (HM, para 3.108).

(6) The Position from Fall 1989 - May 1992

41. Now what of the period after Hungary abandoned Nagymaros and prior to May 1992? Did evidence confirm Hungary's views? Professor McCaffrey focused on the Bechtel and Hydro-Quebec Reports which he described as the "best evidence of the period of the foreseeable environmental impacts of the Project."[103] By focusing on these two reports, Professor McCaffrey ignored no less than 27 Hungarian studies prepared in 1989 and no less than 45 Hungarian studies prepared between the years 1990 and 1992, on which the Hungarian written scientific analyses before this Court have relied. But let me take only the two Reports he did deign to discuss.

42. The Bechtel Group spent less time at the Project sites than you did, Mr. President and Members of the Court – they spent three days. Unlike you, Bechtel was only provided with "summaries" of most of the studies. Nonetheless the Bechtel Report expressed its own concerns, many of which are excerpted in Annex 6 of your folders **(Illus No 3.7)**.

43. For example, as to the Nagymaros reach, Bechtel warned of the likelihood of heavy metals concentrating in settled sediments and later dissolving into waters drawn into the river bank supply wells"[104] and forecast a reduction in well capacity.[105]

44. As to the upstream reach, Bechtel was much more cautious than Professor McCaffrey's presentation portrayed. It queried many important aspects of the Project, highlighting the need for additional studies particularly on water quality and water level fluctuations. It spoke of the need for modelling and further measurements. In particular, Bechtel considered a need to formulate baseline conditions for monitoring impacts to groundwater and suggested a two-year data collection programme.[106] Indeed, it showed that even as of 1990, the recommendations of this 1976 UNDP/WHO Report had not yet materialized.

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103 CR 97/8 at p. 21.
104 Bechtel report, p. 2-12.
105 Ibid, p. 2-17.
106 See HC-M, para 1.79.

45. A review of Czechoslovakia's 1990 PHARE Application indicates that Czechoslovakia itself came to similar conclusions that risks to surface and ground water quality could be substantial and merited extensive study,[107] as did Professor Mucha,[108] and as did the EC.[109]

46. As to flora and fauna, Bechtel[110] noted that "potential impacts to biological ... resources may be significant, and planned mitigations may not be sufficient ..." **(Illus No 3.8.)**[111] It called for additional data on "other wildlife species", and on fish[112]. It forecast "permanent" damage to the natural vegetation along the Nagymaros reach[113].

47. Professor McCaffrey also ignored Hydro-Quebec's crucial caveat as to one of the major limitations of its study: that "the information given does not allow a judgment to be made" on the Project's environmental impacts[114]. Nor did he mention any of the other issues on which Bechtel or Hydro-Quebec had reservations such as archaeology[115] or seismology **(Illus No 3.9)**[116].

In conclusion, as of 1989 there has been no EIA, or its equivalent, carried out for the original project. Studies prior to and after 1989 confirmed the reasonableness of Hungary's actions.

III. JUSTIFICATIONS FOR THE PROJECT - WITH SPECIAL REFERENCE TO NAVIGATION AND FLOOD CONTROL

48. I now turn to the issue of Project viability, which was barely addressed by Slovakia in its first round. I will address briefly two of the Project benefits which Slovakia did seek to highlight: flood control and navigation.

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107 See HC-M, vol 3, annex 48, at 8.

108 Mucha, 1990, HC-M, Annexes, vol 4 (part 2), annex 11; Mucha & Paulikova, Groundwater Quality in the Danubian Lowland Downwards from Bratislava, European Water Pollution Control 1(5): 13-16 (1991); HM, Annexes, vol 5 (part 1), annex 11.

109 CEC, Fact Finding Mission on Variant C, 31 October 1992; HM, Annexes, vol 5 (part 2), annex 13.

110 See also HC-M, para. 1.140

111 Bechtel Report, p. 1-7.

112 *Ibid.*, p. 1-12.

113 *Ibid*., p. 2-46.

114 Hydro-Quebec, p. 290. Excerpts are contained in Annex 7.

115 Bechtel Report, p. 1-7.

116 Hydro-Quebec, HM, Vol. 5 (Part 1), Ann. 9, p. 252.

(1) Flood Control

49. Slovakia spent considerable time in its video and its presentations showing the terrible damage from the flood of 1965. But there was no response to Hungary's primary point: after the 1965 flood and before 1977 Hungary and Czechoslovakia had brought themselves largely into compliance with the standards necessary to handle the 100-year flood. Slovakia has never challenged the insufficiency of the 100-year flood standard, nor has it denied that the Project's highest standards were only necessary to offset the increased risks from the Project itself.

50. Rather, it points to the Joint Contractual Plan and miscellaneous OVIBER brochures to support its contention as of 1977 flood control was still a serious problem. It stresses that the stretch below Szap poses a special risk to Slovakia, a point highlighted during your visit.

51. Of the studies listed in Slovakia's Memorial, not one study focusing on flood safety standards was prepared after 1967. While the Joint Contractual Plan was being drafted using those studies, the two countries were reinforcing their dykes to incorporate the agreed-upon standards. By 1977, most of the flood protection work had been completed. Had there been no Treaty, the work would have proceeded in accordance with those standards. The flood issue is a smoke screen.

52. As to the problems downstream of Sap, a sector where work in accordance with the 100-year flood standards had not been completely finished before 1977, Annex 4 in your Folders contains recent correspondence on this issue and this demonstrates that Slovakia's allegations are unfounded.

53. In sum, Slovakia has ignored the state of flood control work as of 1977. Aspects of flood control were included in the 1977 Treaty only because they were necessary to offset the additional risks caused by the Project itself. Apart from that, flood protection was neither a motivating factor nor an objective justification for the Project.

2. Navigation

54. I turn briefly to navigation. Dr. Mikulka did not refute: (1) that the overall importance of navigation has been in steep decline, especially relative to other forms of transport such as

road transport[117], — you saw how few ships are on the Danube; (2) that a channel with dimensions different than those recommended by the Danube Commission is indeed navigable[118]; and (3) that the Hungarian stretch is indeed navigable for most of the year.

55. What did Dr. Mikulka say? Without any new support, he argued that the Danube Commission recommendations are binding,[119] that Variant C avoided the most difficult section of the Danube[120]; and that traditional river-training measures do not work[121]. In its pleadings, Hungary has already explained that the Boundary Waters Convention quotes no legal obligation to comply with the recommendations[122] and that only one sharp bend in the Danube which was problematic prior to 1977[123] which is affected by Variant C. Further, Hungary has provided evidence that a variety of traditional river-training measures can improve navigability and sustain ecological values[124].

56. In sum, in terms of navigation, it cannot be argued that the Project was essential to the improvement of navigation, or even that navigation contributed significantly to Project viability.

57. Mr. President, Members of the Court, thank you for your attention. Mr. President, may I ask you to call on Dr. Kern to revisit the substantive scientific issues about the original project which underlie the reports Slovakia has enumerated, and whose content I have referred to briefly

The PRESIDENT: Thank you so much Ms Gorove. I think the Court might now suspend for 15 minutes and then we will proceed to hear Dr. Kern.

The Court adjourned from 11.25 to 11.40 p.m.

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117 CR 97/3 at p. 70.

118 CR 97/3 at p. 69.

119 CR 97/7 at p. 30.

120 CR 97/7 at p. 30.

121 CR 97/7 at p. 31.

122 HC-M, para. 1.183.

123 CR 97/3 at p 68; see also HC-M, vol 2, chap 2.2.3 and Laczay, Vol. 4 (part 1), Ann. 8.

124 See, e.g., Delft Hydraulics, Frederik Harris, VITUKI, *Danube Environmental and Navigation Project Feasibility Study. Rajka-Budapest Stretch B1: Szap-Ipoly Mouth. Final Report*, August 1994, on file with the Court). See also Laczay, HC-M, vol 4 (part 2), Anns. 7 and 8.

Dr. KERN

4. THE NATURE AND IMPACT OF THE ORIGINAL PROJECT

Mr. President, Members of the Court, it is a pleasure to address the Court again, especially after the joint experience of the field trip.

1. In this presentation I will discuss: first, the planned design and operation of the original Project, and secondly, Hungary's concerns of harmful impacts, which had and still have a reasonable basis.

I. DESIGN AND OPERATION OF THE G/N PROJECT AS ENVISAGED BY THE 1977 TREATY AND STILL VALID BY 1989

2. With regard to the original Plan, Slovakia would have the Court believe:

(1) that Hungary bases its concerns on an outmoded version of the original Project;[125]

(2) that peak operation was an open issue, similar to peak operation in other European rivers, and even ready for abandonment.[126]

(1) Discharge Distribution

3. In fact the Joint Contractual Plan contained a detailed water balance, fixing all discharge values which either party was entitled to withdraw from the reservoir. 50 m^3/s were to be released into the Danube, and 200 m^3/s during the vegetation season, but only "in case of necessity".

4. The discharge distribution was part of the 1978 Joint Contractual Plan. It was never changed, not in 1989, not in 1992. No other discharge proposals were ever communicated to Hungary by the Slovak Government. Czechoslovakia subsequently investigated three sub-variants of Variant C. One was based on 50 m^3/s per second for the Danube, a figure described as according to the 1977 Treaty.[127] This was in 1991, according to Slovakia.[128]

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125 CR 97/7, p. 47; CR 97/8, p. 17, 19, 34, 35, 36.
126 CR 97/7, p. 28; CR 97/8, pp. 26, 38; CR 97/10, p. 14.
127 SM, Vol 3, Annex 35.
128 CR 97/4, p 80 ff..

(2) Underwater Weirs

5. What about underwater weirs? The Joint Contractual Plan (1978) *did* envisage the construction of bottom sills in the riverbed, if necessary, not underwater weirs, because an early study revealed that weirs would prevent navigation in case of emergency and hinder the release of ice. The plan was therefore dropped.[129] In June 1989, the Government Plenipotentiaries agreed to study the construction of 7 to 8 bottom sills, with only 1 m height above bed level.[130] This is quite different from the underwater weir which you have seen, and this bottom sill would not have re-established pre-dam water levels. There simply was no agreement to build underwater weirs in 1989.

(3) Peak Operation

6. You will find hardly any information on peak operation in the Slovak pleadings. I demonstrated, however, in the first round that large-scale peak operation governed the entire project design.[131] The envisaged peak discharges determined the number and capacity of turbines installed, the size of the power canal and of the reservoir. And peak operation required a second dam at Nagymaros.

