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Original Citation:

The Italian “Moving Boundaries” / Andrea Cantile. - ELETTRONICO. - (2020), pp. 62-73.

Availability:

The webpage <https://hdl.handle.net/2158/1456013> of the repository was last updated on 2026-02-23T14:38:27Z

Publisher:

International Federation of Surveyors

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International Boundaries on Unstable Ground

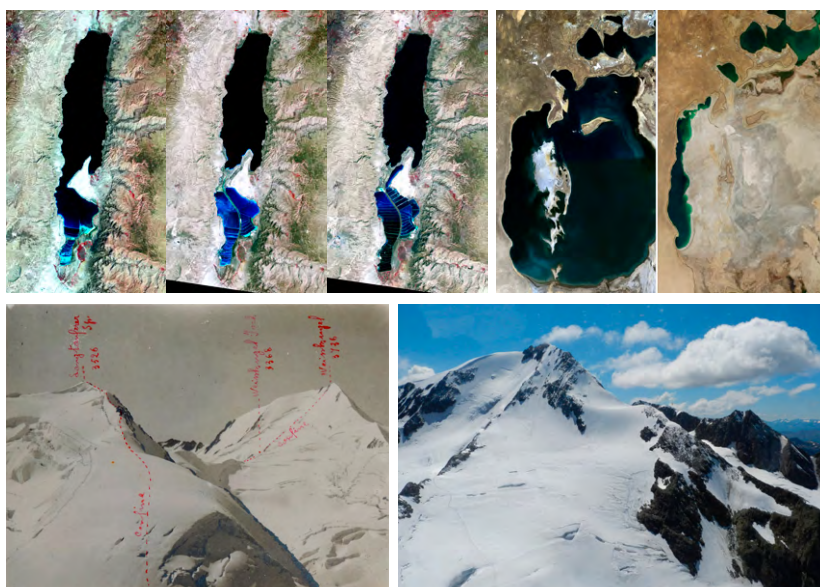


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International Boundaries on Unstable Ground

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Published in English

ISSN 1018-6530 (printed)
ISSN 2311-8423 (pdf)
ISBN 978-87-92853-22-6 (printed)
ISBN 978-87-92853-30-1 (pdf)

Published by
International Federation of Surveyors (FIG)

Editor: Haim Srebro

Authors:

Vincent Belgrave, Andrea Cantile, Donald Grant, William A. Robertson, Haim Srebro

Front cover:

The Dead Sea: NASA&USGS Landsat 1 MSS September 15, 1972; Landsat 4 TM August 27, 1989; Landsat 7 ETMP October 11, 2011.

The Aral Sea: Landsat mosaic July-September 1981;

NASA MODIS on TERRA satellite August 19, 2014.

Glacier Monte Palla Bianca: IGMI Italy 1922–2012.

Layout: Lagarto

Printed by LaserTryk, Copenhagen 2020

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CHAPTER 4: INTERNATIONAL BOUNDARIES ON GLACIERS – THE ITALIAN “MOVING BOUNDARIES”

Andrea Cantile, Italy

Key words: Italian boundaries; moving boundaries; Italian and Swiss, French, Austrian and Slovenian boundaries.

Summary

This is a brief summary of the general characteristics of the Italian land borders with reference to the length, number of boundary pillars, and the average distances between each of them. Also mentioned are the Italian legislative references, treaties, and international agreements with which the criteria for delimiting and demarcating the borders for each of the four Italian land boundaries have been agreed in the last hundred years.

Moreover, the current criteria in use for maintaining the existing borders are reported. They illustrate the terms of the recent agreements that Italy has concluded with Austria and Switzerland, following the morphological changes in the alpine glaciers. In this regard, it should be noted that the legal requirements and agreements concluded between Italy and Austria, and between Italy and Switzerland have not introduced any form of automation in the management of borders, contrary to what was perceived by the use of the locution “moving border”.

In conclusion, some general considerations are proposed regarding the idea of a border, quoting two famous philosophers of the past.

1 GENERAL CHARACTERISTICS OF THE ITALIAN LAND BOUNDARIES

For many people, the land border of Italy has been generically identified with the Alps since the time of the Roman Empire. In fact, the real border between Italy and the neighboring states has changed significantly over time, mainly due to war causes¹, as well as to other similar cases that have occurred in Europe, “paradoxically [...] the continent with the ‘youngest’ political border” (Kolosov, 2013, p. 6).

