**The Slavic Field in Norway**[[1]](#footnote-1)

Laura A. Janda, UiT The Arctic University of Norway

Slavic studies in Norway have been shaped by specific facts that facilitated the development of the field, described in Section 1. Section 2 approaches the current state of our field in Norway from the perspectives of language teaching, linguistics, literature and culture, as well as publication venues and special resources for Slavists. I conclude in Section 3 with comments on current trends and what they mean for the future.

**1. The Genesis of Slavic Studies in Norway**

There are three factors that form the backdrop for the study of Slavic languages and cultures in Norway, and one needs to be aware of these in order to make sense of how the field has developed in this country. These factors are: 1) the circumstances of Norway’s geographical position, particularly in the High North; 2) the unique influence of the first Norwegian Slavist, Olaf Broch; and 3) the role of the Norwegian military in training generations of Russian experts. In addition, the Russian lexicographer Valerij Berkov must be credited for compiling a comprehensive set of dictionaries connecting Russian and Norwegian.

**1.1 Location, Location, Location**

There are several components to Norway’s geographical relationship to Russia: a land border, a marine border, and an Arctic archipelago. The geopolitical fact of the asymmetric relation between little Norway and its “big neighbor” (cf. Holtsmark & Nielsen 2015) permeates Slavic studies in Norway. This explains Norway’s primary focus on Russia with relatively little attention to other Slavic nations.

Far above the Arctic Circle at its northeastern extreme, Norway shares a short (196km) land border with Russia, drawn by a treaty in 1826. For the most part, the relationship along the land border has been friendly, based for centuries on mutually-advantageous trade between Russia (offering surplus grain) and Norway (offering surplus fish). Cross-border business was the necessary precondition for the development of a pidgin language, alternatively known as *russenorsk* or *моя по твоя/moja på tvoja*, that was in use for at least 150 years, until the border came to be sealed and guarded by Soviet troops. Since the end of the Cold War, relations have had some ups and downs. There is a limited visa-free arrangement currently in place for designated areas near the border. But from the larger perspective of the Norwegian Parliament vs. the Moscow Kremlin, relations soured considerably after the annexation of the Crimea in 2014, and deteriorated even more in 2017-2018, with arrests of alleged spies on both sides, and the permanent closure of the Norwegian University Centre in St. Petersburg (which supported scholarly exchange) precipitated by a Russian police raid.

More recent and much more extensive is the marine border that went into effect in 2011, which divides the Barents Sea between the two lands. This second and more important border was long the subject of disagreement, largely because of resources in terms of offshore oil and natural gas, as well as fish (mostly cod) in the region, which both sides patrol for violations. The marine border runs between two archipelagoes, with Svalbard (alternatively known as both Spitzbergen and Grumant in Russian) to the west and Frans Josefs Land to the east. Although Svalbard is administered by Norway, Russia continues coal mining operations there. Over 400 inhabitants populate the village of Barentsburg year-round, complete with apartment buildings, a school, and a museum dedicated to documenting the history of Russian presence in the archipelago.

The Norwegian Ministry of Foreign Affairs supports the Barents Secretariat (est. 1993), dedicated to promoting Norwegian-Russian relations in the High North by funding scholarly and cultural projects in the region. The Secretariat also runs a bilingual Norwegian-Russian news website, *The Barents Observer* (<https://thebarentsobserver.com/en>).

**1.2 Olaf Broch, the Primogenitor of Slavic Studies in Norway**

The first scholar of Slavic studies in Norway has arguably exerted as much influence as the border. Every Norwegian Slavist points back to the same source: the legendary Olaf Broch (1867-1961), who was not only Norway’s first professor in the field (1900-1937 at the University of Kristiania, now known as Oslo), but a scholar of major international repute as well.[[2]](#footnote-2) Broch’s career as a Slavist began when his father, a merchant, sent young Olaf to Moscow in 1887 in order to learn Russian with the aim of expanding trade for the family business. This journey set in motion encounters and collaboration with Slavic linguists already established in other countries, among them Johan August Lundell (Uppsala), Aleksej A. Šaxmatov (St. Petersburg), August Leskien (Leipzig), and Vatroslav Jagić (Vienna). Broch undertook fieldwork on several Slavic languages, including Russian dialects, Serbian, Bulgarian, and the transitional zone between Slovak and Ukrainian. The data he collected served as the basis for his landmark book *Slavische Phonetik* (1911), and partially informed his *Håndbok i elementær fonetik* (Handbook of elementary phonetics, 1921, co-authored with E. W. Selmer), which reigned as the standard textbook in the field for many decades in Norway. Broch is likewise known for pioneering work on *russenorsk*, the above-mentioned Russian-Norwegian pidgin language. Voted in as a member of the Academy of Science of Kristiania (now the Norwegian Academy of Science and Letters) at the tender age of twenty-nine, Broch went on to collect honorary memberships in the academies of Russia, Serbia, Austria, Czechoslovakia, Poland, and Bulgaria.