7. The peaking modes described by Hungary were accurate in magnitude and not "extreme" as stated by Slovakia.[132] At mean flow conditions daily water level fluctuations would have been more than 4 m at the confluence near Sap and over 1 m at Komárom.[133]

8. What is extreme, however, is the magnitude of peak operation underlying the Project design. Peak operation in other lowland rivers like the Rhine and the Rhône is limited to values which are an order of magnitude smaller than in the original Project, even taking into account the difference in natural discharges.[134] Additionally, peak operation was planned at Nagymaros towards the free flowing river section around Szentendre Island.[135]

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129 HR, vol 2, chap. 7.1.2.
130 Ibid.
131 CR97/3, p 26 ff.
132 CR 97/7, p. 28.
133 HC-M, Vol 2, Table 2.4.
134 CR 97/3, p. 27/28.
135 Joint Contractual Plan, Summary Documentation 0-1-A, 1978.

9. What is the conclusion in terms of peak operation? Large-scale peak operation was not merely an option of the Project. It governed the entire project design. It was calculated by Czechoslovakia to produce 55% peak energy, 30% semi-peak energy and less than 15% base energy. To listen to Slovakia the other week, such a calculation could not have been made; nothing had been agreed.

II. HUNGARY'S CONCERNS ABOUT THE IMPACTS OF THE ORIGINAL PROJECT

10. I turn to Hungary's concern about the impacts of the original Project. What does Slovakia have to say about this? I will first address the Project's impacts on the Budapest water supply on Szentendre Island, then the impacts of peak operation at Gabcikovo, and finally the threat to water resources and biodiversity in the Szigetköz reach and along the power canal.

(1) The Threat to the Budapest Water Supply

11. On the last stop of your visit you saw a few of the 559 bank-filtered wells on Szentendre Island that supply Budapest with drinking water **(Illus No 4.1)**. There are two main concerns here: reduction of yield, and deterioration of quality.

12. The first concern is related to the deepening of the riverbed, which reduces well capacity due to the shallow layer of sand and gravel above the rock. A 30% yield reduction was already experienced by the Budapest Water Works due to Project-related industrial gravel mining.[136] This is nearly four times as much as earlier estimates.[137]

13. The second concern refers to water quality. Deposition of fine sediments on the natural filter layer may cause deterioration in the quality of the extracted water, as experienced by the Budapest Water Works in the late 1980s.[138]

14. How are these concerns related to the planned Nagymaros barrage? The Nagymaros barrage would have retained almost all sand and gravel as well as a part of the fine particles usually flowing with the water **(Illus No 4.2)**. Mr President, Members of the Court, you may

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136 HC-M, vol 2, chap 3.6.4.

137 Joint Contractual Plan, Report 0-3-2.4, 1978.

138 HC-M, Vol 2, Chapter 3.6.2. See Laszlo, F., Z. Homonnay and M. Zimonyi: Impacts of River Training on the Quality of Bank-filtered Waters. Wat. Sci. Techn. 22(5), pp. 167-172, 1990; ref. in H-CM, Vol 2, Chap 3.6.3.1.

recall, from the visit, that the riverbed is very sensitive to change and reached a delicate balance only in the last 5 years. It is well known that erosion is likely to occur below river dams and Slovakia itself expects "intensive erosion processes ... after completion of the Freudenau project".[139] Due to the lower gradient of the river the erosion may not be as intensive as round Vienna, but it is very likely to occur, with serious consequences for the water supply.

15. Slovakia's counsel states: "it was *not* certain that there would be significant erosion, given the huge amount of riverbed gravel that Hungary had already dredged from this reach".[140] But there is no reason to assume that the remaining sediment would not be picked up by the flow. On the other hand, part of the fine sediments in the Nagymaros reservoir would be periodically flushed during floods, and resettling of fine materials along the banks of the Island is likely.[141]

16. Both processes are linked to the very existence of a dam at Nagymaros and are independent of the kind of peak operation envisaged at Gabcikovo. They were significantly underestimated and even unknown in 1977. In the early 1980s, the Budapest Waterworks undertook a comprehensive study which resulted in the so-called Research & Development Report, from which Professor McCaffrey concluded that the authors "in no way suggested that the construction of Nagymaros created a grave and imminent peril to the water resources"[142].

Let us examine the paragraph to which Professor McCaffrey refers:

> "The only remedial or control strategy that remains available for these northern subsurface drinking water resources is to maintain water recharge conditions by all means. In the opposite case, in the case of further damage to the filter zone, the deterioration of the complete drinking water resource must be taken into consideration in the long term, a process that might lead to the abandonment of the system. The channel regulation downstream of Nagymaros must be planned with due concern for the above hazards."[143]

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139 SR, Vol 3, p. 226.

140 CR 97/8, p. 38.

141 HC-M, Vol 2, Chap 3.6.3.1.

142 CR 97/8, p. 23.

143 HM, Vol 1, App 3, p. 430.

17. This statement is as strong as it could have been at that time. It does not confirm the Project Plans. And there was no other detailed investigation that would have denied these serious risks, as Ms Gorove has shown.

18. If the system would fail, Slovakia would simply have Hungary build another barrage below Budapest, and then another one, and then one more, and so forth.[144]

19. Another, more serious alternative would be to withdraw and treat surface water. In response to a question raised by the Vice-President, Judge Weeremantry, I briefly outline the implications of this option. The associated investment costs would be twice as high as for the installation of bank-filtered wells. The treatment facilities and the running costs would be 5-10 times as much as for bank filtration. In case of serious pollution, water withdrawal would have to be stopped, and due to shorter warning times this might occur too late, so there is a considerably higher risk of polluting the drinking water. Overall, the system would be both more fragile and more expensive.

20. In conclusion the risks to the Budapest water supply were considerably underestimated or even unknown in 1977, but had become apparent in 1989 when the construction works were halted. They are all the more evident today, as demonstrated in Hungary's pleadings. Slovakia has provided no evidence to show that these risks are not real or that they could have been avoided at reasonable cost. Our arguments on this aspect are unchallenged.

(2) Impacts of Peak Operation at Gab_ikovo

21. In response to Hungary's concerns as to anticipated impacts of peak operation, Slovakia offers nothing on the substance, but seeks to dismiss the argument on formal grounds. It says:

(1) the peaking modes presented are extreme;[145]

(2) Slovakia was ready to modify or abandon peak operation if it proved to be damaging;[146]

(3) peak operation is normal practice throughout Europe.[147]

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144 Prof. Mucha, comment during site visit April 03, 1997.
145 CR 97/7, p. 28.
146 CR 97/10, p. 14.
147 CR 97/7, p. 28.

22. In fact, the magnitude of peak operation presented in the Hungarian pleadings was not extreme, but represented a variety of peaking modes which were studied during the Project design.[148]

23. Large-scale peaking characterising the operation at Gab_ikovo would most likely result in damage to aquatic habitats over the length of the Nagymaros reservoir **(Illus No 4.3)**. Daily water level fluctuations would destroy riparian habitats all along the reach. Daily flow reversal in tributaries would cause deterioration of water quality, no matter how well sewage water was treated.[149]

24. Abandonment of peak operation after a trial-and-error phase would require the construction of Nagymaros, with the risks already described. Two dozen large islands carrying valuable softwood forests would be simply drowned, an aspect known by both parties in 1977, but not considered to be a serious loss. The same would happen to the Roman ruins only recently discovered. Abandoning peak power, if it proved to be detrimental, would not avoid the damage caused by the construction of Nagymaros.

25. What about peaking elsewhere? Peaking modes in the Rhine and Rhône are one order of magnitude lower than envisaged in the original Project. They do not cause the sort of impacts the kind of peaking envisaged for that Project would cause.

26. Finally, there are no studies on the impacts of peak operation on flora and fauna. Slovakia has provided evidence of not one study, and insufficient research was also done of the impacts on water quality.

III. IMPACTS OF THE ORIGINAL PROJECT IN THE SZIGETKÖZ REACH

27. I will now briefly recall the anticipated impacts of the original Project on water resources and flora and fauna in the Szigetköz reach of the Danube.

(1) Impacts on the Groundwater Regime

28. The groundwater flow regime and groundwater recharge would be greatly altered due to the impoundment in the reservoir and the drop of water levels in the Danube. Due to the

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148 Modes 900, 1500, 2000 and 3000 in HC-M, Vol. 2, Fig. 2.5 and table 2.4; HC-M, Vol. 4(1), Annex 6, respectively.

149 HC-M, Vol. 2, Chapter 3.3.2.2.

large reservoir, settling of fine sediments was expected with long-term degradation of water quality. Floodplain habitats would suffer from the drop of surface and groundwater levels. The river's size and velocity would be reduced, the side-branches would be completely cut off. Inundations of the floodplain would occur no more than once in ten years or less. The floodplain and river ecosystem would lose their character and a long-term decline of the natural value of the area would be inevitable.[150]

29. What is the view of Slovakia on these issues? First of all, it seeks again to dismiss the argument on a formal basis: "the claim is based on the fiction of the original Project".[151] But the central elements, the discharge regime and the regulation of the main riverbed, have never been altered. They remained applicable in 1989.

30. Besides pointing to a minor editing error, which did not affect the substance and was corrected in the Hungarian Reply,[152] Professor Mucha said only that the year 1993, which was used for calibrating the prediction of water level drops, was one of an unusual drought.[153] This may not be true on a long-term data basis. However, the analysis was done in 1994 for the Counter-Memorial and the year 1993 was the only full record available for calibrating the drop of water levels after the diversion. Again, there is no substance in the argument.

31. In terms of loss of natural sub-irrigation, Slovakia misrepresents Hungary's argument.[154] It was correctly stated in Hungary's oral pleadings that the loss of natural sub-irrigation in the Szigetköz amounts to an area of more than 100 km^2.[155] The affected area includes regions which used to experience soil moistening from groundwater even at low-flow conditions, and others which where wetted only at higher water levels.[156] Slovakia, however, selected only those 19 km^2 of the total impact area which lost permanent contact with the groundwater. It sought a contradiction in the Hungarian argument which does not exist.

(2) Impacts on Surface Water Quality

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150 HC-M, Vol. 2, Chapter 4.
151 CR 97/8, pp. 36/37.
152 CR 97/8, p. 36, not referring to HR, Vol. 2, p. 86.
153 CR 97/8, p. 36.
154 CR 97/8, p. 37.
155 CR 97/2, p. 58; CR 97/3, p. 46.
156 HC-M, Vol. 2, Table 3.5.

32. Concerning water quality, the parties agree that in general, Danube water quality has improved in the last 20 years. However, high levels of nutrients (nitrogen and phosphorus) remain, so that the water remains susceptible to hypertrophic conditions.[157] This has led to order of magnitude increases in algae. There has been a change in the composition of algal communities and their seasonal occurrence.[158]

33. Peak algal activity depends on the coincidence of flow and meteorological conditions, and varies dramatically from year to year. Peak values of chlorophyll-a of up to 200 mg/m^3 have been observed.[159] And increases can continue to propagate as the flow travels downstream. Peak values of chlorophyll-a in 1990 and 1991 exceeded 120 mg/m^3 at Medve, for example. Thus, the simulated increases due to the Hrusov reservoir[160] are disturbing, particularly as further increases could have been expected due to the Nagymaros impoundment.

