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EURATOM: CRITICAL REVIEW OF SELECTED REGULATORY FUNCTIONS

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The exigencies of modern life and industrial development cannot be adequately fulfilled without an abundant supply of energy. Some of the conventional sources of energy such as oil, coal, and natural gas are subject to depletion and there is doubt that these sources, plus water power, will be able to meet the energy demands of future generations. After it became apparent that atomic energy was the immediate solution and the cause of what would be the twentieth-century industrial revolution, the countries of Western Europe,1 aware of their industrial limitations in the areas of finance, research, and supply, and being already in the process of achieving the benefits of economic unity through the coordination of their coal and steel facilities in the European Coal and Steel Community (ECSC),2 decided to consolidate their efforts in the field of nuclear energy. Thus the European Atomic Energy Community (Euratom) came into being on January 1, 1958.

Since the nuclear energy industry was still in its infancy, problems peculiar to the unification of long-established industrial and commercial practices and barriers did not exist, and it was felt that Euratom could move more rapidly to contribute to the raising of the standard of living in member states and to the development of commercial exchanges with other countries by the creation of conditions necessary for the speedy establishment and growth of nuclear industries.3

In 1968 many problems still remain to be solved before Euratom can achieve its full potential in the development of an efficient European nuclear industry. Financial difficulties, research coordination, and the possible effects of the Nuclear Non-Proliferation Treaty on the Community are currently the most apparent.4

This study will briefly examine selected Euratom regulatory functions in the fields of ownership and supply of nuclear material, health protection, safety and inspection, research and industrial development, and external relations of the Community to determine if and how they

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1 Belgium, France, Germany, Italy, Luxembourg, and the Netherlands.
2 The ECSC Treaty had been signed on April 18, 1951.
4 It is expected that all member countries except France will sign the Non-Proliferation Treaty but will delay ratification until Euratom successfully negotiates on safeguards and inspections with the International Atomic Energy Agency. It is anticipated that France will not become a signatory.
might be improved to facilitate and expedite the accomplishment of Euratom's goals. The Community's specific current difficulties are beyond the limited scope of this study, as are regulatory functions in the fields of the nuclear common market, joint enterprises, and dissemination of information, among others.

Ownership of Nuclear Materials

Although ownership of special fissionable nuclear materials is not one of the regulatory functions of Euratom, it is so closely interwoven with such regulatory functions as supply and control and is so essential to an understanding of the workings of the Community that it shall be briefly discussed.

Article 86 of the Treaty provides:

Special fissionable materials shall be the property of the Community.

The Community's right of ownership shall extend to all special fissionable materials produced or imported by a Member State, a person or enterprise and subject to the safety control provided for in Chapter VII.

Thus ownership vests in the Community from the very moment the materials are either produced in or imported into any Community territory, and ownership is not conditioned on the Community's awareness of the material's existence. The holder, on the other hand, has the widest rights of use and consumption of special fissionable materials in his possession subject to the provisions of the Treaty.

It was conceivable that, because of the number of parties involved, ownership of all special fissionable nuclear materials, or of some types thereof, would present problems. Ownership of all special fissionable nuclear materials within the territory of a member country could have been left in, or given to, its government. This would have satisfied the desire for maximum industrial control over the industry of the future. Although all members were pledged to a common effort, nationalistic tendencies could have prevented or delayed the realization of Euratom's goal: the creation of an efficient basis for a nuclear energy industry. This goal would have been even more difficult to attain had ownership been dispersed among all potential users within the member states.

The risk that those countries within the Community not already possessing nuclear materials, or possessing them in lesser quantities, would be placed in an inferior position within Euratom, causing a

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5 Treaty, art. 197:
For the purpose of this Treaty: the term "special fissionable materials" shall mean plutonium 239, uranium 233; uranium enriched in isotopes 235 or 233; any material containing one or more of the foregoing; and such other fissionable materials as shall be defined by the Council acting by means of a qualified majority vote on a proposal of the Commission; but the term "special fissionable materials" shall not include source materials. . . .

6 Treaty, art. 87.
slower rate of growth, if any at all, of that portion of the nuclear industry which could be developed within their national territory, was avoided by placing ownership in a supra-national entity. Thus it was also possible to avoid an unequal distribution of the benefits of nuclear energy, a result which would not follow merely from membership in Euratom.

