

Computation of time in the law of treaties: four case studies

Cómputo del tiempo en derecho de los tratados: cuatro estudios de caso

Cômputo do tempo em direito dos tratados: quatro estudos de caso

Le calcul du temps en droit des traités : quatre études de cas

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Abstract: By examining how state practice effectively calculates time periods in four cases representing important moments in the life of treaties, the author seeks to establish which rules on the computation of time, if any, are applicable to treaties. The four case studies are: when a treaty requires some time to elapse after the conditions for entering into force have been met; when a treaty is made for a fixed term; when the denunciation or notice of withdrawal from a treaty must be followed by a time period before having effect; and the course of a period when objections to a reservation may be received.

Resumen: Al examinar cómo la práctica estatal calcula en realidad los plazos en cuatro casos que representan momentos importantes en la vida de los tratados, el autor busca determinar qué reglas sobre el cómputo del tiempo, si las hay, son aplicables a los tratados. Los cuatro estudios de caso son: cuando un tratado requiere que transcurra cierto tiempo después de que se hayan cumplido las condiciones para su entrada en vigor; cuando un tratado

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se celebra por un plazo fijo; cuando la denuncia o notificación de retiro de un tratado debe ir seguida de un plazo antes de surtir efecto; y el transcurso de un plazo durante el cual se pueden recibir objeciones a una reserva.

Resumo: Ao examinar como a prática estatal calcula os prazos em quatro casos que representam momentos importantes na vida dos tratados, o autor busca determinar quais regras, se houver, se aplicam aos tratados em relação ao cômputo do tempo. Os quatro estudos de caso são: quando um tratado exige que um certo prazo transcorra após o cumprimento das condições para sua entrada em vigor; quando um tratado é concluído por prazo determinado; quando a denúncia ou notificação de retirada de um tratado deve ser seguida de um período de tempo antes de produzir efeitos; e o decurso de um período durante o qual podem ser recebidas objeções a uma reserva.

Résumé: En examinant comment la pratique des États calcule concrètement les délais dans quatre cas qui représentent des moments importants de la vie des traités, l'auteur cherche à déterminer quelles règles de calcul du temps, le cas échéant, sont applicables aux traités. Les quatre études de cas portent sur : l'expiration d'un délai après l'entrée en vigueur d'un traité ; la conclusion d'un traité pour une durée déterminée ; l'obligation, suite à la dénonciation ou à la notification de retrait d'un traité, de respecter un délai avant que celle-ci ne prenne effet ; et le déroulement de la période de réception des objections à une réserve.

Keywords: international law, treaties, computation of time, periods and deadlines, starting date, end date, *dies a quo*, *dies ad quem*.

Palabras clave: derecho internacional, tratados, cômputo de plazos, plazos, fecha de inicio, fecha de término, *dies a quo*, *dies ad quem*.

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Mots clés : droit international, traités, calcul du temps, délais, date de début, date de fin, *dies a quo*, *dies ad quem*.

1. INTRODUCTION

Consider a treaty which stipulates that it will enter into force thirty days after the required number of contracting states give their consent to be bound. Let us say that number was reached on March 15, when the final state notified the depositary of its consent. On which date will the treaty enter into force? How do we count those thirty days? Are they the same as one month? In other words, are there any rules of international law to guide the computation of the thirty days?

Throughout history and across jurisdictions, different ways of counting days can be found, which will yield different results for a period of thirty days starting, say, on March 15. For instance, if the first day to be counted is March 15 itself, with March 16 as the second day and so on, the last day to be counted will be April 13. Another way of calculating is to start with the day following March 15. The 16th would be the first day to be counted and the last day in this computation would be April 14.

Does international law tell us which counting method should be used to calculate the course of those thirty days for the entry into force of the treaty?

There is a second, related, problem. As we reach the last day counted, whichever it is, does the treaty come into force on that day? Or because that day is included in the counted period, should we understand that the treaty comes into force on the following day? In the example, if we start counting on the day after the date the last notification of consent was received – if, in other words, the first and the last day counted are March 16 and April 14 – does the treaty enter into force on April 14 or the day after?

And if we want to add another layer of complexity to the problem, once we determine the day, we might ask ourselves at which time the treaty will enter into force on that date.

Then there is the question of the multiples of days. How do we calculate a period of one week, one month or one year? National legal systems often calculate them based on the calendar date: in many cases, one week from Tuesday is Tuesday next week, and one month from January 20 will take us to the same numbered day in the following month, that is, February 20. In fact, domestic law typically regulates the counting of time limits in detail, seeking to ensure legal certainty¹. But do any of these rules apply in international law to the computation of time periods in a treaty?

The waiting time for entry into force is just one example of time periods in the law of treaties. There are others which also raise questions, such as the counting of time related to treaties made for a fixed term and to the prior notice for denunciation, among others.

As has been said, “what a difference a day makes”. These are not necessarily trivial issues. Legal professionals know well the importance of deadlines and time limits. On one side of a deadline you are protected, your

1 For the importance of legal certainty in legal theory in general and in the computation of time in particular, see, among others, TRIDIMAS, P. Takis. “Indeterminacy and Legal Uncertainty in EU Law” (January 21, 2019). In: MENDES, Joana (ed). *EU Executive Discretion and the Limits of the Law*. Oxford University Press, 2019, p. 40. Available at: <<https://ssrn.com/abstract=3319870>>; WICKE, Hartmut. “Computation of Time Limits.” In BASEDOW, Jürgen; HOPT, Klaus J.; ZIMMERMANN, Reinhard (eds). *Max Planck Encyclopedia of European Private Law*. Oxford University Press, 2012, pp. 341-342. Long before that, though, scholars decried the legal uncertainty prevalent in the computation of time in international law: DÉAK, Francis. “Computation of time in international law.” In: *American Journal of International Law*, vol. 20, nº. 3, Jul. 1926, pp. 502 and 515.

client enjoys rights, and you can demand the fulfillment of an obligation; on the other side you are not and cannot.

It is not different with the law of treaties. If notice of termination has been given by a party, a treaty typically remains in force for that party for a certain period of time until it lapses. Determining the day when a treaty or one of its provisions expires is crucial. Before that date, a company can enjoy the protection of an investment treaty regime, or the tariff exemptions of a free trade agreement, or the right to sell flight tickets based on an air services agreement. After that day, those rights cease to exist.

Unfortunately, there is little codification of the matter of the computation of time in the law of treaties. A few agreements contain rules *ad hoc* to that effect. There are limited regional codification initiatives. But no general rules have been set in multilateral treaties.

If one wishes to study the matter, one must contend with the few guidelines published by international and regional bodies or must look to case studies from which to derive state practice.

