

Property rights on a Cold War battlefield: managing broadcasting transmissions through the Iron Curtain

Christian Henrich-Franke

Institut für Europäische Regionalforschungen (IFER), University of Siegen, Germany,
franke@geschichte.uni-siegen.de

Abstract: This paper analyses the international regime governing the use of broadcasting frequencies in the long and medium wave bands in Europe from 1950 until 1970. It tries to fathom what prevented the regime from collapsing, even though Cold War political tensions increased incentives to break international rules. The overall intention is to contribute to a better understanding of management institutions for open access resources. Special attention is paid to the property rights that were established, the particular rules for the enforcement of these property rights and the motivations of the different agents involved.

Keywords: Broadcasting, Cold War, open access resources, property rights

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1. Introduction

The Cold War era witnessed an enormous increase in international broadcasting in Europe. On long and medium waves, which were the listeners' favourites, broadcasters like Voice of America, Radio Free Europe, Radio Moscow, BBC World Service, Deutschlandsender or Deutschlandfunk fought a merciless propaganda battle through the Iron Curtain. Thus, the European broadcasting bands were transformed into a Cold War battlefield. Nevertheless it can be observed that the international regime successfully governed the use of broadcasting frequencies in the long and medium wave bands. Starting from this observation, this paper investigates why this was the case. What prevented the regime from collapsing under Cold War political tensions, which raised incentives

to break with international rules? Through this analysis, the paper contributes to a better understanding of international management institutions for open access resources.

It is argued that a complex system of property rights, which partitioned an international open access resource into national properties without abandoning international transmissions as a whole, was the reason for successful resource management. The design of property rights kept politics outside the sphere of transmission management, preventing the regime from becoming subject to the 'tragedy of the commons' mechanism. In addition, informal networks of PTT (Postal, Telegraph and Telephone) agents lobbied hard to enforce the rights. Special attention is therefore paid to the property rights that were established, the particular rules for the enforcement of these property rights, and the motivations of the different agents involved. Focus is put on the years from 1950 until 1970.

First this paper begins with some basic thoughts on open access/common-pool research and property rights. Second, it discusses the institutional arrangements for property rights and their enforcement. Since these were part of the organisational framework of the International Telecommunication Union (ITU), this article specifically considers the ITU property regime (Coddling and Rutkowski 1982). Third, this paper analyses negotiations for the Copenhagen plan, which formed the basis for the use of long and medium waves for broadcasting in the period under consideration. Three case-studies are then presented to illustrate the international regime's mode of operation: the implementation of the Copenhagen plan in the years 1949 until 1954; the use of the long wave 151 kc/s from the (West)¹ German transmitter in Donebach; and the use of the medium wave 719 kc/s from the transmitter at Holzkirchen for Radio Free Europe. The case studies demonstrate the effects of the distributed property rights, the relevance of special rules and norms of interaction within ITU (informal networks), and the exclusion of politics. The concluding section of the paper analyses the empirical data, also highlighting those aspects that are of general interest for open access and common-pool research.

2. Open access and common-pool research

Broadcasting frequencies are an open access resource. Their use is rival and, as long as there is no effective international cooperation on the use of broadcasting frequencies, they are non-excludable. No country or individual owns a broadcasting frequency prior to any kind of regulation. However, when an international management institution demarcates ownership, the frequencies might become private property rather than common property. Such a management institution needs to establish property rights, suitably proportion the maintenance and use

¹ This article will use the term Germany for the Federal Republic of Germany (West Germany). When referring to the German Democratic Republic it will use the acronym GDR.

of the good, and suitably distribute the related costs and benefits. This gives rise to a difficult governance problem in the international arena, because there is no 'Leviathan' in the background, as there is in the case of a national state.

Some characteristics distinguish broadcasting frequencies from other open access resources like air, mountain meadows, atmosphere or climate (Kasper and Streit 1999): First, radio is an invented good, which is highly dependent on technology; it is the transmission of signals by electromagnetic waves of different frequencies. In order to carry information, wave characteristics like amplitude, frequency, phase, or pulse are systematically modulated. Second, radio frequencies have a special kind of short-term depletion. Even if all transmitted programmes became inaudible due to interference, the radio spectrum could be turned into a situation of complete order within a short period of time. Transmitters would only need to be switched off and turned on with adjusted transmission parameters and transmission equipment. Therefore, the radio spectrum is not depletable in a middle or long-term perspective. A sustainable spectrum management system is not necessary. Consequently this paper cannot contribute to the debate on sustainability, which is a prominent part of the commons literature. Third, negative externalities become noticeable without delay in the form of interference. Fourth, the radio spectrum is an open access resource with varying geographical scope. Due to the different ranges of the frequencies – some travel around the globe while others become inaudible after shorter distances – some parts of the spectrum are of global or national nature while others, like broadcasting frequencies in the long and medium bands, are of a regional nature, e.g. Europe.

In his famous 1968 article, Garret Hardin describes the use of a common-pool resource as a dilemma inevitably leading to a tragedy (Hardin 1968). Individuals acting in their self-interest ultimately destroy a common-pool resource although this is in no one's interest. Current commons literature points out that "the drama of the commons does not always play out as a tragedy" because "things are not as simple as they seem in the prototypical model" presented by Hardin in 1968 (Dietz et al. 2002: 5). On the contrary, important elements for the governing of an open access resource like property rights, particular rules governing real commons, or motivations of the agents involved can prevent a tragedy. This finding will be confirmed here. In particular, informal rules of behaviour and the agents' motivation to make management institutions work smoothly will be shown to be key elements that help to prevent tragedy. As Elinor Ostrom emphasizes, individual inquiries are of importance for the research because of the lack of a "general conclusion that one kind of property regime is best for all types of common-pool resources" (Ostrom 2003: 253). It is necessary to determine the advantages and disadvantages of the rules and institutions for each of the various open access resources. This goal is also of importance for practitioners at the international level because the governance of common-pool resources like the climate or water is a major policy issue for the 21st century.