(3) Impacts on Groundwater Quality

34. In terms of groundwater quality, there is a simple contention made by Slovakia: no surface water quality deterioration - no problem in the groundwater.[161] However, even if there were no concerns with water quality in the Danube, there would still be a threat to groundwater quality by degrading of fine organic materials settling in the reservoir, as is confirmed in the PHARE report.[162]

35. The PHARE Report predicts that no significant deposition of fine sediments will occur along the former riverbed in the Cunovo Reservoir. Whether or not true of Variant C, the prediction is irrelevant to the original Project. The Dunakiliti-Hrušov Reservoir would have been larger in size by about one third, and peak operation would have been associated with a complete stoppage of the flow for 18 hours a day on about 100 days of a year, considerably increasing the opportunity for fine particles to settle.

(4) The Original Project and Riverbed Degradation

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157 HC-M, Vol. 2, pp. 61, 62.
158 *Ibid.*
159 HC-M, Vol. 2, Chap. 3.3.1.2.
160 CR 97/3, p. 50.
161 CR 97/8, pp. 37/36 and CR 97/11, p. 33.
162 PHARE Project, Final Report, Vol. 1, Dec. 1995, pp. 5-8.

36. What about riverbed deepening? Slovakia claims that erosion has deepened the river, and that the Project saves the desiccating wetlands.[163] What actually happened? On this graph **(Illus No 4.4)**, taken from the PHARE Report, you see the observed lowering of low-flow water levels indicating the deepening of bed levels within 17 years until 1990. On Slovak territory around Bratislava the drop was most pronounced, reaching 1.5 m in this period and resulting in navigation problems, including limited access to the Bratislava harbour, as you heard during the boat trip. The PHARE Report concludes that "it is evident that the 'natural' sediment transport in the Danube cannot be responsible for the degradation of the river bed"[164] and that it would take 500 years to erode the sediments that have gone from this reach over just 17 years.[165] The explanation is given in the upper part of the graph which shows that some 15 million m^3 of sand and gravel were dredged over this period on Slovak territory and is just the location of the port where most of the gravel was dredged and the drop of the water level reached the maximum value. If we look at the time series of dredging you may notice that the start of large-scale gravel mining coincided exactly with the signing of the Treaty **(Illus No 4.5)**.

37. What would have happened if no dredging had been done? The PHARE Report suggests an answer. The dashed line in this graph from the PHARE Report indicates the position of the low-flow water levels as calculated without the impact of dredging **(Illus No 4.6)**.[166] What we see is that the river would have been perfectly stable around Bratislava which is upstream of rkm 1860, and that erosion would have caused nowhere more than 50 cm water level decrease. At some sections of the Project reach, aggradation would occur.

38. This not only contrasts greatly with the information given by Slovakia on the field trip and in the oral hearings, it simply undermines the whole basis of Slovakia's argumentation. That is (i) *erosion* caused the riverbed deepening due to river training and dams upstream; (ii) hence, isolation of side-branches and partial desiccation of floodplain habitats was caused by

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163 CR 97/7, p. 36.
164 PHARE report, Vol. 2, pp. 10-22.
165 *Ibid.*
166 PHARE Report, Vol. 2, Fig. 10.13.

riverbed *erosion*; (iii) the Project was necessary to stop erosion and save the wetlands.[167] On the contrary, it was rather the Project itself or its expectation that *caused* the problems.

(5) Impacts on Flora and Fauna

39. With respect to the impacts on flora and fauna the parties disagree entirely, I am afraid. Again, Slovakia insists that the original Project plans underwent fundamental changes before 1989 in order to reduce adverse impacts on the environment.[168] On this basis Slovakia seeks to avoid discussing the environmental impacts that would result in long-term degradation of valuable wetlands.

40. Slovakia also suggests that Hungary misleads the Court by presenting maps of the *potential* and not the *actual* vegetation.[169] It was obvious from the visit that a large part of the Szigetköz is covered by managed forests and agricultural land. Nonetheless, this area still comprises many valuable habitats sheltering rare and protected species, as pointed out by Professor Vida five weeks ago **(Illus No 4.7)**.[170] The use of a potential vegetation map is a common tool in landscape management to indicate the potential habitat conditions of a given location, independent of present land use. It is at the same time a valuable instrument to compare different management options, and this is how it was used and correctly presented.

41. Comments on this graph showing the actual species of the forest in the active floodplain in pre-dam conditions are most remarkable **(Illus No 4.8)**.[171] Slovak counsel states "the green area is *not* natural woodland as one might think having listened to Hungary's experts. It is a specially planted hybrid poplar forest...".[172] If we look at the legend and read what is given for the green colour; that is exactly what is says: "hybrid poplars". So, the information of the map is clear. It shows the pre-dam distribution of forest species in the active floodplain. Again, what is the substance of the argument?

Conclusion

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167 CR 97/7, p. 36; CR 97/10, p. 56.
168 CR 97/8, pp. 34, 35.
169 CR 97/8, p. 34; HR, Vol. 2, Plate 5.2.
170 CR 97/2, p. 67ff.
171 HR, Vol. 2, Plate 6.1.
172 CR 97/8, p. 34.

42. To conclude this presentation on the nature and the impacts of the original Project, I want to make three points:

(1) Slovakia denies the existence or changes the character of key elements of the original Project, such as maximisation of energy production with large-scale peak operation, and keeping discharges to the Danube and side-branches at a minimum not exceeding 200 m^3/s.

(2) It was not fully understood in 1977, but evident by 1989 that the Nagymaros barrage would seriously endanger the well fields on Szentendre Island. This is the second conclusion.

(3) Final implementation would have threatened damage to the groundwater resources in the Szigetköz and endangered natural and cultural values in the entire impact area.

Mr. President, Members of the Court, I wish to thank you for your kind attention. Mr. President, may I ask you to call on Mr. Philippe Sands. Thank you.

The PRESIDENT: Thank you, Dr. Kern. Mr. Sands please.

Mr. SANDS:

5. SUSPENSION AND TERMINATION OF WORK

1. Mr. President, Members of the Court, I wish now to deal with Slovak arguments on the suspension of work at Nagymaros in May 1989, and subsequent acts. My presentation will be in three parts. I will begin with the law of the environment, which provides the context for the application of necessity under the law of State responsibility. I will then reassert the chronology and foundation for Hungary's acts. And finally I will address the issue of necessity as it arises from the law of State responsibility in relation to suspension and abandonment of work.

ERREUR ! SIGNET NON DEFINI.I. ENVIRONMENTAL LAW AND THE STATE OF NECESSITY

2. Mr. President, necessity arises from the law of State responsibility taking account of the Parties' rights and obligations under the 1977 Treaty and general international law, including in relation to the environment. The laws of State responsibility and the environment are necessarily connected, the former providing the framework of applicable rules, the latter guidance on conditions of application in cases of the environment. My conclusions can be simply stated: (1) under the 1977 Treaty the Parties had a legal obligation to ensure that the Project was consistent with environmental protection requirements as they evolved after 1977; (2) by May 1989 those environmental obligations required the Parties to obtain, and entitled Hungary to insist upon, further studies; and (3) the failure to agree on further studies created a state of necessity under Articles 15, 19 and 20 of the Treaty, and international environmental law, including prevention and precaution. By May 1989 the necessity for further environmental study and appropriate environmental protection had emerged in law and, as Dr. Kern and Ms Gorove have shown, it had emerged in fact. Necessity justified suspension at Nagymaros. In the face of Variant C the conditions for the application of the doctrine of necessity were fully reinforced to justify abandonment of Gabcikovo and, ultimately, termination of the Treaty.

(a) The Parties' environmental rights and obligations under the 1977 Treaty

3. To begin with the Parties' environmental rights and obligations under the 1977 Treaty. In fact there is a large measure of agreement between the Parties on the principles, but not on their application. *First*, they agree that the protection of the environment is a matter of profound importance and that the Court has a "precious opportunity". We can but repeat the words of the Agent for Slovakia: "*les préoccupations liées à l'environnement sont de la plus haute importance*"[173]. But they disagree as to how the Court should give effect to that importance. *Second*, they agree that Articles 15, 19 and 20 of the Treaty are very relevant to the case, but they disagree as to their meaning and effect, and how they relate to the objects of the 1977 Treaty. For Slovakia the object is quite simply "the construction and operation of the System of Locks"[174]. We would add: *in a manner consistent with environmental protection*[175]. It is not that these rules prevent the Parties' from accomplishing the Treaty's objectives[176]. It is a case of compliance with environmental protection being an essential part of the Treaty's objects. *Th*ird, the Parties agree on the profound evolution of international environmental law after 1977, but they disagree on what this means for the Project. And *four*th, they agree that Articles 15, 19, and 20 relate to other principles and rules of international environmental law, but they disagree as to how. I will deal with each point briefly.

Articles 15, 19 and 20

4. To begin with Slovakia treats Articles 15, 19 and 20 as having had an essentially procedural function, providing nothing more than a basis for further agreement on the substantive norms to be actually applied. In Hungary's view the three Articles do considerably more. Each establishes a substantive obligation: to protect the waters of the Danube (including groundwaters), nature and fisheries **(Illus No 5.1)**. From time to time this is accepted by Slovakia. Professor McCaffrey said of Article 15 (1) that it contains "the substantive obligation to 'ensure ... that the quality of the waters of the Danube is not impaired

[173]CR 97/11, p. 55 (Amb. Tomka).
[174]CR 97/7, p. 57. (Prof. McCaffrey)
[175]CR 97/3, p. 14 (Prof. Nagy).
[176]CR 97/9, p. 22 (Prof. McCaffrey).

as a result of the construction and operation of [the Project]"'[177]. I would not put it any differently. But he was unwilling — or unable — to draw the consequences of this for the Project, or to the application of necessity. Perhaps I can help. Articles 15 and 19 establish mandatory substantive obligations. They did not ask the Parties to "use best endeavours" or to take "all appropriate means". For the Project to be consistent with environmental protection either Party could insist on agreement on the level of environmental protection. That approach is consistent with Article 3 of the 1976 Convention, which provides for a "no harm" rule from which Slovakia has not demurred, and which, incidentally, is the *lex posterior* since it came into force after the 1977 Treaty[178]. Slovakia said not a word about the substantive obligations of Article 3.

5. Professor McCaffrey did make a belated effort to persuade the Court that the translation of Article 19 in the United Nations *Treaty Series was* inaccurate, the word "obligation" should be replaced by the word "requirement"[179]. It is perhaps late to begin fiddling with official translations, particularly where a treaty is no longer in force. But if fiddle we must then we are perfectly happy to follow the suggested change. To our understanding the word "requirement" is broader: it refers both to legal "obligations" and also requirements of fact. Law and fact combined to give rise to a state of necessity in May 1989.