In Broch’s time the Slavic field was not divided up into subdisciplines of language pedagogy, linguistics, literature and area studies; instead Broch mastered all of these branches. His *Russisk grammatikk* (*Russian Grammar* 1936) and *Russisk lærebok* (*Russian Textbook* 1945), were staples in the field in Norway for decades. Broch translated both Tolstoy’s *Anna Karenina* (in 1911) and Dostoevsky’s *Brat’ja Karamazovy* (1915) into Norwegian, and the latter version was re-issued in subsequent editions until 1991. Broch delivered scathing criticism of Soviet Bolsheviks in his book *Proletariatets diktatur* (*Dictatorship of the Proletariat* 1923), attacked pseudoscience in the USSR (citing Trofim Lysenko among others), and in 1949 he was excluded from the Soviet academy.

When Broch retired in 1938, it took two professors to fill his shoes: Christian Stang in linguistics (1900-1977, most famous for his book *Slavonic Accentuation* in 1957) and Erik Krag in literature (1902-1987, author of *Kampen mot Vesten i russisk åndsliv* / *Struggle with the West in Russian Spirituality* in 1932 and biographer of Tolstoy and Dostoevsky). From there the family tree of Norwegian Slavists begins to spread out, continuing the line of linguists and literature specialists in Oslo, and later adding expertise also in Bergen and Tromsø, where Broch’s own grandniece, Ingvild Broch, taught the first Russian courses when that university was established in the early 1970s.

**1.3 The Norwegian Military’s Russian Course**

In 1954 the Norwegian military launched an intensive Russian course, initially with the aim of training officers capable of interrogating Russian-speaking prisoners of war. This Russian course has gone through many incarnations in intervening decades, and is now (since 2014) part of the Intelligence College of the Armed Forces (Forsvarets etterretningshøgskole). Known for its highly-competitive entrance examinations and uncompromising standards, the Russian course enlists an elite cohort of students each year. Unlike the Defense Language Institute in Monterey, California, which had limited influence on the evolution of Slavic studies in the US (with the late Charles Townsend, once a pupil in Monterey and subsequently professor at Princeton, as a notable exception), the Norwegian military’s Russian course has played a major role in the development of the Slavic field. A large portion of Norwegian scholars of Slavic languages got their start in the military Russian course, among them Jostein Børtnes (1937- , Professor emeritus of Russian literature at the University of Bergen), Erik Egeberg (1941- , Professor emeritus of Russian literature at the University of Tromsø), Alf Grannes (1936-2000, Professor of Russian linguistics at the University of Bergen), Geir Kjetsaa (1937-2008, Professor of Russian Literature at the University of Oslo), Terje Matthiassen (1938-1999, Professor of Russian linguistics at the University of Oslo). All of these individuals are landmark figures in the field. The Norwegian military’s Russian course has furthermore cemented a connection between Slavic studies and leadership in political and other domains in Norway, since many of its graduates who did not pursue academic careers in Russian went on to become famous politicians, journalists, and scholars in other fields. Studying Russian in Norway carries a certain prestige due to this connection.

**1.4 Berkov’s Dictionaries**

Native speakers of English might find it difficult to appreciate the situation of language learners and scholars who lack an authoritative dictionary that directly translates from their native language to Russian (or any target language). Until the publication of Berkov’s Russian-Norwegian dictionary in 1987 (published in the USSR, with a Norwegian edition in 1994), Norwegians had to use Russian-Swedish and Russian-German dictionaries to triangulate for translation equivalents, with guesswork filling in the gaps. The reverse direction, Norwegian-Russian came even later, in 2003, and both dictionaries included collaboration with Norwegian colleagues and were supported by Norwegian financing. These dictionaries represent watershed moments in the history of Slavic studies in Norway.