Though the literature has dealt extensively with open access and common-pool resources, the case of radio frequencies has been neglected.² This is remarkable considering that Ronald Coase (Coase 1960) was led to the discovery of the now famous Coase Theorem when he devoted himself to a study of radio spectrum regulation (Hazlett 1998). The Coase Theorem, however, is inapplicable to the topic addressed here, i.e. to the situation of long and medium wave broadcasting in Europe, because it was developed against the background of the internal US broadcasting market, which was governed by US state authorities. Such an authority was missing in the international arena. Moreover, in Europe, broadcasting was considered a tool to create national coherence. National broadcasting frequencies were, consequently not left to foreigners. Most European states at that time did not even permit private broadcasting stations. Therefore, financial compensation could not bring out the most highly valued use, as the Coase Theorem maintains.

3. Property rights: some basic thoughts

Property rights define actions that a person or group can take in relation to other persons with regard to the use of a good. The key idea of property rights is that each good, such as a broadcasting frequency, is composed of a bundle of rights, which includes the right to use the good, the right to exclude others, the right to change the substance of the good and the right to dispose of the property. An individual or group does not necessarily possess the complete bundle of rights. In order to guarantee an efficient use of a good, the bundle of rights can be grouped and assigned to different contracting partners. It is important to note that there is no optimal distribution of property rights valid for each good. Rather, different specifications arise in response to different economic problems of allocating a scarce resource. An important element of each property rights regime concerns the rules for enforcement. In the case of an international open access resource like long and medium broadcasting frequencies in Europe, rules for enforcement are a particular problem, as there is no general authority like a world government exercising the power to enforce the rights, no authority to prevent open access losses when community rules break down.

4. The institutional arrangements: the ITU property regime

Before turning to the distribution of property rights, two fundamental principles of the ITU property regime need to be mentioned, which grew out of the continuous historical development, since the first radio conference in 1903:

- (a) ITU regulations were concerned only with the technical aspects of a transmission. Programme content was kept outside. Each property right just

² The Coase Theorem maintains that in presence of complete competitive markets and the absence of transactions costs, an efficient set of inputs to production and outputs from production will be chosen by agents regardless of how property rights over the inputs were initially assigned.

Table 1:

Mode of distribution	Type of distribution	Type of property right
<i>Allocation</i>		Right to exclude user groups
<i>Allotment</i>	Exclusive	Right to use
	Shared	Right to use
<i>Assignment</i>	Registration	Right to use and exclude
	Notification	Right to exclude

referred to the particular frequency and the technical equipment necessary to use the frequency.

- (b) ITU never used pricing for the distribution of property rights. A regime that was not price based was considered necessary to make national governments participate in the common rules of regulation as there was no technology available to prevent non-cooperating countries from using frequencies. On the other hand, adopting a distribution regime that was not price-based raised the risk of generating excessive demand that exceeded the actual need. However, ITU members had the right to dispose of the property.

The distribution of radio frequencies was carried out on the basis of a three-stage process (see Table 1).

Allocation: The first stage was splitting the whole frequency spectrum into different frequency bands. ITU member states allocated the bands at the World Administrative Radio Conferences (WARC) to radio services like broadcasting, air navigation, or amateur radio, without transferring any kind of property right to individual users. However, the radio services were allocated the right to exclude other user groups (radio services). The distribution of these kinds of property rights are not in the focus of this paper (Henrich-Franke 2006).

Allotment: In the second step, individual frequencies within the different bands were allotted to national states on the basis of a frequency plan.³ A frequency plan defined who was authorised to use a specific frequency for a specific period of time, and which technical and operational transmission parameters had to be obeyed. It distributed timely limited property rights according to the duration of the plan. Very often, plans were redistributions of older ones. An allotment could either be exclusive or shared. In the latter case, two or more individuals could use a frequency on the basis of technical coordination parameters. Due to the fact that ITU member states exercised full sovereignty, each contractual partner of a plan had the right to disregard parts of the plan by making a so called ‘reservation’, which was amended to the plan (Henrich-Franke 2006). This, of course, created a permanent threat of negative externalities and overuse.

³ Due to the (technical) characteristics of some radio services, e.g. amateur radio, some frequency bands were used on an ‘open access’ basis. Here no individual property rights were distributed.

Any allotment within a plan only granted the right to use a frequency. It neither transferred the right to exclude others nor the right to change the substance of the frequency, i.e. the fixed transmission parameters. It has to be underlined that an allotment plan did not automatically forbid the use of further frequencies because it did not grant the right of exclusion.

Assignment: In the third step, the right of exclusion, which in ITU terminology was called international protection from harmful interference, was granted by the orderly assigning of a frequency into the Master Register of the ITU, compiled by the International Frequency Registration Board (IFRB). Each assignment was made conditional upon an examination to see if the use of the frequency was in accordance with ITU rules and did not cause harmful interference.