6. Turning from substance to procedure, we agree that the Articles also established procedures for the two Parties to agree precisely how the obligations were to be applied. How was this to work in practice? The question is absolutely essential. It goes to the heart of this dispute — what happens if there is disagreement on the specific environmental standards to be applied to Project design and implementation? Slovakia says that *until* the Parties had agreed through the Joint Contractual Plan on the content to be given to Articles 15, 19 and 20 those provisions could have no practical effect. The Parties were bound to apply only those standards which had been previously agreed. They were locked into the existing Project —

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[177]CR 97/7, p 53.(Prof. McCaffrey).

[178]The 1977 Treaty entered into force on 30 June 1978; the 1976 Convention entered into force on 28 July 1978.

[179]CR 97/7, p. 56 (Prof. McCaffrey).

Nagymaros, peak power and so on — unless both Parties agreed otherwise. So either Party could block the adoption of new standards, irrespective of whether or not they were required to ensure compliance with the environmental obligations or requirements. Substance is subordinated to procedure, according to Slovakia, absence the emergence of some new norm of *jus cogens*[180]. And without agreement Slovakia says — through its principal environmental lawyer — it is in effect immaterial whether Hungary's environmental concerns were well-founded or not. The Project proceeds, no account is to be taken of those concerns, *however legitimate or well-founded*. There is a Slovak contradiction: how can this approach be consistent with the commitment to the substance of environmental standards, to a preventive, precautionary approach? Articles 15, 19 and 20 established clear, substantive obligations, which provided for the incorporation of norms of environmental protection and I now turn to these.

The Development of International Environmental Law

7. Much has been said by both Parties about the development of international environmental law since 1977. The distinguished Agent for Slovakia signalled his country's attachment to these new rules as reflected by "les nombreuses conventions auxquelles [la Slovaquie] est partie dans ce domaine".[181] Professor McCaffrey provided the Court with a detailed exposition on "Environmental Law". But the Ambassador and the Professor seem not to have consulted. The Professor made not a single mention of any one of the environmental treaties to which the Ambassador appeared to be referring. What happened to the 1971 Ramsar Convention, requiring "wise use" of wetlands? What became of the 1979 Berne Convention, requiring protection of endangered species? What of the 1992 Rio Biodiversity Convention, giving primacy to conservation and sustainable use of biodiversity over other treaty obligations?[182] No Slovak speaker could bring himself to refer to a single substantive rule of international environmental law – other than that affirmed by this Court last year in its

[180] CR 97/9, p. 39 (Prof. McCaffrey).

[181] CR 97/11, p. 55. (Amb. Tomka).

[182] See Article 22(1): "Les dispositions de la présente Convention ne modifient en rien les droits et obligations découlant pour une Partie contractante d'un accord international existant, sauf si l'exercise de ces droits ou le respect de ses obligations causait de sérieux dommages à la biodiversité biologique ou constituait pour elle une menace".

Advisory Opinion. And that Opinion – entirely consistent with the preventive approach advocated by Hungary which counsels action *before* damage arises – suggests that this Court is ready to assume the responsibility of building upon the landmark award of the 1941 decision of the Arbitral Tribunal in the *Trail Smelter* case and updating it for the next century. In fact, the only instruments mentioned by Professor McCaffrey in his exposition were non-binding, although this did not prevent him from characterizing them as being part of international environmental law. We were referred to Agenda 21 and – at great length – to the Rio Declaration. We are happy to be guided by these. But what of the other pertinent such instruments that we have addressed, for example, the 1989 Economic Commission for Europe Charter on Groundwater Management, which commits both Parties to protecting the vital resource of freshwater, and which requires decisive measures to be taken for their protection, including EIA *during* and after any project. Not a single word.

8. Mr. President, Slovak counsel said in another context, "ce n'est pas sérieux".[183] By 1989, certainly by 1992, these treaties and instruments of international law imposed "powerful constraints"[184] for the protection of water and biodiversity. They were well established. They were clear and many were legally and formally binding. They had to be applied in the original Project. But they had been abandoned by Slovakia.

9. The absence of all reference to environmental treaties was certainly a surprise. But it was not the only one Professor McCaffrey had for us. His presentation was titled "Environmental Law (including the Law of Watercourses)". Astonishingly, he made not one mention of the rule of "equitable utilization" even though we addressed it at considerable length. Professor Dupuy will return to it tomorrow. Are we to infer from this silence that Slovakia considers neither environmental treaties nor the rule of "equitable utilization" to have any relevance whatsoever to this case? This would be a strange proposition from any source, but especially so when it comes from the distinguished former Special Rapporteur of the ILC,

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183 CR 97/9, p. 52 (M. Mikulka).

184 The words refer to the International Court's recently expressed view of the environmental protection provisions contained in the 1949 Geneva Conventions: see Advisory Opinion on the Legality of the Use of Nuclear Weapons, 8 July 1996.

whose remarkable work on "equitable utilization" received the stamp of approval from the Sixth Committee of the United Nations General Assembly only last Friday.

10. The Slovak approach moreover is to ignore arguments that we have made, but address those we have not made. So Professor McCaffrey made numerous references to *jus cogens*, attributing to Hungary non-existent arguments, assertions or implications.[185] In fact we made only one argument which might be said to resemble a *jus cogens* type of claim: the implications in practice of Article 22 of the Biodiversity Convention on the effect of the 1977 Treaty. [186] But of course that too has been ignored.

11. Slovakia did make rather more of the procedural norms. Let me address just two: Environmental Impact Assessment and the precautionary principle. By 1989 the Environmental Impact Assessment had emerged as the accepted means for ensuring that projects of this type did not cause untoward environmental damage. We have never argued that EIA was a peremptory norm of international law.[187] EIA was inherent in Articles 15 and 19 of the Treaty as well as the 1976 Convention. How otherwise could the Parties fulfil their obligation not to cause damage to the waters of the Danube or to nature? That EIA was required is confirmed by the practice of the two States themselves: as we have heard, certain environmental studies were carried out, even if they were inadequate, even if Slovakia is unable to locate some of them today and even if the bioproject is located somewhere in Slovakia, wandering lonely as a cloud beyond the reach even of Mr. Wordsworth. Ms Gorove has explained why those earlier studies were inadequate, in particular by reference to the standards required by the 1987 UNEP Principles to which Professor McCaffrey professed attachment. The studies do not reach those standards. And of course there was no pretence of an EIA at all on Variant C.

12. As to the precautionary principle, it is sufficient that both Parties accept that they were and should be guided by it. We have no difficulty in joining Slovakia in its reliance on the formulation reflected in Principle 15 of the Rio Declaration. We have never said that

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185 CR 97/9, pp. 24-5, 31-2, 33, 39-40, 41 (Prof. McCaffrey).

186 See supra. note 10;

187 CR 97/9, p. 39 (Prof. McCaffrey).

precaution is *jus cogens*,[188] or that it established an "inflexible, absolute standard",[189] or that it itself acted to terminate the Project. What we do say is that precaution is simply applied common sense. In the face of scientific uncertainty as to the likely consequences of an activity, where serious or irreversible damage is likely to occur, decision-makers should adopt sensible cost-effective measures. Those conditions are satisfied here: (1) there was scientific uncertainty in 1989 and in 1992 – Professor Mucha said so, the PHARE Report said so, Mr. Refsgaard said so; (2) the Project risked serious environmental damage, Czechoslovakia's national environmental authorities said so, and its national report to the Rio Conference in 1992 said so, as you will see from the extracts in your folders.[190] (3) The most cost-effective measures to be taken were further studies on the impacts of the project, especially Nagymaros and peak-power and the avoidance of irreversible measures such as the damming at Dunakiliti. Build Now, Investigate Later was simply incompatible with the precautionary approach.

13. In sum by 1989 and even more so by 1992 international environmental law provided further clarification of the obligations incumbent upon the Parties by operation of Articles 15, 19 and 20. It did so by establishing more specific standards for the protection of flora and fauna and freshwater resources, and biodiversity and providing techniques to assist in informed decision-making such as EIA and precaution.

(c) The relationship between Articles 15, 19 and 20 and other principles and rules of international environmental law

14. I turn now to the next key question. How did the environmental provisions of the 1977 Treaty and general international environmental law relate? In our view, very simply, but effectively. As new environmental norms emerged, whether through treaty or custom, they became applicable either directly as lex posterior or indirectly through the interpretation and application of Articles 15 and 19. It is in this sense that the 1977 Treaty was an evolutionary instrument whose precise obligations evolved over time. Whilst able to understand the logic of this view, Slovakia seems unable to apply it. So it says (1) the Treaty was consistent with

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188 CR 97/9, p. 33 (Prof. McCaffrey).
189 CR 97/9, p. 34 (Prof. McCaffrey).
190 CR 97/6, p. 15, at footnote 45.

international environmental law in 1977; (2) international environmental law evolved over the next 15 years; (3) the Treaty was consistent with international environmental law in 1992; but (4) international environmental law is not integrated into the Treaty.[191] The logic of those four propositions is simply not clear. But integration did not mean, as Slovakia claims, that these norms automatically brought the 1977 Treaty to an end and we have never suggested that. What it did mean was that through the procedural means provided by the 1977 Treaty the new norms were to be operationalized into the Project. No doubt both Parties could agree otherwise, could conceivably agree not to apply a new norm which was imposing costly obligations for the protection of water or endangered species, or even new studies. But if new requirements were imposed for the protection of nature or water resources, or new scientific understanding made the existing system significantly more risky or damaging than previously known, then at the instance of either party something had to be done. That is consistent with international environmental law and practice, as reflected for example in the activities of Canada/United States International Joint Commission, which applies through Article 4 of the 1909 Treaty analogous obligations to those in Articles 15 and 19 and the Boundary Waters Convention. The 1977 Treaty imposed no deviation from the "community of interests" or "the perfect equality" of the two riparian States identified by the Permanent Court.[192] The 1977 Treaty did not allow either party to impose its will on others. But nor did it create immutable norms.

II. TIMING OF HUNGARY'S SUSPENSION AND ABANDONMENT

15. Mr. President, I turn now to Hungary's invocation of necessity. The Slovak and Hungarian interpretations of the facts differ markedly, although both sides rely on the same documents. With a sense of elided innocence Sir Arthur Watts referred to the "appalling situation" facing Czechoslovakia, its sense of shock at Hungary's actions. Imagine Hungary's position, faced with a permanent refusal by its partner to study the environmental

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191 CR 97/9, p. 26 (Prof. McCaffrey).

192 Case Concerning the Territorial Jurisdiction of the International Commission of the River Oder, Judgement No. 16 (1929), PCIJ, Ser. A, No. 23, p. 27.

consequences of the downstream sector – unless first construction was completed and the plant put into operation. Faced with that attitude, what was a reasonable State to do?