The four border lines that today separate the territory of the Italian Republic from France, Switzerland, Austria, and Slovenia derive from fairly recent definitions. The oldest of them dates back to about a century ago, after the First World War, whereas the other three result from agreements made during or after the Second World War.

Overall, the four Italian land borders now have a total length of about 1913 km and are demarcated by 8,042 boundary pillars².

1 A large historical reconstruction of the events that described the definition of the Italian land borders is reported by the monumental work written in four volumes by Vittorio Adami, *Storia documentata dei confini del regno d'Italia: Confine italo-francese*, Roma 1919; *Confine italo-svizzero*, Roma 1926–27; *Confine italo-austriaco*, Roma 1930; *Confine italo-jugoslavo*, Roma 1931. The topic, relating to the post-unitary period up to the First World War, was also recently taken up by Matteo Proto, in *I confini d'Italia. Geografie della nazione dall'Unità alla Grande Guerra*, Bononia University Press, Bologna 2014.

2 Official data of the Italian Geographic Military Institute.



Figure 1: *The four Italian land borders.*

The current border between Italy and France was determined on the basis of the Peace Treaty of February 10, 1947 and its maintenance is regulated by the provisions contained in the “Agreement between the Government of the Italian Republic and the Government of the French Republic on the maintenance of the boundary pillars and the border line”, approved by the Italian Parliament with the law of May 15, 1986, no. 231³. The border begins today at the mouth of the Rio San Luigi, between Ventimiglia and Menton, and ends at Mount Dolent (3,823 m). It has a total length of 515 km and is demarcated by 697 boundary pillars.

The border between Italy and Switzerland was agreed on, based on the “Convention between the Swiss Confederation and the Kingdom of Italy, [...]”, signed on July 24, 1941. It was enforced on September 23, 1942, with the law of June 21, 1942, no. 900⁴, which established the determination of the Italian-Swiss border in the stretch between Mount Dolent and Cima Garibaldi or Run Do and the rules for maintaining the boundary pillars of the entire Italian-Swiss border between Mount Dolent and Piz Lat or Piz Lad. The border has an overall length of 745 km, starting from Mount Dolent (3,823 m) and ending in Piz Lad (2,808 m), and is demarcated by 1,274 boundary pillars.

The border between Italy and Austria was drawn by the International Commission for the delimitation of borders, in the years 1920–24, in accordance with the “Peace Treaty concluded between Italy and Austria in Saint-Germain-en-Laye on

3 Gazzetta Ufficiale della Repubblica Italiana [Official Journal of the Italian Republic], no. 43, June 4, 1986, Supplemento Ordinario [Ordinary supplement] no. 127.

4 Gazzetta Ufficiale del Regno d'Italia [Official Journal of the Kingdom of Italy], no. 198, August 24, 1942, Supplemento Ordinario [Ordinary supplement] no. 198.

10 September 1919", approved with the law of September 26, 1920, no. 1322⁵ and was enforced on October 1, 1920; it was subjected to a new measurement and supplementary demarcation, carried out by mutual agreement from 1971 to 1981. The border today has a total extension of 430 km, starting at Piz Lad and ending at Mount Oven (1,508 m), and is demarcated by 2,644 boundary pillars.

The current border between Italy and Slovenia was outlined in the aftermath of the Second World War, on the basis of the "Paris Agreement of 1946", of the "Convention between the Government of the Italian Republic and the Federal Executive Council of the Assembly of the Socialist Federal Republic of Yugoslavia for the maintenance of the state border", signed in Nova Gorica on October 29, 1980 and ratified by the law of December 13, 1984, no. 970. This was followed by the "Ratification and execution of the Agreement between the Government of the Italian Republic and the Government of the Republic of Slovenia for the maintenance of the state border, made in Rome on March 7, 2007", approved by the law of November 19, 2010, no. 210⁶. The border has a total extension of 223 km, beginning in Mount Forno and ending between Muggia and Ancarano, and is demarcated by 3,427 boundary pillars.

