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Recent years have seen an explosion of ‘handbook’-style academic works, and among linguists this phenomenon is especially pronounced. This reflects not just new voices, new views and new research agenda that have entered the intellectual mainstream in the past half century, but also a sense that some fields have become mature enough that, for nonspecialists, it is no longer possible to fully command the burgeoning literature in particular fields. Works summarizing the state-of-the-art have thus become repeatedly necessary. In the *Oxford Handbooks* series alone, not only are there handbooks of morphological theory (Audring et al. 2019) and comparative syntax (Cinque and Kayne 2005), there are also handbooks on more niche subjects like grammatical number (Hofher & Doetjes 2021), linguistic prosody (Gushoven & Chen 2021), ellipsis (Van Craenenbroeck & Temmerman 2019), polysynthesis (Fortescue, Mithun & Evans 2017), and ergativity (Coon, Massam & Travis 2017). This surely reflects a positive development: we know more things about human language than we used to.

§1 Structure

The *Oxford Handbook of the Languages of the Caucasus* reflects all these intellectual developments. Yet the book is ambitious in scope: it attempts at nothing less than a survey of the full linguistic diversity of this famous yet still poorly understood region of the world. To a great extent, it achieves this through an ingenious internal structure, effectively several books within a book. Without precisely defining what a ‘Caucasian’ language is – thus obviating the indigeneity question – the *Handbook* provides an overview of this diversity at different levels of generalization. The first section sets the tone with three chapters giving a linguistic snapshot of the region and a review of its scholarly history (Ch. 1 Polinsky), the sociolinguistic functions of the region’s multilingualism (Ch. 2 Dobrushina, Daniel & Koryakov), and ethnology and demography necessary to understand how the languages have related to each other historically and today (Ch. 3 Kazenin). Then follow twelve discursive chapters that delineate four of the six linguistic phyla extant in the Caucasus: Nakh-Daghestanian (Ch. 4 Ganenkov & Maisak), Abkhaz-Adyghean (Ch. 10 Arkadiev & Lander), Kartvelian (Ch. 12 Testelec), and Indo-European (Ch. 14 Belyaev), after each providing one or more chapters elucidating the grammatical properties of exemplary (usually less well-documented) languages within that phylum in a nested fashion, with each language under its own phylogenetic heading. Thus the chapter on Dargwa (Ch. 5, Sumbatova) follows the more general Nakh-Daghestanian, while a joint chapter on Abaza and Abkhaz (Ch. 11 O’Herin) follows Abkhaz-Adyghean and Megrelian (Ch. 13 Rostovtsev-Popiel) follows Kartvelian. Furthermore, because each

language survey provides applies a roughly comparable amount of information about each domain of grammar, readers can make direct comparisons that are sometimes lacking in dispersed specialist literature.

The final section of the book provides ten chapters on typological-theoretical phenomena that examine the region's languages from an orthogonal angle: segmental phonetics and phonology (Ch. 16 Begus), word-stress and tone and intonation (Chs. 17 & 18 Borise), ergativity (Ch. 19 Ganenkov), the syntax of noun-phrases and determiners (Ch. 20 Ozturk & Eren), agreement (Ch. 21 Foley), binding and indexicality (Ch. 22 Ganenkov & Bogomolova), correlatives (Ch. 23 Demirok & Ozturk), ellipsis (Ch. 24 Erschler) and information-structure (Ch. 24 Forker). These chapters analyze phenomena that are mentioned either only in passing or are entirely undiscussed in previous literature, or have never been before been discussed from a regional perspective. This pronounced modular structure of the *Handbook* thus would allow readers and instructors to examine and teach only those families, languages or typological phenomena that interest them most, but at the same time allows for much discussion that would otherwise of necessity be left out in the other sections. But in what follows, rather than recapitulating each chapter, I would like to explore some of the implications of these authors' research, noting along the way where in the *Handbook* a given result or scientific finding may be found.