That is the objective of this article. In the following pages, I will employ the analytical-descriptive methodology to analyze how state practice deals with the calculation of time in four cases which represent important moments in the life of a treaty: when a treaty requires some time to elapse after the conditions for entering into force have been met; when a treaty is made for a fixed term, that is, for a period of time after which it will expire; when the denunciation or notice of withdrawal from a treaty must be followed by a time period before having effect; and the course of a period when objections to a reservation may be received. I will also briefly examine the issue of time zones.

It is my hope that the case studies on which this methodology is based will demonstrate that there are, indeed, rules applicable to the computation of time periods in treaties and may thus serve as a contribution to those who wish to further pursue the questions that have been raised in this Introduction.

Before all that, though, I deem it wise to review a number of concepts in legal theory related to the computation of time. Though they belong, as a rule, to domestic law, those concepts may be relevant to the questions examined in this article. Also, given what was said above about codification (or lack thereof) and about certain agreements which contain *ad hoc* rules on the calculation of time periods, I will briefly look at the temporal element in the law of treaties, including the early efforts at codification and the *ad hoc* solutions found.

Finally, a note on vocabulary. I will be using the words *treaty* and *agreement* interchangeably. *Time period* and *time limit* will be synonyms here, as well as *computation*, *calculation* and *counting*. Hours will follow the 24 h format.

2. COMPUTATION OF TIME IN COMPARATIVE LAW

What follows is a brief exposition of a number of key concepts adopted by domestic jurisdictions when regulating the calculation of time limits.

Typically, a time limit is calculated from one specific point in time and up to another point in time. That first point – the starting day – is known in Latin as *terminus a quo* or *dies a quo*, whereas the second point – the ending day – can be called *terminus ad quem* or *dies ad quem*².

A time limit is known as *suspensive* when a legal act cannot operate or a right cannot be exercised until a specific event occurs or that amount of time passes. That thirty-day example in the Introduction is one such example. Conversely, a time limit is known as *resolutive* when a legal act can only operate – or a right be exercised – until a specific event occurs or that amount of time passes. In other words, a *deadline*.

And now for a crucial distinction. Time limits may be set to expire at an explicit *point* in time (say, next Tuesday; or on March 9, 2026) or after an explicit *period* of time (a week, three months, ten years). Though there usually is no need for computing when the point in time is explicit, it is a different story with periods of time. In this case, that period must be counted somehow, and resolved into a specific point in time. And therein lies the trouble.

This counting must be done using a method of computation. Domestic jurisdictions usually adopt two such methods, *civil computation* and *natural computation*, often applying the first to most cases and reserving the second for very specific instances, such as counting time periods set in hours.

In natural computation, a time period is counted from the precise moment of a legal act or event. For instance, a ten-hour deadline triggered by a notification arriving at 9:17 am will expire at 7:17 pm. For reasons that will become clear in this article, I will not elaborate further on the method of natural computation of time.

Civil computation, on the other hand, considers the day as an indivisible unit³ – the civil day starting at 00:00 and ending at 24:00⁴. In this method, if notice is received at 9:17 on March 15, triggering a thirty-day deadline, this period will be counted from the start of a day (midnight) to the end of a day (midnight). But which starting and ending days?

In line with civil computation, domestic jurisdictions usually count periods triggered by *an event* (such as a notification) occurring in the course

2 Keep in mind that the starting day – *dies a quo* – is the point in time that triggers the calculation but it is not necessarily the first day of the period to be actually counted. More on this below.

3 It is perfectly possible to count periods defined in hours using the civil computation method, but I will not examine that possibility in this article.

4 I.e., from one midnight to the next. To prevent confusion, the author will use the designations 00:00 and 24:00 as the starting and ending point of the civil day. The author is aware that ISO 8601-1:2019 disapproves of referring to midnight as 24:00, but clarity requires a different approach here.

of a day by excluding that day from the calculation of the period⁵. Let us suppose that, based on a contract, the creditor notifies the debtor on March 15 that the latter has thirty days to pay the debt. March 15, the day the event occurred, is the *dies a quo*. As it is excluded from the computation, the first day to be counted is March 16. The last day to be counted in this thirty-day period is then April 14, the *dies ad quem*, when the deadline expires and after which the debtor would be in default if they did not pay.

But sometimes periods are set not in a number of days, but rather in multiples of days, such as a number of weeks, months, or years. Domestic jurisdictions often count such periods – triggered by an event occurring in the course of a day – by seeking the corresponding day of the same name (if counted in weeks) or number as the day when the event occurred. Let us return to the example of the notification received on March 15, but say the stipulated period is not thirty days, but one month. The corresponding day of the same number (one month later) is April 15, and that is the *dies ad quem*. Note the difference in results. When dealing with multiples of days in this article, I will call this practice *nominal correspondence*.

What I have just described is how domestic jurisdictions often apply civil computation to a period triggered by an event occurring *in the course of a day*. But there are cases where the *beginning of a day* is the determining point for the start of a period, and civil computation usually treats them in a slightly different manner⁶. One example are contracts which are supposed to begin on an explicit date (e.g., July 10). Or a vacation period starting, say, next Monday. In these cases, the *dies a quo* (July 10; next Monday) is typically included in the computation. The concept of nominal correspondence still applies to such periods when stated in multiples of days, but the last day counted will fall on *the eve* of the corresponding day of the same name (if counted in weeks) or number as the *dies a quo*. For instance, a contract expressly set to start on July 10 for a term of three months will typically last until the end of October 9. Similarly, a vacation period starting on Monday for three days will have Wednesday as its last day. Back to work on Thursday.

Because one can never completely avoid Latin when writing about the law, I should mention that cases where the law requires us to exclude the starting day (“the day of the notification”) from the counting are called *dies a quo non computatur* (or *dies a quo non*, for short). Where the law requires us to include that starting day in the counting (“the first day of vacation”), call it *dies a quo computatur*.

Why this distinction? In short, if the law were to include the day of the event (such as a notice) in the computation of a period, it would mean that the party who was given a deadline to perform would not have that first day

5 E.g., GERMANY. *Civil Code [Bürgerliches Gesetzbuch]*, § 187, para. 1. SCOTLAND. *Prescription and Limitation (Scotland) Act 1973*, § 14, para. 1c. ; ARGENTINA. *Civil and commercial code [Código civil y comercial]*, article 6.

6 E.g., GERMANY. Op. cit., § 187, para. 2; SCOTLAND. Op. cit., loc. cit.

available in its entirety, given that the notice could be served at the end of the day. The so-called *one-day test* demonstrates this: consider a one-day deadline where the day of the event is counted. If the party is notified, say, at 5 pm, they would have at best a few remaining hours to perform. In the light of that, excluding the *dies a quo* from the calculation restores a full day to the notified party. On the other hand, if the interval by its very nature begins at the start of the day, that day is fully at the disposal of the performing party and can be included in the computation. This is the reasoning behind the legal policy choices to exclude and to include the *dies a quo* from the counting, as the case may be.