**2. The Current State of the Art in Norway**

Today Slavic studies are part of the curriculum and research profile of three universities in Norway: the University of Oslo (UiO), the University of Bergen (UiB), and the University of Tromsø (UiT).[[3]](#footnote-3) This section gives an overview of the language programs ad research in linguistics and literature/cultural/area studies at these three universities, as well as some special resources. There are no standardized exams nor any admissions process for BA programs in the humanities in Norway; anyone with a high school diploma can enroll. Undergraduate BA programs in Norway are completed in three years, with nearly all courses focused on the student’s major. MA programs last two years and include the writing of a fairly substantial thesis that must demonstrate original research. The arrangement of PhD studies in Norway is very different than in the US, and since there are no Slavic PhD programs as such, I do not describe PhD studies here. PhD students are individually hired into temporary faculty positions tied to specific research groups or projects such as those mentioned in Sections 2.2 and 2.3 below, and there are PhD students writing dissertations in connection with such projects at all three universities. In keeping with the current practice in Norway of organizing academics in project-based research groups, description in this survey is at the level of groups, areas of expertise, and recent or current research projects. I do not undertake an inventory of faculty and their publications, since that information is accessible over the Internet (on university websites and through the Current Research Information System in Norway: <https://www.cristin.no/english/>).

Most Norwegian Slavists are members of the Norwegian Association of Slavists (Norsk slavistforbund), which is part of the larger Nordic Association of Slavists (Nordisk slavistforbund) that comprises sister organizations in Sweden, Denmark, and Finland. Every three or four years this larger organization holds a conference, called the Nordisk Slavistmøtet, in one of the four countries. This organization also maintains the journal *Scando-Slavica.*

**2.1 Language Pedagogy**

Slavic languages are taught at UiO within the Department of Literature, Area Studies and European Languages. In the late twentieth century UiO expanded its offerings also to Slavic languages other than Russian, but in recent years the language courses have gradually contracted and Bulgarian has been eliminated. Today there is a BA program in Russian and a second BA program in other Slavic languages: Polish, BCS, and Czech. In the latter program, students choose among the three languages (with Polish and BCS as the most popular choices, partly due to the presence of heritage speakers in those courses) and take a cluster of shared courses in central European and Balkan history, minority policies, and political systems. The MA is a joint program for all four languages, within which students select among the options of language, literature, and area studies, with some courses shared by all students (e.g., courses on translation and research practice in Slavic studies).

At UiB and UiT, Russian is the only language that is offered, with degree programs for both the BA and the MA at both institutions. At UiB these degrees are housed within the Department of Foreign Languages. The BA at UiB includes courses in Russian literature and culture, Russian history, and comparative European cultural studies, and the MA allows students to choose among specializations in Russian literature, culture, or language (linguistics). At UiT, the relevant degrees are specializations within the Department of Language and Culture. There are two options available at both the BA and the MA level, namely Russian (language and literature/cultural studies) and Russian Studies (including courses in history and political science).

All of the programs at all three universities are currently implementing extensive revisions in hopes of making Russian/Slavic language studies “relevant” and more cost-effective, largely by including more area studies courses and more shared courses both within and beyond Russian/Slavic. At UiT these revisions include an obligatory short-term internship program and a BA thesis, with these features and also some courses shared across all BA programs in the department.

A limited number of Norwegian high schools offer Russian courses. Since 2008, the Kongsbakken high school in Tromsø has run a “Norwegian-Russian School” in Murmansk as a joint project of the two muncipalities. This program brings Norwegian and Russian students together in a single classroom for an entire year that includes language instruction, and students from any high school in Norway are welcome to apply.

**2.2 Linguistics**

Specific areas of expertise at UiO include formal semantics applied to Russian (especially in the analysis of aspect and tense), cognitive linguistics applied to South Slavic languages, discourse analysis, and Russian dialectology. Linguistic research on Slavic languages is a component in a number of research projects that include cross-linguistic or multidisciplinary perspectives. “GRAMNORUS” (Grammatikk fra et norsk-russisk perspektiv/Grammar from a Norwegian-Russian perspective) connects linguists in Norway and Russia who research Scandinavian and Slavic languages as well as Celtic, Anatolian, and Ancient Greek and Latin. “SynSem” (Syntax and Semantics) is “an interdisciplinary effort bridging theoretical and computational linguistics, aiming to promote advances in formally oriented syntax and semantics with a view to improved models and methods of language understanding” that draws on expertise from both ancient (Latin and Greek) and modern (Germanic, Romance and Slavic) languages. The project “Discourses of the Nation and the National” addresses language ideologies and the integration of nations into the European Union.

