DIFFERENT STROKES FOR DIFFERENT FOLKS

50 YEARS OF AGREEMENTS AND DISAGREEMENTS IN THE RHINE, MEUSE, SCHELDT AND EMS RIVER BASINS

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CHAPTER 1

INTRODUCTION

The EU Water Framework Directive, issued in 2000, called on European governments to draw up action plans and formulate appropriate legislation for river basins on their territory with the aim of improving ground and surface water quality by 2015. Where such river basins are shared among nations, the Directive requires the governments of these nations to formulate a joint international action plan. The Netherlands participates in four such international river basins: that of the Rhine, the Meuse, the Scheldt and the Ems. Each of these river basins has a unique morphology, hydromorphology and patterns of land use, and each is embedded in a unique history of international relations with other national governments. Though joint plans for each of these rivers have now been submitted to the EU and some successes have already been booked, progress in the four river basins is unequal and blockages are becoming more evident as due dates come closer.

This report, prepared for the Water, Traffic and Environment Service of the Dutch Rijkswaterstaat, explores the extent to which these different rates of progress and blockages may be rooted in the specific histories of intergovernmental relations in each of the river basins and in the prevalent national "styles" of negotiation – including mutual perceptions of interests and strategies. It is an attempt to see what can be learned for the present and future from the long histories of intergovernmental relations in these four international river basins. It focuses on the period since the Second World War, but where relevant also takes a long view of river history.

WATERCOURSES INTO WATERWAYS

Rivers are natural geomorphological features which by and large assumed their present courses long before humans arrived on the scene. Riverbeds were shaped by the perpetual movement of water from higher to lower elevations through the landscape. Rivers are thus in the first place watercourses. In its downhill progress the water also eroded the landscape and carried along sediments, thus transporting nutrients and minerals as well as water. The natural dynamism of rivers – erosion, silting, meandering and the constant change of water levels and

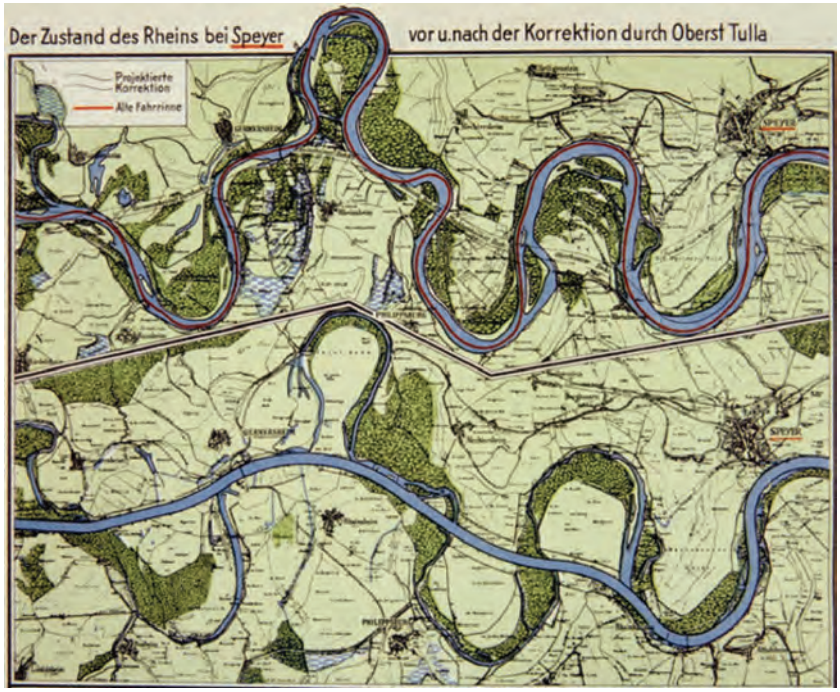
currents – created unique conditions for living organisms and hence very specific fluvial biotopes.

Human survival depended on reliable water supplies and this became especially crucial with the Neolithic agricultural revolution starting around 10,000 BC. The proximity of dependable watercourses must have been a key requirement for the development of agriculture with its sedentary populations and towns and villages. Big rivers in particular provided a diversity of other resources and must have been particularly attractive sites for permanent occupation. Big rivers provided fresh water, an inexhaustible waste sink, fish and other wildlife, facile transport, natural defenses, rich alluvial soils and even gold. On the other hand, rivers could be treacherous allies, flooding without notice, eroding shores and creating noisome swamps. So human life along the river depended on utilizing the river's extraordinary resources while developing strategies to cope with its dangers.