Not all jurisdictions adopt each and every one of those concepts. But their application is consistent enough across borders and different legal systems as to suggest they may influence the legal thinking of several countries and, as a result, international law itself to some degree, as we shall see.

A more detailed description of these concepts can be found in a wide range of authors⁷.

3. THE TEMPORAL ELEMENT IN THE LAW OF TREATIES

Time periods are a common component of treaties. At the very least, most treaties will specify periods of a procedural nature, usually in their final clauses. For instance, the 1994 Agreement Establishing the World Trade Organization states that it would remain open to acceptance for two years after the date of its entry into force, and the 2026 Interim Agreement on Trade between MERCOSUR and the European Union foresees a nine-month period for withdrawal by a party. Those same treaties also contain periods of a substantive nature, like the ninety-day time limit for the Ministerial Conference to consider waivers, in the former, or the six-month deadline for a reply after the application for inclusion of wine terms, in the latter⁸. This is a very small sample of a myriad of time limits in treaties.

In fact, the laying down of periods is only one aspect of how treaties are affected by time and how they regulate it. Covering it all would require a treatise and is far beyond the scope of this article. What we will see in this section is a very brief overview of early proposals for codifying the time factor in international law, including the work of the International Law Commission on the Draft Articles on the Law of Treaties, resulting in the Vienna Convention, as well as a few select examples of agreements which prescribe their own rules governing how the time periods they contain should be counted.

7 E.g., DALLOZ, M.D. and DALLOZ, Armand. *Répertoire méthodique et alphabétique de législation, de doctrine et de jurisprudence etc.*, tome XV. Paris: Jurisprudence Générale, 1849, t. XV, pp. 196 et seq; UNGER, Oliver. "Art 1:304: Computation of Time." In: JANSEN, Nils and ZIMMERMANN, Reinhard (eds). *Commentaries on European Contract Laws*. Oxford University Press, 2018, pp. 200-221.

8 WTO. *Agreement Establishing the World Trade Organization*, 1994. 1867 UNTS 3, Articles IX and XIV; EUROPEAN UNION; MERCOSUR. *Interim Agreement on Trade*, done at Asunción, Paraguay, on Jan 17, 2026, Article 21.15 and Annex 2-D, Article 4.

An early precedent proposing to codify the computation of time in international law (along with much else) is Dudley Field's work. His 1872 draft code included a provision according to which "[t]ime expressed in days or hours in any provision of this Code, or in any agreement or instrument to which this Code is applicable, is to be computed by excluding the first and including the last, except where a contrary intention plainly appears"⁹. From his notes on this draft provision, one concludes that, rather than supporting one rule (*dies a quo non computatur*) over another, he was more concerned with having a uniform standard in international law, consistent with usage and opinion. In any case, it is clear that he considered the calculation of time from the point of view of civil computation.

Almost a century later, as it debated the law of treaties, the International Law Commission was naturally aware of the temporal element¹⁰. Its 1966 final Draft Articles on the Law of Treaties have several provisions that deal with the time factor. For instance, Articles 21 and 22 of the Draft contain rules on the entry into force and on 'provisional entry into force'¹¹, defining their manner and date for each party. We also read in the Commission's proceedings that it considered the issue of the waiting period between the establishment of consent to be bound and the day the treaty actually comes into effect, but chose not to regulate it in its draft¹². The questions of non-retroactivity and of successive treaties can also be mentioned as examples of the time factor in the law of treaties, and are covered by draft Articles 21 and 26. Another illustration is the definition of points in time when a notification is considered to have been made by a state and received by another state, said notification thus being accomplished and operative, as stated in draft Article 73¹³.

Those concepts were mostly adopted by the Vienna Convention on the Law of Treaties¹⁴. In addition to the legal concepts involved, the Convention prescribes several procedural time periods, such as the twelve-month suspensive term for a withdrawal to take effect, or the deadline for raising an objection to a reservation¹⁵.

Yet the Convention does not have provisions laying down a mechanism for calculating such time limits.

9 FIELD, David Dudley. *Outlines of an international code*. New York: Baker, Voorhis & Co., 1876, 2nd ed., p. 625, nº. 994.

10 For an examination of the time factor in the Vienna Convention, see SINCLAIR, Ian M. *The Vienna Convention on the Law of Treaties*. Manchester: Manchester University Press, 1973, p. 246.

11 'Provisional entry into force' would later evolve into the concept of provisional application.

12 See CASE STUDY: *The waiting period for entry into force*.

13 UNITED NATIONS. INTERNATIONAL LAW COMMISSION. "Draft Articles on the Law of Treaties with Commentaries" (1966). In: *II Yearbook of the International Law Commission* 187, UN Doc. A/6309/Rev.1. The mention to the waiting period can be found under Article 21.

14 See Articles 24 and 25, on entry into force and provisional application; article 28, on non-retroactivity; article 30, on successive treaties; and article 78, on notifications.

15 See CASE STUDY: *Prior notice for denunciaton*, and CASE STUDY: *deadline for objections to a reservation*.

Treaties have been made containing *ad hoc* rules for computing their own periods or addressing time limits in a certain area of the law, for instance the 1961 International Convention Concerning the Carriage of Passengers and Luggage by Rail, the Regulations under the Patent Cooperation Treaty or the European Convention on the Calculation of Time-Limits. Many apply to periods of a civil, commercial or administrative nature. Other agreements specify *ad hoc* rules when the treaty in question sets down a procedure, such as the resolution of disputes, as is the case of the Olivos Protocol for the Solution of Controversies in MERCOSUR and the MERCOSUR-Singapore Free Trade Agreement¹⁶.

So what do these *ad hoc* rules prescribe? In essence, they deal with deadlines, that is, resolute time limits, triggered by an event. Typically, they stipulate that the computation starts on the day after the date of the event – thus adopting both the civil computation method and the concept of *dies a quo non*. Furthermore, they usually specify that periods of multiples of days follow the concept of nominal correspondence, expiring in the relevant subsequent month on the day which has the same number as the day on which the event occurred. They do not normally include rules about suspensive time periods.

Having touched on both the prevailing concepts on the computation of time in domestic jurisdictions and the limited efforts at codification and *ad hoc* regulation, we will now examine four time limits of a procedural nature usually found in treaties, in an attempt to describe how state practice calculates them.

