



**LACUS  
FORUM  
XXXVII**

**Communication and Cognition:  
Multidisciplinary Perspectives**

McMaster  
University 

**Reprint**

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# LACUS FORUM XXXVII

**COMMUNICATION AND COGNITION:  
MULTIDISCIPLINARY PERSPECTIVES**

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VII



Historical  
Linguistics





# HISTORICAL LINGUISTICS AND CLIMATE CHANGE

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**Abstract:** Historical linguistics (HL) may be characterized by a contrast between almost mathematical rigor in some areas, and in others flights of fancy which would more properly belong in poetry. This paper will cite a commonplace theory, articulated most comprehensively by Jared Diamond, that the so-called historical sciences have far less explanatory power than the so-called hard sciences, and it will assume that HL, too, should be grouped under the historical sciences. Recently climatology, specifically the subfield of global warming/climate change (CC), has become a topic of general interest. Some scholars have made convincing arguments which amount to calling for grouping CC with the historical sciences as well, and therefore, CC and HL may be compared based on their shared status as historical sciences. The main purpose of the paper is to argue that HL provides an excellent intellectual basis for understanding the overall field of CC.

**Keywords:** Greenland, climate change (CC), complexity, historical sciences, variation, nomenclature, clouds, analogy, chance

**Languages:** Akkadian, Amerindian, Belarusian, Belgium, Central Russian, Classical Arabic, Classical Latin, Common Slavic, Contemporary Standard Russian, Dravidian, Dutch, English, Faroese, Farsi, Finnish, French, Gaelic, German, Germanic, Greek, Greenland Norse, Icelandic, Irish, Ket, Latin, Lithuanian, Lower Sorbian, Mandarin, Navajo, Norwegian, Old Norse, Old Russian, Orkney Norn, Polish, Portuguese, Proto-Indo-European, Romance, Russian, Sanskrit, Scandinavian, Scottish Gaelic, Shetland Norn, Slavic, Spanish, Turkic, Ukrainian, Upper Sorbian, Welsh

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“Imagine trying to figure out what the original Proto-Indo-European word for father was if you couldn’t deduce that the Latin word was *pater*, because French had replaced *père* with *Vater* from Germany next door and Spanish had replaced its *padre* with *pai* from Portuguese; nor could you figure out that English had borrowed *pai* from Spanish across the Strait of Gibraltar, whereas the Scandinavians had replaced their *fader* with *isä* from Finnish, and meanwhile over the millennia before you got to the scene, all of these words had been merrily morphing along through sound changes into new words barely recognizable as derived from the original ones.” (McWhorter 2001: 103)

HISTORICAL SCIENCES (HUMANITIES PLUS) VS HARD SCIENCES (MATHEMATICS AND PHYSICS). Some time ago Diamond (1997: 420-425) suggested that the sciences can be divided into two groups: the so-called hard sciences (e.g., mathematics and physics), and the so-called historical sciences (humanities plus, especially including the biological sciences, according to many scholars). The demarcation between the two groups should not be seen as absolutely rigid, see Orr (2006: 227-29), although describing it as a fully-fledged cline may be going a little far. Diamond (1997: 420-25) points out that the so-called historical sciences (humanities plus) have far less

apparent predictive and explanatory power than the so-called hard sciences (e.g., mathematics and physics) simply because of the vast number of variables that have to be taken into account in the former, including the oft-cited human factor, with its concomitant uncertainties including simple human error.<sup>1</sup> Other scholars have made similar remarks regarding the biological sciences, e.g., Simberloff describes ecology, as a “branch of science ... multifarious” (quoted in Quammen 1996: 482); Wilson (1999: 354) describes evolutionary biology as “... an intellectual caravanserai.”

I. THE PURELY THEORETICAL NATURE OF THE HARD SCIENCES. Physics has been dubbed the Queen of Sciences, and certain eminent physicists have allowed themselves to come across as disdainful of other branches of research, leading to an attitude that might be dubbed arrogance, see Orr (2006: 226), and the literature cited therein, also Wilson (1999: 94-95), who sees computer models as a result of physics envy. Wilson’s caveat that the theoretical physics/mathematics-based computer models so common nowadays nearly always fail when applied to the historical sciences should be viewed in the light of recent controversies surrounding CC, partly due to its increasingly controversial use of those very computer models, see, e.g., Lomborg 2001, especially 266-72, 294, 297-300, 414 note 2228 “poorly calibrated and unstable instruments,” 428 note 2680, below.<sup>2</sup>

The theoretical position of the hard sciences themselves, however, may not be as rigorously secure as their practitioners may assume, from the point of view of predictability.<sup>3</sup> Very often experiments have to be conducted under less than ideal conditions, which render their results considerably more problematic, see Plimer (2009: 338-339), discussed below in greater detail, see also Orr (2000: 79) for discussion of some problems with the oft-cited hypothetical experiment where a group of monkeys might eventually type out the complete works of Shakespeare.

<sup>1</sup> Diamond includes convincing argumentation in favor of the term historical sciences, and that usage will be followed in this paper, rather than soft sciences.

<sup>2</sup> Computer models as such have been applied to HL, albeit far less extensively than in CC, see Crowley & Bower (2010:136-59), who give a brief summary of the state of play, and, citing problematic approaches such as glottochronology and lexicostatistics, turn up as many difficulties as skeptics do with CC, echoing Plimer (2009: 145) cited below.

<sup>3</sup> An anonymous referee for this paper suggested that in practical terms modern technology attests to the reliability and predictability of the hard sciences. While this is generally true, it should be noted that, e.g., the all-too-common tendency of certain computer applications to crash and freeze adds a note of uncertainty among this overall “reliability and predictability”.