It should be noted, however, that the "ownership by the Atomic Community is devoid of all legal characteristics of the traditional institution of ownership." There is no such thing as supra-national ownership of the Community and ownership can be understood "only by relating it" to the municipal law of the member states.

Centralized ownership also made it easier for the Community to enter into bilateral treaties with other nuclear powers who were likely to be less reluctant to share nuclear materials and knowledge with a well-organized body of nations than with individual European countries. Awareness of this fact probably also made the transfer of ownership of already-existing materials by the nuclear members to Euratom more acceptable.

Centralized ownership does infringe on the freedom of the individual user, but only to the extent that he may not use special fissionable nuclear materials in a manner inconsistent with the provisions of the Euratom Treaty. Consequently, since it can be assumed that the parties did not undertake the obligations imposed by the Treaty with the intention of violating them, centralized ownership does not restrict use of special fissionable nuclear materials, and in view of the Community's aims, and the possibility of a speedier realization of them, it was, and is, the most efficient form of ownership available. A change in this area is not recommended, at least in the near future. It is hoped that Community ownership will be an incentive for arranging within Euratom a system of direct inspection by the Community itself, similar to that employed by the Atomic Energy Commission in the United States.

Once a system of Community inspection is worked out and all member nations feel assured they will enjoy the benefits of nuclear energy even if they do not own nuclear materials, then perhaps the Treaty can be renegotiated to place exclusive governmental ownership in the member states. Until then, the consumers will continue to exercise all economic controls over the materials, which are in the final analysis the

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8 Id. at 183.
10 For details of the special Financial Accounts used in business transactions involving nuclear materials, see Errera-Symon-Van Der Meulen-Vynaeve, Analyse et Commentaries du Traite 163 (1958).
advantages or disadvantages of ownership, and Euratom can maintain a legal monopoly in the sale of special nuclear materials which cannot be alienated by the holders.\(^{11}\)

**Supply of Nuclear Materials**

The supply of raw and fissile materials is regulated by the Supply Agency which is placed under the control of the Commission to which the actions of the Agency are appealable.\(^{12}\)

The Agency, in addition to holding title to special fissionable nuclear materials in the Community, has a right of option to acquire possession and use of all nuclear materials produced within the Community. Every producer of such materials must first offer them to the Agency prior to any other intended transaction.\(^{13}\) All supply contracts are thus actually concluded by the Agency, although it does not necessarily become a party thereto. This is accomplished by requiring that it be made aware of all contracts. If within eight days thereafter it does not object, the contract is considered to have been approved and concluded.\(^{14}\) The Agency also has the exclusive right to conclude agreements for the importation of ores, source materials, or special fissionable materials from sources outside Euratom.\(^{15}\) Thus it has the means to stockpile sufficient quantities of the various nuclear materials to carry out its function of providing “equal access to resources”\(^{16}\) and equal supply to all consumers. At the same time, in addition to determining the price and conditions of sales and acquisitions and acting as a mediator, the Agency can determine who shall have the beneficial use of nuclear materials and establish criteria and qualifications applicable both to potential users and projects.

The Agency could, in reality, regulate supply more effectively if it were not so dependent on the member states and ultimately on their governments and people. The powers of the Agency are greatly emasculated if the member states do not insure proper transmission by their subjects of all information necessary to its proper functioning. Contemporaneously, the member states underwrite the potential “inhibition of the development of a free nuclear economy”\(^{17}\) within the Community, since they must allow the Agency not only to determine the quality and quantity of progress that will occur, but also its rate of growth. The alternative would be to allow each member to develop its own nuclear industry and to use a centralized Agency only to avoid duplication of

12 Treaty, art. 53.
13 Treaty, art. 57.
15 Treaty, art. 64.
16 Treaty, art. 52.
projects. This would destroy the basic concern of Euratom, namely equal nuclear progress and benefit for all members. In the final analysis, it is their appreciation of the benefits they can obtain from the Community which persuades the members to voluntarily accept and insure the continuation of the Agency and its powers as a workable, if not optimum, solution.