Until a mere two centuries ago, the modest scale of human settlements and the technological state of the art ensured that this precarious relationship remained more or less in balance. Human meddling with the rivers – at least with the larger ones – still had little impact on the natural state of the watercourses. The use of the river as a waterway, in particular, was not yet crowding out other uses and had not yet transformed rivers into "wet highways" at the cost of other resources and functions.

All this changed radically during the 19th century in what amounted to a three-pronged assault on the river as a natural watercourse. One prong entailed making the river safer for humans by "improving" the way it functioned as a watercourse. In Europe, France had taken an early lead, but the tone was definitely set in 1817 by a project for the wholesale "rectification" of the Upper Rhine between Mannheim and Basel to be carried out by the Public Works Department of the Grand Duchy of Baden – a major undertaking that was completed only in 1876. The aim was to control flooding and improve drainage by eliminating meanders, islands and secondary channels; the river's length over the improved stretch was in fact shortened by nearly a quarter, from 355 km to 275 km. Though the project succeeded in its aims, it had numerous side effects, chief among them being the increased flood risk downstream, increased erosion and sediment transport, and the wholesale destruction of specific river habitats, including salmon spawning grounds.

A second prong entailed improving rivers as waterways, that is, as shipping thoroughfares. This acquired enormous momentum with the



The state of the Rhine near Speyer before and after correction by the German engineer Tulla. This correction was one of many in the project for the wholesale rectification of the Upper Rhine between Mannheim and Basel carried out between 1817-1876.

advance of industrialization. Not only were riparian states increasingly willing and able to invest huge sums of public money in the improvement of waterway networks, but they could also carry out more ambitious projects more cheaply thanks to steam power and mechanization. Making rivers suitable for dependable large-scale navigation involved eliminating shallows by dredging riverbeds and sometimes blasting away rocky sills and outcroppings, creating channels of uniform width, eliminating meanders, and in extreme cases wholesale canalization, i.e. transforming the free-flowing river into a series of canal pounds by means of weirs and shipping locks. The physical reshaping of the river for navigational purposes took up where mere drainage and flood-protection schemes like Tulla's left off, further increasing downstream flood risks and accelerating ecosystem destruction.

The third prong of the assault on natural watercourses was in part a corollary of the rivers' transformation into waterways. The advantages of access to such a waterway together with the ready availability of fresh water and a "limitless" waste sink attracted industries dependent on transport of bulk goods and large quantities of process and cooling water, e.g. mining, steelmaking, engineering, chemicals, and foods. The massive quantities of labor that were needed fostered rapid urbanization

Aerial view of the implementation of the rectification of the river Meuse as part of the so-called Meuse Improvement Project, during the 1930s.

along the rivers. Both industries and cities made inordinate demands on river water, using it for flushing, processing and cooling and, in the early years, returning the waterborne effluents largely untreated into the river. The ever-worsening water quality made river water increasingly useless for human purposes, destroyed fish stocks, and further degraded existing riverine ecosystems.

On the Rhine just before the turn of the twentieth century the assault sprouted a fourth prong: harnessing the river's flow to produce electrical energy. Though the energy of river currents had long been used to supply motive force for mills of all kinds, this energy extraction had never seriously impacted on the hydromorphology of the bigger rivers. That changed dramatically at the end of the 19th century when Nicola Tesla's polyphase technology made it possible to transmit electrical energy over long distances. This provided an incentive to construct hydroelectric plants at remote sites even in the largest rivers, including the Rhine. Where they were built, a succession of such power plants transformed the formerly free-flowing river into a staircase of lakes. Navigation was

The final act of the Congress of Vienna signed in 1815.

generally preserved thanks to shipping locks next to the power plants, but from one day to the next anadromous fish like salmon were barred from returning to their customary spawning grounds upstream of a new power plant – an important factor in their ultimate disappearance from the river.

Though of course private shipping and industrial interests had a big hand in transforming major rivers into (hydroelectric) waterways, governments also played an important role. As "owners" and managers of rivers, they also became the main force for physically transforming rivers into "safe" transportation arteries and sources of power. They dredged, widened and straightened shipping channels, built locks and power plants, removed obstacles, and sometimes carried out complete canalization projects. They also managed the use of waterways by maintaining navigational aids, registering ships and shippers and issuing navigational regulations.

In many cases construction and management of (trans)border waterways came to be internationally coordinated. A decisive role was played here by the inland shipping clauses of the Final Act of the Congress of Vienna signed in 1815. These set the terms (by means of treaties and river commissions) for international cooperation in matters like channel depths, lock sizes, bridge heights, navigational regulations, standards for ships and captains etc. The Congress of Vienna – whose main job it was to redraw European borders after the defeat of Napoleon Bonaparte – ironically adopted Napoleon's notion of an "international river" as one on which navigation should be open to flags of all nations.

