

Towards an Account of the Present Paradigm Conflict in the Development of Linguistics^{*}

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Abstract

This thesis provides an account of the present linguistic paradigm conflict and its implications for the development of linguistics. In the light of Kuhn's and Laudan's respective theories of scientific progress, this thesis reflects upon the recent past, the present and the future of the linguistic field. The application of Kuhn's theory to the current state of affairs in linguistics as described by Scholz, Pelletier, and Pullum suggests that the linguistic field is constituted upon three paradigms: Essentialism, Emergentism, and Externalism. These conflicting paradigms can be traced back to distinctive scientific traditions associated with Chomsky, Sapir, and Bloomfield, respectively. From the base of these past developments and the present situation, the future possibilities of linguistics can be inventoried: (1) linguistics may remain a pre-scientific discipline, (2) the linguistic paradigm conflict may persist, (3) the respective paradigms may be reconciled, or (4) a scientific revolution may take place. None of these scenarios can be precluded on the grounds of philosophical reflection. In reference to Kuhn's and Laudan's respective theories, it can, however, be argued that the linguistic field might be moved forward by promoting and evaluating debates between adherents of different paradigms.

Keywords: linguistics, paradigm conflict, philosophy of science, philosophy of linguistics, scientific progress, scientific revolution, Kuhn, Laudan

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Introduction

The broad scope and heterogeneous nature of linguistics render it impossible to identify a single monolithic scientific enterprise unifying the diverse approaches in the field. This is unsurprising, as practically all scientific disciplines are comprised of various approaches to scientific theorising. Certainly, the internal structure of a scientific field becomes more transparent by the explicit demarcation of autonomous approaches that delineate the respective methodologies within that particular field. In modern-day linguistics, however, the various approaches and, on a larger scale, paradigms are not simply diverse in character; they appear to be worlds apart with respect to their theoretical presuppositions, scientific goals, and research methods.¹ Consequently, as Auroux and Kouloughli note, “it would be quite difficult to get the linguists of two different schools to agree on a list of the ten most important discoveries ever realized in their field of research” (159). Such sharp disagreement among scientists is extremely exceptional in other scientific disciplines (159), and it could indicate a deep-rooted paradigm conflict within linguistics. Indeed, Auroux and Kouloughli observe that the current state of linguistics “is almost unprecedented in other fields of rational inquiry” (158), as “[e]ven the elementary consensus on what is to be considered a linguistic problem or a linguistic solution has come to be lost among linguists” (158). They assert that this has led to “the near disappearance, since the mid-twentieth century, of a real international scientific community of linguists sharing a field of scientific objectives and having in common basic concepts and techniques” (158). Proponents of different linguistic paradigms all maintain to study natural language, but they differ in their conceptions of what natural language is (Bunge 109). Interestingly, not only the theoretical assumptions but also the respective scientific claims and predictions that arise out of these conflicting paradigms seem irreconcilable. Such scientific claims and their underlying assumptions have been criticised “with vigor and sometimes venom” in “linguistics journals, in the popular press, and in public forums” (Scholz, Pelletier, and Pullum, sec. 1). Although the scientific community of linguists seems to be attentive to the chasm between the paradigms, real “[d]ialog between adherents of different approaches is alarmingly rare” (Phillips 11). A consequence of the lack of a unified linguistic discipline is that linguists, when reporting on their research, are expected to specify

¹ The concept of a *paradigm* plays a key role in several theories of scientific progress. In Kuhn’s theory, for instance, it denotes “the entire constellation of beliefs, values, techniques and so on shared by the members of given [scientific] community” (*Structure* 175).

their approach and adopt the corresponding paradigmatic discourse to analyse the data.² This suggests that by and large, linguists are aware that a paradigm conflict implicitly characterises their field of study. Surprisingly, there has been little philosophical reflection on the root of this often tacit, yet pervasive theoretical conflict. No previous study has analysed the present conflict in the broad field of linguistics in terms of scientific progress, or has entered at length into the implications of the present conflict for the future of linguistics. The general neglect of philosophical reflection on the scientific condition of contemporary linguistics is remarkable, as self-reflection should be an integral part of all scientific activity. Simon Dik holds that scientists who think of themselves as “[participants] in the actual development of a given field should be aware of the amount of subjectivity which enters into [their] judgements” (4). He argues that scientists should see their paradigmatic conceptions within a wide perspective, and that they should be able to “indicate to what extent such personal conceptions are ratified by interpersonal agreement in [the] field” (4). Science continually compels an examination of its own operations, and the current state of affairs in linguistics registers the need to establish a satisfactory portrayal of the scientific progress of the linguistic field.