**HEALTH PROTECTION**

A nuclear industry can present enormous potential threats to public health and to its own survival if not strictly regulated. Euratom must insure that its standards for health protection are scrupulously observed by the member states. In February, 1959, the Council of Ministers adopted the Basic Health Standards with the understanding that the member countries would incorporate them in their future nuclear legislation, whenever the same came into being.

In the area of health protection the Euratom Treaty places the greatest responsibility on Member States. In fact, the Member States furnished the experts who established the standards; they can request the Commission that the same be revised or supplemented; they must take additional health protections for particularly dangerous experiments; they should set up facilities for the permanent control of the level of radioactivity in the atmosphere, water, and soil; and they should plan the disposal of radioactive waste.

The Commission has been given supervisory responsibilities. It coordinated the development of the basic standards; it ensures the harmonization of the same; it has access to the facilities the Member States set up for the control of the level of radioactivity in the atmosphere, water, and soil, and it performs other functions necessary to achieve a common health protection program.

It would seem that health protection under Euratom could be more efficient, and the amount of risk decreased even further, if the primary responsibility for maintaining the health standards were placed with the Community rather than the Member States. In fact, it has complete knowledge of all nuclear programs in existence at any given time and of potential dangers that could develop from the contemporaneous operation of several programs. While a Member State can regulate potential dangers within its territory, it may not be aware of dangers developing in a neighboring Member State, would lack authority to regu-

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18 For the method with which standards are worked out by the Commission, see Treaty, art. 31.
19 Treaty, art. 33.
20 Treaty, art. 31.
21 Treaty, art. 32.
22 Treaty, art. 34.
23 Treaty, art. 35.
24 Treaty, art. 37.
25 Treaty, art. 33.
26 Treaty, art. 35.
late the same even if it were, and would ultimately have to bring the matter to the attention of the Commission.

The relatively weak position of the Commission in this vital area is also illustrated in the provisions of Article 38 of the Euratom Treaty which says, "The Commission shall make recommendations to Member States regarding the level of radioactivity in the atmosphere, water, or soil."

There is no need to emphasize the rapidity with which nuclear damage could occur once radiation began to spread. The necessity to reduce the level of radioactivity could be immediate and recommendations through the bureaucratic channels of the Member States would be far less than adequate to meet the dangers involved. The Treaty also provides that recommendations made by the Commission shall not have binding force:

The Commission shall, in case of urgency, issue a directive requiring the Member State concerned to take, within a period fixed by the Commission, all measures necessary to prevent the basic standards from being exceeded and to ensure observance of any applicable provisions.\(^{27}\)

A directive from the Commission does not seem to be a very effective manner of solving an emergency. There may not be a time to issue a directive, let alone fix a period within which to return to the level established by the basic standards. Finally,

If such State does not comply with the Commission's directive within the prescribed period, the Commission or any Member State concerned may refer the matter to the Court of Justice immediately.\(^{28}\)

Again, the provisions seem highly inadequate in view of the time necessary for judicial enforcement.

The language of Euratom's Tenth General Report to some extent acknowledges the Commission's lack of power:

Within the limits of its powers under the Treaty, it has approached the Governments of Italy, Luxembourg, the Netherlands with the suggestion that they should round off their legislative provisions in the matter (of health protection) at the earliest opportunity.\(^{29}\)

The Commission's supervision extends to all activities in the nuclear field: production, treatment, handling, utilization, possession, stocking, transportation, and elimination of natural or artificial radioactive elements, irrespective of the origin of the materials to be controlled. Although its powers are extensive, health protection within Euratom could be more certain and uniform if it could directly enact binding provisions.

\(^{27}\) Treaty, art. 161.

\(^{28}\) Treaty, art. 161.

\(^{29}\) EURATOM COMMISSION, TENTH GENERAL REPORT ON THE ACTIVITIES OF THE COMMUNITY, at 72 (1967) [hereinafter cited as REPORT, with number and date].
SAFETY AND INSPECTION

Health protection programs cannot be realized unless established safety features are strictly enforced. Thus the Community’s regulatory functions in the areas of health protection, safety, and inspection are tightly interwoven. In the field of safety and inspection great responsibility is again placed on the Member States.