In any case, the very term “science” in English is loaded; I would prefer the use of science in the sense found in most European languages, e.g., Russian *nauka*, which covers a far broader range of scholarship, similar to the use of science in English political science, cf. the following listings in the catalogue (<http://disserr.ru/index.html>) of graduate dissertations accepted in Russia [translations mine – RAO]: Legal Sciences, Economic Sciences, Pedagogical Sciences, Psychological Sciences, Political Sciences, Historical Sciences, Philosophical Sciences, Philological Sciences, Geographical Sciences, Chemical Sciences, Biological Sciences, Geological and Mineralogical Sciences. Technical Sciences, Agricultural Sciences, Medical Sciences, Pharmaceutical Sciences, Veterinary Sciences, Military Sciences, and Earth Sciences, many of which would not be classed as sciences in English.



The human factor introduces a further complication: fallible humans making errors in the data. Fortey (2001: 188-89, 197-98) actually cites an instance where the use of data from one of the so-called historical sciences—palaeontology (a branch of biology) prompted a rethink of a theory based on data from one of the hard sciences: paleomagnetism (a branch of physics), involving the positioning of the Ordovician microcontinent of Avalonia (modern England and Wales plus Eastern Newfoundland). When different locations were suggested for its positioning, according to either the fossil distribution or the paleomagnetic data, the normal instinct would have been to accept the conclusions suggested by the paleomagnetic data. Fortey, however, shows that, in this instance insisting on the accuracy of the fossil distribution data prompted a reanalysis of the paleomagnetic data, which were later shown to have been faulty, see also Orr (2006:228) for further discussion of the human factor, see also Jacobs (2005:20), Orr (2009:190-91).

Caution, therefore, should be exercised in automatically ranking the hard sciences above the soft sciences from the point of view of rigor. The progress of human knowledge should not be viewed as a straight line. The fact that fallible humans are involved in doing hard science has introduced errors and irregularities into the field. The career of no less canonical a figure than Galileo is indicative, see Orr (2006:228). As the sheer complexity and number of variables involved in CC becomes clearer, we might expect that field to provide many similar examples. Here it should be noted that Plimer (2009:145): refers to the Antarctic Climate Anomaly. At first sight, to the educated, non-physicist layman, it might be expected that if CC were a hard science similar to physics and the claims of physicists were valid, it would be free of anomalies; Colarusso 2003, however, discusses the issue of anomalies in physics (which he describes as the hardest of sciences) in considerable detail, including the history of the discipline,<sup>4</sup> and makes explicit a comparison with linguistics, albeit synchronic linguistics, and not HL, which would have strengthened his arguments.

2. CLIMATOLOGY (CLIMATE CHANGE/GLOBAL WARMING) AS A HISTORICAL SCIENCE. Echoing Diamond, several authors on CC have drawn attention to the vast number of variables in that area that have to be taken into account, amounting to calls for grouping CC with the historical sciences, e.g., Fagan (2000: xix) on the Little Ice Age (ca. 1350-1850): “Hudson Bay Company history, European oil paintings, the North Atlantic oscillation, Dutch sea defenses,” see also Fagan (2008:12); Singer & Avery (2008: 48-50; see also the literature cited therein) add data from outside Europe, especially various Chinese and Japanese records (arrival dates of migrating birds, distribution of plant species, elephant migration patterns, floods and droughts, real earnings (China); dates of cherry blossom viewings and lakes freezing, in addition to weather “events” (Japan)), to show that the Medieval Warm Period (ca. AD 950–1250) was a truly global phenomenon; Brown (2001: 8): “Such reductionism [Ockham’s Razor–RAO] is hard to apply to extended atmospheric science and its en-

<sup>4</sup> Colarusso lists a number of errors and anomalies in physics, such as, e.g., the possible height of a mountain; the flight of the bumblebee; the orbit of Mercury (2003: 10; 12-13).

vironmental connotations. There are so many variables, each and every one difficult to abstract in the **non-laboratory** [emphasis mine–RAO] conditions that obtain.” In a similar vein Winchester’s study of the eruption of Krakatoa and its impact, albeit not declared a study of climatology as such (2003: 6-7), cited geology, vulcanology, urban studies politics, religion,<sup>5</sup> sociology, economics, psychology as factors to consider in its wider context; Jacobs (see below) provides some further caveats to add to the amount of data that need to be taken into account in the historical sciences. Recently a comprehensive survey of the field of CC has appeared: Plimer (2009), which describes those variables in considerable detail. A glance at the table of contents shows Plimer listing “history, archaeology, geology, astronomy, ocean sciences, atmospheric sciences, and the life sciences” (2009:12), and he goes on to say

“Climate science lacks scientific discipline. Studies of the Earth’s atmosphere tell us nothing about future climate. An understanding of climate requires an amalgamation of astronomy, solar physics, geology, geochronology, geochemistry, sedimentology, tectonics, palaeontology, palaeoecology, glaciology, climatology, meteorology, oceanography, ecology, archaeology, and history (2009:15)”<sup>6</sup>

and

“Computer simulations tell a different story from reality and indicate that the oceans will soon become acid. Experiments with seawater are flawed because they are done in laboratories removed from the ocean floor rocks, sedimentation from continents and flow of river waters into the oceans. It is these real processes that have kept the ocean alkaline for billions of years. **Laboratory experiments have to provide results in a short time to be reported in scientific journals** [emphasis mine–RAO]. Processes over geological time can’t be that easily replicated

...