If an ITU member applied to the IFRB for a frequency, this application could be assigned into the Master Register either as a registration or a notification. The IFRB registered a frequency into the Master Register if the application was in compliance with the allotment plan. Protection from harmful interference was only guaranteed within a national service area and not within the entire coverage area of the transmission.⁴ Outside the national service area there still was a kind of open access as long as harmful interference was avoided. The right to exclude others therefore did not refer to the exclusion of others from the use of a particular frequency but from entering a national service area while making use of that frequency. Each claim for audibility by a nation state or a radio station of a radio programme, which also was at the core of the concept of free flow of information, abroad was consequently illegal according to the ITU property regime. In addition to the allotments of the frequency plan, further users of frequencies could enter the Master Register. An application was put into the Master Register as a notification if the IFRB expected no interference and no PTT protested against a notification. Such a PTT must have been the registered or allotted user of the frequencies that were threatened by possible interferences. A notification could call for protection against later assigned frequencies regardless of any service area. Only the service area of a registered user had to be respected. Of course, any change of transmission parameters was forbidden (Levin 1971).

Any ITU member state could only complain against the use of a frequency by another ITU member if its internal radio services, which had to work in accordance with the Master Register, suffered from harmful interference. However, the IFRB had no means to enforce the property rights. The IFRB could neither prevent the operation of a station nor delete an assignment from the Master Register without permission of the member state concerned. Compliance was promoted by relying upon the self-interest of ITU members, who coveted interference-free operations and protection of their own transmissions. Cases

⁴ The coverage area describes the space in which the transmitted programme was receivable in audible quality.

of harmful interferences therefore had to be resolved in a cooperative spirit between the PTTs concerned. The IFRB could only assist the settlement of harmful interference.

5. The basis for long and medium wave transmissions

At the end of World War II the ITU decided to revise the Lucerne plan for long and medium wave broadcasting in Europe at a conference to be held in Copenhagen in 1948.⁵ The conference's task was a very difficult one. The delegates had to incorporate a demand for approximately 500 allotments into a plan, which – on the basis of the chosen channel spacing – offered a total of 246 assignments. The majority of countries aimed at maintaining older assignments and collecting additional ones. Facing such a gap between demand and supply made it impossible to satisfy all demands.

The Copenhagen plan turned out to be a major success for the Soviet Union and its satellite states. In contrast to heterogeneous Western European countries, which primarily tried to satisfy their individual needs, the homogeneous Soviet group was able to dictate the allotments within the conference's planning group. Except for France and the United Kingdom, which got nearly all they had asked for, the majority of Western European countries were cut down, while the Soviet group was fully satisfied. When suggestions were put to the vote the homogenous Soviet bloc could count on a large number of votes. France and Great Britain made no effort to organise a united Western European bloc as they got what they wanted. The Copenhagen conference clearly indicated how disorganised the Western European states were in the international arena, when the United States refrained from leadership. The plan was, as the deputy Controller of the British Broadcasting Branch in Germany, Chalk, put it, "a victory for the BBC" but "insignificant compared with the victory for the Soviet delegation."⁶ This situation put the Soviet bloc into an advantageous position with regard to future propaganda activities through the Iron Curtain. Yet the Copenhagen plan was signed by European countries from both sides of the Iron Curtain. With regard to the topic of this paper, two problematic cases seriously endangered the Copenhagen plan: those of Germany and the United States.

(a) For Germany, which was neither invited to the conference nor represented by a delegation of the Allied High Commission, the conference's results were a slap in the face.⁷ In the aftermath of World War II, a vast majority of the delegates agreed

⁵ Documents of the World Administrative Radio Conference, Atlantic City 1947, Doc. 980 R-E, Archives of the ITU, Geneva.

⁶ Memorandum of the deputy Controller of the British Broadcasting Branch in Germany, Chalk, to the Foreign Office, on the Copenhagen Conference, 1.10.1948, FO1059/278, National Archives, London.

⁷ Confidential report of German observers, Mohr and Heilmann, on the Copenhagen conference (undated), B257/25563, Bundesarchiv, Koblenz.

upon reducing Germany to a minimum of frequencies, which was necessary to provide each occupied zone with one programme. This allowed for considerable reallocation, as Germany had been assigned a large number of frequencies in the Lucerne plan. Germany was allotted neither a long wave nor an exclusive medium wave, although the Allied High Commission had demanded both in the run-up to the Copenhagen conference. The Occupying powers were supposed to broadcast to their own troops on their respective home frequencies. Only the Americans were allotted a frequency for military broadcasting services. The frequencies allotted to Germany in reality did not guarantee complete coverage (Mohr 1949).

In consideration of the allotments for Germany, the United Kingdom, France and the United States delegations made formal reservations about Germany. They declared the right to change regulations of the plan for their respective Zones in such a way they considered necessary. In the United Kingdom, the intention was not to violate the Copenhagen plan but to be allowed to use “one of our own frequencies”⁸ for a sufficient service in Germany without compromising the plan as a whole. When Germany regained ITU membership in 1952, the government acknowledged falling in with the spirit of the plan, even though it was a non-signatory.