Chapter VII of the Treaty provides for Safety Controls. The Commission “shall satisfy itself that in the territories of Member States ores, source materials, and special fissionable materials are not diverted from their intended uses as stated by the users . . .” and that commitments “entered into by the Community” with non-Member States or international organizations are observed. The provision is implemented by imposing on the Members the duty to forward certain information to the Commission and by allowing it to conduct inspections.

The Member States may determine their “intended uses” which, while conforming with Community norms, may also be military uses since Article 84 prohibits discrimination based on use “in the exercise of control.” Community control is limited to a promise by the States that they will conform with existing norms and with their declared intended use. It would consequently seem that if a Member State indicated an intended military use, it would be violating its obligation to Euratom if it changed to a peaceful use without notifying the Community.

It appears evident in the area of use, as will be noticeable in the area of inspection discussed later in the article, that the Member States, while desiring to benefit from their common efforts, were not ready to relinquish certain aspects of sovereignty, nor to subscribe to any curtailment of national defense which could derive from a lack of nuclear weapons or lack of the possibility to produce them.

An analysis of the third paragraph of Article 84 leaves several important questions unanswered. Since Euratom control does not extend to materials intended for defense, it would have been advisable to elaborate on this statement. Do materials intended for defense include nuclear materials intended for all military uses? Does the use of the term defense

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30 Treaty, art. 77(a).
32 Treaty, art. 84: No discrimination shall, in the exercise of control, be made on the ground of the purpose for which ores, source materials and special fissionable materials are intended.

The field of action, the manner of control and the powers of the bodies responsible for control shall be limited to the requirements necessary for the achievement of the purposes stated in this Chapter.

Control may not extend to materials intended for the purposes of defense which are in course of being specially prepared for such purposes or which, after being so prepared, are, in accordance with an operational plan, installed or stocked in a military establishment.

See also Gorove, supra note 31.
indicate that a distinction is being made between military uses which are offensive and those which are defensive, and that only the latter are excluded from control? If we accept the second alternative, the logical absurd implication is that if a Member State declared that certain nuclear materials were to be used for offensive military purposes, the materials would be subject to control. The Article does not establish the precise moment at which the special preparation of defense materials begins and ends. It is possible that expert scientific opinion could determine these precise moments, yet it is also possible that a difference of opinion could exist. More clarity might have been added if definitions had been furnished. Control does not extend to materials intended for defense purposes which have been installed or stocked in a military establishment in accordance with an operational plan. Does this mean that control can be exercised by the Community on materials intended for defense purposes and stocked or installed without being in accordance with an operational plan? Does control extend to such materials at the moment they are no longer installed or stocked in military establishments? We can again notice that a variety of questions had to remain unanswered to allow for an amount of viability acceptable to all Members. Euratom would have been more successful in this area had it been able to either prohibit the production of nuclear weapons or to ensure a uniform policy on production. As a practical matter, it remains clear that where military uses begin, the Community’s authority to maintain safety controls and to inspect ends.

In order to insure that the Commission can provide a system of safety control for the Community, it is essential that certain information and data be made available to it.

Article 78 of the Euratom Treaty requires anyone setting up or exploiting facilities for the production, separation, or use of source materials or special fissionable materials, or for the processing of irradiated nuclear fuels to make a declaration to the Commission setting out the basic technical characteristics of such facilities to the extent needed to achieve Euratom’s purposes. Article 79 empowers the Commission to require “the maintenance and production of operating records in order to permit accountability for ores, source materials and special fissionable materials used or produced.” The same also applies to the transport of source materials and of special fissionable materials. Persons subject to this control are also obligated to inform the Member State concerned for any communications made to the Commission.33

The requirement to furnish data to the Community was not coupled with a requirement that a uniform system of accounting be employed.34

33 Articles 78 and 79 were implemented respectively by Euratom Commission, Regs. Nos. 7 and 8 (1959), JOURNAL OFFICIEL, requiring nuclear enterprises to report certain data.
34 Euratom Commission, Reg. No. 8, art. 5, para. 2 (1959).
This inevitably has and will cause inadequate or incomplete reporting. Adequate and complete knowledge is necessary for the maintenance of safety controls, and the development and employment of uniform systems of inventory, accounting, and reporting would improve Euratom's regulatory function in the safety field.