Computer simulations that ignore observation and natural processes that have taken place over billions of years end up with a result unrelated to reality. Reality is written in rocks, not models based in incomplete information. (2009: 338-39)”.

A further complication is cited by Lomborg (2001: 414 note 2228): “poorly calibrated and unstable instruments”. Therefore, Simberloff’s “multifarious” and Wilson’s “intellectual caravanserai”, cited above, might equally be applied to climatology as to biology.

3. HISTORY: THE CASE OF GREENLAND. In several ways at the margins of CC, Greenland, especially Southern Greenland, provides an ongoing excellent example of how history must be factored into any discussion thereof.

Greenland was first reached from the south during the Medieval Warm Period, and was first perceived as an attractive destination, see Orr 2011 and the literature cited therein for more details; for discussion of the latest research, see also Plimer (2009: 63-72) for the Medieval Warm Period (2009: 78-79) and for the Little Ice Age.

<sup>5</sup> Winchester includes a chapter (2003: 317-338) arguing that militant Islam may have been given a boost by the conditions obtaining after the eruption; many of the incidents he describes have a curiously modern ring.

<sup>6</sup> Plimer really should have included linguistics in his list.

The optimistic outlook of the first settlers in Southern Greenland—simple statements of fact at the time—may be contrasted with that expressed in the much later popular folksongs (falling well within the Little Ice Age):

**Greenland Whale Fisheries**

*(at least 1725, (Williams & Barnes 1959:115))*

...Oh, Greenland it is a dreadful place, **a land that's never green,**

Where there's **ice and snow**, and the whale fishes blow, and the daylight's seldom seen...

and:

**Farewell to Tarwathie**

*(ca. 1850, (Darach Recordings 2012))*

... **Where the icebergs do fall and the stormy winds blow**

**Where the land and the ocean is covered with snow**

**The cold coast of Greenland is barren and bare**

**No seed time nor harvest is ever known there**

And the birds here sing sweetly in mountain and dale

But there's no bird in Greenland to sing to the whale...

Meanwhile a recent issue of National Geographic (June 2010) has suggested that Greenland may be returning to a state approximating the conditions of the Medieval Warm Period.<sup>7</sup>

4. LINGUISTICS: CLOSER TO THE HISTORICAL SCIENCES THAN TO THE HARD SCIENCES. HL can boast a complexity equal to that of CC. Serious historical linguists are well aware that on those rare occasions when they are actually able to check their reconstructions against real data, they sometimes find that these reconstructions are confirmed,<sup>8</sup> and sometimes only approximated,<sup>9</sup> and therefore it would appear that HL should also be grouped under the historical sciences. This overall complexity of

<sup>7</sup> In this context it should be noted that the bogs and meadows denoted by the Central Russian toponyms treated by Ahlqvist (2006 12-13; 20-41), apparently denoting the sites of former lakes, may well be the result of CC, and should also be cited within its context. Focusing on roughly the same geographical area, Uino (2006: 358) calls for a multidisciplinary study which would integrate "archaeology ... historical sources ... linguistics ... ethnography and folklore ... physical anthropology ... [and] ... palaeoecology" in order to determine and reconstruct patterns of settlement. In the light of the material cited here, CC should also be integrated into such a study, and make its contribution to a comprehensive survey of landforms, flora and fauna, and archaeology.

<sup>8</sup> For a comprehensive discussion of subsequent confirmation of prediction-based reconstruction, with numerous examples, see Priestly 1972.

<sup>9</sup> Schmalstieg's brief discussion (1980: 6-7) of the almost total loss in Romance of the complex case and declensional system inherited from Classical Latin provides an oft-cited example of such approximations:

"Certainly the preponderance of the evidence would lead us to reject a reconstruction for Latin which showed case endings (if only the Romance languages were attested). In fact, it is hard to see how anything but **bold speculation** would ever lead one to such a conclusion. A careful scholar would surely conclude that on the basis of attested languages that it was a **provable conclusion** that the ancestor language had no case endings. **This is a good example, however, of how speculative fantasy would give us a more accurate account** [emphasis mine—RAO] than a careful accounting of the facts."

linguistics even extends to determining its proper place within scholarship, see Orr (2006: 227-29, 231-32, 234 fn., 235 fn.), and the literature cited therein, also Wilson (1999: 94). All areas of scholarship, not only sciences or quasi-sciences, make use of the term law for phenomena that they seek to explain, and linguistics is no exception. The “laws” of linguistics, however, are generally far too intricate to be easily equated with the laws of mathematics or physics, and in any case, by no means all linguists even use the term “law”, see Orr (2006: 229), and the literature cited therein for detailed discussion. Furthermore, earlier optimism over the prospects for the development of mathematical linguistics seems to have declined during the last century. Nowadays it is difficult to imagine any repetition of the comparative optimism expressed by Baudouin de Courtenay in the 1920’s:

*«C’est aux mathématiques de l’avenir qu’il reste maintenant à systematiser les phénomènes psychiques et sociaux. Si ces mathématiques apparaissent, viendra alors le temps d’établir de vraies lois régissant le monde physique et social en général et celui des phénomènes linguistiques en particulier. Ces lois, elles seront bien dignes de prendre place à côté des lois des sciences exactes, exprimées par des formules fixant avec une précision absolue entre les rapports quantitatifs entre les phénomènes physiques.» (1927-28:325)*

Nowadays a more accurate state-of-play assessment is provided by Tabakowska (2003:399-400), who captures the sheer complexity of the field rather nicely:

“It is now obvious to most that models of natural languages which postulate unconditioned discreteness of linguistic categories are too simplified to (not to say simplistic) to provide satisfactory descriptions of anything but selected samples of presanitised or artificial data.