As indicated above, the demarcation of these four border lines involved the construction of several thousand boundary pillars, of which, to date, 697 are located on the border with France, 1,274 are located on the border with Switzerland, 2,644 are located on the border with Austria, and 3,427 are located on the border with Slovenia. From this it is clear that the distribution of these boundary pillars has a fairly irregular interdistance.

The average distances between each boundary pillar are as follows:

- 738 m along the border with France;
- 585 m along the border with Switzerland;
- 162 m along the border with Austria;
- 65 m along the Slovenian border.

The substantial differences between these borders are generally due to historical and morphological reasons.

In particular, these few data clearly show the average distribution of the boundary pillars between Italy and Slovenia, defined in a historical period known as the "Cold War".

2 MAINTENANCE OF THE ITALIAN BOUNDARIES

Since 1941, Italy has entrusted the borders' care and maintenance with neighboring states to the Italian Geographic Military Institute (IGMI), so that the respective tracks would be well determined and preserved and could always be easily identified throughout their extension. This assignment has been fulfilled and it still complies with the bilateral agreements between Italy and the four neighboring countries.

These agreements provide for the use of special mixed Permanent Commissions, which are charged, each for the country to which they belong, to implement all the necessary provisions for keeping official documents and maintaining borders. For the com-

⁵ Gazzetta Ufficiale del Regno d'Italia [Official Journal of the Kingdom of Italy], no. 232, October 1, 1920.

⁶ Gazzetta Ufficiale della Repubblica Italiana [Official Journal of the Italian Republic], no. 290, December 13, 2010, Supplemento Ordinario [Ordinary supplement] no. 273.

position of these Commissions, each state appoints a president and their respective members. For Italy, the IGMI Commander chairs the Italian-Swiss and Italian-Austrian Commissions, whereas a representative of the Italian Ministry of Foreign Affairs chairs the other two Commissions, namely, the Italian-French and Italian-Slovenian. In addition, in this case, the reasons for these differences emerge from the particular historical moment when the official assignment to IGMI took place, in the middle of the Second World War.

In general, the task of these Commissions is to guarantee the maintenance of borders, and to do everything possible to ensure that they are defined unequivocally and are always clearly identifiable on the ground.

More specifically, Commissions must:

- “– check the position of the boundary pillars, arranging, where necessary, their accommodation in exact location;
- fix, straighten, lift the boundary pillars that are unsteady, inclined, or collapsed;
- ensure the legibility of the writing of each boundary pillar;
- repair or replace damaged boundary pillars;
- put on site boundary pillars where they are missing;
- materialize border with subsidiary boundary pillars, if it is not found sufficiently clear;
- transforming the direct materialization of the border into an indirect one, and vice versa, where deemed necessary, indispensable, and appropriate;
- move dangerous boundary pillars to a safe position;
- materialize the border on bridges, tunnels, in sections where the border intersects roads or railway bridges and, if necessary, in mines and other plants;
- determine, where necessary, the coordinates of non-materialized border points, in the sections in which the state border is defined in the border documentation by a ridge or watershed line⁷.”

Any possible variation in the border line can be performed only following the approval of the parliamentary authority. In Italy, the “Constitution of the Italian Republic”, according to the provisions of article 117, letter q, established that the legislation concerning the “protection of national borders” is an exclusive task of the State.

The most significant changes in recent years have been a direct consequence of the melting of glaciers on the Alpine peaks; as a result, the boundary line defined by the watershed was changed with the outcrop of the underlying rocky surface.

3 THE SO CALLED “MOVING BOUNDARIES”

During the periodic reconnaissance of the boundary pillars along the Italian-Austrian and Italian-Swiss borders, several phenomena involving the morphological transformation of some alpine glaciers have been observed, resulting from the climatic variations.

In these areas, where the ridge lines of the glaciers also identified the boundary lines, a discrepancy was therefore caused by the non-coincidence between these two elements. This phenomenon could be ignored, as normally occurs in the valleys, following

⁷ The actions listed here are taken from the «Agreement between the Republic of Austria and the Italian Republic for the maintenance, measurement and materialization of the common state border», signed in Vienna on January 17, 1994 and approved in Italy on October 31, 2000.



Figure 2: The red arrow indicates the position of the boundary line on the glacier ridge.