(b) Although the United States did not belong to the European broadcasting zone, its participation in the plan was indispensable. As an Occupying power in Germany and as operation authority of Military broadcasting services, it was responsible for a large number of broadcast transmissions in Europe. At the Copenhagen conference the United States government was still just represented by an observer’s delegation, which did not sign the plan. Already during the course of the conference, when the allotments for Germany were put on the table, the United States observers indicated their intention to ignore the regulations of the plan in informal meetings. The British delegation reported to the Foreign Office on the matter: “in private conversations they are still objecting to their requirements as an Occupying power not being considered. They ... say that the conference is not competent either to restrict the policy of an Occupying power or to prejudge the manner in which a Peace Treaty with Germany may affect Broadcasting.”⁹ The United States government wanted to continue its comprehensive broadcasting stations.¹⁰ At that time the United States used eight medium waves in their Occupied Zone of Germany for German civilians and six medium waves for their forces.

⁸ Meeting at Foreign Office, 13.9.1948, FO 371/70327, National Archives, London.

⁹ Report of British delegation on the negotiations at the Copenhagen conference, FO 1056/278, National Archives, London.

¹⁰ Memorandum of Foreign Office on the Copenhagen plan, undated, FO 1059/278, National Archives, London.

The United States' attitude led to a split between the three Western Occupying powers of Germany. The positions of the United Kingdom and France were unlike that of the United States since they had "to operate inside the framework of European broadcasting."¹¹ Especially the British PTT underlined that it was important "not to egg on the Americans by indicating that we imitate their light hearted approach to the problem."¹² In an official amendment to the Copenhagen plan, the United States observers explained that because of insufficient allotments and the ignoring of the original demands forwarded by the Allied High Commission, they were not prepared to implement the plan. This reservation gave rise to a responding one by the Soviet Union in which it declared its intention to take such action as might be needed to prevent interference if anybody derogated from the plan (Angles d'Auriac 1950).

6. Enforcing property rights: managing transmissions through the iron curtain

6.1. Implementing the Copenhagen plan (1949–1954)

Both of the problematic cases described above became the subject of intense negotiations until the plan's enactment in March 1950. In particular, the British Foreign Office made strong efforts to protect the agreements reached in Copenhagen. Its strategy was to persuade the other European countries to share their exclusive waves with Germany and the United States. The British PTT assumed that many European countries preferred to share their exclusive waves on the basis of technical coordination criteria instead of suffering from harmful interference caused by an uncoordinated use of frequencies by the United States or Germany. Among the PTTs, it was an open secret that many European countries had demanded exclusive waves for reasons of political prestige and not out of technical necessity. Countries from the European periphery were especially in a position to share their exclusive waves if strict technical transmission parameters like low power and directional antennas were agreed upon. Additionally, some of the shared waves could be used for further transmissions within Europe. One example was the medium wave at 719 kc/s, which was allotted on a shared basis to Portugal and Syria.

At an informal, bilateral meeting in October 1949, the British and the French PTT's agreed to approach the United States government to make it reconsider its position. They hoped that "the Americans might be willing to subordinate the interests of their occupation troops to political necessities."¹³ In the following informal talks held in Washington in November 1949 the British and the French PTT stressed

¹¹ Confidential Memorandum to the British Element in the Control Commission for Germany, 10.12.1948, FO 1059/278, National Archives, London.

¹² Confidential Memorandum to the British Element in the Control Commission for Germany, 10.12.1948, FO 1059/278, National Archives, London.

¹³ Notes on meeting held at GPO between Britain and France, 20.10.1949, FO 1059/278, National Archives, London.

the political disadvantages for the United States. The good American reputation in Western Europe would be threatened if the United States were responsible for disturbing broadcasting transmissions. Even more, the Eastern European governments would find themselves in a very good policy situation, allowing them to make reprisals.¹⁴ Nevertheless neither the informal talks in Washington nor an informal meeting held in London in February 1950 between the United States and representatives of 16 Western European governments could change the American attitude. Though some European countries offered a shared use of frequencies, the United States were not willing to enter into any compromise. On the contrary, the Europeans were informed about the strong wish of influential members of Congress for medium wave broadcasting to Eastern Europe. With the critical division between East and West, the United States government considered the time inopportune for abandoning American broadcasts to the East.¹⁵ Against the background of a freezing Cold War, the United States government intended to extend broadcasting propaganda across the Iron Curtain. In 1949 it started a major propaganda campaign as a new Cold War strategy. Leading politicians became increasingly convinced that the Cold War should be fought politically rather than militarily. Strategic planners determined that the United States must strike at the heart of Soviet power if the West was to emerge from the Cold War victoriously. Broadcasting was considered to be a powerful weapon capable of penetrating the Iron Curtain (Puddington 2000). The Copenhagen allotments were subordinated to this broader aim.

When the Copenhagen plan entered into force on 15 March 1950, different policies were adopted:

- (a) The majority of Western European governments adopted a flexible strategy which put priority on the protection of their home services. They decided to keep to the Copenhagen plan and adhere to ITU rules as far as possible. If additional frequencies were to be used this should be preceded by negotiations with the PTT(s) concerned. The Irish government, for example, permitted the German station Nordwestdeutscher Rundfunk (NWDR) to use the exclusive Irish medium wave at 566 kc/s with low power transmitters for internal German services. It even agreed to a notification in the Master Register. Immediately after the coming into force of the Copenhagen plan, a large number of transmitters were established all across Europe following such procedures of coordination. In addition, a large number of 'out of plan' transmitters were put into service which were adjusted to frequencies more or less midway between the channels chosen in the plan. The majority of these new transmitters neither broke ITU rules nor caused serious interferences.

¹⁴ Report on informal talks between British, French and United States delegates on the implementation of the Copenhagen plan in November 1949, 15.12.1949, FO 1059/278, National Archives, London.