...

Pragmatic features have to be taken account of, and introducing the human factor necessarily turns deterministic rules into probabilistic principles. On the other hand it allows for subtler distinctions that make possible more comprehensive interpretations and more complete descriptions.”

One area where language actually does seem to be mathematical, however, may be glimpsed in the canonical, fairly widespread SOV (Subject-Object-Verb) pattern, as exemplified by constructions attested over a wide range of languages, where SOV word order often implies a host of other features, and knowledge of the SOV pattern in, e.g., Turkic, allows one to map the pattern onto, e.g., Dravidian for language-learning purposes, see Orr (2006: 230) and the literature cited therein. Also, for most of the nineteenth century, developments in Indo-European (IE) linguistics appeared to point more and more clearly to an underlying regularity in language evolution which for a time appeared to be closer and closer to discovery, and which was expected to impart more rigor to linguistics, moving it ever closer to the hard sciences, revealing regularities where previous investigators had seen, and cheerfully accepted, irregularities. The cumulative effect of such discoveries was to lead to the formulation that sound-laws had no exceptions, thus apparently adding far greater scientific rigor to linguistics, see Orr (2006:230-31), and the literature cited therein, for further details. Nevertheless, the apparent tendency towards ever-greater scientific rigor in HL and reconstruction could not be sustained. All sorts of actual exceptions to sound laws

kept emerging, as illustrated by, e.g., the Common Slavic third palatalization, which may be seen as an excellent example of a tendency rather than an actual exceptionless law, illustrating the difficulties applying the methods of the hard sciences to many areas of linguistics, see Orr (2006: 231) for further discussion. And once scholars started looking for similar regularities in morphology and syntax, let alone semantics, it became clear that HL was simply far too complicated to be handled in this way, cf. the vast literature on analogy below. Both HL scholars, therefore, and those approaching HL for the first time, simply have to expect that factors like coincidence and mere chance will play a major role.

One excellent example is provided by the dictum “every word has its own history”, see Orr (1993:303 editor’s fn. (also below)), and the literature cited therein, with all its connotations of arbitrariness and unpredictability. This issue is compounded by clear examples where single individuals exercise a tangible influence on language change. The mere presence of Dutch loanwords in Russian may be traced to one man: Peter the Great, and the time he spent in Dutch shipyards and with Dutch sailors. Dutch loanwords are only recorded as entering Russian during a period roughly coeval with his reign, see Kiparsky (1975: 111-21), and some have remained in the language ever since. This is in contrast to Russian loanwords from, e.g., French, German, etc., which have multiple sources, and where no single individual could have made any appreciable difference. Another such example is the phenomenon where linguistic relationships are guessed at on the basis of one random feature, or where one feature defines a language for people who come into contact with it, even immediate neighbors on occasion.<sup>10</sup> Such speculations are very far removed from the intellectual underpinnings of mathematics and physics. This overall phenomenon, which has to be taken into account by the well-rounded linguist, may be related to a comparable one in literary criticism, where characters in novels are often introduced and then cited by highlighting one prominent feature in their appearance.<sup>11</sup> Linguistics might be said to cover the full range between mathematics and literature, including poetics, see Orr (2006: 227-28), and the literature cited therein.

5. DEVELOPING DIAMOND’S FRAMEWORK. One obvious point of difference between HL and CC involves prediction: while much of the center of gravity of CC involves prediction, HL can never predict changes to come. Alongside mutual dependence and the hierarchy of linguistic elements within a given system, it must deal with

<sup>10</sup>The presence in certain Amerindian languages of voiceless laterals, perceived as very prominent in Welsh by English speakers, may have been instrumental in the popular eighteenth-century myth of Welsh-speaking American Indians, especially, e.g., Mandan, as well as some in British Columbia, who, partly on the basis of this shared phoneme, were believed to be related to Welsh by early settlers in North America. Sometimes only a single lexeme may be involved. Speakers of Lower Sorbian call speakers of Upper Sorbian *hajak*, derived from Upper Sorbian *haj* ‘yes’, reminiscent of the French provinces of Languedoc and Languedocil and Icelanders have developed a nickname for the Faroese—*nógvarar* (< Faroese *nógv* ‘much, many’), which to Icelandic ears is a salient, frequent, uniquely Faroese lexeme, although easily derivable from Old Norse *nóg*, see Orr (2006: 227-28, 234 fn.)

<sup>11</sup>This device was especially common in the works of Tolstoy, see de Haard (1979, 1990).

the historical contingency of the social structure.<sup>12</sup> In other words, CC is mostly forward-looking and HL backward-looking. Shermer (2002: 320-23) takes up Diamond's (1997:420-25) framework cited above, pointing out that Diamond has managed to synthesize a falsifiable theory of history, whereby domestication of animals and agriculture always precede writing and advanced metallurgy in the evolution of society. He suggests a way in which Diamond's theory might be falsified (2002:322):

"If historians discover that Native Americans had an elaborate writing system and advanced metallurgy, yet never developed a correspondingly complex system of farming and domesticated animals, his theory would be doomed."<sup>13</sup>