At UiB linguistic expertise focuses on Russian sociolinguistics and dialectology, the latter in connection with northwest Russian dialects and Sámi-Norwegian language contact. Colleagues at UiB have undertaken fieldwork expeditions to the Kola Peninsula and also investigated Russian regional prosody and urban speech. The research group for Lexical Structures and Processes has a broad scope, including linguists across the spectrum of languages taught at UiB, working on topics relating to the lexicon or the lexicon-syntax interface.

UiT is the home of the CLEAR (Cognitive Linguistics: Empirical Approaches to Russian) research group, with projects involving the semantics of Russian verbal prefixes, grammatical constructions, the factors that guide the selection of “rival forms” (expressions that are formally different but semantically nearly identical), and the history of Russian. Russian aspect, the quantitative study of language data (usually from corpora and linguistic experiments), and research relevant to improving language pedagogy are recurring themes in CLEAR’s portfolio. Research on Norwegian-Russian bilingualism and acquisition is conducted within the LAVA (Language Acquisition, Variation & Attrition) research group. Additional areas of expertise at UiT include Russian dialectology, paleography, and hagiography.

**2.3 Literature, Culture, and Area Studies**

UiO has expertise in Russian literature; contemporary Bosnian, Croatian, and Serbian literature and culture, memory studies; Polish literature of the nineteenth and twentieth centuries and Polish screen culture after 1989; Czech literature, with focus on the history of the book and reading. A cluster of projects investigates symbols, historical myths, national holidays, and representations of self and other in connection with nation-building in Russia and the Balkans. The “Multilingualism and Multiculturalism in Habsburg Central Europe” research group investigates “the diachronic and synchronic dimensions of multilingualism in Habsburg Central Europe and its links to the everyday experience, perceptions and cultural expressions of multilingualism among diasporic communities from Central Europe now living in Scandinavia”. The cultural heritage of reading is central in two projects that connect UiO to other European universities: READ-IT (Reading Europe Advanced Data Investigation Tool) and the “Books and Politics” research group.

The scholarly milieu at UiB is particularly connected with philosophy and the history of ideas (Mjør & Cyganov 2019), supporting literary analysis in connection with philology and the examination of linguistic structures. Projects in this vein include “Landslide of the Norm: Linguistic Liberalization and Literary Development in Russia in the 1920s and 1990s” and “The Future of Russian: Language Culture in the Era of New Technology”, both centered on the evolution of language use in Russia and the politics of language. Research groups that support relevant research at UiB are “The Borders of Europe”, “Literature and Science”, and “Aesthetic Imaginaries”, all of which are interdisciplinary and involve multiple languages and cultures.

The “Russian Space: Concepts, Practices, Representations” research group is housed at UiT, a multidisciplinary endeavor that studies Russian attitudes to their own and other people’s/nations’ spaces – including private, public, urban, rural, outer, virtual and shared/contested ones, analyzed from literary, linguistic, media, environmental, historical, indigenous, gender, geopolitical and other angles. The group also works in the newly established discipline of Svalbard Studies, examining the coexistence and mutual perception of Russia- and Norway-owned businesses, services and research units in the Svalbard archipelago. These pursuits inform research-based teaching in course modules such as “Russia Today”, “Madness in Russian culture”, “Language of the Russian Media”, “Film Adaptations of Russian Fiction” and “East/West on Screen”.

**2.4 Periodicals, Corpora, and Other Special Resources**

Several peer-reviewed periodicals depend entirely or partially on the expertise of Norwegian Slavists. The managing editor of *Scando-Slavica* is Norwegian (Ingunn Lunde, UiB). *Poljarnyj vestnik* is an online Open Access journal that publishes scholarly articles on Slavic languages, literatures and cultures under the auspices of the Norwegian Association of Slavists (jointly edited by Ingunn Lunde, UiB and Tore Nesset, UiT). The working languages of both journals are primarily English and Russian. *Oslo Studies in Language* (also Open Access, published in English), while not limited to any language or group of languages, is co-edited by a Slavist (Atle Grønn, UiO) and lists five other Slavists (including one from UiO and one from UiT) in its editorial board.