16. The Slovak presentation had two objectives: (1) to show that Hungary had by mid-1990 without any shred of justification abandoned the Treaty; and (2) to show that Czechoslovakia was willing to discuss all aspects of the Project. The facts support neither contention. Hungary treated the 1977 Treaty as having full legal effects right up to May 1992; Hungary sought a negotiated solution within the framework of the 1977 Treaty; and Hungary acted reasonably and diligently in its conduct.

17. The intransigence was Czechoslovak: point blank refusal to contemplate any deviation whatsoever from the construction of Nagymaros, the original Project and peak power. An intransigence from which the Slovak party has shown not the slightest inclination to deviate from during any stage of these hearings. I can put it very simply: (1) Hungary never suspended the 1977 Treaty; (2) Hungary did not abandon the Treaty in mid-1990; (3) until the termination of the Treaty in May 1992 all acts of suspension and abandonment related to works, not to the Treaty; and (4) suspension and abandonment of work was justified on environmental grounds, which were made all the more pressing by Czechoslovakia's early start to Variant C.

18. Suspension of work at Nagymaros on 13 May 1989 cannot hardly have come as a shock. It was preceded by a January 1989 Slovak Government resolution expressing concern about the environmental impacts of the Project,[193] and it was followed by three meetings between the Parties on environmental issues.[194] Czechoslovak behaviour after the initial suspension was hardly consistent with that of a victim in shock. Although you would hardly be able to divine this from Professor Pellet's chronology, since he made no reference whatsoever to the crucial period of discussions which took place between termination in May and the close of conduct proceedings and negotiations on 20 July 1989.[195] Then in that period Czechoslovakia willingly, actively and positively participated in a promising series of

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193 HM, para. 3.67.

194 On 3 March, 8 April and 3 May 1989: HM, paras. 3.68-3.69; HC-M, paras. 2.31-2.34.

195 CR 97/9, pp. 43-4 (Professor McCaffrey).

negotiations which recognized the legitimacy of Hungary's environmental concerns. Czechoslovakia agreed to establish and it then participated fully in the scientific expert groups to consider the suspension of works at Nagymaros. When their work concluded, on 19 July 1989, Hungarian experts proposed further joint research. The Czechoslovak Party opposed it, concluding "all risk related problems were solved, and that they could be corrected during the further continuous construction of Nagymaros".[196] That this approach characterized every subsequent Czechoslovak act. It continues to characterize the Slovak approach. The idea that "all risk related problems were solved" beggars belief, and provides ample testament to the view expressed in Czechoslovakia's 1992 Report to UNCED that as of 1989 environmental information in that country was incomplete, fragmented, not critically assessed, and poorly interpreted leading to the wrong conclusions.[197]

19. It was the Czechoslovak approach at the conclusion of the work of expert groups – Build Now, Investigate Later – which necessitated further suspension of works at Nagymaros until 31 October 1989, together with suspension of the works at Dunakiliti which would have led to imminent diversion.[198] But there was no suspension of works at Gab_ikovo on 20 July, as Sir Arthur Watts stated.[199] As Dr. Kern and Ms Gorove have demonstrated, to have started building in the riverbed at Nagymaros, effectively irreversibly, to have agreed to a system of test operation would have been irresponsible, and the more it was looked at, the more problematic it became. In that region floods were largely under control. Navigation could be and is managed by other means. At Nagymaros, concerns over the protection of vital water interests easily crossed any threshold of necessity. The concerns about the Dunakiliti-Hrusov reservoir were also serious and substantial, as Slovak and independent sources confirmed. By mid-1989 the concerns as to the long-term environmental threats also crossed the threshold of necessity. Many of the concerns still existed in 1992 according to Mr. Refsgaard[200] and others.

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196 Aide-Memoire on Consultations of the Scientific Experts, Budapest, 17-19 July 1989, HM, Vol. 4, Ann. 18.

197 *Czechoslovak Academy of Sciences and Federal Committee for the Environment, Czechoslovak National Report for UNCED, Prague, March 1992, at p. 38.*

198 HR, paras. 3.32-3.33; HM, Vol. 4, Ann. 149.

199 CR 97/10, p. 52 (Sir Arthur Watts).

200 CR 97/10, p. 45 (Mr. Refsgaard).

And of course the concern was greater for the original Project than Variant C. There were and are also major concerns for *biodiversity* – a word Slovakia could only bring itself to pronounce once during the entire week of its first round of oral presentations.[201]

20. Professor Pellet sought to persuade you of Czechoslovakia's flexibility, its willingness to conclude a new agreement on ecological guarantees, to consider further agreement on limitation or exclusion of peak power.[202] His co-counsel referred to this proposed "abandonment" at least 12 times in their pleadings. But the picture Professor Pellet painted was incomplete. There was no "offer" to abandon. He did not refer you to the conditions attaching to Czechoslovak flexibility: it was dependent upon Hungary's immediate commencement of preparatory work at Dunakiliti; it was accompanied by the express threat that unless work resumed Czechoslovakia "will be forced to commence a provisional, substitute project" on its territory; and it made no mention of suspension or review of Nagymaros.[203] Hardly an offer, Mr. President, or a situation in which it could be said that "la Tchécoslovaquie avait accepté toutes les exigences de son partenaire".[204] And of course by then preparatory work on Variant C was underway, establishing the further necessity of avoiding possible unilateral Czechoslovak action.

21. It is in this context that Hungary terminated some of the private law contracts associated with Nagymaros, but not all of them, in particular not those developing the tailrace canal or for flood protection – another fact Professor Pellet omitted to bring to your attention.[205] The Government resolution of 27 October 1989 did not affect contracts at Dunakiliti, despite Professor Pellet's apparent confusion on the point.[206] And Czechoslovakia had not by December 1989 accepted "l'engagement de conclure l'accord sur la protection de l'environnement" as he claimed.[207] By the end of October the die had been cast: what was on

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201 CR 97/11, p. 36 (M. Mikulka).
202 CR 97/9, p. 45 (Professor McCaffrey).
203 HM, Vol. 4, Ann. 28.
204 CR 97/9, pp. 46-7 (Professor Pellet).
205 HM, Vol. 4, Ann. 150.
206 *Ibid.*
207 CR 97/9 p. 47 (Professor McCaffrey).

offer was the original Project or unilateral diversion. Nothing else. Modification of the Project or prior environmental studies were not on offer.

22. When on 30 October 1989 Hungary proposed a draft Treaty to amend the 1977 Treaty, to eliminate peak power and abandon Nagymaros,[208] no response was received from Czechoslovakia. Neither Professor Pellet nor Sir Arthur Watts felt the draft Treaty was worth mentioning. In view of that silence the Hungarian Prime Minister proposed further studies prior to the abandonment of the 1977 Treaty.[209] Again Czechoslovakia showed not the slightest willingness to reconsider, never mind abandon, Nagymaros. Slovakia continued to insist on Nagymaros last month in this Court room. It's insistence on the life of the Treaty reflects commitment to a dam at that location. Never did Czechoslovakia propose, as Professor Pellet claimed, that in February 1990 its willingness to negotiate was "sans préalable".[210] No authority is provided for that statement.

23. Nevertheless, throughout this period Hungarian work did continue at Dunakiliti and Gab_ikovo. Hungary continued to expend large sums of money on the upstream sector. The Joint Operational Group continued to meet, five times in 1990, eight times in 1991.[211]

The Czechoslovak Plenipotentiary, Mr. Kocinger, continued to address his opposite number. Nothing in the records show that Czechoslovakia in fact treated Hungary as having abandoned the Treaty. In 1991 Hungary spent 680 million forints in connection with the Project. The formal handover of works at Gabcíkovo occurred at the end of 1991.[212] Hungary continued to participate in meetings of the Plenipotentiaries under Article 3 of the Treaty, fully accepting that it provided the framework for discussions on the Project's future and any compensation payments which might have to be made. These acts are simply inconsistent with abandonment of the Treaty in mid-1990, as Slovakia's Agent claims.[213] Slovakia in fact makes a fine practice of confusion, between suspension and abandonment, between the works and the

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208 HM, Vol. 4, Ann. 30.
209 HM, Vol. 4, Ann. 32.
210 CR 97/9, p. 49 (Professor McCaffrey).
211 Joint Operational Group Reports (1990, meetings Nos. 73-77); 1991, meetings Nos. 78-85; 1992, meeting 86).
212 HR, paras. 3.34-3.38.
213 CR 97/7, p. 11 (Amb. Tomka).

Treaty, between Dunakiliti and Gabcíkovo, between Nagymaros and Dunakiliti. In July 1989 Hungary suspended work at Dunakiliti, not "construction work on Gabcíkovo" as Professor McCaffrey claimed.[214] Suspension of only a part of the works in May 1989 did not and could not constitute suspension of the Treaty, as Professor Pellet claimed.[215] Abandonment of part of the works in 1990 did not constitute a repudiation of the 1977 Treaty, as Sir Arthur Watts claims.[216]

24. At all times prior to May 1992 Hungary accepted the Treaty was in force. But if Professor Pellet is correct and Hungary's earlier acts constituted a repudiation then inevitably so must Czechoslovakia's implementation of Variant C. If a failure to act can constitute repudiation then so must an act which is plainly inconsistent with the international agreement to which it purports to give effect. Yet we heard nothing whatsoever from the Slovak side to address our arguments concerning its repudiation. The inescapable logic of Professor Pellet's position is that by mid-1991 at the latest both sides had repudiated the 1977 Treaty and on this approach the Court simply has no need to decide whether Hungary's termination was effective or whether the 1977 Treaty survived succession.

III. NECESSITY APPLIED

25. In the context of these facts I can turn finally to the question of whether Hungary was entitled to invoke necessity to justify suspension of work on Nagymaros in May 1989, and at Dunakiliti in July 1989 and subsequent acts. My task today is easier than that of Professor Dupuy last month.[217] He was faced with the old Slovak position: "'Necessity' is not a ground for suspension or termination", adding for good measure, "Still less can be found a ground of 'ecological necessity'".[218] The Court will have noted the new Slovak position, its 180 degree about turn on this issue: "la Slovaquie n'a évidemment jamais dit ou écrit que le droit de responsabilité ne presentait aucune pertinence pour cette espece".[219] No less than seven times

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214 CR 97/10, p. 15. (Prof. McCaffrey).
215 CR 97/10, p. 19 (Prof. McCaffrey).
216 CR 97/10, p. 19 (Prof. McCaffrey).
217 "Les règles de droit justifiant la suspension et la terminaison des travaux par la Hongrie", CR 97/3, pp. 76-95.
218 SM, para. 8.13.
219 CR 97/8, p. 41 (Prof. Pellet).

did Professor Pellet put to the Court the new Slovak position, as if to impress upon us that the conversion was neither provisional nor temporary.