The aim of my explorative study is to provide an account of the scientific development of linguistics. From the outset, it should be made clear that my thesis is not a linguistics thesis, but rather a (philosophical) thesis *about* linguistics.³ It is not my objective to engage in the present paradigm conflict, nor is it to contribute to or take sides in linguistic discussions. Instead, I will describe and analyse the current field of linguistics on a meta-level.⁴ The question is in what way the scientific development of linguistics can be characterised from a philosophical perspective. I attempt to reveal and analyse the development by applying meta-scientific theories to the current situation of linguistics. In order to capture and contextualise the development of linguistics, I will present an overview of the recent past of the linguistic field, analyse the present condition of linguistics, and consider the possibilities of the future of

² The implicit set of beliefs that underlies a paradigm is both reflected in and imposed by a corresponding scientific discourse. In *The Structure of Scientific Revolutions*, Kuhn argues that proponents of alternative paradigms adhere to different conceptual standards (148-49), and that they apply “different rules . . . within a different universe of discourse” (85-86).

³ Rather than language, linguistics as a discipline is my object of study. I will analyse the conflicting positions, scientific presumptions and claims within linguistics, and reflect upon the implications of this fundamental conflict.

⁴ My critical evaluation of the field of linguistics as a whole will be based on an impartial description and analysis of the respective paradigms and their interrelationship. Essentially, I intend to reveal and reflect upon the dynamics underlying the linguistic field, while remaining extraneous to those dynamics.

the field. The sub-questions in this study are: (a) what paradigms are involved in the current linguistic paradigm conflict, (b) what past traditions have given rise to the present paradigms, and (c) what are possible future scenarios of linguistics?

The first chapter of this thesis embeds the current state of affairs in linguistics in the wider context of the philosophy of science. Furthermore, it introduces Kuhn's and Laudan's respective theories of scientific progress, and conceptualises the scientific development of linguistics. The second chapter provides an account and analysis of the contemporary linguistic paradigm conflict as well as a brief overview of the traditions that have initiated the current paradigms. Chapter 3 adds a final dimension to the account in chapter 2: an inventory and consideration of the logical possibilities of the future of linguistics. The presented scenarios either resolve the theoretical conflict or fail to do so. The future scenarios are envisaged by analogy, as they are extrapolated from the course of developments in linguistics on the basis of the philosophical theories that are introduced in chapter 1. The third chapter concludes by commenting on the debate between adherents of different paradigms. Finally, the conclusion formulates an answer to the research question by addressing the sub-questions, and reflects upon the implications of the findings.

1. Linguistics and the Philosophy of Science

The philosophy of science generally falls outside “the parochial parameters of a given discipline” (Prutting, Mentis, and Zitzer 379), notwithstanding that its application to actual scientific practice can only boost scientists’ understanding of their field (379). In their article, Prutting, Mentis, and Zitzer assert that philosophical theories can be superimposed on a discipline to “map its progress, and identify the landmarks which typify its growth” (385). In addition, they suggest that philosophical frameworks can be used to investigate the concepts and constructs that are employed in scientific studies (389). They want to go further still, and state that scientists might cast their net wider by considering philosophical models to guide the direction of future research (389). By the same standard, meta-scientific theories may yield fruitful insights into the discipline of linguistics. There are many theories of scientific progress in philosophical literature (Losee, *Theories* 1). This chapter will introduce two of the most prominent theories: Kuhn’s theory of scientific revolutions and Laudan’s theory of problem-solving activity. These theories figure as exemplars within the wide range of approaches to scientific progress, and will be used in the following chapters to probe into the present linguistic paradigm conflict and reflect upon its possible resolution. Before describing these theories, I will introduce *the philosophy of linguistics*, the study that extends the philosophy of science to linguistics (Scholz, Pelletier, and Pullum), and I will identify the gaps within this field of study. In this chapter I will furthermore discuss the problems of assessing the scientific progress as well as the scientific status of linguistics. Finally, I will specify the respective aspects of documenting the scientific development of linguistics by schematising the relationship between (1) the recent history of linguistics, (2) the theoretical foundations of the present paradigms, (3) the manifestations of the paradigm conflict in the scientific debate, and (4) the possible future of the linguistic field.