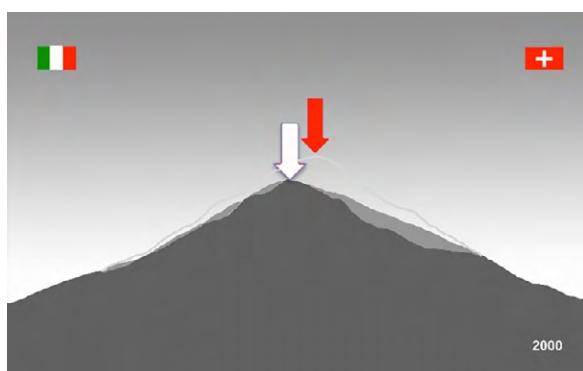


Figure 3: The white arrow indicates the position of the boundary line after the melting of the glacier.

the planimetric variation of the borders coinciding with the natural water courses, or it could be subjected to adjustment, as shown in figures 2 and 3.

These phenomena, observed for about a decade, between the 1970s and 1980s, led to a study of a proposal, previously discussed informally with the technicians of the Austrian and Swiss Commissions, on the basis of which, it was agreed on the need to “introduce, within the framework of the existing agreements [...] relating to the common border, a provision with which it is established that the border line coinciding with the glacier ridge can follow the gradual and natural changes of the ridge line, and therefore be considered moving”.

The proposal, after obtaining the consensus opinion of the respective commissions, Austrian and Swiss, was followed by an exchange of verbal notes between the diplomatic representatives of the countries concerned and was subsequently presented to the Italian Parliament for the expected approval. The new agreement with Austria was approved by the Italian parliament by a law on December 15, 2005, no. 283, “Ratification and execution of the Agreement between the Italian Republic and the Republic of Austria for the maintenance, measurement and materialization of the common state border, with final Protocol and Attachments, made in Vienna on January 17, 1994 and

the related Exchange of supplementary letters signed in Rome on October 31, 2000⁸; the agreement with Switzerland was approved by a law on May 29, 2019, no. 72, "Ratification and execution of the Exchange of Notes between the Italian Republic and the Swiss Confederation relating to the 'moving' borders on the ridge or river line, carried out in Rome on May 23 and 26, 2008"⁹.

More specifically, for the Italian-Austrian border, article 3 of the law of December 15, 2005, no. 283, which established that:

- "(1) The state border, defined in article 1, is stable even if it runs on water.
- (2) There where the state border according to the documents referred to in Article 1 paragraph 3 is expressly defined by the river line or the ridge line, follows the gradual natural changes to which these lines are subject. Sudden natural alterations or artificial alterations of the displuvial line or of the ridge line do not involve any change of the border route, however in such cases the Contracting States will proceed to the verification of the border route based on its unmistakable recognition.
- (3) For the purposes of this Agreement, 'waterway line' means the line on which runoff water separates on the ground. In this regard, water infiltrations in the lower layers of the soil are not considered. As regards the concept of "land" referred to in this paragraph, in the case of glaciers or perennial snowfields, we mean their surface.
- (4) Pursuant to paragraph 2, gradual natural changes of the displuvial line or ridge line are intended in particular:
 - a) The displacement of the ridge line as a consequence of erosion, as well as
 - b) The displacement of the waterway line following alterations of glaciers or perennial snowfields; in case of contraction of a glacier or a perennial snowfield, the boundary line will coincide with the displuvial line on the emerging rocky terrain."

For the Italian-Swiss border, the "Verbal Note" attached to the law of May 29, 2019, no. 72 established that:

- "1) Where the state border route, based on the documents described in art. 19 of the 'Provisions for the execution of maintenance works on the terms of the Italian-Swiss border from Piz Lat and Piz Lad to Monte Dolent, based on the Convention and related Regulations between Italy and Switzerland, signed in Bern on July 24, 1941' is expressly defined by the displuvial line or by the ridge line, it follows the gradual natural changes to which these lines are subject. On the other hand, sudden natural alterations or superficial alterations of the displuvial line or of the ridge line do not entail any change in the course of the border. In this case, the contracting States will be able to agree on a solution which may also include an exchange of equivalent areas.
- 2) 'Displuvial line' means the line on which the runoff waters separate on the ground. In this regard, water infiltrations in the lower layers of the soil are not considered.