4. CASE STUDY: THE WAITING PERIOD FOR ENTRY INTO FORCE

The first case to be studied is the example mentioned at the beginning of the Introduction, when a treaty requires some time to elapse after the conditions for entering into force have been met. For simplicity, I will call this type of time limit a *waiting period*¹⁷. This is a very common procedure. The 1969 Vienna Convention on the Law of Treaties applied it to itself: “[t]he present Convention shall enter into force on the thirtieth day following the date of deposit of the thirty-fifth instrument of ratification or accession”¹⁸. Once a suspensive condition – typically a minimum number of ratifications

16 UN. *International Convention Concerning the Carriage of Passengers and Luggage by Rail*, 1961. 1101 UNTS 3, Article 47 (2); UN. *Regulations under the Patent Cooperation Treaty*, 1970. 1160 UNTS 231, Rule 80; MERCOSUR. *Olivos Protocol for the Solution of Controversies in MERCOSUR*, done at Olivos, Argentina, on Feb 18, 2002, Article 48 (1); MERCOSUR; SINGAPORE. *Free Trade Agreement*, done at Rio de Janeiro, on Dec 7, 2023, Article 18.21 and Annex 18-A, rules 41 and 42.

17 In a few countries, scholars call this *vacatio conventionis*, *-acti*, *-tractatus* or *-pacti*, after the concept of *vacatio legis* in domestic law. The International Law Commission, while preparing the Draft Articles on the Law of Treaties, called it a *time-lag*, see UNITED NATIONS. INTERNATIONAL LAW COMMISSION. Op. cit., commentary to Article 21 of its Draft.

18 Most treaty actions become effective only on the date of deposit of the relevant instrument.

or similar acts – is satisfied, a predetermined time period is triggered, after which the treaty will go into force.

What follows is a review of a number of examples of international practice in this regard and what they can tell us about how the computation of time for the waiting period is done.

Dated May 2, 1979, the British ratification of the Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents¹⁹, is a good example – among many – of the international practice for counting waiting periods of days. In notifying the parties of the British ratification, the depositary – the secretary-general of the UN – counted the thirty-day waiting period by excluding the starting day, May 2, which extends the period to June 1: “In accordance with its article 17(2), the Convention will enter into force for the United Kingdom on the thirtieth day after the deposit of its instrument of ratification, that is to say, on 1 June 1979”²⁰.

The final consent of Cameroon to be bound by the Protocol on Explosive Remnants of War²¹, given on December 7, 2010, illustrates the computation of time in months. The depositary counted the six-month waiting period up to June 7, 2011, the date the agreement entered into force for Cameroon²². The calculation sought the day of the same number, six months later, as per the concept of nominal correspondence.

For a waiting period of a year, we can turn to the Agreement on the International Carriage of Perishable Foodstuffs²³. In communicating to the parties the Yugoslav notification, deposited on November 21, 1975, the UN secretary-general added that the treaty would enter into force on November 21, 1976²⁴, that is, the same day, one year later.

The practice of the UN Secretariat of not including the starting day in the computation of the waiting period and, for multiples of a day, of following the concept of nominal correspondence is attested and compiled in a manual published by the Treaty Section of the UN Office of Legal Affairs²⁵. Such

19 UN. *Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents*, 1973. 1035 UNTS 167.

20 UN. *C.N.97.1979.TREATIES-2*, May 16, 1979, available at: <<https://treaties.un.org/doc/Publication/CN/1979/CN.97.1979-Eng.pdf>>.

21 UN. *Protocol on Explosive Remnants of War*, 2003 to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects (Protocol V). 2399 UNTS 100.

22 UN. *C.N.868.2010.TREATIES-13*, Aug 25, 2011. available at: <<https://treaties.un.org/doc/Publication/CN/2010/CN.868.2010-Eng.pdf>>.

23 UN. *Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage*, 1970. 1028 UNTS 121.

24 UN. *C.N.350.1975.TREATIES-1*, Dec 12, 1975, available at: <<https://treaties.un.org/doc/Publication/CN/1975/CN.350.1975-Eng.pdf>>.

25 UNITED NATIONS. OFFICE OF LEGAL AFFAIRS. Treaty Section. *Summary of practice of the secretary-general as depositary of multilateral treaties*. New York: 1999, p. 70. For periods computed according to the concept of nominal correspondence, the manual prescribes that

practice is not limited to the United Nations, though. Other international organizations²⁶ as well as legal scholars²⁷ acknowledge the same rules, and a review of the archives of any foreign ministry will show that these concepts are uniformly applied, including in bilateral agreements.

As we have just seen, agreements go into effect *on the last day counted*, the *dies ad quem*. To be clear, the dates of entry into force for the three examples above were June 1, 1979, June 7, 2011, and November 21, 1976. But what is the precise time – the hour – of entry into force?

The international practice we have been reviewing in this section is based on the principle of civil computation, according to which the basic unit – the day – is not divisible. Which suggests that, once the waiting period expires, the treaty must enter into force either at the start of the last day counted, that is, at 00:00, or at its very end, at 24:00. So, which is it?

The question of the precise moment, on a given date, of the entry into force of a treaty has been raised by different jurists, like Déak and McNair²⁸. McNair recalls the claim, based on the Treaty of Versailles, brought against a debtor, a German woman who became a Norwegian citizen through marriage on the day that treaty went into force, the discussion of which involved the relevance of the time of her wedding in relation to the moment the agreement went into effect.

The first procès-verbal of ratification of the Treaty of Versailles was signed in Paris at 4:15 pm on January 10, 1920, bringing the treaty into force. The question was then whether the treaty had taken effect at 00:00 on that day (considering the principle of civil computation) or, rather, at the time of signature of the procès-verbal, at 4:15 pm.

Discussing the claim, the British government brought up the convenience of a rule contained in the United Kingdom's Interpretation Act of 1889, naturally applying to domestic law, but which might inspire a solution in international law. According to the Act²⁹:

Where an Act passed (...) or any rules, regulations or bylaws made (...) is expressed to come into operation on a particular day, the same shall be construed as coming into operation immediately *on the expiration of the previous day* [emphasis added].

if the last day to be counted does not exist (say, June 31), the treaty enters into force on the last day of the month (June 30).

26 E.g., COUNCIL OF EUROPE. *Guide to Procedures Applicable to the Daily Management of Acts Concerning the Conventions of the Council of Europe*. Treaty Office, 2020, pp. 27-28.

27 E.g., AUST, Anthony. *Modern treaty law and practice*. Cambridge: Cambridge University Press, 2000, pp. 135-136.

28 DÉAK, Francis. "Computation of time in international law." In: *American Journal of International Law*, vol. 20, n° 3, jul. 1926, p. 509; MCNAIR, Arnold. *The Law of Treaties*. Oxford: Clarendon Press, 1961, pp. 198-199.