1.1 The Philosophy of Linguistics

The philosophy of linguistics lies at the interface between linguistics and philosophy. While various definitions of *the philosophy of linguistics* have been suggested,⁵ the term is generally understood to mean “the philosophy of science as applied to linguistics” (Scholz, Pelletier, and Pullum). According to this view, the “sole object of investigation” of the philosophy of

⁵ For a more extensive outline of the demarcation dispute regarding the field of *philosophy of linguistics*, see Roy Harris.

linguistics should be linguistics, not language (Auroux and Kouloughli 152).⁶ As such, *philosophy of linguistics* contrasts with *philosophy of language* and *linguistic philosophy*, although in some respects these studies still overlap and inform one another (Carr, “Philosophy of Linguistics and of Science” 37).⁷ Philip Carr clarifies that the philosophy of language is a branch of philosophy which is concerned with the ways in which language represents and constructs knowledge and reality (37). Linguistic philosophy, on the other hand, is a school of thought which arose as a result of the *linguistic turn* in twentieth-century philosophy (37).⁸ Linguistic philosophers hold “that most if not all philosophical questions (for example, ontological questions, questions relating to the nature of perception, of reality, of morality, etc.) are ultimately questions of language” (Auroux and Kouloughli 151).⁹ Linguistic philosophy therefore attempts to solve traditional philosophical problems linguistically by careful analysis of the terms that are used in describing the problem (Carr, “Philosophy of Linguistics and of Science” 37). Generally, the philosophy of linguistics is set apart from philosophy of language and linguistic philosophy as a scientific enterprise analogous to the philosophy of other special sciences, such as the philosophy of mathematics

⁶ An exception to this classical conception of the philosophy of linguistics is Roy Harris’s use of the term (Taylor 1). Roy Harris maintains that “linguistics is a philosophical subject whether we like it or not. It already is, even if we refuse to treat it as such” (5). He observes that in analysing language, linguists *produce* language themselves. Therefore, linguistics “creatively [constructs] the object it studies” (4). If linguistic discourse is to be considered language about language, hence meta-language, then discourse in the Harrisian philosophy of linguistics can be considered meta-meta-language. Harris suggests that “[j]ust as the linguist imposes a representation on language and thus engages, with an authoritative force, with ordinary reflexive processes of language-making, the philosopher of linguistics imposes a representation on the linguist’s own (representational) discourse and, by that means, engages with the reflexive processes by which that discourse is itself given sense” (5). Harris proposes that the philosopher of linguistics should attend to “the linguist’s authoritative making, and re-making, of language” (4). Throughout this thesis, however, I use a much narrower sense of *the philosophy of linguistics*. Rather than adhering to Harris’s moral and rhetorical philosophy, I follow classical philosophers of linguistics in their focus on the philosophy of science. Classical philosophers of linguistics include Carr, *Linguistic Realities*; Itkonen, “Concerning the Ontological Question”; Itkonen, *Grammatical Theory*; Katz; Scholz, Pelletier, and Pullum.

⁷ Kasher and Lappin add a fourth endeavour to this list: *philosophical linguistics*, which they define as “a philosophical mode of both elucidating and contributing to linguistic investigation” (iii). As their study involves theory of language, methodology, and foundational concepts (iii), the project that they call *philosophical linguistics* could be subsumed under *the philosophy of linguistics*.

⁸ In 1967, Richard Rorty described the occurrence of the linguistic turn in his *The Linguistic Turn*.

⁹ Central to the linguistic turn are the ideas that Ludwig Wittgenstein introduced in his treatises (Carr, “Philosophy of Linguistics and of Science” 37).

or the philosophy of psychology (Scholz, Pelletier, and Pullum). A philosophy of a specific science addresses “general topics relating to matters like methodology and explanation” as well as “more specific philosophical issues that come up in the special science at issue” (Scholz, Pelletier, and Pullum). General topics concern the object of study, the scientific aims, the validity of data, and the cogency of theories. In addition to these general topics, the philosophy of linguistics deals with specific linguistic topics in relation to the philosophy of science, including “issues in language learnability, language change, the competence-performance distinction, and the expressive power of linguistic theories” (Scholz, Pelletier, and Pullum).¹⁰