8 Gazzetta Ufficiale della Repubblica Italiana [Official Journal of the Italian Republic], no. 6 January 9, 2006 – Supplemento Ordinario [Ordinary supplement] no. 4.

9 Gazzetta Ufficiale della Repubblica Italiana [Official Journal of the Italian Republic], no. 143 June 23, 2009, Supplemento Ordinario [Ordinary supplement] no. 97.

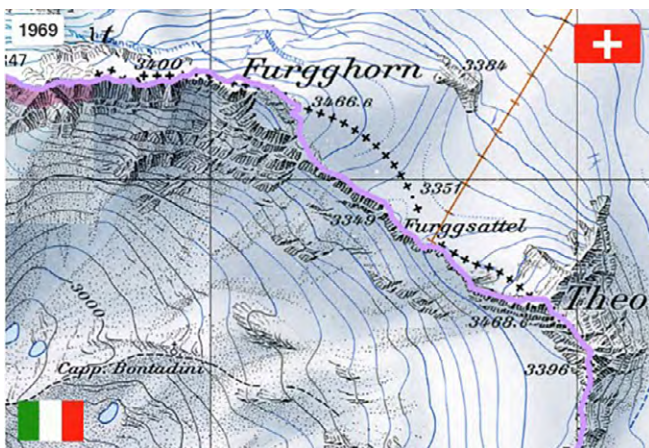


Figure 4: Example of variation of the current boundary line, highlighted with purple line, compared to that of 1940, indicated by continuous black crosses in 1967 as results on the Swiss Official Map (Source: <https://www.swisstopo.admin.ch/it/conoscenze-fatti/limite-territoriale/confine-nazionale/confini-in-movimento.html>).

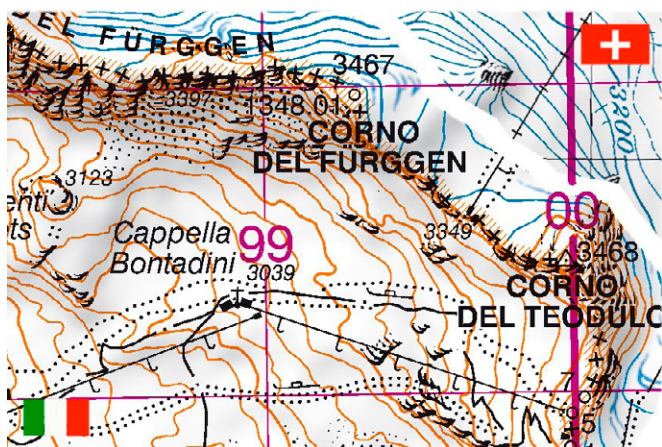


Figure 5: The same example of variation of the current corrected boundary line, indicated by continuous black crosses, as results today on the Official Topographic Map of Italy 1:50,000, sheet no. 71 – Monte Rosa (2018 edition).

- 3) In accordance with the previous point 1), 'gradual changes of the displuvial line or of the ridge line' means in particular the displacement of the growth line as a consequence of erosion, as well as the displacement of the displuvial line following alteration of glaciers or perennial snowfields; in case of contraction of a glacier or a perennial snowfield, the boundary line will coincide stably with the displuvial or ridge line of the emerging rocky terrain, and can only follow the deviations described in the previous point 1)."

Following the sharing of this general principle and its approval by Parliament, this measure then jumped to the headlines when the "moving border" were established

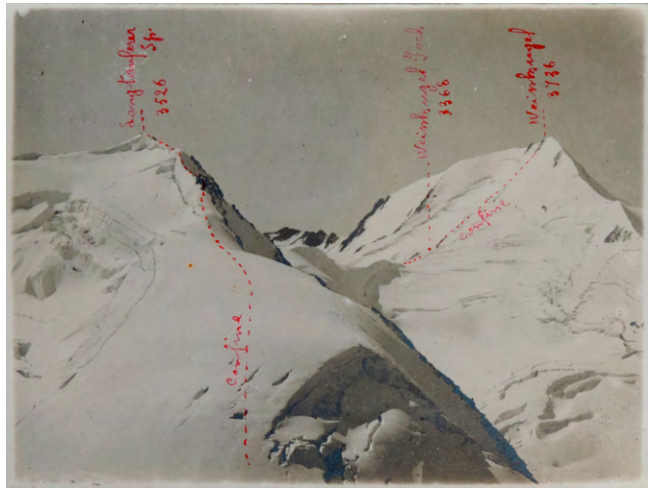


Figure 6: View on Monte Palla Bianca from the Vedretta della Croda in 1922 (IGMI Boundaries Archive, Florence – Italy).