A series of corpora and other online resources are publicly available or under development thanks to Norwegian efforts. The PROIEL (Pragmatic Resources in Old Indo-European Languages, <https://proiel.github.io/>) corpus is an annotated treebank of ancient texts, including the Old Church Slavonic *Codex Marianus*. A sister resource named TOROT (Tromsø Old Russian and OCS Treebank, <http://torottreebank.github.io>) is an expansion of the Slavic part of the PROIEL project, with seven additional texts of Old Church Slavonic and over thirty texts of Old Russian. RuN (Russian Meets Norwegian, <http://nevmenandr.net/run/tools/>) is a parallel corpus of Russian and Norwegian literary texts. Dialectology is represented in the Oslo Corpus of Pskov Dialects (<http://tekstlab.uio.no/pskov/>) and the Spoken Corpus of Regional Russian Urban Speech (SCoRRUS, under development at UiB). The “Exploring Emptiness” database (<http://emptyprefixes.uit.no/index.php>) is a searchable inventory of 1,981 Russian aspectual verb pairs. “UDAR” (<https://victorio.uit.no/langtech/trunk/langs/rus>) is a finite-state transducer Russian morphological analyzer/generator designed for language-learning applications, particularly those that deal with stressed wordforms. The Russian Constructicon ([https://spraakbanken.gu.se/karp/#?mode=konstruktikon-rus](https://spraakbanken.gu.se/karp/)) provides definitions and examples for nearly seven hundred (with more being added) grammatical constructions of Russian, focusing on constructions that are opaque to learners, such as *net, net da i* + Verb ‘X-ing now and then’. The SMARTool (Strategic Mastery of Russian Tool, under development) gives learners access to the wordforms that are of highest frequency for a basic vocabulary of Russian (3000 lexemes and a total of 9000 wordforms), with each wordform contextualized in examples of typical constructions and collocations. Norwegian Slavists have played a leadership role in launching the Tromsø Repository for Language and Linguistics (TROLLing, <https://dataverse.no/dataverse/trolling>), an international archive of linguistic data and statistical analyses.

**3. Perspectives: Looking into the Future**

Slavic studies in Norway face challenges similar to those in other countries in Europe and North America. Positions are often not replaced when faculty members retire or leave for other reasons, a situation that is particularly acute in Oslo, where traditional Slavic philology can be expected to disappear entirely in the foreseeable future. The population of Norway is small (five million), and the programs in all three universities (with the possible exception of Russian at UiO) attract relatively few students, reflecting the overall trend of undergraduates to steer away from the humanities. The Norwegian Ministry of Education and Research, along with the administrations of the universities, are increasingly adopting the models of industrial production with respect to higher education. Under these models, two metrics are considered decisive: enrolments and completed degrees (measured as the percentage of students who finish a program that they have enrolled in). Because there are no admissions standards and Russian is considered “hard” to learn for a Norwegian, student attrition is relatively high in our programs (though not higher than attrition in Russian programs in the US). These numerical facts put our programs under continual pressure to be eliminated or watered down, either by reducing the core of programs in order to make way for area studies and other “socially useful” topics, or by using part-time underqualified instructors instead of professional language pedagogues. The Norwegian Research Council (which has supported many of the projects listed in Sections 2.2 - 2.4) is restructuring its funding of the humanities to require more interdisciplinary projects, perhaps to the detriment of basic research in our field. While the Slavic field is still fairly strong in Norway, it is difficult to be very optimistic about the future.

**References**

Berkov, Valerij. 1987. *Russko-norvežskij slovar’ = Russisk-norsk ordbok*. Moscow: Russkij jazyk.

Berkov, Valerij. 1994. *Stor russisk-norsk ordbok.* Oslo: Kunnskapsforlaget.

Berkov, Valerij. 2003. *Stor norsk-russisk ordbok = Bol’šoj norvežsko-russkij slovar’*. Oslo: Kunnskapsforlaget.