§2 The Typological Challenges of Rarity

The Caucasus as a region may be said to present two main sets of challenges for scholars seeking to understand the depth and breadth of its linguistic diversity: rarity and areality. Of these, it is perhaps the first that stands out most saliently, as the region is famously a locus for typologically rare or even unique structural properties not characteristic of languages from other parts of the world (see Tables 1 & 2, with citations from the *Handbook*). This fact is sometimes not fully appreciated even by scholars of the region, who tend to focus narrowly on their own language family or linguistic niche. Thus of the four sets of typologically rare phonological contrasts in the *World Atlas of Language Structures* (Haspelmath et al. 2005), all four are attested in the Caucasus: two abundantly, labio-velar(ized) and pharyngeal(ized) consonants; one marginally (a voiced lateral interdental fricative [ɬ] in Kabardian and Adyghe); and one paralinguistically (clicks, though not present as phonemes in lexical words, are found in Georgian and several Daghestanian languages often in specialized registers). But the extent to which *rara* and *rarissima* are found in the Caucasus is not just wide, but also deep, since we find not only grammatical categories that are unusual in other parts of the world, rare subcategories, uncommon numbers of subcategories or the absence of common categories, and rare combinations of categories, we also find that the ways categories behave within or are distributed between constructions challenge linguists' understanding of typological norms.

Table 1: Categorical Rarities in Caucasian languages

Categorical Behavior	Type of Rarity
Rare Categories	<ul style="list-style-type: none"> • Labiovelar(ized) consonants (across AA and ND) • Pharyngeal(ized) consonants (across AA and ND) • Ejective fricatives (in Kabardian and Ubykh, 15.2.2.2) • Palatalized uvulars (in Abaza and Ubykh, 9.2.1) • Secondary articulations on glottal stops (in Abzakh Adyghe, 15.2.2.1) • Multiple secondary articulations (e.g. [q^ʷʷ] in Ubykh, 15.2.2.1) • Velar lateral fricatives and affricates (in Archi, 15.2.3.2) • Fortis/geminate glottalized lateral affricates (15.2.3.2) • Morphological optatives (throughout the region) • Morphological numerative (in Ossetian, 13.4.2) • Morphological orientation (in Tanti Dargwa, 4.4.4.3) • Morphologization of spatial contact vs. separation (in Megrelian, 12.7.3) • Morphological expressivity in Budukh (Alexeev 1994:270) • Distinct categories of elevation, location and orientation in spatial deixis (in Avar and other ND languages, 3.4.2, 6.4.2)
Rare numbers of (sub)categories	<ul style="list-style-type: none"> • Number of lateral consonants (in Akhvakh, 15.2.3.2) • Number of genders (in some ND languages, e.g. Batsbi, 3.4.1) • Number of cases (e.g. in Tsez, 3.4.2; see also Comrie & Polinsky 1998) • Predicates with four or five arguments • Recursively increasing valence (in AA languages; Lander & Letuchiy 2010)
Absence of Common Categories	<ul style="list-style-type: none"> • A vertical vowel system (in AA, 15.2.2.3) • The marginality of /k/ and /g/ (in Ubykh, 15.2.2.1) • SOV order but little/no case-marking (in Abkhaz, 1.2) • No/few valence decreasing processes (in most AA and ND languages) • Inclusive/exclusive contrast for verb agreement present only in object agreement (in Old Georgian; Fähnrich 1994)
Rare combinations of categories	<ul style="list-style-type: none"> • Both a dative and lative strategy for recipients in ND (1.6.3) • Distinct performative optatives and desiderative optatives (3.5.6) • A single pronoun to express both 1PL inclusive and 2PL (in Itsari and Shari Dargwa, 3.4.3)