1.2 Gaps in the Philosophy of Linguistics

Many philosophers of linguistics have focused on the questions that Philip Carr identifies in “Philosophy of Linguistics and of Science.”¹¹ According to Carr, the philosophy of linguistics “asks what the nature of linguistic inquiry is,” “what the object of inquiry is,” “what counts as evidence in linguistics,” “how theories are tested,” and “to what extent the methods adopted in the various branches of linguistics are parallel to those of the natural sciences” (37).¹² In the past decade, this critical preoccupation with epistemological and ontological matters has tended to pass over another essential issue in the philosophy of science and, by extension, the philosophy of linguistics: the question of scientific progress. Of course, the study of scientific progress is fundamentally shaped by epistemological and ontological matters, as it entails a diachronic analysis of the epistemological and ontological foundations of the field. Nonetheless, the question of progress clearly extends beyond epistemology and ontology and requires an analytic model that takes account of the historical dimension of science.

Many philosophers of linguistics (both philosophers and linguists) as well as

¹⁰ *Philosophy of Linguistics*, edited by Kempson, Fernando, and Asher, is almost exclusively devoted to such specific topics.

¹¹ For instance, Antony and Hornstein; Bar-Hillel; Bloomfield; Botha, “External Evidence”; Botha, “On the Galilean Style”; Bunge, Carr, *Linguistic Realities*; Devitt; Devitt and Sterelny; Eddington; Fitzgerald; Gross and Culbertson; Hinzen and Uriagereka; Itkonen, “Concerning the Generative Paradigm”; Itkonen, “Concerning the Ontological Question”; Itkonen, *Grammatical Theory*; Itkonen, “What”; Katz; Koerner, *Transformational-Generative Paradigm*; Phillips; Postal; Sapir; Scholz, Pelletier, and Pullum; and many others.

¹² For more information about the epistemology and ontology of linguistics, see Carr, “Philosophy of Linguistics.”

historiographers of linguistics have entered into an account of the progress of linguistics,^{13 14} but remarkably, not in recent years. During the 1990s, the reflection primarily concerned the inter-paradigmatic debate between formalism and functionalism.¹⁵ In 1994, for example, De Beaugrande reflected on the history and historicity of formalism and functionalism (“On History”), and he predicted that functionalist approaches would triumph over formalism (“Function and Form”). A year later, Daneš suggested a way to integrate functionalism and formalism. Another example of an attempt at reconciliation between the formalist programme and the functionalist programme can be found in Newmeyer’s 1998 book *Language Form and Language Function* (xi). Noteworthy in this respect is a 1996 symposium (and a subsequent 1999 book) under the title *Functionalism and Formalism in Linguistics*, whose aim “was to bring together linguists of opposing approaches to linguistic inquiry — functionalists and formalists — and determine exactly to what extent these approaches differ and how they might complement each other” (Darnell, Moravcsik, Newmeyer, Noonan, and Wheatley 1). In Curnow’s view, the symposium “(unsurprisingly) [failed],” although it did provide “interesting and thought-provoking material” (505). Judging from the available literature on this topic, it seems as if the inter-paradigmatic debate on the fundamental differences between linguistic paradigms has gradually abated since 2000.

From 2000 up until today, little attention has been paid to the development of the broad discipline of linguistics. Recent studies have evaluated the progress of particular approaches to linguistic theorising, such as generative linguistics (e.g. Chomsky, *Generative Enterprise*; Kertész, “From ‘Scientific Revolution’”; Kertész, “Two Notions”; Kibbee;

¹³ E.g. Dik; Emons; Hymes; Jankowsky; Kaldewaij; Koerner, “Chomskyan Revolution”; Koerner, *Practicing Linguistic Historiography*; Koerner, *Professing Linguistic Historiography*; Koerner, *Toward a Historiography*; Koerner and Asher; Newmeyer, *Generative Linguistics*; Newmeyer, *Linguistic Theory*; Parret; Percival; Seuren, *Western Linguistics*; Winston.