The idea lying behind the establishment of a regime of free navigation must be found in the community of interests of the riparian States. The P.C.I.J. (Permanent Court of International Justice) in its famous "Oder Case" judgment considered "this community of interests in a navigable river (...) the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others". Recently the I.C.J. (International court of Justice) in its Gabcikovo-Nagymaros judgment reaffirmed the idea of a community of interests, stating that, "modern development of international law has strengthened this principle for non-navigational use of international waterways as well".*

This idea of community was implemented to varying degrees on the different rivers enumerated in the Final Act of the Congress of Vienna. However, where "old wounds" poisoned mutual confidence, as on the Scheldt and to some degree the Meuse, it proved (and proves) difficult

even to implement free navigation in the sense intended by the Congress of Vienna. This has made it extremely complicated to introduce water quality, ecological and flood-control issues because they can be interpreted as a strategy to avoid waterway improvement and maintenance.

Cooperation was most successful on the Rhine where as early as 1815 a Central Commission for the Navigation of the Rhine was set up followed in 1831 by a treaty (the Mainz Convention) that specified uniform standards for Rhine shipping and liberated it from some of its medieval impediments including the worst of the tolls and local shipping privileges. On the Scheldt and the Meuse, international shipping issues were settled as part of the Treaty of Separation (between Belgium and the Netherlands) of 1839, which also established the Permanent Commission for Supervision of Shipping on the Scheldt. Toward the end of the nineteenth century many additional treaties regulating mutual use of the Rhine, Scheldt, Meuse and Ems would be signed. These were inevitably about navigation, with the exception of the Rhine Salmon Treaty of 1885 that for the first time included international agreements about the quality of the rivers as a salmon biotope – although there were no specific references to the quality of river water as such.

By 1900 the transformation of unpredictable natural watercourses into pacified waterways was already far advanced, especially on long international rivers like the Rhine and the Meuse. By then the Rhine boasted a workable large-scale shipping channel up to Strasbourg and the Meuse had been canalized upstream of the Belgian border. Though contemporaries noted side effects like increased water pollution, the decline of fisheries, ecological damage and decreased water retention capacity, these were accepted as unavoidable side-effects of the new foundations of prosperity: river transport and industrial waterfronts. Comfort was sought in the widespread but inadequate notion that rivers were self-cleansing and in the long run could break down pollutants by natural means. But even if this had been the case, there still seemed no way to remedy the damage done to the retentive capacity of rivers due to the elimination of meanders and backwaters in favor of straight and standardized river beds that not only facilitated shipping but also ensured rapid drainage – a fine thing in times of flood, though it tended to displace the problems downstream. Everywhere flood protection was also sought in ever higher levees, a defensive strategy that preserved local life and property but that tended to make things even worse for the already beleaguered downstream communities and nations.

of the rivers can be summed up as the restoration of the rivers' spatial quality.

The dates we provide for the three phases should be taken in an ideal-typical sense. They are by no means intended to define the actual time period during which the different phases were realized, i.e. implemented on different rivers. This would certainly be impossible because of the huge differences in the exact timing of the different phases per river, certainly for the first two phases. What we intend is a kind of "standard" periodization against which we can set off the actual shifts in emancipatory emphasis and the progress made per river basin. The dates we ascribe to the phases refer to the period in which a specific dimension of quality (water quality, ecological quality, morphological and flood management quality) first becomes articulated as an important policy goal within the relevant community of those concerned with river restoration. We could imagine that if politics and economy were frictionless media, these policies could be implemented as soon as they were articulated; the actual concrete implementation on all the rivers would thus correspond exactly with our ideal-typical time periods. This is of course not the case.

Water quality

Concerns over poor river water quality were being voiced as early as the mid-nineteenth century, primarily in response to declining fish populations. In the twentieth century concern shifted to public health and the negative effects of surface water pollution on industries, farms and public water supplies dependent on river water. In the 1920s and 1930s these were primarily national concerns, but Dutch exposure to Rhine pollution – especially the river's ever-increasing chloride load – led to diplomatic initiatives in 1933. Though these came to nothing, the tone had been set.

World War Two provided temporary relief from the industrial assault on watercourses as levels of salts and toxins dropped precipitously. But as postwar economies again chugged into gear, the major rivers reassumed their role as busy waterways, industrial conduits, hydroelectricity farms and waste sinks for industries and the rapidly growing urban agglomerations. However, this time critics of river pollution did manage to get a hearing in policy circles – first at national levels but soon in the international arena as well. They drew hope from a strong tendency toward cooperation in many domains in postwar Europe: the "new Europeanism" encouraged by the United States and the United Nations.