Despite the immense amount of data accumulated over the past two centuries plus, predicting the course of future language change is still well-nigh impossible, see Orr (1991:163-64), and the literature cited therein. Examples of universal tendencies in language evolution are very problematic, e.g., Bichakjian's neoteny; Klimov's content-ordered typology, see Orr (1999:151-52; 2006:232-33), and the literature cited therein. Very often even first principles need closer definition. One might cite simplification as an ongoing trend in HL, but this simply begs the question: What forms and categories might we expect to undergo/resist simplification? Why does simplification proceed at different rates? Why, indeed, does the course of simplification even seem to be reversed in some areas, producing systems of greater complexity than those preceding them? The history of Lithuanian shows numerous examples of new cases, with the emergence of a new illative based on the accusative, a new allative based on the genitive, and a new adessive based on the locative, see Stang 1966:228-32, Schmalstieg 1987:265-72. The history of Russian also shows at least two examples where new case endings started to emerge and then retreated: the forms conventionally known as Genitive II and Locative II, see Orr (2003:272-73) and the literature cited therein. One theme running through Schmalstieg 1980 is that a pre-inflectional stage may be reconstructed for Indo-European, and that the complicated morphological system of the earliest attested stages of many of the daughter-languages is actually quite late (1980: 4; 46-47; 68; 88, *passim*). Basing himself on a large corpus of literature, Schmalstieg would reconstruct fewer cases in PIE than the usual eight, and suggests that the complicated verbal structure attested especially for Sanskrit and Greek is secondary. Rather than a one-sided drive towards simplification, therefore, the evolution of language maybe seen as alternating waves of complexity and simplification. One recent problem with such a scheme, however, is hinted at by Trudgill

<sup>12</sup>For paleontology and evolutionary biology, Gould (1991: 282, *passim*), uses the term contingency in a similar context. Similarly, in his discussion of analogy Kuryłowicz (1995:143) compares analogy to "rain water which must take predicted paths (drains, sewers, spouts) *if and only if it rains*. But rain is not a necessity."

<sup>13</sup>Complicating the issue further, however, Jacobs (2005:11-26) offers a discussion of Diamond's framework, and then points out that Diamond has only considered one side of the equation, the winners, and that his framework should also include factors identifying the losers as well as the winners. She puts it thus (2005: 20): "But I think he [Diamond] limited its explanatory power unnecessarily by the way he posed his initial Question: *What are the advantages that enable cultural conquerors to win conflicts with losers?*"

(1992), a truly seminal article, which juxtaposes linguistic developments in Faroese and Norwegian, arguing that languages spoken in small isolated communities, such as the Faroes, tend to manifest all sorts of complex, rare, developments over the whole spectrum from phonetics to syntax, which make the grammar of such languages far more opaque than that of languages such as Norwegian, spoken by much larger communities. McWhorter (2011:15-26) makes similar points by juxtaposing Farsi (relatively less complex) and Pashto (relatively more so), and citing several other complex minority languages from this point of view, e.g., Ket (2011:55-60); Navajo (2011:61-71; 75-78). Meanwhile Trudgill concludes by asking whether languages such as Faroese can ever evolve again, in an increasingly globalizing world, where it is becoming more and more difficult to maintain the degree of isolation which would have been the lot of many small communities over the whole of human history so far.

Another example of a term begging similar questions is furnished by archaism. In HL more archaic and less archaic are also relative terms, to be used with a degree of caution. To take one fairly obvious, albeit extreme, example, probably no scholars would rate, e.g., English as more archaic than German, Slavic more archaic than Lithuanian, or French more archaic than Spanish, overall, and yet for certain features, in phonology, morphology, and syntax, this is a fair statement, see Orr (2000: 91-93; 2009: 195-96; and the literature cited therein). Similar examples abound, sometimes with contrasts across millennia. It might seem incredible that Classical Arabic phonology (as attested from CC VII-VIII AD) would be considered more archaic than that of Akkadian (as attested from 2,500 BC), but this appears to be generally accepted by Semitologists (see, e.g., Owens 2006:10-11).<sup>14</sup>

In contrast, although CC does not seem to involve any simplification as such,<sup>15</sup> one can imagine room for archaism, as a further detail of complexity, although it does not seem to be as big a topic as in HL. Examples do occur to suggest that archaism might be cited in CC. One is furnished by Ben Lawers in the Southern Highlands, which has a unique collection of rare Alpine plants, which may indicate a fairly complex history of glaciation in the general area of the summit (Breadalbane 2014), and therefore it might be seen as providing evidence of an earlier phase of climate. Current theories of CC should consider the possibility of similar islands.

In any case, therefore, many such overarching theories in linguistic development often create more problems than they actually solve.

6. VARIATION: NOMENCLATURE: ORIGIN. Recently much discussion in linguistics has shifted to outright variation, which is a vast, infinite, unpredictable topic. This paper will restrict its discussion to three individual manifestations of variation in nomenclature.

<sup>14</sup>The concept of archaism is misleading in evolutionary biology as well, see Desmond (1977: 210) Dawkins (2005: 242).

<sup>15</sup>Although one might charge certain prominent figures with oversimplification of its complexity.

6.1. NOMENCLATURE: PLACE NAMES. With one major exception, Europeans first came into contact with China primarily from the south, by sea, and heard of the imperial capital called *Peking* by speakers of Southern Chinese dialects, and named it so. Later on, many countries opted to replace *Peking* with the *Putonghua* form *Beijing* in official usage. Similarly, it has been traditional in English-speaking countries to use approximate pronunciations of French names for many German and Swiss cities, although this usage is becoming less common, e.g., *Basle (Bâle)/Basel*, with *Cologne/Köln* to some extent constituting an exception.<sup>16</sup>

6.2. NOMENCLATURE: SEA/LAND: IRELAND. Another factor giving rise to variation in nomenclature is the issue of whether places are originally named from the sea or the land. This can often result in completely different names for the same general location (often referring to separate features), rather than variants in the same form, as with *Peking/Beijing* and *Cologne/Köln* cited above. One set of useful examples is provided by place names on the Western coasts of the British Isles, where the Scandinavian names were subsequently borrowed by English:

Scandinavian		(English)	Irish
(named from the sea)			(named from the land)
<i>Dyflinn</i> 'black pool'	>	Dublin	<i>Baile Átha Cliath</i> 'town of the hurdled ford'
<i>Víkingaló</i> 'Viking meadow'	>	Wicklow	<i>Cill Mhantáin</i> 'Mantan's church'
<i>Veigsfjörðr</i> 'Veigur's fjord'	>	Wexford	<i>Loch Garman</i> 'Garman's loch'
<i>Vedraffjörðr</i> 'windy fjord'	>	Waterford	<i>Port Lairge</i> 'hilly shore'

6.3. NOMENCLATURE: SEA/LAND: WALES. A similar process took place in Wales:<sup>17</sup>

Scandinavian		(English)	Welsh
(named from the sea)			(named from the land)
<i>Öngulsey</i> 'hook island'	>	Anglesey	<i>(Ynys) Mon</i> 'Mona (island)'
<i>(Öngulseyjarfjörðr</i> 'h. i. fjord')			<i>(Menai)</i> 'Menai'
<i>Sveinsey</i> 'Sveinn's island'	>	Swansea	<i>Abertawe</i> 'Tawe mouth'

The above examples have been cited to illustrate the unpredictable nature of HL: every single example cited above has a different history (every word has its own history, indeed), although many, many more could be cited, far beyond the scope of, e.g., a whole volume of LACUS forum.<sup>18</sup>

<sup>16</sup>Occasionally, place names in one language may even turn up as translations in another, e.g., Belgium has French *Mons*, Dutch *Bergen* for the same city. Some place names have acquired several variants in different languages, e.g., *München/Munich/Monaco/Mnichov/Monachium; Milano/Milan/Mailand/Mediolan*. The tendency in some English-speaking circles to equate foreignness with French might account for the fact that many Anglophones pronounce Beijing with a fricative instead of an affricate: [ber'ʒɪŋ] for [ber'dʒɪŋ].

<sup>17</sup>(Regarding 'Menai') Again, English did not borrow all the relevant forms from Scandinavian: the body of water separating the mainland of Wales from Anglesey is usually known as the Menai Strait.

<sup>18</sup>For example, the theme of the whole of LACUS XXXIII (2007) actually was announced as devoted to variation, cf. Martin Joos' famous quote: "Languages can differ from each other without limit and in unpredictable ways." If we juxtapose "every word has its own history," we begin to gauge the scope of the topic.



6.4. VARIATION: CHANCE. Upon reflection it is obvious that mere chance can play a role in linguistic research. It is quite possible, for example, that if I had not known Gaelic, and specifically in this instance, been studying a map where Scottish Gaelic *sealg* was prominent in a local toponym at the same time as I first read Shevelov 1964, I might never have become interested in the etymologies or the semantics of, e.g., Russian *selezenka* ‘spleen’, *selezen* ‘drake’, etc., and might not have written Orr 2008 (see Orr 2008:79-80). Another example is provided by two other cases of variation that came to my notice by chance. As I was preparing this paper as an oral presentation, I received, quite by chance, a copy of Tranter (1993:93-97), who reports two examples of variation within adjacent small communities, from East Lothian, Scotland: a local secluded beach is called *Jophie’s Neuk* by residents of Aberlady and ‘The Point’ by residents of Gullane. Aberlady and Gullane are only a few miles apart, with no barriers, and connected by a modern fast road. Meanwhile Gullane itself (population < 4,000) appears in earlier documents with the following spellings: *Gullane*, *Goolan*, *Golyn*. This is paralleled by THREE pronunciations, on Tranter’s own orthography—*Gillan* (outsiders and perceived as “upper class”); *Gullan* (residents of Gullane); *Goolan* (older residents).

It is well-known that Meillet once suggested, as a way of avoiding coincidence in attributing a lexical item to Indo-European that: «*Sauf raisons spéciales, est douteux tout rapprochement de mots qui ne porte que sur deux dialectes*» suggesting that at least three attestations of a lexical item in different branches are needed before it can be reconstructed as Indo-European, which has even become a part of tradition.

But three-way coincidences do occur in HL: Latin *hodie*, German *heute*, Welsh *heddiw*, all ‘today’, yet the initial /h/ has three different origins (Sihler 2000: 136).

A further example is provided by the orthography of English words connoting island. The silent *s* in English *isle* (< French *île* (< earlier *isle*) < Latin *insula*) was carried over by folk etymology to the unrelated, native Germanic *island* (< earlier *iland* < *ieg-* (German *Aue*; Icelandic *ey*, etc.) + *land*) (also Scottish Gaelic *eilean* < *ey-land*). Similarly, this folk etymological *s* was added to the name of the island of *Islay* (< Scottish Gaelic *Ìle* attested in earlier texts as *Ila*, see Monro (1994:493-94)).

7. CLIMATE CHANGE AND HISTORICAL LINGUISTICS: TWO POINTS OF INTEREST. One aspect of CC which has recently come in for a great deal of discussion involves prediction. Extensive, detailed, historical studies of CC are readily available, and yet predicting future CC appears almost chimerical, especially in a situation where weather-forecasting (dealing with a far more immediate future) appears laden with its own share of unpredictability. Such a situation finds one of its closest parallels in HL.