Euratom basically maintains safety controls by analyzing the data furnished the Commission and by on-the-spot inspections, authorized under Article 81 of the Treaty. An analysis of the Article reveals what appear to be several inefficiencies. The Commission cannot send an inspection team into the territory of a Member State for the first time unless it has consulted with the State concerned. One is led to believe that, if the State would object, the inspector could not enter. Again one can see the States' desire for a certain amount of independence. While they cannot choose the inspector, they must approve him. Once the inspector has been permitted to make his first entry, a Member State cannot object to later visits by him. This in fact makes the inspectors less subject to influence by, and dependence upon, the States. The Commission will allow representatives of the State concerned to accompany the inspectors as long as they do not interfere with their activities.

The Treaty does not establish the manner or frequency with which inspections are to be conducted. As a practical matter, since a State may want its representatives to accompany the inspectors, it must have advance notice of the inspection.

Euratom could improve its safety control system and render it more efficacious if inspections could be conducted without prior announcement. This would also eliminate the need for the Commission's consultation as to the acceptability of individual inspectors. Additionally, the frequency of inspections and the number of locations visited should be increased.\(^\text{35}\)

To further assist the Commission in implementing its safety programs, the Treaty allows it to impose certain sanctions if a Member State opposes an inspection.\(^\text{36}\) It can apply to the President of the Court of Justice for a warrant to enforce the carrying out of an inspection; he shall render a decision within three days. If there is immediate danger, the Commission itself can issue a written order, in the form of a decision later to be submitted to the Court of Justice, to the effect that the inspection be carried out. Whether a warrant or a decision is issued, the final responsibility of ensuring access by the inspectors lies within the State concerned. Since ultimately Euratom has no power to enforce its authority, except by depriving the violator of the benefits of Community association, a State could avoid inspection and compliance with safety

\(^{35}\) For specific statistics, \textit{see} \textit{SEVENTH REPORT 127} (1964).

\(^{36}\) \textit{Treaty}, art. 81(3), (4), and (5).
requirements. The fear and possibility of self-destruction and the desire to enjoy Community benefits are the stronger reasons for compliance.

In the case of any infringements of safety control provisions, other than opposition to an inspection, the Commission may apply the following sanctions: a warning; the withdrawal of financial or technical assistance; the placing of the enterprise under the administration of a person or board appointed by it and the State having jurisdiction over the enterprise; and, lastly, the complete or partial withdrawal of source materials or special fissionable materials. All of these sanctions are to be enforced by the Member State having jurisdiction and are appealable to the Court of Justice.

Safety must also be protected and regulated through non-disclosure of classified materials. The Treaty provides that unauthorized disclosures by the Member States and personnel of the institutions and committees of the Community are subject to criminal prosecution under the municipal laws of the Member State having jurisdiction.

In theory, the sanctions which may be imposed seem to be sufficiently effective to discourage violations. In reality, since appeals have a staying effect, unless the Court of Justice orders otherwise, and since political necessities require the enforcement of sanctions by the Member States, should the need ever arise to impose sanctions, they may not be capable of producing the desired results.

Research and Industrial Development

In the field of research and industrial development, the Commission's regulatory functions are two-fold: responsibility for promoting and facilitating nuclear research in Member States and responsibility for supplementing it by carrying out its own research and industrial program.

The Commission coordinates the research of Member States by inviting them and persons or enterprises within their jurisdiction to communicate to it their nuclear programs of specific interest to it. After appropriate study, it will formulate an opinion on the programs reviewed, and through such opinions, which it can publish only with the consent of the sponsor, it will discourage unnecessary duplication and direct research towards sectors insufficiently studied. It encourages the implementation of desired programs by supplying financial and technical assistance, but not outright subsidies, to include source materials or special fissionable materials free of charge if deemed advisable.