26. Slovakia now embraces the Hungarian view. It now says that not that we were wrong in principle to invoke necessity for suspension, but that we applied it wrongly,[220] or we have not satisfied the conditions for its applicability.[221] Having abandoned his earlier position Professor Pellet thought he found a contradiction between me and Professor Dupuy, and, of course, what better way to obfuscate his own inconsistency, it might be said? But Professor Dupuy and I were not in contradiction. He addressed necessity to justify suspension of work in May 1989. I addressed necessity to justify termination of the Treaty in May 1992. The circumstances of necessity which applied in May 1989 were all the more applicable in May 1992, given Czechoslovakia's unilateral construction of Variant C and the imminence of diversion, without an EIA, in contravention of Slovak environmental law, and with no prior communication of information to Hungary. There is no contradiction: necessity may be invoked in respect of suspension of works and termination of the Treaty.

27. His sense of "embarras" really does not excuse the attempt to reformulate our arguments. We have never said, for example, that the law of responsibility and the law of treaties are "interchangeable".[222] What we do say is that it may be unlawful to take certain measures in the context of a treaty obligation unless the illegality of that fact is excluded by application of one of the circumstances foreseen by the law of responsibility, including necessity. We reaffirm our view: "the conduct of a State may at one and the same time be justified on the basis of the law of treaties *and* the law of State responsibility"[223]. The Parties agree that necessity may in principle justify suspension of works to preclude illegality.[224] The question for the Court is whether the conditions, as reflected in Article 33 of the ILC's Draft Articles have been satisfied in this case.

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220 CR 97/8, p. 42 (Prof. Pellet).
221 CR 97/10, pp. 10-18 (Prof. McCaffrey).
222 CR 97/8, p. 42 (Prof. Pellet).
223 HC-M, para. 5.22.
224 CR 97/9, p. 60 (Prof. McCaffrey).

28. The Parties agree on these conditions, but they disagree on their applicability in this environmental context. The *first* condition is that suspension of work in May 1989 should have been the only means of protecting Hungary's legitimate and essential interests. It was. It was the only way to stop construction of Nagymaros and guarantee Budapest's water. Given Czechoslovakia's intransigence after July 1989 Professor McCaffrey can hardly claim that Hungary had ignored a treaty partner willing to conduct joint studies, slow work at Nagymaros, and limit or exclude peak power[225] Czechoslovakia never once proposed the suspension of Nagymaros, and Slovakia continues to argue for it today.

29. The *second* condition, that suspension must safeguard an "essential interest" of Hungary, was evidently satisfied. This is indisputable in the light of Articles 15 and 19 of the Treaty and general environmental law. Professor McCaffrey agrees that ecological interests are not "essential". But he focuses on the absence of studies requiring suspension. Why environmental necessity cannot be invoked to justify further studies to reduce uncertainty is unclear to me. The approach is pragmatic, consistent with precaution, cost-effective, and within both the Parties' capabilities. It fulfils all the requirements of Principle 15.

30. The *third* condition, that there must have been in May 1989 a "grave and imminent peril", was also satisfied. We are perfectly happy to apply the test proposed by Professor McCaffrey: "the party invoking necessity must have more than unsubstantiated fears that something might happen sometime".[226] When read with the preventive and precautionary approach to environmental harm to which Slovakia claims such attachment it is difficult to see how much earlier, or how much more imminent, the activity which would have caused the harm – the completion of Nagymaros and its bringing into operation – must have been in this case.

31. The *fourth* condition is also satisfied. Slovakia says that Hungary has contributed to the occurrence of the state of necessity by failing to study the issue of risk to Budapest's water supply. This fundamentally misunderstands environmental necessity. It has always been known that the original Project posed *some* risk to the bank filtered wells and to nature. What

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225 CR 97/9, p. 63. (Prof. McCaffrey).

226 CR 97/10, p. 12. (Prof. McCaffrey).

was not known was the extent of that risk and its consequences. The necessity arose in 1989 because of changes in the understanding of complex ecological processes, as well as changes in environmental obligations which we have described. These pointed to effects which were significantly beyond what had been foreseen in 1977. They were not in Hungary's control, in the sense of Article 33. They cannot preclude the application of necessity.

32. *Fifth*, and finally, Hungary's invocation of necessity did not impair an essential interest of Slovakia.[227] ended up characterizing the Treaty of the original Project as a "building contract". Having done so Slovakia can hardly claim that its interest in completing the Project as originally envisaged can outweigh Hungary's essential and vital interest in safeguarding drinking water supplies.

33. If the conditions for necessity were satisfied in May 1989, as we say they were, then they were also satisfied for the suspension of work at Dunakiliti in July 1989. The imminence of the diversion of the waters at Dunakiliti, coupled with the emergence of genuine concerns about the impacts of the diversion on the Szigetköz region and its underlying aquifer, all of which have been subsequently confirmed by Hungarian, Slovak and independent science, created a situation of necessity. In the case of abandonment all of these factors when combined with the refusal of Czechoslovakia to even discuss the future of the downstream sector or peak power operation, continue to give rise to an enhanced state of necessity.

IV. CONCLUSIONS

34. To summarize:

1) Articles 15, 19 and 20 imposed substantive obligations, requiring the Original Project to be consistent with environmental protection;
2) the rules of international environmental law became applicable to the Project as *lex posterior* or by interpretation through Articles 15, 19 and 20;
3) Articles 15, 19 and 20 and the rules of international environmental law required the Project to be implemented in a manner which protected water resources, flora and fauna and biodiversity applying EIA and precaution;

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227 CR 97/9, p. 63 (Prof. McCaffrey).

4) by May 1989 changes in the state of environmental knowledge and the Parties' environmental obligations under the Treaty and general international law were such that new studies were required to address the growing uncertainties associated with the original Project's environmental effects;

5) the situation in May 1989, and Czechoslovakia's refusal to engage in studies, and its continued insistence on the original Project, Nagymaros and peak power, and then Variant C, gave rise to and perpetuated a state of environmental necessity; and finally

6) all conditions for necessity under the law of State responsibility had been met.

In these circumstances, Hungary was entitled to invoke necessity in May 1989 and subsequently. Mr. President, Members of the Court, I would like to thank you once again for your kind attention and ask that you give the floor to Professor Nagy.

The PRESIDENT: Thank you so much, Mr. Sands. Professor Nagy, please.

Professor NAGY:

6. THE CHARACTER OF VARIANT C

Mr. President, Members of the Court!

1. The Parties disagree about the constituent elements and the essential character of Variant C. I will therefore briefly address this issue and in particular the supposed provisional and reversible nature of Variant C.

THE FORCES BEHIND VARIANT C

2. Slovakia's counsel carefully avoid presenting Variant C as a two-phase investment. But it was. The first phase neared completion in 1992 and essentially meant the unilateral diversion of the Danube. The second phase, with almost twice as much investment as the first is still under construction as we could see while swiftly transported past the construction site.

3. The hydraulic structures of phase one were extensive. A long dyke of 10 kilometres or more from Cunovo to Dunakiliti separating the main riverbed from the waters of the Danube which now flow in the lower part of the Cunovo reservoir. The dam closing the main riverbed at Cunovo. The by-pass weir which should have discharged the waters according to the temporary water management agreement which never materialized. Twenty floodgates. The loss of the flow of the water at the Cunovo-Dunakiliti stretch, which I also mentioned among the Phase 1 features of Variant C, is described by Slovakia as "a direct consequence" of the re-siting of the dam.[228] For most observers the loss in water flow is rather the consequence of Slovakia's keeping the weir-gates closed. If the loss of discharge was an inevitable consequence of the dam, Czechoslovakia and Slovakia could never have complied with any discharge regime whether suggested by the EC, agreed by the Parties or based on the judgment of this Court. 4. A novel element in the Slovak oral presentations was that the structures were built at Cunovo out of "careful respect for Hungary's territorial sovereignty"[229]. One may wonder where they would have been constructed if the respect was not so careful.

5. What requires more attention is Phase 2 of Variant C, a subject on which Slovakia is virtually silent. I had been ready to counter arguments justifying Phase 2. Explanations as to why a temporary and reversible solution should have three larger weirs, four turbine-generator units, and even a slalom route. And why is the shiplock there? To cruise till the underwater weir?

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228 CR 97/11 p. 15 (Sir Arthur Watts)

229 CR 97/11 p. 15 (Sir Arthur Watts)

6. Substantive legal arguments would have been welcome. But there were none. Instead Slovakia described elements of Variant C which were put in place after October 1992, that is the whole of Phase 2, as being not relevant to the this case.[230] I will return to that point.

7. Let me now review how those elements of Variant C which Slovakia considers relevant did emerge. According to Sir Arthur Watts they are the result of an inevitable sequence of actions, none of which was desired or initiated by Slovakia or Czechoslovakia. He said: "[I]t was no wish of Czechoslovakia's that Variant C had to be applied – that course was forced upon Czechoslovakia by Hungary's conduct"[231] "Czechoslovakia could not accept" that work be stopped while negotiations were to be held.[232] "There could be no question of leaving things as they were."[233] "In 1991 there was no possibility of suing Hungary for compensation."[234]

8. According to Sir Arthur, the gravity of events became even more compelling. By July 1991 Variant C "in all circumstances was the only option if the Project was to be saved."[235] "Czechoslovakia's decision in November 1991 to proceed with Variant C was entirely reasonable – indeed, unavoidable."[236] In October 1992 "Czechoslovakia was left with no choice"[237] – it had to commit what it did. Indeed, he asks, whose faults the adverse changes were.[238] "They were Hungary's fault" is the verdict.

9. Did Hungary really force Czechoslovakia to dam up the Danube at Cunovo? Of course not. It was the wish of Czechoslovakia implemented against repeated protests of Hungary.

10. Was there no question of leaving things there? Well, if it was true that the construction of Variant C only started in November 1991, as Slovakia still claims, and whatever was built before, belonged to the original Project then leaving things there – for a while, not for ever, just as long as the required studies were carried out – was certainly possible. But

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230 CR 97/11 p. 15 (Sir Arthur Watts)
231 CR 97/10 p. 51-52 (Sir Arthur Watts)
232 CR 97/10 p. 54 (Sir Arthur Watts)
233 CR 97/10 p. 56 (Sir Arthur Watts)
234 CR 97/10 p. 57 (Sir Arthur Watts)
235 CR 97/10 p. 59 (Sir Arthur Watts)
236 CR 97/10 p. 60 (Sir Arthur Watts)
237 CR 97/10 p. 61 (Sir Arthur Watts)
238 CR 97/11 p. 16 (Sir Arthur Watts)

Czechoslovakia did not suspend the construction in order to follow Hungary's suggestion to investigate the Project. Not for a single day.