¹⁵ Report to the British government on the informal meeting at London, 19.2.1950, FO 1059/279, National Archives, London.

Subsequently, many of them were the subject of notifications within the Master Register. Remarkably, the British PTT even defended the policy of adhering to ITU rules against strong pressure from the War Office to use additional frequencies in Germany.¹⁶

- (b) The United States policy was to protect the assignments of Western European countries as far as possible, but to completely ignore the Eastern European assignments. For example they transmitted from Landshut and Frankfurt at a high power level of 1000 kW on exclusive Soviet frequencies straight through the Iron Curtain. These transmissions gave rise to interferences even on Soviet territory. In the summer of 1950, transmissions from the United States Occupied Zone caused nearly 66% of all the interferences in the European broadcasting space classified as serious or very serious by the European Broadcasting Union (Huet 1951).
- (c) In the beginning, the Soviet Union and its allies adopted a ‘wait-and-see’ policy. In the first months after the coming into force of the Copenhagen plan, the Soviet Union’s derogations were confined to the use of frequencies in the East Zone of Germany, which were allocated to the Soviet Union.¹⁷ Since protests at the ITU against the United States transmissions brought no change, the Soviet Union altered its strategy. It could refer to its reservation in the Copenhagen plan and, with full justification under ITU rules, it could take such action as might be needed to prevent interference. The Soviet Union itself began to transmit (propaganda) programmes outside the Copenhagen plan and even contravened ITU rules. Due to their advantageous number of allotments in the Copenhagen plan the Soviet bloc caused considerably fewer interferences.¹⁸

6.2. Transmitter Donebach

In 1950 the German broadcasting organisation NWDR applied to the British High Commission to use frequency 151 kc/s, which was situated at the lower end of the low wave band, in order to transmit programmes from Hamburg through the Iron Curtain into the GDR. Such transmissions were capable of causing interference for a station in Brasov, Romania, which was allotted and registered the frequency 155 kc/s. A Norwegian transmitter in Tromsø was also registered to use the same frequency at a low power level of 10 kW. After getting British permission, regular services then started in 1958 with a maximum power of 50 kW from provisional aerials in Pinneberg and Mainflingen. From 1962 onwards, the frequency was used to transmit the programmes of the new broadcasting

¹⁶ Memorandum of the Home office’s radio department on the implementation of the Copenhagen plan, May 1954, HO 256/347, National Archives, London.

¹⁷ Memorandum of the Home office’s radio department on the implementation of the Copenhagen plan, May 1954, HO 256/347, National Archives, London.

¹⁸ See the annual reports of the Technical Center of the EBU on the ‘General broadcasting situation in Europe’ in the EBU-Bulletin.

organisation Deutschlandfunk, which had the primary task to serve the GDR and other parts of Eastern Europe (Capellan 1993).

From the beginning of the radio service in 1958, at a frequency of 151 kc/s, the German PTT took care not to cause any interference in the service areas of the transmitters in Brasov, Romania and Tromsø, Norway. The Romanian PTT announced serious reservations concerning these high power transmissions in a letter of January 1958, but never subsequently complained about the Mainflingern transmitter. The German PTT judged this behaviour to imply tacit acceptance of the German broadcasting services. The Norwegians, based on an informal agreement, refrained from protesting to the IFRB during the first test stage in 1952, provided that their transmitter at Tromsø did not suffer from interference (Tetzner 1965). In 1965, the Mainflingen transmitter was even entered into the Master Register as a notification.

Against that background, the German PTT decided to begin building a permanent transmitter in Donebach, in Northern Baden-Württemberg in 1965, intended to replace a provisional transmitter in Mainflingen.¹⁹ The German PTT made the comparatively high investment of 9.392.000 DM.²⁰ Donebach had an omni-directional aerial consisting of four 200 metre masts, which could very effectively transmit at a power of 250 kW. It was among the first German transmitters with the capacity to transmit at high power, in case the Copenhagen plan would be revised. To protect the station in Brasov, it was restricted to a power level of 70 kW.

In April 1967, when the transmitter in Donebach had just gone into service, the Romanian PTT made a formal complaint to the German PTT about serious interferences in the Western parts of its service area in Romania. Since the Germans did not respond in time, the Romanians reported the matter to the IFRB in July and asked the board to intervene. The IFRB reacted promptly and ordered the German PTT to eliminate all interference in close cooperation with the Romanians.

For the German PTT, it was beyond any doubt that the Romanian broadcasting services had the right to be protected and that ITU rules had to be upheld. The Germans regarded it as their responsibility to bring the interference to an end. In the following months, the PTTs from both sides of the Iron Curtain tried to make a genuine effort in order to find a mutually beneficial solution. However, neither a temporary switch of the Donebach transmitter to a frequency of 155 kc/s, nor different technical modifications, like a change in the power level, made the interference disappear. Finally, in October 1968, the Romanian PTT invited a German delegation to Bucharest to find a solution through direct bilateral negotiations. The German PTT also considered other alternatives, like a change in the frequency. Due to the overcrowded long wave band, the options were few, and

¹⁹ Memorandum of the German PTT administration on the history of the use of the frequency 151 kc/s, 12.11.1968, B57-699, Archiv des Auswärtigen Amts, Berlin.