29 UNITED KINGDOM. Interpretation Act 1889 (52 & 53 Vict. c. 63), § 36.

A more modern, express source that also provides for the entry into force of acts at 00:00 of a given date is Regulation Nº 1182/71 of the Council of the European Communities. Applying to EU law, it states³⁰:

Entry into force (...) of acts of the Council or Commission – or of provisions of such acts – fixed at a given date shall occur *at the beginning of the first hour of the day falling on that date* (...). This provision shall also apply when entry into force (...) is to occur within a given number of days following the moment when an event occurs or an action takes place [emphasis added].

Given that every aspect of the time of entry into force of agreements reviewed here so far accords with the method of civil computation, it seems reasonable to conclude that the start of the last day counted is the moment treaties go into effect. That would apply either when entry into force follows a waiting period or when it is triggered simply by an event, such as signature, the exchange of ratifications or receipt of a notification, absent a waiting period. This reasoning can be seen, for instance, in a story by UN News on the entry into force of the Treaty on the Prohibition of Nuclear Weapons. The treaty went into effect on January 22, 2021, ninety days after Honduras became the fiftieth state to ratify it. Dated January 22, 2021, a Friday, the news report states the treaty “came into force just after midnight on Friday”³¹.

From what was reviewed in this section, it is clear that the waiting period for entry into force is calculated according to the civil computation method, by excluding the *dies a quo* – the day the conditions for entry into force are met – and by employing the concept of nominal correspondence, whereby the *dies ad quem* will fall on the day of the same name or number in the corresponding week, month or year as the date on which the event occurred.

5. CASE STUDY: FIXED-TERM TREATIES

Certain agreements are made for a fixed term, that is, for a pre-determined duration: for one year, or for five years and so on. The question, then, is how to count that duration.

One way to approach the problem is to examine fixed-term agreements for which the expiry dates were recorded with certainty. Based on those cases, it may be possible to derive the logic behind the calculation of their duration.

For instance, the 1994 International Coffee Agreement expressly stipulated its entry into force on October 1, 1994, its duration for five years

30 EUROPEAN UNION. COUNCIL. *Regulation (EEC, Euratom) No 1182/71 determining the rules applicable to periods, dates and time limits*, Jun 3 1971. OJ L 124, 8.6.1971, Article 4, para. 2.

31 UN NEWS. “Guterres hails entry into force of treaty banning nuclear weapons”. *UN News*. Jan 22, 2021. Available at: <<https://news.un.org/en/story/2021/01/1082702>>

and its expiration on September 30, 1999. Another example is the 1989 International Agreement on Jute and Jute Products, which came into force on April 12, 1991, for a term of five years, and was extended twice for two-year periods until April 11, 2000, when it expired. Another such treaty is the 1994 International Tropical Timber Agreement, which was in effect from January 1, 1997, for a duration of four years, having been extended for a total of six more years until December 31, 2006³².

A bilateral example is the Brazil-Bolivia Agreement on Migration Regularization. This agreement by exchange of notes was done on August 15, 2005, and entered into force thirty days later, that is, on September 14, for a term of twelve months. September 14 clearly was the first day to be counted against those twelve months, and the agreement was set to expire on September 13, 2006, as expressly acknowledged in a later agreement to extend it, starting on September 14, 2006³³. Another instance of a bilateral agreement expressly mentioning its duration (five years) and how this is calculated (from April 1, 1956, to March 31, 1961) is the 1961 exchange of notes between Australia and the Netherlands extending the Assisted Migration Agreement of 1 August 1956³⁴.

The reader will have noted that, for all these treaties, the last day counted fell on *the eve* of the corresponding day of the same number as the *dies a quo*.

If, based on the principle of civil computation, we assume that treaties go into effect at 00:00 on the day of entry into force³⁵, it necessarily follows that the day of entry into force is counted against the duration – *dies a quo computatur*. Consequently, agreements made for a fixed term of weeks, months or years, while following the concept of nominal computation, will expire at 24:00 on the eve of the day of the same name (for periods of weeks) or number as the first day to be counted. But why?

As a rule, fixed terms follow the logical presupposition that, for an interval of multiples of a day (weeks, months, years), the number of times each date will be counted must correspond to the frequency of the period. For a one-year interval (frequency = 1), all dates throughout that year will be counted only once, without repetition. For a two-month period (frequency = 2), each date will be counted twice, and no more. If March 1 is the first day to

32 INTERNATIONAL COFFEE ORGANIZATION. *International Coffee Agreement* (1994) 1827 UNTS 3; UN. *International Agreement on Jute and Jute Products*, 1989. 1605 UNTS 211; UN. *International Tropical Timber Agreement*, 1994. 1955 UNTS 81; the latter treaty was further extended after December 2006, until entry into force of a successor agreement.

33 BOLIVIA; BRAZIL. *Agreement, by exchange of notes, on Migration Regularization, by exchange of notes*, done at La Paz, on Aug 15, 2005, and *Agreement, by exchange of notes, to extend the Agreement on Migration Regularization*, done at La Paz, on Sep 6, 2006.

34 AUSTRALIA; NETHERLANDS. *Exchange of Notes constituting an Agreement extending the Validity of the Assisted Migration Agreement of 1 August 1956*, done at Canberra, on Sep 26, 1961.

35 See CASE STUDY: *The waiting period for entry into force*.

be counted for a two-month period, only a second first day of the month will be counted (April 1); the term will expire on April 30, and May 1 will not be included, as counting it would mean increasing the time elapsed by one day.

This reasoning is not always obvious to legal professionals. There are instances where the logical presupposition in the preceding paragraph was apparently not followed. One such counterexample is the New Start treaty between Russia and the United States³⁶. It went into effect on February 5, 2011, for a term of ten years. In January 2021, the parties, by an exchange of notes, acknowledged that the agreement was bound to expire on February 5 of that year and decided that it should “be extended for a period of five years, until February 5, 2026”³⁷. On the other hand, the United States State Department’s web page on the New Start records that the parties agreed to extend it “through February 4, 2026”³⁸.

A few observers, writing on the occasion of the actual expiration, also noted that February 4 was the final day of the treaty³⁹. The secretary-general of the UN and the Russian Foreign Ministry, however, mentioned February 5⁴⁰. Others reported confusion over the exact timing of the expiry⁴¹.

Again, a treaty which went into force on February 5, 2011, for a term of ten years and was subsequently extended for an additional five years would, according to the logic described in this section, have lapsed at the end of the day on February 4. If this reasoning is correct, the provision extending the New Start until February 5, 2026, in this context, may be presumed as meaning “up to the *first moment* of February 5.”

Naturally, nothing prevents the parties from agreeing on a common understanding of the date of expiry of any treaty made for a fixed term, even *a posteriori*.