¹⁴ *The historiography of linguistics* is the “principled manner of writing the history of the study of language” (Koerner, *Professing Linguistic Historiography* 3). According to Pierre Swiggers, the historiography of linguistics is a well-established sub-domain of general linguistics (38). He points out that “its institutional recognition owes much to the efforts of E. F. K. Koerner in creating the first specialized journal (*Historiographia Linguistica*, 1974-) and in starting the series of (triannual) international conferences on the history of the language sciences [ICHoLS conferences] [in 1978]” (38).

¹⁵ This debate bears reference to the present paradigm conflict as discussed in chapter 2. *Formalism* and *functionalism* roughly correspond to what Scholz, Pelletier, and Pullum call *Essentialism* and *Emergentism*, respectively (see sec. 2.1 of this thesis).

Reuland; Vidanović),¹⁶ but with little regard to how these approaches evolve in relation to other approaches within linguistics. The lack of overall reflection on the linguistic field is surprising, as the progress of the entire field had formerly been considered a crucial aspect of evaluation (e.g. Dik; Hymes). Phillips explains that nowadays “it is difficult to keep track of developments across many different areas and languages, and correspondingly daunting to try to synthesize the results into a coherent theoretical picture” (11). He suggests that the general lack of reflection can also be a result of an “increasing loss of consensus on what the goals of linguistic theory are” (11). Another difficulty in assessing general development of linguistics is that many linguists, especially in certain applied fields, have never received a formal education in philosophy of science, even though, according to Prutting, Mentis, and Zitzer, “knowledge of philosophy of science . . . can be beneficial in conducting and critically evaluating research” (379-80).¹⁷ Nevertheless, there are studies that have examined conflicting linguistic approaches (e.g. Léon; Scholz, Pelletier, and Pullum), but these studies fail to address the question of scientific progress. Studies that do take account of scientific progress have limited their analyses to a single aspect of the present conflict and, in the case that they address the future of linguistics, they describe only one particular future scenario (e.g. Andresen; Seuren, “How the Cognitive Revolution”; Smith; Weigand).¹⁸ Naturally, the

¹⁶ In 1979/1980, Huybregts and Van Riemsdijk observed that “because [generative linguistics] is so young, the assessment of the structure, the health, the progress of the field is among the favorite discussion topics among generative linguists. In some sense [generative linguists] have all turned into amateur historians or philosophers of science” (Chomsky, *Generative Enterprise* 65). Historiographer E. F. K. Koerner tentatively classifies these historical accounts by Chomsky and his followers as “propagandistic . . . history writing” (“Importance” 543).

¹⁷ An interesting exception to this trend is the course “Philosophy of Science for Linguists” at the University of Chicago, which explores “what a better understanding of the philosophy of science can do for us as linguists” (“Philosophy of Science”).

¹⁸ In their respective studies, Seuren, Weigand and Andresen put forward future directions for the broad discipline of linguistics. In “How the Cognitive Revolution Passed Linguistics By,” Pieter Seuren evaluates the “the limited effect of the cognitive revolution” in linguistics (74), and he calls for interdisciplinary action (75). Similarly, Edda Weigand presents a scenario of linguistics as an interactional and integrational discipline (549). Furthermore, in Kibbee’s *Chomskyan (R)evolutions*, Léon’s and Andresen’s respective articles fall under “Part IV. The Past and Future Directions.” The title of this section implies considerable reflection on both the past and the future of linguistics. However, Léon and Andresen do not enter into detail about different future directions. Rather, Jacqueline Léon explores the present relevance of the debate between “British empiricism and Transformational Grammar” (423), and Julie Andresen argues for a specific conceptual shift in linguistics on the basis of historiographical consideration (445). She proposes “an account of language . . . that derives not from Descartes but from Darwin” (468), and suggests that linguists “can pause to appreciate Chomsky for having

field of linguistics is subject to a continuous process of growth and change. The developments from the year 2000 onwards, including the emergence of the theoretical conflict in its present form, heighten the need to gain a renewed perspective on the progress of the linguistic field.

In this thesis, I expand the present literature by exploring the broad linguistic field in the light of scientific progress, as well as by juxtaposing respective views on the future of linguistics. In analysing the present conflict, I will predominantly build on Scholz, Pelletier, and Pullum's portrayal of the present linguistic landscape, applying theories of scientific progress to their observations.¹⁹ I have selected Scholz, Pelletier, and Pullum's portrayal on the basis of its broad scope (it is the only account that deals with the present field of linguistics as a whole) as well as its descriptive simplicity.