²⁰ Report of the German PTT administration on the transmitter in Donebach, B257/20452, Bundesarchiv, Koblenz.

none were acceptable. Finally, it was concluded that a directional antenna cutting out transmissions towards Romania was the most suitable solution. This, however, meant additional large investments into the Donebach transmitter facilities.²¹

In an interministerial meeting prior to the bilateral negotiations with Romania, nobody questioned the Romanian right to be protected from interference. Nevertheless, the German Foreign Ministry recommended that “the consolidation of Romanian trade debt should be mentioned in that context.”²² Such an argument, however, was totally out of the question for the PTT engineers: it would have contravened the rules of the ITU property regime and disgraced them with their Romanian counterparts.

When the bilateral negotiations took place in Bucharest in February 1969, there was no dispute between the delegations that cutting off transmission in the direction of Romania remained the only technical solution. On the one hand, this reduced interference in Romania to an acceptable level. On the other hand, it made it easier for the Germans to transmit programmes to the GDR. Even the Romanians accepted this argument, which did not violate international law. There had been intense cooperation between technicians on either side of the Iron Curtain since the 1950s. High politics were excluded for mutual benefit, in order to solve a shared (economic) problem. Moreover, the Bucharest meeting was characterised by a cooperative spirit among the technicians of the two delegations. Nevertheless, since the German delegation was not authorised to take a final decision, the Romanian delegation was invited to a final meeting in Germany in April 1969.²³

The German Ministry of Foreign Affairs still questioned the benefit of cutting transmission to Romania. At an internal meeting on 11 April, 1969, it considered whether continued transmission into Southeastern Europe might be worth the price of snubbing the Romanians. And ultimately the Ministry of Foreign Affairs had the authority to make the final decision, but at its closing meeting with the Romanian delegation, the German PTT had secretly committed itself to rebuild the Donebach transmitter as far as possible, so as to avoid interference with Romanian transmissions.²⁴ However, for political reasons, both delegations agreed upon nothing definite in the official protocol.²⁵ Yet in 1972, the Donebach transmitter was rebuilt as a directional aerial.

²¹ Report on a meeting of the German PTT ministry concerning the Romanian complaint about German transmissions on 151 kc/s, 15.11.1968, B57-699, Archiv des Auswärtigen Amts, Berlin.

²² Statement by the German Ministry of Foreign Affairs on the Romanian complaint about German transmissions on 151 kc/s, 10.12.1968, B 57-699, Archiv des Auswärtigen Amts, Berlin.

²³ Internal report of the delegation of the German Ministry of PTT on the bilateral negotiations in Bucharest, 22.2.1969, B257/20452, Bundesarchiv, Koblenz.

²⁴ Internal report of the delegation of the German Ministry of PTT on the bilateral negotiations in Bonn, 13.6.1969, B257/20452, Bundesarchiv, Koblenz.

²⁵ Official report of the German delegation on the bilateral negotiations in Bonn, 13.6.1969, B 57-699, Archiv des Auswärtigen Amts, Berlin.

6.3. A Polish complaint about Radio Free Europe on 719 kc/s

Radio Free Europe was part of the 1949 propaganda effort mentioned above, in which the United States government aimed at broadcasting into Eastern Europe. The programme offered a full service, encompassing all fields of interest including sports, news, entertainment, etc. Its core element, however, was detailed reporting on problems of communism, with a focus on contradictions and disagreements within communist hierarchies. Programmes describing the democratic societies of the West intended to encourage the aspirations of Eastern European countries to join free Europe, formed a second pillar (Mickelson 1983).

Radio Free Europe transmitted from Holzkirchen near Munich on the medium wave 719 kc/s at a power level of 150 kW. Beginning in August, 1953, transmissions were permitted by law, following a general broadcasting agreement between the German and U.S. governments, which included a licence for Radio Free Europe. According to these agreements, the German PTT was responsible for coordinating Radio Free Europe's frequencies. Programme content as well as each complaint about illegal use of frequencies remained in the responsibility of the U.S. authorities. The licence stipulated compliance with ITU rules and the use of frequencies allocated by the United States. The German PTT was allowed to withdraw the licence at any time if its requirements were not met.²⁶

From its first transmission, Radio Free Europe was a thorn in the flesh of Communist governments. They wanted to silence the station by arguing that the frequency 719 kc/s was used illegally. The Soviet Union therefore complained several times to the IFRB. The ITU, however, did not get into the matter. The IFRB refused to make any protest with reference to the ITU rules. According to them, only Portugal and Syria, which were the registered users, were competent to complain. Moreover, the frequency 719 kc/s entered the Master Register as a notification for the United States.

Among the Communist governments, Poland was extraordinarily anxious about Radio Free Europe because its "broadcasts were constant reminders of the precariousness of the Communist Party's control over the country" (Danielson 2004: 21). Political leaders even received daily transcripts of Radio Free Europe's broadcasts. This anxiety was not unfounded. On average, 50% of the adult population listened each week to Radio Free Europe programmes, which were transmitted in Polish between 6 and 11.30 in the evenings (Danielson 2004).

In 1970, the German government's *Neue Ostpolitik* triggered a new approach to silencing Radio Free Europe. This time, endeavours aimed at convincing the German authorities to withdraw the licence. In an early stage of the negotiations on the Treaty of Warsaw in April 1970, the Polish government raised the matter

²⁶ Rundfunksendegenehmigung für Radio Free Europe, 11.7.1955, B57-699, Archiv des Auswärtigen Amtes, Berlin.

in a declaration, demanding a withdrawal of Radio Free Europe's license.²⁷ Its programmes were condemned for disparagements of Polish politicians and its aggressive tone. To lend more weight to the argument, the accusation of illegal use of the frequency 719 kc/s was again put onto the table. The declaration was further backed by a major propaganda campaign in the Polish mass media to discredit Radio Free Europe.