36 RUSSIA; UNITED STATES. *New Start, or Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms*, done at Prague, on Apr 8, 2010.

37 RUSSIA; UNITED STATES. *Agreement Extending the Treaty of April 8, 2010, by exchange of notes*, Done at Moscow, on Jan 26, 2021.

38 UNITED STATES. DEPARTMENT OF STATE. *New START Treaty*. Available at: <www.state.gov/new-start/>.

39 ICAN - International Campaign to Abolish Nuclear Weapons. *The expiration of New START: what it means and what's next*. Feb 4, 2026. Available at: <www.icanw.org/new_start_expiration>; SWISSINFO.CH. *Last US-Russia nuclear treaty expires – what's at stake?*. SWI swissinfo. Feb 5, 2026 Available at: <<https://www.swissinfo.ch/eng/international-geneva/last-us-russia-nuclear-treaty-expires-whats-at-stake/90886280>>

40 UNITED NATIONS. *Statement by the Secretary-General on the occasion of the expiration of the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) Treaty on 5 February 2026*. Feb 5, 2026. Available at: <<https://www.un.org/sg/en/content/sg/statements/2026-02-05/statement-the-secretary-general-the-occasion-of-the-expiration-of-the-treaty-measures-for-the-further-reduction-and-limitation-of-strategic-offensive-arms-%28new-start%29>>. RUSSIA. MINISTRY OF FOREIGN AFFAIRS. *Statement of the Ministry of Foreign Affairs of Russia Concerning the Expiration of the Russia-US New START Treaty*. Feb 4, 2026. Available at: <https://mid.ru/en/foreign_policy/news/2076815/>.

41 ANTONOV, Dmitry; TREVELYAN, Mark and LANDAY, Jonathan. “Trump rejects Putin offer of one-year extension of New START deployment limits”. *Reuters*. Feb 4, 2026. Available at:<<https://www.reuters.com/world/china/new-nuclear-age-beckons-clock-ticks-down-last-russia-us-arms-deal-2026-02-04/>>

6. CASE STUDY: PRIOR NOTICE FOR DENUNCIATION

Defined as a unilateral act by which a party to a treaty seeks to terminate its party status⁴², denunciation or withdrawal may be regulated in the treaty text, which often requires prior notice of a certain number of days or months before withdrawal is effected. If the text does not expressly cover it, and the treaty is understood to admit it, the withdrawing party must give not less than twelve months' notice of its intention to withdraw, according to Article 56 (2) of the Vienna Convention on the Law of Treaties.

A review of 189 notifications of denunciation or withdrawal deposited with the secretary-general of the UN points to consistent practice in computing time since the 1950s. A number of those are examined in this section.

For instance, on November 9, 2007, the UN secretary-general received Colombia's notification of its intention to withdraw from the Agreement to Establish the South Centre⁴³. He then informed the parties that, as Article XVIII (2) of the treaty stipulates that withdrawal becomes effective sixty days after written notice is given to the depositary, it would "become effective for Colombia on 8 January 2008"⁴⁴. This is an example of a time period for denunciation counted in days. The computation made by the depositary excluded the starting day, November 9, thus reaching January 8.

Singapore's denunciation of the Convention concerning Customs Facilities for Touring demonstrates the calculation of time counted in months⁴⁵. Article 17 of the treaty in question sets forth a fifteen-month prior notice for withdrawal, from the date of its receipt by the UN secretary-general. The depositary received it on November 3, 1999, and informed the parties that "[t]he action will become effective for Singapore on 3 February 2001"⁴⁶, fifteen months later. The nominal correspondence concept was used to arrive at February 3, 2001, from November 3 of the previous year, whereby the period lapses in the last month counted, on the day of the same number as the *dies a quo*. Again, the starting day was excluded.

The same concept of nominal correspondence is used by the UN Secretariat when the period for denunciation is counted in years, as in the case of the Danish notification concerning the Convention on the Taxation of Foreign Motor Vehicles⁴⁷, delivered on March 7, 1968. The depositary made known to the parties that "[i]n accordance with article 17 of this Convention, the denunciation will take effect, in respect of Denmark, one year after the

42 HOLLIS, Duncan B. (ed.). *The Oxford Guide to Treaties*. Oxford: Oxford University Press, 2014, p. 758.

43 UN. *Agreement to Establish the South Centre*, 1994. 1885 UNTS 63.

44 UN. *C.N.1075.2007.TREATIES-1*, Nov 12, 2007, available at: <<https://treaties.un.org/doc/Publication/CN/2007/CN.1075.2007-Eng.pdf>>.

45 UN. *Convention concerning Customs Facilities for Touring*, 1954. 276 UNTS 191.

46 UN. *C.N.992.1999.TREATIES-3*, Nov 5, 1999, available at: <<https://treaties.un.org/doc/Publication/CN/1999/CN.992.1999-Eng.pdf>>.

47 UN. *Convention on the Taxation of Foreign Motor Vehicles*, 1931. 138 LNTS 149.

date of receipt of the said notification, that is to say, on 7 March 1969⁴⁸.

Here, too, we should examine the precise moment, on the *dies ad quem* – the last day to be counted – when the treaty obligations no longer apply to the denouncing state. We are dealing with a suspensive term, which would suggest that withdrawal cannot take effect until the time period in question lapses. In the examples above, the last days counted were, respectively, January 8, 2008, February 3, 2001, and March 7, 1969. As we are still operating with the principle of civil computation, the question then is whether those states are released from treaty obligations at the start or at the end of the last day counted. In the Colombian example above, are we to understand that the withdrawal is effective at 00:00 or at 24:00 on January 8, 2008?

That question is not answered in the cases reviewed so far in this section, but there are other instances which may shed some light on the matter.

Article 17 (1) of the Food Assistance Convention specifies that any party “may withdraw (...) at the end of any year by giving written notice of withdrawal (...) at least ninety days prior to the end of that year”⁴⁹. As he received the notification of denunciation by the State of Palestine on September 2, 2018, the UN secretary-general clarified that “the withdrawal will take effect for the State of Palestine at the end of the year, i.e., on 31 December 2018”⁵⁰. Naturally, “the end of the year” does not occur at 00:00 on December 31, but rather at the end of that day at 24:00, which corresponds to 00:00 on the following day. Which is to say that Palestine was released from its treaty obligations as of the first moment of January 1, 2019.

A similar reasoning, but stated more definitely, was followed by the secretary-general in the case of the notices of denunciation to the Agreement on Most-Favoured-Nation Treatment for Areas of Western Germany under Military Occupation⁵¹. In at least fifteen depositary notifications related to this treaty, the depositary mentioned *the day following the last day counted* as the date the withdrawal becomes effective. An example of that is the denunciation by South Africa, deposited on May 6, 1952, and deemed effective “upon the expiration of six months from the date of deposit of the notice of intention to withdraw (...), that is to say, on 7 November 1952”⁵². This computation suggests that the withdrawal takes effect *at the end* of the *dies ad quem*, which, in this case, was November 6, 1952, at 24:00.