Figure 7: View on Monte Palla Bianca from the Vedretta della Croda in 2012 (Photo by Simone Bartolini – IGMI)

and caught the attention of scholars (Ferrari *et al*, 2019). In fact, it should be noted that the legal references and agreements concluded between Italy and Austria, and Italy and Switzerland have not introduced any form of automation in the management of their borders, contrary to what was perceived by the use of the phrase “moving border”.

Apart from the subtle differences present in the texts of the two agreements mentioned above, the novelty introduced by these rules does not entail “any integration or variation of the regulatory content that in this case regulates the matter”, as clearly highlighted in the bill presented to the Italian Parliament (Camera dei Deputati, 2009, p. 2); it only tends to highlight and accept the principle according to which “the boundary route can follow the gradual and natural changes to which the ridge lines or glacier lines are subject for climate-induced variations” (Camera dei Deputati, 2009, p. 3).

To give an idea of the extent of the deviations of the boundary lines from the natural watershed line, observed in recent years in several dozens of cases, it is worth mentioning, for example, the deviation detected in the municipality of Zermatt, in Switzerland, where, during the periodic reconnaissance of the border pillars, in 2000, a deviation in the watershed line was observed between Theodulhorn and Furgghorn, due to the retreat of the corresponding glacier. Following this transformation of the topography in certain places, it was agreed to modify the boundary line between the two neighboring states, and to act similarly regarding the Italian territory. The effects of the withdrawal of the glacier are clearly highlighted by the Swiss Federal Topography Office, Swisstopo, and the Italian Geographic Military Institute, as shown in figures 4 and 5 and in the photos in figures 6 and 7.

4 FINAL REMARKS

At the end of these short notes, it should be noted that the idea of “moving borders”, linked to the cases previously illustrated, takes on an exceptional dimension in the collective imagination, even if in fact it results in little or nothing exceptional.

Obviously, the measure appears innovative because of the adjective “moving”, which no one would have thought of associating with the term “border”.

In the most ancient civilizations the boundaries corresponded with the so-called “zonal border of isolation, consisting of strips of uninhabited and hardly practicable territory, covered by wild or desert areas” (Migliorini, 1948, p. 121). For the delimitation of properties, instead, the border was materialized with a line, associated with the idea of “static”, “fixity”, “immovability”, including a dimension of sacredness, introduced by the Etruscans and amplified by the Romans, with the creation of the god Terminus, in defense of private property, while, among the populations at the time, Julius Caesar reminds us that “*civitatis maxima laus est quam latissime circum se vastatis finibus solitudines habere*” [*It is a great merit for cities to have deserted territories around them as widely as possible*] (Caesar, *De Bello Gallico*, VI, 23).

It is perhaps because of this very important tradition, from which the laws of all modern states were inspired, that the provision termed “moving borders” appears even more significant, precisely because it was “born” in the same land where the god Terminus was born and worshiped. The direct heirs of the culture that had elevated the concept of the border on a sacred plan have in fact demolished its sacredness and sanctioned its variability over time.

The Italian geographer Giorgio Valussi had already pointed out that “The border is a purely artificial fact conceived by man and not by nature and therefore subject to change not only its layout, but also its value [...] There is no border predetermined ‘ab aeterno’, as there is no static border, immobile outside of time” (Valussi, 1972, p. 7). This is proved by the innumerable ‘ghost’ borders existing in Italy, which even today some people try to revive as zombies, in the name of an undefined and poorly known past.

Nonetheless, the diffusion of the idea of a border that can move over time, albeit very slowly due to the physical changes of the earth’s surface, has taken on an exceptional nature.