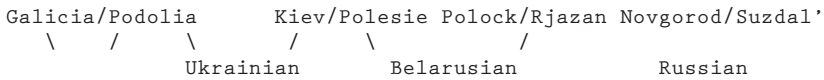
7.1. DIRECT CONTACT: LANGUAGE EXTINCTION/ABORTION. CC and HL actually come into direct contact on several levels. Most straightforward are cases where languages have actually become extinct through CC and related phenomena: the Tambora eruption of 1816 led to the extinction of the eponymous language (Winchester 2003:292).<sup>19</sup> CC may also have resulted in a phenomenon which might be dubbed

<sup>19</sup>CC has frequently been blamed for species extinctions and related phenomena, see Plimer

language abortion, in cases where it causes dialects to cease to be spoken at the very stage where separate languages might be emerging. Again, Greenland provides a relevant example. We simply do not know enough about the variety of Scandinavian spoken in Greenland before the Greenlanders succumbed to the cold of the Little Ice Age: we can only speculate that it might have evolved along lines similar to those of Orkney Norn, Shetland Norn, or Faroese.<sup>20</sup>

7.2. DIRECT CONTACT: CLOUDS: METAPHOR OR ACTUAL. Clouds appear in both HL and climatology, both involving turbulence and disorder: obviously as a metaphor in the former and as an actual phenomenon in the latter. Nevertheless the phenomenon displays parallels in both fields.

Shevelov (1964:607) may be credited with introducing the cloud metaphor into linguistics, which he uses to describe the development of the modern Slavic literary languages from various dialect groupings (clouds in the sky on a stormy day, with their constant changes in shape, their building-up, overlapping, merging, separating, and their ability to vanish in an instant). He is particularly good on showing how three East Slavic standard languages Russian, Ukrainian, and Belarusian may be derived from various mergers and splittings among four originally distinct dialect groups thus:



In a later work Shevelov goes into more detail, describing the actual situation for which clouds might be a metaphor:

“... sweeping population movements ... now in one, now in another, direction ... [accompanied by] ... constant peril, disorder, and instability ... partition, apparent lack of social ties, and suppressed cultural life ... the destruction or decline of cultural centers ... the general situation in [Ukraine involved] the

(2009:192).

<sup>20</sup>It is no exaggeration to state that the linguistic abortion of Greenland Norse represented some tangible loss here, for the following reasons:

- (1) Under a kinder climate the Scandinavian settlements in Greenland might have produced St. Kilda-type communities, based almost exclusively on fishing and fowling, which would have been of exceptional interest for linguists, see Orr (1999:136-38; 142), Hamp 1989.
- (2) Typologically, Faroese itself is of very great interest, from the point of view of phonology, morphology, and syntax:
  - (a) Even within the framework of the distinctive development of diphthongs in Germanic, the Faroese development of diphthongs from Common Scandinavian long vowels is possibly unique, e.g., \**svīn* > [svøYn] (orth. *svin*); \**hūs* > [haus] (orth. *hús*), etc., sometimes carried over into their pronunciation of English, e.g., [grimsbøY], for a complete inventory, see Lockwood (1977: 8-13).
  - (b) Faroese has maintained a marked nominative opposed to a zero accusative in a major declensional subsystem for over a thousand years, see Orr (2000:67-68) for further discussion.
  - (c) Faroese data are essential for any universals-oriented study of reflexive possessives, see, e.g., Barnes (1986, 1987).

Similar typological rarities might have emerged in Greenland Norse if it had developed along lines similar to Faroese.

decline and often physical destruction of cities and towns, mass refugee movements of the population [in Ukraine], the emigration of a great many intellectuals ... to Russia, and the general collapse of the education system" (1979:387, 393; see also Shevelov 1953)

McWhorter (2001:103; cited in the epigraph) adds some further comments about the complications such processes might pose for linguistic reconstruction.

Clouds also loom large in climatology, as demonstrated by the structure of Plimer (2009, *passim*), divided into chapters on the Sun, the Earth, Ice, Water, and Air, all including scattered comments on the importance of clouds for CC, and he concludes with a brief summary of why clouds are so complicated for climatology:

"Climate science is baffled by clouds ... Climate models do not do clouds well and don't consider fog and mist, which have the same effect as clouds ... As for using cloudless models or models with an incomplete understanding of clouds to predict climate 100 years into the future, forget it" (432-34), see also Brown (2001:11-12 for chaos theory and (50, 60), Lomborg (2001:271-73).

Recently Spencer 2010 has produced a comprehensive study of the role played by clouds, specifically cloud feedback, in CC. His work has already come in for some degree of criticism from certain quarters, but both Spencer and his critics (Dessler 2010) appear to agree on the complexity of the issue of cloud and cloud feedback in CC. Dessler (2010:1526) concedes that "observing shorter-term climate variations and comparing those observations to climate models may be the best we can do."<sup>21</sup>

7.3. PREDICTIVE POWER—ANALOGICAL CHANGE. One of the most difficult problems facing historical linguists is analogy, which deserves a discussion to itself in any comparison of HL and any other of the historical sciences. Analogy is extremely hard to define rigorously, and repeated attempts to do so have not been crowned with success. Indeed, at one extreme its very validity as a concept has been questioned. Here again, much of the discussion is still centered around first principles, e.g., Kuryłowicz's proposed Principle of Analogy No. V: «*Pour rétablir une différence d'ordre central, la langue abandonne une différence d'ordre marginal*» (1949:170; 1995:138) mainly evoked comments such as:

"The only problem with this law is that it does not tell us which distinctions are more basic than others ... more would have to be known about the criteria which determine the relative basicness or centrality of different morphological

<sup>21</sup>Clouds are well-known in this context as a metaphors for simple chaos; one of the best known examples may be found in Hamlet, Act III, Scene 2:

Hamlet: Do you see yonder cloud that's almost in shape of a camel?