48 UN. *C.N.40.1968.TREATIES-1*, Mar 22, 1968, available at: <<https://treaties.un.org/doc/Publication/CN/1968/CN.40.1968-Eng.pdf>>.

49 UN. *Food Assistance Convention*, 2012. 2884 UNTS 3.

50 UN. *C.N.397.2018.TREATIES-XIX.48*, Oct 31, 2018, available at: <<https://treaties.un.org/doc/Publication/CN/2018/CN.397.2018-Eng.pdf>>.

51 UN. *Agreement on Most-Favoured-Nation Treatment for Areas of Western Germany under Military Occupation*, 1948. 18 UNTS 267.

52 UN. *C.N.68.1952.TREATIES*, May 20, 1952, available at: <<https://treaties.un.org/doc/Publication/CN/1952/CN.68.1952-Eng.pdf>>. Other similar examples: UN. *C.N.18.1952.TREATIES*, Mar 20, 1952, available at: <<https://treaties.un.org/doc/Publication/CN/1952/CN.18.1952-Eng.pdf>> and UN. *C.N.150.1951.TREATIES*, Jan 16, 1952, available at: <<https://treaties.un.org/doc/Publication/CN/1951/CN.150.1951-Eng.pdf>>.

The examples reviewed in this section indicate that the prior notice for denunciation is counted in line with the civil computation method. The *dies a quo* is not counted and the *dies ad quem* for periods stipulated in multiples of a day will fall on the day of the same number in the subsequent month or year as the date of notification.

7. CASE STUDY: DEADLINE FOR OBJECTIONS TO A RESERVATION

Article 20 (5) of the 1969 Vienna Convention on the Law of Treaties stipulates that a reservation is considered to have been accepted by a state if that state does not raise an objection to it “by the end of a period of twelve months after it was notified of the reservation.” The question then is how that twelve-month period should be counted.

To answer it, we may turn to objections that were raised at the last moment and examine how the depositary dealt with them.

The objections by Belgium, Canada, Greece, Italy, Moldova and the United Kingdom to the reservation made by Qatar to the International Covenant on Economic, Social and Cultural Rights were raised on May 21, 2019, precisely twelve months after the date of the depositary notification of Qatari accession to the covenant (and its reservation), dated May 21, 2018. The UN secretary-general, in his capacity as depositary, communicated those objections to the contracting states without any caveat as to its possible untimeliness⁵³.

By accepting the objections without qualification, the depositary had to calculate the twelve months based on the concept of nominal correspondence, excluding the *dies a quo* – the date the Qatari accession and reservation were received – so that the deadline would only expire at the end of May 21, 2019. This practice is reiterated by the depositary throughout the years.

The same reasoning was followed by the depositary regarding the acceptance of Brazil’s interpretative declaration to the Convention on the Reduction of Statelessness. The secretary-general communicated the declaration to the contracting states on December 29, 2009, and proposed to receive it for deposit if there would be no objections “within a period of one year from the date of the present notification”⁵⁴. When that period had expired, the depositary again informed the contracting states that “the interpretive declaration (...) was accepted for deposit upon the above-stipulated one year period, that is on 29 December 2010.” (UN, 2011)⁵⁵. In the

53 For the depositary notification of accession (and reservation) by Qatar: UN. C.N.260.2018.TREATIES-IV.3, May 21, 2018, available at <<https://treaties.un.org/doc/Publication/CN/2018/CN.260.2018-Eng.pdf>>. For an example (Greece) of objection raised to the Qatari reservation: C.N.228.2019.TREATIES-IV.3, May 24, 2019, available at: <<https://treaties.un.org/doc/Publication/CN/2019/CN.228.2019-Eng.pdf>>.

54 UN. C.N.916.2009.TREATIES-3, Dec 29, 2009, available at: <<https://treaties.un.org/doc/Publication/CN/2009/CN.916.2009-Eng.pdf>>.

55 UN. C.N.855.2010.TREATIES-1, Jan 11, 2011, available at: <<https://treaties.un.org/doc/Publication/CN/2010/CN.855.2010-Eng.pdf>>.

same way, it is reasonable to consider the Brazilian declaration as accepted at the expiry of the period, that is, at the last moment of that date.

The examples seen above suggest that, with objections to a reservation, it is the practice of the UN secretary, in his capacity of depositary, to apply the concept of nominal correspondence, seeking in the relevant subsequent month the day which has the same number as the date on which the event occurred. The depositary excludes the *dies a quo*, which means the period expires at the end of the corresponding day. All this is done using the civil computation method.

8. THE QUESTION OF TIME ZONES

“The first multilateral nuclear disarmament treaty in more than two decades came into force *just after midnight* on Friday, hailed by the UN Secretary-General as ‘an important step towards a world free of nuclear weapons’” [emphasis added]⁵⁶. This is how the United Nations news agency reported the entry into force of the Treaty on the Prohibition of Nuclear Weapons. When the treaty went into effect, at 00:00 on January 22, 2021, there were 51 parties distributed among five continents and different time zones. So when UN News says the treaty went into force “just after midnight”, to which time zone is it referring? New York, the place of signature? GMT? Or are we to understand that the treaty entered into force in stages, as the clock struck 00:00 on January 22 in each capital?

Consider the Agreement on the Partial Abolition of Visa Requirements between Brazil and New Zealand⁵⁷, which went into effect on October 21, 2004. Given that the clock struck 00:00 on that day first in Wellington and only sixteen hours later in Brasília, should a commercial flight departing from New Zealand, say, at 05:00 on the 21st accept a New Zealander citizen checking in to travel to Brazil without a visa? That time corresponds to 13:00 on October 20 in Brazil, one day before the agreed date for entry into force.

The questions above might seem merely academic, but the issue of the repercussions of different time zones to the application of treaties was deemed sufficiently serious as to merit clarity in a number of concrete cases, when it is necessary to know precisely when rights and obligations are acquired or cease. Air service, rail and telecommunications agreements can be mentioned as examples of treaties which often specify the applicable time zone.

This is a common provision in air services agreements. For instance, the 2015 Brazil-Mexico Air Services Agreement stipulates that in case of denunciation, it “shall expire at midnight, local time of the notified party, [the denunciation] taking effect one year after the date of receipt of the notification.” The 2011 United States-EU-Iceland-Norway Air Transport

56 UN NEWS, “Guterres hails entry into force of treaty banning nuclear weapons”. Op. cit.

57 BRAZIL; NEW ZEALAND. Agreement on the Partial Abolition of Visa Requirements, done at Brasília, on Nov 20, 2001.

Agreement has a similar provision, but designating midnight GMT as the moment of termination⁵⁸.