Table 2: Constructional Rarities in Caucasian languages

Constructional Domain	Type of Rarity
Phonetics and Phonology	<ul style="list-style-type: none"> • Labiovelars realized as doubly-articulated (15.2.2.1) • Final voicing (in Lezgian, 15.4.5.2) • Syllabically heavy onsets (in Tsakhur, 16.7.2) • Harmonic consonant clusters (in Kartvelian, 11.2.4) • Exceedingly large clusters of five or more onset consonants (in Georgian, 11.2.4)
Morphology	<ul style="list-style-type: none"> • Exuberant exponence in Batsbi (3.5.10) • Focus gemination in Chechen and Abkhaz (15.4.3) • Endoclititics in Udi (20.2.3) • Mesoclititics in Lak (5.6) • Frequent use of separable morphomic suffixes to create oblique stems (in most ND languages, 3.4.2) • Large numbers of suppletive stems for verbal tense, mood, aspect, person or number in Georgian • Frequent circumfixes in Kartvelian (11.8, 12.6.2; Harris 2010) • Basic non-derived verbs forming a closed class in Archi (7.5.1), Ingush (8.5.1) and Udi (Harris 2008)
Syntax and Alignment	<ul style="list-style-type: none"> • Agreement for gender and number but not person (in most ND languages, 3.4.1) • Hierarchical alignment in Lak and Dargwa (3.6.7, 18.6.3) • Adverbs, particles, postpositions and even personal pronouns as agreement targets (in many ND languages, 20.2) • Backward raising constructions in Adyghe (9.7.3) • Ellipsis of verb and case-marked head noun (but not other parts of NP/DP (23.4.1) • Morphosyntactic inversion in Kartvelian (20.4.2; Wier 2011) • Multiple coexisting patterns of basic case assignment depending on tense and modality in Kartvelian (11.6, 12.8.2.2) • Violation of syntactic island constraints: <ul style="list-style-type: none"> ▪ the coordinate structure constraint in Tanti Dargwa (4.8.3) ▪ <i>wh</i>-question islands in Laz (22.4.2)

Each of these grammatical traits taken individually presents the analyst with questions of ontological significance: how did they arise and function, and why do they persist? But taken all together they can pose an intimidating list that resists any one simple explanation. To take an example from the Udi language (§20.2.3), person-number markers on verbs can appear as suffixes attached to the verb (1a), as enclitics to separate negators (1b) and focal items (1c), as mesoclititics between a verb root and a light-verb stem (1d) and even as endoclititics inside otherwise inseparable verb roots (1e):

1. Distribution of Udi person markers

- a. q'ačag-ğ-on bez tängin-ax bašq'-al=*q'un* (Harris 2002: 117)
 thief-PL-ERG my money-DAT steal-FUT.II=*3PL*
 'Thieves will steal my money.'
- b. nana-n te=*ne* bu^šga-b-e p'a^š ačik'alšey (Harris 2002: 117)
 mother-ERG not=*3SG* find-LV-AOR.II two toy.ABS
 'Mother did not find two toys.'
- c. q'ačag-ğ-on bez tängin-ax=*q'un* bašq'-e (Harris 2002: 119)
 thief-PL-ERG my money-DAT=*3PL* steal-AOR.II
 'Thieves stole *my money*.'
- d. nana-n bu^šga-*ne*-b-e p'a^š ačik'alšey (Harris 2002: 122)
 mother-ERG find-*3SG*-LV-AOR.II two toy.ABS
 'Mother found two toys.'
- e. q'ačag-ğ-on bez tängin-ax baš<*q'un*>q'-e (Harris 2002: 122)
 thief-PL-ERG my money-DAT steal<*3PL*>-AOR.II
 'Thieves stole my money.'

If one wanted to teach a student the principles of such verb agreement, one of the most ubiquitous features of Udi grammar, how would one do that? Although there is an answer, discussed at length in Harris' magisterial *Endoclititics and the Origins of Udi Morphosyntax* (Harris 2002), it is not a straight-forward one: some verb tenses obligatorily take person markers as suffixes onto the verb stem, while other verb tenses allow these markers to float as clitics onto other constituents of the clause, and mesoclitization and endoclitization occur only as last resorts when other rules do not apply. She showed, to be clear, that this is not just or solely a problem of theoretical interpretation, but rather one inherent in the data itself.