11. Why construct, rather than litigate? Now Slovakia says that "There was no possibility for suing Hungary for compensation."[239] It sounds like a sentence from the Hardi Report – but in the wrong context. The Hardi Report, published in 1989,[240] was not a State document, or a State supported document. Eight years ago that Report had referred to the prevailing doctrine of socialist States opposed to the jurisdiction of the International Court of Justice for ideological reasons. It merely expressed the commonplace that in international litigation jurisdiction between the States had to be based on their expressed consent. By 1991 circumstances had fundamentally changed. Hungary had decided to deposit its declaration of acceptance of the Court's jurisdiction according to Article 36 of the Statute and pledged allegiance to the rule of law forming the basis of democracy. It accepted the Court's jurisdiction before Czechoslovakia diverted the Danube. Why could Czechoslovakia not invite Hungary to sign a special agreement? Did Czechoslovakia attempt to bring Hungary to an impartial judicial authority? No it didn't. The argument that a legal claim was not possible is devoid of any merit.

12. In fact, there was no initial need to sue, since Hungary itself offered to settle the outstanding financial matters. Hungary was always prepared to negotiate compensation for losses ensuing from the state of necessity.[241] The Hungarian offer was never formally discussed. Never.

13. However, according to Slovakia, Czechoslovakia was forced to consider the completion of the Project on its own. Variant C was apparently the only option and it was unavoidable.

14. Let us pause here again. Was it the only option and was it unavoidable? We were told that a series of variants – including the halting of the Project and restoration of the area – were

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239 CR 97/10 p. 57 (Sir Arthur Watts)

240 Government Commissioner of the Gabcíkovo-Nagymaros Barrage System, Studies and Investigations to Support the Decision Making. Working Stage II Summary of the Investigations Outlined in the Annex of Government Resolution 1071/1989 /VI. 15/, Budapest, 1989 (In Hungarian)

241 CR 97/4, at p. 35

"carefully studied and assessed for feasibility, without any preconception to the suitability of any particular variant."[242] The Slovak pleadings did not reveal when, and to what extent these options were studied. The last month Hungary finally learned from Slovak counsel that this was no more than "the stuff of bureaucratic option selection"[243]. But at least it shows that there were other options. And they show that the selection of Variant C was not based on a systematic impact assessment, economic analysis, or consultations with Hungary. And that it was opposed by the Slovak environmental authorities. Even Professor Mucha admitted that the seven alternatives did not start from a demand for meeting ecological conditions, but were defined through political considerations. They were randomly selected and incomparable, he said.[244]

15. Nevertheless counsel for Slovakia now claims that Variant C was the only option to save the original Project. Therefore, proceeding with it was not only reasonable but unavoidable. But Variant C did not save the Project, it terminated it. Nothing could have proved that more compellingly than Slovakia's own oral presentation. Saving the Project ought to have meant reversibility. Variant C ought to be a temporary technical solution. It should be temporary and reversible in order to even remotely evoke the idea of saving a joint investment. The word "temporary" hardly ever occurred in the justifications for the legality of Variant C. This was a wise choice. How could Slovakia use the word "temporary" when they knew you would be able to see the structures the following week. Dr. Mikulka in a television programme broadcast on 6 April referred to Variant C as technically durable but legally provisional. The counsel for Slovakia took up the Hungarian argument according to which Variant C was meant to be permanent and asked if Hungary would have built it differently.[245] That was the end of the counter-argument. Instead the Agent for Slovakia thought the Court might be interested to know that a group of banks had been assembled in 1995 and 1996 to provide assistance to Slovakia. "Evidently, those banks arrived at a favourable evaluation of

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242 SM, para 5.14.
243 CR 97/10 p. 59 (Sir Arthur Watts)
244 HC-M, Annexes, Vol. 3, Annex 50,
245 CR 97/11 p. 18 (Sir Arthur Watts).

the Project",[246] he said. The Court might also be interested to know whether the investment proposal submitted by Slovakia for the loan incorporated a reference to the Project's reversibility, or its provisional or temporary nature. Did the financing bank know that within one year Variant C might be rendered useless by the decision of the Slovak Government implementing this Court's judgment?

16. Only hypothetical arguments concerning counter-measures and references to the Special Agreement as well as to decisions in the past preserve the relics of the idea of reversibility. The facts speak for themselves. Your impressions must speak for themselves: the ride along the ten kilometre "provisional" dyke leading to the Cunovo complex; the quick tour of the "provisional" installations; the denial of access to the "provisional" hydropower station. Clearly the builders of Variant C did not mean it to be provisional. Variant C with its second phase, entailing new weirs and turbines, is no more provisional in intent than it is the saviour of the original Project.

17. So what is it, if not a temporary, minor addition until Hungary gives up its "dogged insistence on terminating the Treaty"?[247] – to quote Slovakia once more.

18. Efforts like claiming that Variant C was in large measure the same as the original Project because "the very term Variant C shows that it is but a variation of the original Project"[248] are not convincing especially since Variant G was the "no-project" option.[249] Slovak efforts at minimising the changes at Cunovo which occurred after 1992 by characterizing them as "alleged" and "not relevant to the question of what Czechoslovakia was entitled to do *in October 1992"* are barely more convincing. Is the operation of Variant C, Phase 2 by Slovakia not an element to this dispute? Certainly, yes. Did we visit alleged structures, listen to unnecessary explanations on Variant C as it operates, including the Slovak recharge system which commenced operation in 1993?

19. Mr. President, Variant C as it stands now is not an approximate application of the 1977 Treaty. It is not a joint investment with joint control over the benefits and the impacts of the

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246 CR 97/7 at p. 14 Dr. Tomka.
247 SC-M, para. 5.76.
248 CR 97/11 p. 16 (Sir Arthur Watts).
249 SM, para. 5.23.

power station. It does not apply the environmental guarantees of the 1977 Treaty. It was not built and is not operated with Hungary's consent. The original Project would have caused much harm, but with Hungary's consent would have been legal at least *inter partes*. Variant C may bring financial benefit to Slovakia and may in some respects cause less environmental damage than the original Project, but it carries an incurable deficiency: it is illegal.

20. Its true nature can be restated: it is a new activity, a unilateral investment, a grave violation of treaties in force between the Parties, a threatening sign for all co-riparian states. Variant C is based on the power of controlling both sides of the river and on the belief that the wrongdoer can not be sued. This conviction determined Czechoslovakia's response by not accepting the Hungarian offer to base this Court's jurisdiction on *forum prorogatum* as envisaged by Hungary's submission on 23 October 1992 inviting Czechoslovakia and the Court to investigate the legality of Variant C.

Mr. President, Members of the Court! Thank you so much for your kind attention. May I ask you, Mr. President, to call on Professor Wheater.

The PRESIDENT: Thank you so much, Professor Nagy. Professor Wheater, please.

Professor WHEATER:

7A. IMPACTS OF VARIANT C: ISSUES OF AGREEMENT

Thank you, Mr. President. Mr. President, I note the time and perhaps you would be kind enough to interrupt me when you feel we should make a break.

Mr. President, Members of the Court,

1. During the field visit, a pertinent comment was made by members of the Court. The scientific presentations have focused on differences between the Parties, but on what do the scientists of the two Parties agree? In response I will attempt to clarify the points of agreement and disagreement, and the associated evidence, by reference to Variant C and its impacts, both actual and predicted. Today I will consider first, the value of the natural system, second concerns for the environmental impact of Variant C, and finally, evidence of impacts. Tomorrow I will consider long-term impacts and the implications of the PHARE report.

2. I turn first to the points of agreement and the value and functioning of the natural system.

A. THE VALUE OF THE NATURAL SYSTEM AND ITS FUNCTIONING

3. The ecological value of the area affected by Variant C has been stressed by Hungary.[250] This view is strongly supported by Slovak scientists and the PHARE team, for example:

- for the side-branch system of the active floodplain, it is said that "The area is of outstanding importance";[251] and
- for the main river, "The Danube River System ... [is] a major habitat for rheophile fish species and an important ecological corridor for [migrating] species".[252]

And Mr. Refsgaard described the floodplain area as "a very unique landscape of outstanding importance".[253]

4. The importance of the groundwater resources of the Szigetkoz is clear.[254] For the Slovak area, Professor Mucha comments[255] that "groundwater in the upstream aquifer is of immense importance to Slovakia. "

5. The essential role of natural variability of the hydrological regime was described by Professor Carbiener, who described the "pulse" of the floodplain system. Mr. Refsgaard

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[250] E.g., HM, Vol. 1, p. 139; CR 97/2, pp. 65, 78.
[251] PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol. III, 9-5.
[252] *Ibid.*
[253] HC-M, Vol. 4 (2).
[254] CR 97/2, pp. 65.
[255] CR 97/11.

concurred: "The ecological functioning of the floodplain is governed by the dynamics of inundation, flushing and groundwater level fluctuations".[256] And the PHARE report reinforces these comments, as shown behind me **(Illus No 7.1)**.[257]

There is therefore clear agreement on the value of the region in terms of water resources, landscape and ecology, and the essential role of the dynamic hydrological regime.

B. Concerns for the Environmental Impact of Variant C

6. Let me now turn to some of the concerns for the impact of Variant C, beginning with surface water quality.

256 HC-M, Vol. 4 (2).

257 Vol. 2, pp. 12-3 to 12-5.

1. Concerns for Surface Water Quality

7. The Court will be familiar with Hungary's concerns for water quality deterioration,[258] for example due to enhanced eutrophication in the reservoir, main Danube channel, side-branch system. The PHARE report echoes the concerns. The objective of the water quality modelling of the reservoir is "to assess whether eutrophication problems in the Hrusov reservoir can be expected or not. "[259]

8. For the main Danube channel, the PHARE report is clear. The change initiated by Gabcikovo "will affect the hydrodynamics of the old river significantly. Reduced flow velocities and water depth in the Old Danube may induce water quality problems".[260]

2. Concerns for Groundwater Resources and Quality

9. Concerning groundwater resources and groundwater recharge, the PHARE report is also clear:

> "If siltation of the reservoir bottom takes place this might lead to significant changes in the infiltration pattern and hence also to the entire groundwater flow regime on Zitny Ostrov. "[261]

Concerning groundwater quality, Professor Mucha confirmed in 1993 that "The construction ... causes new problems for Slovakia because they affect the quality of ground water.... conditions may occur which would make ground water unsuitable for certain purposes".[262] And the PHARE report says, "A major issue on Zitny Ostrov is the potential change in groundwater quality after damming of the Danube".[263]

10. It goes on to explain a principal cause for concern for groundwater quality, "Fine organic material may accumulate in some parts of the reservoir creating a reactive sediment layer. The river water recharging the aquifer has to pass through this layer, which may induce a change in the chemical/biological composition of the infiltrating water."[264] It also identifies a

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258 CR 97/3 pp. 48-51.
259 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol. 1, p. 5.19.
260 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol. 1, p. 5.12.
261 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol 3, p. 3.26.
262 HC-M, Vol 4 (2), p. 494.
263 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995 Vol. 2, p. 7-1.
264 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995 Vol.3, p. 5-1.

previously overlooked problem, "the occurrence of high nitrite concentration (NO2) which is highly toxic."[265]

11. In sum, the PHARE report confirms Hungary's concerns for groundwater.

3. Concerns for ecology

12. As to ecology, the PHARE report also confirms that the upstream reservoir and Gabcikovo plant "have major impacts on the hydrological regime and the ecosystem of the region."[266]

13. In summary, the PHARE report clearly demonstrates that these important concerns for surface water quality, groundwater, groundwater quality, and ecology were shared by Slovak scientists in the 1990s and remained unresolved. If we turn to the Blue Book shown to the Court by Dr. Mikulka, but not opened,[267] we can read, on page 36, that the Danube and the floodplain on both sides of the river downstream of Cunovo have been "strongly influenced by the construction of ... Gabcikovo. The water level regime in this region is of vital importance.... Only a few topics of the very complex problem of the water level regime have been addressed". Professor Mucha confirms the concerns for groundwater quality, stating in 1993 that "Many problems in this area are as yet untouched; the answers are completely open.... The pattern and rules of this complicated ecosystem is still hidden behind a veil of mysteries". What clearer confirmation of Hungarian concerns could one ask for?[268]

14. In answer to your question, there is agreement among the scientists as to the value of the natural resources and the existence of important potential threats to those resources.