Another example can be found in Rule 80.4 of the Regulations under the Patent Cooperation Treaty, which deals with how dates are applied when calculating international patent deadlines. It states that the starting and the end dates for the computation of a period concerning chapter III of the treaty are the ones prevailing in the place when the relevant event occurred or where the document must be filed or the fee, paid⁵⁹.

There does not appear to be a general rule in law of treaties, nor a single answer to the questions raised at the beginning of this section. But it is reasonable to suppose, absent express agreement, that the applicable time zone would be the one at the locality where an event occurs (such as a notification), where an action must be taken or where the object of the treaty is located. This is the rule followed in the examples reviewed above.

This also seems to be the tacit understanding behind the execution of the declarations on the transfer of Hong Kong (1984) and Macau (1987)⁶⁰. Both transfers occurred on the stipulated dates, July 1, 1997, and December 20, 1999, respectively, both at 00:00, local time in Hong Kong and in Macau⁶¹.

In any case, Aust offers a perfectly valid recommendation: if there might be doubt about the time zone and this is a relevant question for the application of the treaty, it would be best for the contracting states to make it explicit⁶².

9. CONCLUSION

A number of questions about the computation of time in law of treaties were asked in the Introduction. In particular, I wondered whether there are any rules of international law to guide the computation of time as it applies to treaties. After reviewing four cases, I believe it is possible to answer that question in the affirmative. State practice, sometimes guided by recommendations issued by international organizations, recognizes certain methods of computation of time in treaties.

This is not to say that the rules identified in this article will apply to all

58 BRAZIL; MEXICO. *Air Services Agreement*, done at Mexico City, on May 26, 2015. UNITED STATES OF AMERICA; EUROPEAN UNION; ICELAND; NORWAY. *Air Transport Agreement*, done at Luxembourg and Oslo, on Jun 16 and 21, 2011. In both cases, by "midnight" we can assume 24:00 on the day of termination. See CASE STUDY: Prior notice for denunciation.

59 OMPI. *Patent Cooperation Treaty and Regulations*, 1970. 1160 UNTS 231.

60 CHINA; UNITED KINGDOM. *Joint Declaration on the Question of Hong Kong*, done at Beijing, on Dec 19, 1984; CHINA; PORTUGAL. *Joint Declaration on the Question of Macao*, done at Beijing, on Apr 13, 1987.

61 TANG, Riann. "What you need to know about the anniversary of Hong Kong's return to China". *ABC News*. Jul 1, 2018. Available <<https://abcnews.com/International/China/anniversary-hong-kongs-return-china/story?id=56229613>>; GITTINGS, John. "Chinese joy as Macau returns after 442 years". *The Guardian*. Dec 20, 1999. Available at: <www.theguardian.com/world/1999/dec/20/johngittings>.

62 AUST, Anthony. *Modern treaty law and practice*. Cambridge: Cambridge University Press, 2000, pp. 137 and 225-226.

time periods found in all treaties. But the four cases studied here represent important moments in the life of an agreement, and the corresponding practice may, at the very least, demonstrate which concepts are involved in understanding the calculation of time in law of treaties in general.

As seen, the principles applied to the computation of the waiting period for entry into force (case 1) are clearly documented, and though there might be some hesitation over the precise moment of the day when treaties go into effect, the reasoning articulated by scholars on this subject is persuasive. State practice employed in the calculation of the prior notice for denunciation (case 3) might be less well documented, but is also very consistent. The same goes for the deadline for objections to a reservation (case 4), though maybe to a lesser extent. And the logical-legal argument for how the duration of fixed-term treaties (case 2) should be counted is, I believe, very cogent, though admittedly debatable.

Additionally, the examination of time zones has raised quite interesting questions, which, unfortunately, have yielded at best very limited answers. Nonetheless, this is a compelling subject, and I believe it is clearly worthy of further study.

But perhaps the most interesting conclusions to be drawn are not just those pertaining to the specific cases studied, but rather to the conceptual framework upon which the calculation of time limits in the law of treaties operates. In an area of study where certainties are scarce, the cases seen in this article, taken together, allow us to draw a number of general conclusions about the concepts that states work with.

It may be useful to review which concepts have been identified.

The first main concept is the use of the civil computation of time. This method, which considers the day as an indivisible unit, is clearly used in the four cases studied, whenever the periods in question are counted in days or in multiples of a day, such as weeks, months and years. It may or may not be a different matter if the period is stipulated in hours, but that lies outside the scope of this article.

A second concept that can be identified from the cases reviewed is the idea that, when calculating a period, the starting day may or may not be included in the counting. We have seen that domestic jurisdictions often exclude the starting day when the computation is triggered by an event occurring in the course of a day and include it when the beginning of the day is the determining point for the start of the period. We should not assume that those criteria extend automatically to international law, but we have seen certain cases reviewed in this article where the starting day was excluded and other cases when it was included.

A third concept may be mentioned: the use of what has been called nominal correspondence in this article. Time limits of multiples of a day are counted by seeking the corresponding day of the same name (in case of a period of weeks) or number (for months and years) at the end of the

period. Whether that final homonymous day will be included or excluded in the computation will typically depend on the exclusion or inclusion of the starting day. That, in turn, depends upon the type of time period at issue.

One final conclusion is the applicability of (at least some) concepts developed for domestic law to the cases reviewed here. It could hardly be otherwise. Legal professionals and scholars who are called to deal with the thankless issues of computation of time in treaties have been often trained in domestic law and will naturally turn to principles and solutions from those legal systems, where the calculation of time is usually well regulated.

An untimely treaty action may, at the very least, raise doubts about its legitimacy and give rise to a dispute among the parties, as argued by Déak in his seminal 1926 article. Such uncertainty is undesirable in any legal system and therefore is a potent argument in favor of the acknowledgement of clear rules for the computation of time in treaties.

In an ideal world, time periods would all be established as an explicit date, with a precise day, month and year (and hour, if necessary). This would obviate the need for the computation of time, which is an exercise subject to ambiguity and error. This is not, however, the reality. The calculation of time is a complex and historically contentious legal field, and it is no different in the law of treaties. Though, as we have seen, it is often possible to identify a consistent practice by states and international organizations, additional study would be beneficial to understanding its ramifications in full.

CONFLICT OF INTEREST

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LIST OF ABBREVIATIONS

EU	European Union
MERCOSUR	Common Southern Market [Mercado Común del Sur]
UN	United Nations
UNTS	United Nations Treaty Series

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