Many various explanations have been proposed for why such typological *rara* arise and persist over time; some good summaries can be found in Plank (2003), Harris (2008), Harris (2010), Grossman (2016), Round (2019); see Table 3. What is clear is that not all proposed causes express the same role in explaining the distribution of rarities within and between languages. A voluminous literature exists discussing what features may or must be part of the human linguistic endowment (see Newmeyer 2005 and Haspelmath 2008 for extended discussions), but such studies have not always proven empirically successful in predicting which features would be present or common as a consequence. We would for example certainly expect that among stop consonants bilabial, coronal and velar places of articulation are universal or nearly so, but in Ubykh plain velar stops like [k] and [g] without secondary articulations are marginal (§15.2.2.1); they exist only in Turkish and Circassian loanwords – this despite one of the largest consonant inventories of all languages! Most linguists would also agree that functional forces formally distinguishing different

Table 3. Proposed causes of crosslinguistic rarity of features

Metatype	Factor	Rare Feature	Documentation
Innate Endowment	not present in language endowment	marginality of /k/ and /g/	Ubykh, 15.2.2.1
Function	dysfunctional	1pl/2pl pronoun syncretism	Itsari Dargwa, 3.4.3
Acquisition	not easily acquired	pharyngealization	in many AA and ND languages
Processing	not easily processed	violation of some syntactic island constraints	Tanti Dargwa, 4.8.3
Pathway	Few vs. many pathways	many circumfixes	in Kartvelian, 11.8
Stages	Many vs. few stages	endoclititics	Udi, 20.2.3
Source	Rare vs. common source construction	fortis glottalized lateral affricate	in some ND languages, 15.2.3.2
Type	Rare type of change	final voicing	in Lezgian, 15.4.5.2

speech-act participants would lead to the avoidance of pronominal syncretisms (Cysouw 2009), and yet in the Itsari and Shari varieties of Dargwa and the Alik dialect of Kryz, a single independent pronoun exists to mark first person inclusive and second person plural (§3.4.3).

First language acquisition (Kusters 2003) and cognitive processing (Goodluck & Rochemont 2013) have also sometimes been cited as reasons why some features fail to be found more frequently. According to the *World Atlas of Language Structures*, 4.1% of languages have pharyngeal consonants, and in one study of Ammani Arabic (Mashaqba et al. 2022), Jordanian children do not acquire ‘emphatic’ (pharyngealized) consonants until somewhat later than nonemphatic equivalents. There are as far as I know no studies of the acquisition of pharyngeals in any Caucasian language, and yet they are a common and apparently phylogenetically stable feature amongst Abkhaz-Adyghean and Nakh-Daghestanian languages, found in many different branches of those respective families; even if they are potentially acquired later in these languages, this has produced no demonstrative effect on their diachronic stability. Some of these languages also appear to violate expectations of processing norms, e.g. the following example (in §4.8.3) from Tanti Dargwa of extraction from a coordinate construction in =ra:

2. ʔa^hmad-li=ra sun-ni=ra mura d-ert^h-ib admi dila
 Ahmad-ERG=ADD self-ERG=ADD hay nH.PL-mow:PFV-PRES man 1SG:GEN
 x:ut:u=sa-j
 father.in.law=cop-M
 ‘The man that Ahmad mowed the grass with is my father-in-law.’

However one attempts to explain this construction, it is clearly not possible *because of* processing factors, but *despite* them.