The German Foreign Office reacted with uncertainty about whether and how to answer these demands and accusations. A refusal of the licence renewal was never up for discussion, as this was not a realistic step for the German government to take in the face of the United States. On the contrary, President Nixon is reported to have exploded in anger when the Germans unofficially asked American cooperation in the matter (Puddington 2000). In close cooperation with the German PTT, a double strategy was agreed upon. On the one hand, to take the Polish complaint into account, the Foreign Office approached Radio Free Europe. Both informally agreed upon moderating the tone against the Polish government. For appeasement purposes, this agreement was also informally communicated to the Polish Foreign Office. On the other hand, the German PTT drew up a definitive rejection of the Polish complaint about illegal use of radio frequencies, which was forwarded as an official statement by the German government on 23 July 1970. This asserted full compliance with international law in the form of the ITU rules, and underlined that under the terms of the licence, the German PTT was only responsible for a coordination of frequencies to avoid harmful interference. Beyond that, the licence was presented as being in full compliance with Polish interests, since it was likely that a United States authority would not exert itself to avoid interference.²⁸ Finally, the Polish government, in response to the German reaction, desisted from further discussing the matter at a governmental level.

Already in August, the Polish complaint turned out to be just one element in a coordinated policy strategy of Communist governments against Radio Free Europe. The Soviet Union, the GDR, Hungary, and Czechoslovakia started a massive media campaign. This time they brought forward the argument of political credibility. Claiming that Radio Free Europe was a strong part of a CIA spy network, the activities of which undermined the spirit of the 'Neue Ostpolitik', once again a withdrawal of the licence was called for. The following autumn the conflict grew more serious, when the Polish government gradually joined the propaganda campaign because Radio Free Europe refrained from moderating the tone during an uprising of workers in Poland in December 1970, which saw strikes and occupations at workplaces across Poland. Even the German Foreign Office confessed in an internal memorandum that "in

²⁷ Report of the German Foreign Office on the Polish complaint about Radio Free Europe, 15.4.1970, B 57-699, Archiv des Auswärtigen Amts, Berlin.

²⁸ Memorandum of the German Ministry of PTT, 7.7.1970, B 57-699, Archiv des Auswärtigen Amts, Berlin.

Radio Free Europe's reporting, resentments outweigh an objective account."²⁹ Remarkably, the share of listeners in Poland at that time reached a peak of nearly 80% (Danielson 2004).

The German government was put into a quandary. On the one hand, the *Neue Ostpolitik* should not appear in an unfavourable light because of Radio Free Europe. On the other hand, a withdrawal of the licence for Radio Free Europe would establish a precedent with incalculable consequences. Under the circumstances, the government adopted a PTT proposal to repeatedly refer to its official statement from July. Again it emphasized that Radio Free Europe transmitted in full compliance with international law and that the licence was in the interest of Eastern European radio services. When the Communist governments recognised that the *Neue Ostpolitik* could not be exploited to silence Radio Free Europe, they subsequently stopped their campaign.

7. Discussion

A complex system of property rights, which partially transformed an international open access resource into national property without at the same time abandoning international transmission in general, was the main factor that prevented the ITU property regime from becoming subject to the 'tragedy' mechanism. The majority of transmissions across the Iron Curtain were legal and flexibly managed by the agents of national PTT's on either side of the Iron Curtain. The ITU property regime successfully separated the transmission management from Cold War politics. It permitted parrying high political pressure, as was the case in the Polish complaint about Radio Free Europe, by referring to ITU rules. Propaganda was separated from technology, and the protection of national services was put at the core of the regime. As broadcasting frequencies (and their use) are a technical creation, the central role played by PTT technicians was warranted. Nonetheless, this was also backed by a cooperative spirit or corporate culture among national PTTs (Henrich-Franke 2008). Smooth cross-curtain cooperation on a technical level is an interesting fact that needs explanation by Cold War historiography, since it is observable in other infrastructure sectors as well, like transport and energy (Gaddis 2005).

The ITU property system's recipe for success was its rules, which made it easy to cooperate successfully because non-cooperation (rule-breaking) was restricted to a minimal number of occasions. Cross-curtain transmissions were numerous and politically unwanted in their regions of reception. Still, few were legally forbidden. The gains from sticking to the property rights regime were much higher than the potential losses that could be suffered in the case of a system break-down. Spectrum management was not a zero-sum game. On the contrary, effective cooperation was advantageous for the community. Only

²⁹ Internal memorandum of the German Foreign Office on Radio Free Europe, 12.1.1971, B 57-699, Archiv des Auswärtigen Amts, Berlin.

for the United States, which was not vulnerable in its domestic broadcasting services, was non-cooperation very attractive, thus tempting it to become the main rule-breaker.