The aspect that most interests the scientific community is that this principle is limited to other territorial contexts, first of all, the river borders, which by their very nature,

involve much more “moving” than the ridge or watershed. This is true even if in such cases the principle is not applicable because the floodplain of a river, much more than an erosion bed, is not influenced, for example, only by the nature of the soil, the rainfall, and the size of the catchment basin. Importantly, it is also influenced by the presence of buildings or road construction due to the anthropogenic pressure on the territory and, in exceptional cases, it can even be deviated accidentally or with a specific intentionality.

Furthermore, one should not ignore the fact that even today the problem of borders, despite having become over time a necessity for social life, driven by an awareness of the existence of sometimes conflicting interests between neighboring communities, is sometimes addressed by neglecting or ignoring history or using it instrumentally to affirm or deny a particular *status quo*.

In general, however, since borders belong to mankind, we should definitely reject the idea of a border as an entity of separation between communities and strive instead to transform the current borders into administrative limits, aimed only at facilitating the administration and management of the territories, as in the inspiring principles of the Shengen agreement, created within the European Union. However, even this principle, although ideally shared by the vast majority of people, is not easy to implement.

On the theoretical level, thinking of the real construction of a world society of Men, the words of two famous thinkers of the past always remain valid: Thomas More and Charles-Louis de Secondat, baron of La Brède and Montesquieu.

Regarding the treaties between neighboring states, Thomas More wrote in his *Utopia*: “This royal practice of keeping treaties badly there is, I suppose, the reason the Utopians don’t make any; perhaps if they lived here they would change their minds. However, they think it a bad idea to make treaties at all, even if they are faithfully kept. A treaty implies that people divided by some natural obstacle as slight as a hill or a brook are joined by no bond of nature; it assumes they are born rivals and enemies, and are right in trying to destroy one another except when a treaty restrains them. Besides, they see that treaties do not really promote friendship; for both parties still retain the right to prey on one another, insofar as careless drafting has left the treaty without sufficient provisions against it. The Utopians think, on the other hand, that no one should be considered an enemy who has done no harm, that the kinship of nature is as good as a treaty, and that men are united more firmly by good will than by pacts, by their hearts than by their words.” (More 2016, p. 89).

To this we can also add the thought of the famous French philosopher, Charles-Louis de Secondat, baron of La Brède and Montesquieu, who wrote in his *Pensées*: “Si je savais une chose utile à ma nation qui fût ruineuse à une autre, je ne la proposerais pas à mon prince, parce que je suis un homme avant d’être français, ou bien parce que je suis nécessairement homme, et que je ne suis français que par hasard.” [*If I knew something was useful to my nation but ruinous to another, I would not suggest it to my prince because I am a man before being a Frenchman, or because I am necessarily a man and only a Frenchman by chance.*] (Montesquieu 1991, n. 350, p. 285).

Despite the high moral teaching of these thoughts, the need for a practical attitude instead of a theoretical one must still be accepted.

Certain and shared borders still remain an unavoidable necessity, not only in those areas of the world where contrasts and wars still dominate, but also for the peaceful states.

The need to define the sovereignty of a state, to establish territorial competences and precise jurisdictions must still be ensured by the monumentation of the borders, through specific technical-scientific activities that generally involve allocation, delineation, demarcation, delimitation, documentation, and maintenance (Haim Srebro and Maxim Shoshany, 2013, pp. 20–38). Situations such as those that we highlighted along the Italian-Slovenian border, today led us to rationally believe that boundaries with high-density border pillars certainly offer greater guarantees and reduce the possibility of conflicts between two neighboring states.

The idea of “separation” that they inevitably evoke may perhaps in the future be mitigated by their downgrading to the administrative limits of a larger state entity; however, the specter of the possible upsurge of certain tribal behaviors, driven by conflicting interests, can always reawaken the contrasts between “us” and “them” and feed the desire to erect walls.

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ACKNOWLEDGEMENTS

The following experts are acknowledged for their valuable contributions to this FIG Publication:

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Special Acknowledgement

Very special thanks to the honourable **Prof. Moshe Brawer** for the knowledgeable and invaluable thorough peer review of the entire publication;

Special thanks to the FIG Council and FIG Commission 1: Professional Standards and Practice for their support and encouragement;

Special thanks also to the Survey of Israel, an Affiliate Member of FIG for its support, including Eti Benin, Hana Landman, Lea Ezra, Ohad Shmueli and Lena Rubinstein for their support with the maps and illustrations;

Thanks to the Association of Licensed Surveyors in Israel, a Member Association of FIG;
Last but not least, many thanks to the FIG Office and its staff for administering the process of the print version, and in particular coordinating the layout, printing and dispatch.