Recent years have seen a movement away from explaining rarities through a single synchronic mechanism toward a more complex organic view that asks what kinds of preconditions are necessary for some kinds of rare constructions. In a series of publications, Harris (2002; 2010) has made a strong case that the Udi endoclititicization facts discussed above make sense only as the diachronic outcome of several individual stages each one of which, in and of itself, is typologically unexceptional but which cumulatively create highly unusual (and in Udi's case, perhaps typologically unique) final constructional patterns. Blevins (2009), Grossman (2016) and others have also argued that some constructions are rare because there are few stable logical or grammaticalizational pathways that lead to them; coronal deletion is simply not a common sound-change, so the absence of coronals is consequently a rare outcome. In the Caucasus, we might see Kartvelian's many circumfixes (§11.8) in the same light: circumfixes usually grammaticalize as the reanalysis of preexisting prefixal and suffixal material (Zingler 2022); circumfixes usually don't just appear in languages *ex nihilo*. Likewise, a fortis glottalized lateral affricate [tʃ'] found in a few languages of Daghestan (§15.2.3.2) such as Avar, Andi, and Hunzib only arises in languages that already possess robust fortis-lenis, glottalization and lateral contrasts. Finally, we might also point out that some structures may be simply rare, which is to say, we know too few sociohistorical, documentary and linguistic-diachronic facts about some languages to be able to make a clear assessment of some rare constructions. The rule of final voicing found in Lezgian may perhaps fall into this category (§15.4.2).

§3 The Caucasus as a *Sprachbund*?

But the fact that the Caucasus contains so many rarities in one relatively restricted region raises another question by implication: why so many rarities *here*? Why would so many typologically unusual linguistic features accumulate in this particular region and not others? As is well known, the Caucasus is certainly not phylogenetically uniform: at least three autochthonous (Abkhaz-Adyghean, Kartvelian, and Nakh-Daghestanian) and three other adjacent language phyla (Indo-European, Altaic and Semitic) are found there today. Because few modern scholars take seriously older views of 'Ibero-Caucasian' unity (see Tuite 2008 for an extended discussion), we can safely exclude phylogeny as the main explanation for why so many of these rarities are present across the region and across family boundaries.

Instead, we must look towards language contact. But this just pushes the question back one level: is the Caucasus truly a zone of contact? This old question, first raised by at least by Trubetzkoy (1931) in reference to the prevalence of glottalization, has garnered more attention in recent years as linguists direct more attention to the role

Table 4. Features proposed as constituting a *Sprachbund* in the Caucasus

	Trubetzkoy (1931)	Klimov (1965)	Catford (1977)	Tuite (1999)	Chirikba (2008)
Glottalized obstruents	✓	✓	✓	✓	✓
‘Rich’ consonantism					✓
‘Rich’ sibilant systems					✓
Ternary contrast of stops and affricates					✓
‘Pharyngeal’ / postvelar consonants		✓	✓		✓
‘Harmonic complexes’ of consonants			✓		
Agglutinative morphology		✓			✓
Prefixal SUBJ & OBJ agreement		✓			✓
Polysynthesis					✓
Directional preverbs			✓		✓
Ergative constructions		✓			✓
Inverse constructions					✓
Possessor>possessum word order					✓

that contact plays as a causal factor in language change. Perhaps the best survey of the question is found in Tuite (1999), who examined the array of proposed features that previous scholars such as Klimov (1965) and Catford (1977) had used to argue for a *Sprachbund*, and found that oft-touted presence of ergativity in the region manifests itself in quite radically different ways in the different indigenous language families: as head-marking agreement for person and number of all arguments in Abkhaz-Adyghean with little or no case-marking; as dependent-marking cases and verb agreement for gender and number in Nakh-Daghestanian; and as a yet very different system in Kartvelian, with both head-*and*-dependent marking of shifting case-arrays in different tense and mood paradigms and a complicated system of morphological blocking for subject and object agreement, more reminiscent of Algonquian than of Abkhaz or Avar.