Euratom has not been furnished any legal means by which to effectively coordinate independent national research conducted within the

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37 Treaty, art. 83.
38 Treaty, art. 194(1), paras. 1 and 2.
39 Treaty, art. 85, para. 2.
40 Treaty, art. 4(1).
41 Treaty, art. 5.
42 Treaty, art. 6.
territory of the Member States and to insure the undertaking of particular necessary national projects capable of being conducted. The Community’s efforts have been curtailed even further by prohibiting Euratom to publicize its opinion of national research programs without the consent of the sponsor concerned. National research programs could be more effectively coordinated, and duplication avoided, if this prohibition were withdrawn. Such programs could be further encouraged by allowing the Commission to furnish outright subsidies for national research.

The Community is also authorized to carry out its own research activities, laid down in five-year programs. These are conducted by the four establishments of the Joint Research Center, located at Ispra, Italy; Geel, Belgium; Karlsruhe, Germany; and Petten, Holland; and under association contracts and contracts entrusted to public or private bodies in the Member States, third countries, or international organizations.

In the execution of its own research programs, Euratom’s functions other than regulatory are in the nature of coordination and rationalization of programs divided among the installations of the Joint Nuclear Research Center and those farmed out under contracts.

Industrial development is the logical end-product of research and the reason for the very existence of Euratom. As stated in Article 1 of the Treaty, the Community’s aim shall be “the creation of conditions necessary for the speedy establishment and growth of nuclear industries.” This aim is to be realized through the Community’s role and exercise of certain powers in the field of investments in the nuclear industry, the creation of joint enterprises, and the establishment of a nuclear common market. A detailed study of the provisions set forth concerning these fields is beyond the scope of this brief study. Suffice it here to mention that Euratom has been endowed with adequate authority to develop a nuclear industry. The actual rate and extent of industrial growth will depend primarily on the cooperation of the Member States and on their collaboration with the Community.

EXTERNAL RELATIONS OF THE COMMUNITY

To attain an effective nuclear community, it is vital that Euratom enjoy the exclusive right to enter into obligations through agreements or conventions with a third country, an international organization, or a national of a third country. If the Community and one or more of the

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43 Treaty, art. 4.
44 The First Five-Year Program, 1958-1962, had a budget of 215 million dollars and was actually carried out in three years, 1960-1962. The Second Program, 1963-1967, had a budget of 455.6 million dollars.
45 Established under the provisions of the Treaty, art. 8.
46 Treaty, art. 10.
47 Treaty, art. 1.
48 Treaty, art. 101. In addition to the agreements mentioned supra note 9, contacts
Member States enter into such agreements, they will become binding only after all provisions of the municipal laws of the States concerned have been met. The Community exercises its regulatory functions in the field of external relations by prohibiting Member States from entering into agreements or conventions containing clauses impeding the application of the Treaty. It also imposes upon them the obligation to cause the Community to assume any rights and obligations arising out of any agreements made prior to the effective date of the Euratom Treaty between Member States and third parties for cooperation in the field of nuclear energy.

The Community, by establishing itself as the exclusive vehicle for external relations regarding peaceful uses of atomic energy, has insured a more rapid development of its goals without Member State interference.

**Conclusions**

The Community has been able to develop a system of regulations unparalleled in international organizations, highly resembling the systems of checks and balances commonly found in sovereign states. The Member States, while desiring the benefits of a nuclear community, have not been prepared to discard the political need for certain quantities of independent action and control over the functioning of Euratom.

The Community's solution to the issues of ownership and supply of nuclear materials, and the conduct of external relations, are acceptable and workable. Many of Euratom's regulatory functions, however, could be improved. In the health protection area, the States could allow the Commission to enact directly binding provisions insuring more certain and uniform safeguards. In the nuclear uses area, the Commission could either prohibit the production of nuclear weapons or insure a uniform production policy. Safety could be improved by developing and employing uniform systems of inventory, accounting, and reporting of nuclear materials; by conducting inspections without prior announcement and by increasing their frequency; and by assuring that practical and political necessities will not render ineffective sanctions which might be imposed. National research programs of the Member States could be better developed and coordinated by granting the Commission authority to publish its opinions on existing programs, without the approval of the State concerned, and to grant outright subsidies for national research.

In the final analysis, when atomic energy activities and needs within the Community will increase to the point where progress will be mandatory, it will only be achieved if it can prevail over nationalism.

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49 Treaty, art. 102.
50 Treaty, art. 103.
51 Treaty, art. 106.