FIG PUBLICATIONS

The FIG publications are divided into four categories. This should assist members and other users to identify the profile and purpose of the various publications.

FIG Policy Statements

FIG Policy Statements include political declarations and recommendations endorsed by the FIG General Assembly. They are prepared to explain FIG policies on important topics to politicians, government agencies and other decision makers, as well as surveyors and other professionals.

FIG Guides

FIG Guides are technical or managerial guidelines endorsed by the Council and recorded by the General Assembly. They are prepared to deal with topical professional issues and provide guidance for the surveying profession and relevant partners.

FIG Reports

FIG Reports are technical reports representing the outcomes from scientific meetings and Commission working groups. The reports are approved by the Council and include valuable information on specific topics of relevance to the profession, members and individual surveyors.

FIG Regulations

FIG Regulations include statutes, internal rules and work plans adopted by the FIG organisation.

List of FIG Publications

For an up-to-date list of publications, please visit www.fig.net/pub/figpub

ABOUT FIG



International Federation of Surveyors is the premier international organization representing the interests of surveyors worldwide. It is a federation of the national member associations and covers the whole range of professional fields within the global surveying community. It provides an international forum for discussion and development aiming to promote professional practice and standards.

FIG was founded in 1878 in Paris and was first known as the Fédération Internationale des Géomètres (FIG). This has become anglicized to the International Federation of Surveyors (FIG). It is a United Nations and World Bank Group recognized non-government organization (NGO), representing a membership from 120 plus countries throughout the world, and its aim is to ensure that the disciplines of surveying and all who practise them meet the needs of the markets and communities that they serve.

International boundaries of a state define the territorial limits of its sovereignty and the area where its laws are applicable. 193 UN member states have over seven hundred international boundaries on land and in the sea. Surveyors play a central role in the boundary making process. Stability of boundaries is of utmost importance in peace keeping throughout the world. The International Court of Justice stated that “In general, when two countries establish a frontier between them, one of the primary objects is to achieve **Stability and Finality**” (The Temple Case, 1962).

The lack of clarity in defining international boundaries between states has been one of the main reasons for territorial disputes and ensuing wars. Part of the problems of boundary delimitations resulted from selection of unstable common natural geographic features that have been chosen for delimitation of boundary lines. Such are boundaries in rivers, used for about one third of the land boundaries. Shorelines, lakes and glaciers are other examples. The origin of many natural geographic feature based problems is an outcome of climate changes and global warming. Many others are a result of man-made activities. Another source of instability of boundaries refers to dynamic land moving due to tectonic activities. Unfortunately, the numerous cases of disputes regarding past delimitation of natural boundaries, and especially river boundaries, show big disadvantages of natural boundaries.

This FIG Publication deals with river boundaries, elaborating on the practical case of the Jordan and Yarmuk Rivers. It deals with boundaries in lakes and elaborates on the practical case of the Dead Sea. It deals with the Italian boundaries on melting glaciers and the “moving border” approach. In addition, it deals with issues of instability of boundaries due to tectonic plate movement, including issues of geodetic reference systems for boundary documentation.

This FIG Publication has been initiated and edited by Dr. Haim Srebro, who has already developed methodology of a process driven boundary making model (FIG Publication 59), following almost fifty years of practical experience in boundary making, including boundary delimitation in rivers and lakes. The practical part has been prepared by senior practical professionals, with expertise in boundary delimitation and demarcation. Three of them served as Director Generals of national surveying and mapping organizations (Dr. Haim Srebro in Israel and Dr. Bill Robertson and Prof. Don Grant in New Zealand), one served as chief geographer (Prof. Andrea Cantile in IGMI Italy), and one served as chief surveyor in UN international boundary missions (Vince Belgrave).

This FIG Publication has been prepared under the framework of the FIG Commission 1: Professional Standards and Practice work plan for 2019–2022. It is intended to promote the sharing of methodological knowledge and experience regarding delimitation of international boundaries and to promote peace throughout the world.