Bjørnflaten, Jan Ivar, Geir Kjetsaa, Terje Mathiassen (eds.) 1998*. A centenary of Slavic studies in Norway : the Olaf Broch Symposium, Oslo 12-14 September 1996 : papers.* Oslo: Norwegian Academy of Science and Letters.

Broch, Olaf. 1911. *Slavische Phonetik*. Heidelberg: C. Winter.

Broch, Olaf. 1923. *Proletariatets diktatur: set og tænkt fra forsommeren 1923*. Kristiania: Aschehoug.

Broch, Olaf. 1936. *Russisk grammatikk*. Oslo: Aschehoug.

Broch, Olaf. 1945. *Russisk lærebok*. Oslo: Aschehoug.

Broch, Olaf and Ernst W. Selmer. 1921. *Håndbok i elementær fonetik*. Kristiania: Aschehoug.

Dostoyevsky, Fyodor. 1915. *Brødrene Karamasov.* [Translated into Norwegian by Olaf Broch] Kristiania: Gyldendalske boghandel.

Egeberg, Erik. 2003. Forskerprofil Olaf Broch. Årbok 2003. Oslo: Det Norske Videnskaps-Akademi, 223-236.

Holtsmark, Sven Gabriel & Jens Petter Nielsen. 2015. Norge og Russland 1814-2014: Et asymmetrisk naboskap. In: Sven Gabriel Holtsman (ed.), *Naboer i frykt og forventning. Norge og Russland 1917-2014*. Oslo: Pax Forlag, 633-640.

Karelin, V. A. and Kari Myklebost. 2017. Professor Olaf Brok i ego russkij mir. *Istorija* 8. DOI: 10.18254/S0001856-0-1.

Krag, Erik. 1932. *Kampen mot Vesten i russisk åndsliv*Oslo: [Universitetsforlaget](https://no.wikipedia.org/wiki/Universitetsforlaget_(1950%E2%80%931999)).

Krag, Erik. 1937. *Leo Tolstoj*. Oslo: Gyldendal.

Krag, Erik. 1962. *Dostojevskij*. Oslo: Gyldendal.

Lönngren, Tamara. 2015. “…prošu ne zabyt’, čto est’ u Vas drug”: Olaf Brok i Aleksej Aleksandrovič Šaxmatov. *Slovo. Journal of Slavic Languages, Literatures and Cultures* 56, 37–57.

Mjør, Kåre Johan and Aleksandr S. Cyganov. 2019. Izučenie russkoj mysli v Norvegii: osnovnye vexi i predstaviteli. *Istorija filosofii* 2.

Stang, Christian. 1957. *Slavonic Accentuation* Oslo: I kommisjon hos H. Aschehoug.

Tolstoy, Leo. 1911. *Anna Karenina*. [Translated into Norwegian by Olaf Broch] Kristiania.

1. I would like to express my thanks to the colleagues who responded to my queries about programs and areas of expertise: Silje Susanne Alvestad, Jan Ivar Bjørnflaten, Ingvild Broch, Brita Lotsberg Bryn, Višnja Čičin-Šain, David Pineda Dijkerman, Hanne M. Eckhoff, Erik Egeberg, Karen Gammelgaard, Steinar Gil, Knut Andreas Grimstad, Atle Grønn, Helgi Haraldsson, Kjetil Rå Hauge, Lillian Jorunn Helle, Pål Kolstø, Roar Lishaugen, Tamara Lönngren, Ingunn Lunde, Kåre Johan Mjør, Kari Myklebost, Svein Mønnesland, Tore Nesset, Trond Gunnar Nordenstam, Margje Post, Andrei Rogatchevski, Svetlana Sokolova, Yngvar B. Steinholt, Elisa Storchi, Ljiljana Šarić, and Stijn Vervaet. I can’t do justice to all of the information that they provided in the space of this article. This article merely provides an overview to give outsiders some perspective on the evolution and scope of Norwegian Slavic studies. [↑](#footnote-ref-1)
2. Norwegian Slavists have penned numerous histories of Broch as well as scholarly works in his memory, and the information in this section is drawn primarily from these sources: Egeberg 2003, Lönngren 2015, Karelin & Myklebost 2017. [↑](#footnote-ref-2)
3. The full official name of the latter university has recently been expanded to “UiT The Arctic University of Norway” subsequent to the merger of multiple educational institutions above the Arctic Circle. [↑](#footnote-ref-3)