And what is true of ergativity is also true of many of the other features mentioned by such authors: Klimov’s ‘pharyngeal’ feature holds true across the region only by stretching the meaning of that term beyond usefulness, as uvular consonants have a quite different and far broader cross-linguistic distribution than true pharyngeals (cf WALS Chs. 6 & 19, respectively), thus pushing Kartvelian out of the

language union's ambit. And it has become clear that languages with subject and object agreement are commonplace around the world: around 60% of the WALS sample have verbs with both A and P marking (WALS Ch 102). Thus if prefixal subject and object agreement strike us as unusual, it is really because those markers manifest as prefixes, which are considerably rarer for any inflectional morphology than suffixation is (WALS Ch. 26). So, many of these features much more plausibly reflect not any kind of areal typology so much as very broad general typological trends. In the end, Tuite also suggested as much, endorsing Trubetzkoy's earlier more cautious statement: 'Glottalization... appears to be a genuinely pan-Caucasian feature, just as Trubetzkoy noted over 60 years ago' (1999: 6). While a more recent survey by Chirikba (2008) took a more sanguine view of the idea, it is safe to say that regional specialists do not agree on precisely how and whether contact explains the particular shapes and modes of linguistic expression in the Caucasus.

This thus brings us back to our earlier question of why rarities seem as prevalent as they do in this region. If the accumulation of linguistic rarities in the Caucasus cannot be uncontroversially explained through phylogeny or contact, perhaps the answer is to be found in the underlying geographies that shape both phylogeny and contact. In much of her work of the last quarter century (Nichols 1992; Nichols 1997), Nichols has demonstrated the complex social interactions that human societies have with their environment extend even to the distribution of linguistic phyla around the world. She has discussed the Caucasus in particular as a classical residual zone:

The Caucasus serves as a refugium of sorts, attracting intrusive languages from the adjacent lowlands.... [t]hese intrusive languages have evidently absorbed speakers of preexistent languages, but there is no reason to believe they have obliterated whole languages, much less whole families. Intrusive languages, in other words, do not replace other languages or families but are added to them. Thus the Caucasus tends to increase in genetic and typological diversity over time. (Nichols 1992: 14)

That is, the geography and landscape of the region has shaped the way humans interacted with each other in such a way that its aggregate diversity rarely decreases significantly, but it often experiences episodes of increase in its linguistic diversity. This may provide an explanation for why rare features present in those languages are not lost, because they languages that bear them survive over long periods and are not eradicated by population and language shift. That is, the rarities become epiphenomena of the long-term success of the languages in which they are spoken. In such regions, features like endoclititics, glottalized lateral affricates, multiple coarticulations and others that are statistically unlikely to arise except over long periods of time simply do not die out as fast as they would in other regions where the rates of language replacement are

higher. Rarity, on this view, is actually unsurprising, given long enough periods of language maintenance.

§4 **The *Handbook* as a Guide for Future Research**

These issues of rarity and areality throw into sharp relief many of the most basic problems that typologists and area specialists face. The *Handbook* provides a fully state-of-the-art view to this rich heritage of how these languages function and arose. But what is the path forward? Fortunately, the *Handbook* provides some guidance on this issue as well:

- Although the *Handbook* itself provides one of the first overviews of stress assignment (§17), stress remains understudied or simply unstudied for many languages;
- Likewise, the chapter on tone (§18) is one of the first areal overviews of its kind, though tone is even less well-understood than stress in almost all languages of the region;
- The phonetic realization of certain phonological features differ quite significantly across the region, e.g. how does labialization in Abkhaz resemble or differ from that in Tanti Dargwa (§4.2.1) and Archi (§7.2.1)?
- The placement of Abkhaz negation markers, which can occur as a prefix or as a suffix, is still poorly understood (§10.5.7.1)
- Although the *Handbook* provides a wonderful chapter on discourse-functions in Caucasian languages (§25), some languages remain very understudied in this respect, e.g. Abkhaz (§10.8)
- The entire domains of first and second language acquisition are, with few notable exceptions (e.g. Imedadze and Tuite 1992; Stern et al. 2019; Yuksel et al. 2021), entirely unstudied for most languages of the region, and understudied for the rest

These lacunae should not be seen as critical areas that authors failed to consider, but, at nearly 1500 pages, areas the *Handbook* hardly had room to explore. Rather, they show in fact the vital and on-going state of research on the languages of the Caucasus.

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