- (a) Concerning property rights, the ITU established a very special property regime, which was a mixture between group property (frequency bands), private property, and open access. It distributed the right to exclude others and the right to use a frequency in different combinations. By doing so, it rendered cross-curtain transmissions illegal only if and when they caused harmful interferences within the national service area of a registered user. An ITU member held the right to prohibit a member from the other side of the Iron Curtain from broadcasting into his home country on his own frequencies. However, he could not generally forbid transmitting through the Iron Curtain. The same frequency which was domestically private property was internationally a kind of open access good. In addition, (technical) transmission parameters had to remain unchanged, which facilitated the partitioning of the long and medium wave bands according to interlocking technical parameters. This made a complex mixture of exclusive and shared, primary and secondary, registered and notified rights possible. The ITU property regime, for example, allowed Germany and the United States to use frequencies additional to the Copenhagen plan for both internal and cross-curtain services without violating the ITU property regime. If a dispute about a propaganda programme arose nevertheless, then the ITU property regime's restriction to the technical aspects of broadcast transmission opened a decisive exit option. Programme content and especially Cold War propaganda were put into a legal loophole. International broadcasting was accepted, but not legalised. However, the design of the property rights regime for international broadcasting is not necessarily transferrable to other open access resources, because the radio spectrum is not a depletable resource.
- (b) The rules for the enforcement of property rights contributed to a functioning of the ITU property regime by forcing the ITU members to take responsibility for the proper functioning of the ITU property regime. Self-interest, a cooperative spirit or corporate culture, and motivations of national PTT agents lubricated the wheels of the ITU property regime. The whole system depended on the assumption, shared by ITU members, that sticking to the rules was preferable to provoking chaos in the ether, because the ITU, or rather the IFRB as its executive body, was too weak to enforce the property rights.
- (c) With regard to the agents involved in the management of transmissions through the Iron Curtain, four different motivations can be classified: acceptance of the ITU property regime, protection of national services, fear of reciprocity, i.e. negative repercussions, in case of rule-breaking, for regulation of other radio services, and the political desirability of transmitting through the Iron

Curtain. All agents more or less shared these motivations, yet prioritized them in different ways. The key issue was the ranking of the last motivation, which was the only one seriously endangering the property regime. As observed in the case of the Donebach transmitter, the agents of the PTTs, which were in a key position, ranked this motivation lowest, thereby strengthening the property regime. However, in face of political Cold War strategies, the PTTs had to accept a certain degree of propaganda as a part of the game. To them, it was better to actively manage a certain level of propaganda than to open the gateway for an unbridled capturing of frequencies. The key issue leading to the exclusion of politicians was the physical characteristics of broadcasting frequencies. Politicians often simply lacked the scientific knowledge to understand the content of the negotiations. They were compelled to trust their technical experts' judgements. In this case knowledge was power. To keep politics outside, politicians needed to be satisfied to a certain extent. The biggest threat for the ITU property regime emanated from agents who ranked the political desirability of cross-curtain transmissions highest, like the U.S. forces in Germany.

8. Conclusion

Four general conclusions relative to the study of the management of open access resources follow from the observations presented above. All of them, however, require further research because they are drawn from the singular case of broadcasting frequencies in Europe.

1. Property rights structures, which do not completely define all aspects of the use of an open access resource (leaving legal loopholes) might open helpful exit options to diffuse political tensions or to overcome property rights disputes as well as margins for adaptations of supplementing regulations at the national or local level. A detailed specification of property rights does not necessarily result in more efficient use of an open access resource, as often claimed in the literature. A loose (but accepted and voluntary) management can supplement property rights structures and ultimately make them more robust.
2. The ITU property regime established an interesting mixture of rights and duties by making the same frequency both private property within national boundaries and an open access resource for a clearly defined user group (a radio service) in the international arena. This example demonstrates that there are solutions for the management of open access resources that lie beyond purely common property or private property regimes. Broadcasting frequency management in Europe has shown that private and common property are not necessarily incompatible opposites. In accordance with earlier findings, which reminded us of the need to redefine the classical dichotomy between public and private (Sikor 2008), the case of broadcasting frequencies can lead us to think

in a more relational way about the use of commons. It reminds us to devote more attention to the balance between different property regimes, and to their hybridization. Although hybrid forms contradict theoretical expectations, they are sometimes highly successful.

3. The significance of informal networks for successful management of open access resources is probably the most important finding in this context. Personal networks, social capital, and specific rules and norms of interaction might contribute to a more effective governance of open access resources. Within the ITU, such informal networks enabled PTT-technicians from the West and the East to manage the spectrum in a friendly atmosphere during the Cold War. All members of the network regarded spectrum management more as a shared duty of friends than as a shared duty of national representatives (Henrich-Franke 2008). It was evident that property rights manifest themselves in social relationships. Therefore, a differentiation between legislation and social relations and practises seems to be important. Particularly on the international level, such networks can socially ostracize rule breakers. This is especially the case when the agents involved do not directly benefit (financially) from successful regulation. Informal rules of behaviour might help both to compensate for lack of enforcement powers by the management institution and to make the loose management of an open access resource more effective. This conclusion confirms earlier findings that, besides material motives, people work for the maintenance of common pool resources because of a sense of solidarity, which arises from interaction with others, and a positive moral feeling from “doing the right thing” (Glasbergen 2010). It should be a fundamental design principle for management institutions of common pool resources to allow for institutional development in the form of customary international law and to foster the development of informal rules and norms. Such networks are a kind of ‘social commons’ which are also depleteable. Whether they are renewed or not is a political question and largely depends on the positive externalities they create.
4. When the management of an open access resource is largely dependent on technology and expert knowledge, then it might be possible to raise efficiency if high politics and the public are clearly separated from the management. Such a conclusion, however, needs further research on open access resources which are technology-dependent. However, it must be kept in mind that a certain degree of political rhetoric might also raise an institutional arrangement’s efficiency.

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