C. EVIDENCE OF IMPACTS OF VARIANT C

15. Mr. President, I turn now to evidence of impacts of Variant C. There is a consensus between Hungarian and Slovak scientists that time-scales of response can be long. One only

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265 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol 2, p 7.3.
266 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995 Vol. 1, p. 0-1.
267 CR 97/11, p. 26.
268 HC-M, Vol 4 (2), Ann. 11.

has to turn to Dr. Mikulka's Blue Book.[269] In addition, there is now significant *evidence* of change in a number of important respects. And there is agreement on many aspects between Hungarian and Slovak scientists, as I shall explain, but not with Slovakia's counsel.

1. Surface Water Quality

16. Concerning surface water quality, Hungary agrees with Professor Mucha[270] that an improvement in water quality at Bratislava has been, not unexpectedly, accompanied by an improvement in some water quality indicators downstream. And that sedimentation in the reservoir has improved others at least in the short term. However, chlorophyll-a has doubled downstream. And what of the reservoir sedimentation? The 1996 Transboundary Water Commission report that he quotes shows "that concentrations of mercury in suspended sediment exceed limit values at all monitoring locations. And we note that two requests for joint measurements in the reservoir were denied.[271] Surely this is an indication of Slovak concern for the quantity and quality of reservoir sediments.

2. Groundwater

17. Let us consider groundwater. Concerning groundwater quality, Professor Mucha tells the Court that "the main factor influencing groundwater quality is the quality of water in the Danube and its side arms".[272] But this is not the view of the Slovak scientists contributing to the PHARE report, as just described, or Hungarian scientists, or the experience from international studies such as Altenwörth. I refer him to page 7-1 of volume 2 of the PHARE report where the groundwater quality objectives are set out. A primary concern is that sediments will settle, degrade and change the chemistry of the groundwater recharge, and that

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269 CR 97/11 p. 26.

270 CR 97/11, pp. 31-32.

271 Protocol of 60th and 62nd Meetings of the Water Quality Protection Working Group of the Hungarian Slovak Transboundary Water Commission.

272 CR 97/11, p. 33.

loss of groundwater dynamics will compound the loss of oxygen. Even if surface water does not deteriorate, water passing through the sediments can be of very poor quality.

18. He also tells the Court that "groundwater quality in general has not changed", but we would not expect a general change, given the slow response of the groundwater system. It is necessary to look close to the reservoir for the first signs of long-term change (as indeed he suggests),[273] and these may take several years to appear. Detailed PHARE monitoring was undertaken because existing wells "did not allow for a rigorous and detailed study of the ongoing biogeochemical processes".[274] What does this monitoring show? A zone of low oxygen waters with manganese concentrations an order of magnitude greater than drinking water limits.[275] What does Hungarian monitoring just below the reservoir show? A trend of reducing oxygen and increasing manganese concentrations, well beyond drinking water limits **(Illus No 7.2)**. Professor Mucha's response to such problems[276] is to redefine "pollution" to exclude iron and manganese. But according to UNESCO definitions, the loss of drinking water quality is clearly and unequivocally pollution.[277]

19. Concerning groundwater levels, Professor Mucha presented a Table of Hungarian data, from wells outside the active floodplain **(Illus No 7.3)**. He claimed that this showed a rise. But these were not data from the whole year, as implied by its title, only from selected periods of one week in each year. To take one of those wells, we can see the full story **(Illus No 7.4)**. While remedial measures have had a minor impact here, peak levels are still reduced by more than 1 metre from 1991, and the amplitude of variation is around one third of the former range. For a similar position inside the active floodplain **(Illus No 7.5)**, we see a much more dramatic

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273 CR 97/8 p. 36.
274 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995,Vol .2, p. 7-2.
275 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol 2, p. 7-5.
276 CR97/11, p. 33.
277 UNESCO 1992, International Glossary of Hydrology.

effect. Peak levels, even after remedial measures, are 3.5m lower. The amplitude of variation is less than one quarter that of 1991. How does this compare with the Slovak side?

20. The PHARE report is clear:[278] "After the damming of the Danube the fluctuations of the groundwater table has been reduced drastically in a large area." What do the PHARE simulations indicate for the side-branch system? If we consider 400m^3/s in the main Danube channel, in comparison to the pre-dam state, the PHARE report predicted "Groundwater levels decrease... throughout the area, but especially in a zone near the Old Danube..... the reduced groundwater dynamics is considered to be undesirable".[279] Curiously, when this section is summarised in Vol 1, and reported by Professor Mucha the conclusion is reversed "when filling the river branch system the groundwater level was brought back to the pre-dam level. " But the attached simulation of the situation in Figure 5.1 of the PHARE Report **(Illus No 7.6)** shows clear *decreases* in groundwater levels in the side-branch system and beyond.

21. Hungary does not dispute that groundwater levels have risen close to the reservoir, and that they may have recovered to levels prior to the adverse impacts of Slovak dredging and groundwater pumping. However to have high groundwater levels, at or above peak historical flood levels on a permanent basis, as shown by this well (**Illus No 7.7),** is problematic. High water levels, without natural variability, will create permanent swampy conditions, with adverse effects on natural vegetation, agriculture, and the local villages.

22. So what is agreed concerning groundwater? It is clear that the groundwater levels have been raised in the vicinity of the reservoir to higher levels, but that natural variability has been lost. It is agreed that the Danube channel acts as a drain and, in consequence, groundwater levels in the active floodplain have been dramatically lowered. Hungarian predictions and

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278 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol 2, p 5-44.

279 PHARE/EC/WAT/1 FINAL REPORT, DEC 1995, Vol 3, p 9-39.

experience are that, away from the reservoir, groundwater level increases due to remedial measures are limited, and that a significant loss of variability has occurred. Slovak data and simulations are consistent in showing major decreases in groundwater in the area of the side-branch system. Slovak scientists agree that most of the natural variability has been lost.

23. Concerning groundwater quality, Professor Mucha agrees that poor quality groundwater can be expected next to side-arms due to the decay of organic sediments,[280] but only in side arms with little or no flow. Hungarian data[281] show extensive occurrence of poor quality groundwater recharged from the side-arm system, despite enhanced flows following remedial measures. Curiously, Professor Mucha fails to mention the major concerns of Hungary and the PHARE project for reservoir sediments, and their degradation, topics to which I shall return tomorrow.

[280] CR 97/11, p 33.
[281] CR 97/4, pp 65-66.

Mr. President, given the time, I think I should finish there and resume my speech tomorrow. Thank you for your attention.

The PRESIDENT: Thank you so much, Professor Wheater. The Court will now rise and resume tomorrow at 10 o'clock.

The Court rose at 1.15 p.m.

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CORRECTIONS TO THE TRANSCRIPT:

SPEECH 12: EVOLUTION SCIENTIFIQUE ET DEVELOPPEMENT DURABLE

(Roland Carbiener)

Add footnote at end of para. 2:

AMOROS, C. & PETTS, G.E., 1993: Hydrosystèmes fluviaux, Masson, Paris, 1993; DECAMPS, H. & NAIMAN, R., 1989, L'écologie des fleuves, La Recherche 30, No. 208, 310-319 p.; MERMET, L., (réd.) Innover pour une gestion plus écologique des fleuves - Rapport au Ministre de l'Environnement, Paris, 105 p.; CARBIENER, R., organis. Colloque International "Forets alluviales européennes" Conseil de l'Europe, Strasbourg. 1980 Public 1984 ed. cramer (Veduz); PETTS G.E. edit. Regulated Rivers, Périodique paraissant depuis 1985.

Add footnote at end of para. 13:

MAIRE, G. & SANCHEZ PEREZ, 1992, Influences des aménagements hydrauliques de Rhin sur le fonctionnement hydrologiques des forets riveraines d'Alsace: d'exemple de secteur de Rhinau. Bull. Soc. Industr. Mulhouse, No. 824, p 67-71.

Add footnote at end of para. 15:

CARBIENER, R., 1989, Rapport à M. le Ministre de l'Environnement sur les compositions lessinielles avec ou sans phosphates et la protection des milieux aquatiques, 182 p. et annexes.

Add footnote at end para. 16:

DUPRAT A.,VALENTIN, L. & SIMLER L., 1979, La nappe phréatique du Rhin en Alsace, Sciences Géologiques 60, 226 p (Strasbourg); CARBIENER, R. & TREMOLIERES, M., 1990, The Rhine Rift Valley Groundwater - River Interactions: Evolution of their Susceptibility to Sollution, Regulated Rivers: Research and Management, vol. 5 375-389; CARBIENER, R. & TREMOLIERES M., 1993, Chimodynamics of Groundwaters, a Macroscale Example, Proceed. Internat. Workshop, p. 13-0 - 13-9 (Strasbourg); SANCHEZ J., 1992, Fonctionnent hydrochimique d'un écosystème forestier inondable de la plaine du Rhin. Edit. Centre de Recherches Eco-Geographiques, Strasbourg, 176 p.; ROECK, U., TREMOLIERES, M, EXINGER, A., & CARBIENER, R., 1991, Utilisation des mousses aquatiques dans une étude sur le transfère du mercure en tant que descripteur du fonctionnement hydrologique (échanges cours d'eau - nappe) en plaine d'Alsace. Bull. d'hydroecologie appliquée 12. p 95-109.