Polonius: By the mass, and 't is like a camel, indeed.

Hamlet: Methinks it is like a weasel.

Polonius: It is backed like a weasel.

Hamlet: Or like a whale?

Polonius: Very like a whale.

Similarly, Spencer (2010:71) cites Joni Mitchell's 1968 song Both Sides Now:

... It's clouds' illusion I recall -

I really don't know clouds at all.

As this article goes to press it may be noted that the controversy over the role of clouds in CC is still ongoing.

categories ... it seems quite possible to imagine languages in which [relational morphemes] can be considered more important than morphemes denoting number–RAO] ... a language must be examined to determine what categories are more or less central at any given moment in its history.”

It might seem that all we could do would be to say that there seems to be a general tendency towards simplification. However, as we saw above, achieving a scholarly consensus even on such an apparently straightforward concept as simplification is problematic, which in turn renders the achievement of any consensus on analogy more problematic still.

The very complex diachronic processes involved in analogical change, therefore, may offer an excellent prism through which to view CC, see Orr (2000:77-82) and the literature cited therein for discussion, especially Leed 1970. The literature on analogy is littered with further comments such as “trial and error ... too complex”; “the immense variety of changes”; “economic<sup>22</sup> or political predictions ... informed guesses”; “abduction is the guess ... the weakest form of inference, for it leaves room for error and variation”; “the vast number of features that have to be considered, and the impossibility of determining whether every pertinent fact or factor has been included”; which appear to approximate very well the current status of CC research. Leeds should be mentioned here for drawing attention to the vast number of features that have to be considered, and the impossibility of determining whether every pertinent fact or factor has been included.<sup>23</sup>

One comment in particular offers a remark which might be applied to both analogy and CC: “it is easier to use analogy [CC–RAO] once it has been observed, than it is to recognize it in the first place” (Janda 1996:2-3). And even when it has been recognized, the actual evidence is often contradictory.<sup>24</sup> The following quote from Shermer (2002) may well be an understatement in this context: “We [presumably historians and biologists in the context, although I would add HL and CC scholars–RAO] may have to work a lot harder than physicists and astronomers in isolating our variables and testing them, but test them we must.”

<sup>22</sup>Cf. Wilson (1999: 219) on economics.

<sup>23</sup>Most theories of analogy concentrate on morphology; Leed 1970, however, points out that phonological features can also provide the impetus for change: his example of the emergence of the alternation in Polish *mnich* ‘monk’–nom. pl. *mnisi* being a case in point (see also Huntley 1968 for discussion of a similar set of forms, also from Slavic). Another case of every word has its own history.

<sup>24</sup>The development of declension in Russian provides an excellent example of such contradictory evidence. One declensional subsystem shows the results of morphological, not phonological change, i.e.,

	Old Russian	Contemporary Standard Russian	
Nom	rabi	raby-	‘slaves’
Acc	raby	rabov	“
Gen	rabъ	rabov	“
Dat	rabomъ	rabam	“
Instr	raby	rabami	“
Loc	raběxъ	rabax	“

The proposed comparison between HL and CC may also be cited as a contribution to an overall framework of consilience as first outlined by William Whewell almost two centuries ago and developed recently by Wilson (1999): “The Consilience of Inductions takes place when an Induction, obtained from one class of facts, coincides with an Induction obtained from another different class. Thus Consilience is a test of the truth of the Theory in which it occurs” (1999:8-14; and *passim*). In this context Wilson (1999:212) makes a plea for the status of economics as “The enterprise within the social sciences best poised to bridge the gap to the natural sciences, the one that most resembles them in style and self-confidence,” and goes on to suggest (1999:219) that economics is at the “cutting edge of social sciences”.<sup>25</sup> In his acknowledgments Wilson (1999:354) cites a similar range for evolutionary biology, which he describes as “an intellectual caravanserai located near the boundary of the natural and social sciences ... a logical meeting place for scholars of diverse interests ... those I consulted ... range in interest from a scholar in Slavic literature to the Speaker of the US House of Representatives, from Nobel Laureates in the physical sciences and economics to the chief executive officer of an international insurance company.” Similar ranges of interest could be cited for comprehensive works on both HL and CC.

However, Wilson does not appear to have cited any linguists, let alone any HL scholars. Regrettably, this appears to be part of a pattern: scholars in other fields, with evolutionary biology constituting an exception to some extent, frequently ignore linguistics altogether.<sup>26</sup> I would like to conclude by suggesting through this minor prolegomenon that HL be included in such discussions, as argued by the comparison of CC and HL. As has been repeatedly argued throughout the discussion, however, the comparison probably does not exactly fit the framework that Wilson had in mind, yet, as argued herein, irregularity and unpredictability are central to both these fields of scholarship.

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While another shows the direct, lineal phonological descendant of its OR equivalent, with no visible interference from morphological factors:

	Old Russian	Contemporary Standard Russian	
<b>Nom</b>	golovy	golovy	‘heads’
<b>Acc</b>	golovy	golovy	“
<b>Gen</b>	golovъ	golov	“
<b>Dat</b>	golovamъ	golovam	“
<b>Instr</b>	golovami	golovami	“
<b>Loc</b>	golovaxъ	golovax	“

<sup>25</sup>Wilson actually compares economic predictions to “weather forecasting” (1999:19); perhaps Marxism might be seen as a similar phenomenon.

<sup>26</sup> For example, Shermer (2002:320-23) disappointingly, in spite of titling his subheading “the comparative method,” hardly mentions linguistics, although “comparative linguistics” has been around as a mainstream field for over two centuries.

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