1.3 Problems of Assessing the Progress of Linguistics

Given the heterogeneity of the linguistic field, it is necessary to abstract from the wide range of linguistic approaches in order to clearly depict and analyse the field. Unfortunately, high levels of abstraction give rise to conceptual problems, such as oversimplifications and issues of demarcation. As noted in the previous section, I will primarily draw on Scholz, Pelletier and Pullum's sketch of the linguistic landscape when analysing the current state of affairs in the linguistic field with reference to theories of scientific progress. Unavoidably, such a schematic overview of the broad field of linguistics will not accord with all linguists' view of their field. Despite the inherent weaknesses of analysing a multifaceted discipline, the need for such an analysis of linguistics is testified by Phillip's observation that today "[m]any [linguistic] sub-communities are engaged in lively internal debates . . . with surprisingly limited regard for how all of the pieces fit together" (11). This is a regrettable situation, for the debate between adherents of different paradigms, according to Simon Dik, "should be stimulated rather than shunted" (29). Crucially, the productivity of such interactive dialogue depends on linguists' understanding of their field. This critical understanding, in its turn, presupposes reflection on the broad field of linguistics. The implications of such reflection bear on both education and research (Dik 29). "In teaching linguistics," Dik states, "care should be taken that students get acquainted with the full intellectual wealth of the field" (29). Moreover, "in research policy," he stresses, "one should avoid mistaking the ship for the fleet,

brought questions about the biological nature of language to the fore and then turn the page" (468). Lastly, Smith addresses the issue of incommensurability between transformational generative grammar and sociolinguistics.

¹⁹ Scholz, Pelletier and Pullum's description does not involve the question of scientific progress.

even if one sail may temporarily eclipse most of the others” (29). It is therefore imperative to examine the broad paradigms spanning the field of linguistics and to analyse these paradigms in conjunction rather than in isolation.

In addition to problems of abstraction, the evaluation of the development of linguistics involves the inherent problem of subjectivity. Assessment of progress is always “a matter of judgement” (Dik 3), and judgement is, by necessity, undergirded by certain assumptions (3). In my thesis, these underlying assumptions are derived from the philosophy of science, as I will use the meta-scientific theories under “1.4 Theories of Scientific Progress” as instruments of analysis. Ironically, the concept of a *paradigm* reveals itself in such assumptions. Dik points out that “[e]ven [philosophers] of science” (4), who attempt to sketch the scientific development of a certain field, “[are] bound to do so in terms of paradigmatic conceptions of [their] own” (4). Arguably, it is therefore impossible to objectively describe scientific development (4). Theories of scientific progress are heuristic instruments; although they serve to gain a rational perspective on the progress of a given field, their truthfulness cannot be assumed on theoretical grounds. Throughout this thesis, the adopted theories will therefore remain for discussion.

1.4 Theories of Scientific Progress

Almost without exception, philosophers of science hold the idea that science is progressive in nature (Losee, *Theories* 1). However, a major theoretical issue that has dominated the philosophy of science for many years concerns the nature of this progress (1). Kuhn’s and Laudan’s respective theories on this matter bear specific relevance to the present study, as they devote a considerable part to the issue of conflicting approaches within scientific disciplines. To clarify how their theories differ, two functions of science need to be differentiated. According to Losee, scientists firstly seek to describe the properties and relations of scientific entities, and secondly aim to account for these properties and relations (1-2). On the basis of this dichotomy, “descriptive progress” and “theoretical progress” can be distinguished (2). It is a truism that scientific accounts of abstract and concrete scientific entities increase in the course of time (2). In linguistics, for instance, the list of described linguistic phenomena has expanded over time and continues to expand.²⁰ This type of growth is called descriptive progress (2). The possibility of theoretical progress, on the other hand, is

²⁰ Examples of these phenomena are grammatical features in a specific language, particular dysfunctions in a certain language disorder, and phases in first or second language acquisition.

a matter of dispute (2). It is the question whether the sequence of successive theories about certain scientific entities, such as linguistic phenomena, can be described in terms of “accretion of knowledge” (2). Larry Laudan accepts the possibility of theoretical progress in the form of increasing “problem-solving effectiveness” (1). Kuhn, by contrast, states that while scientific attainments are lasting, the theoretical apparatus that allowed these attainments is unstable (*Copernican Revolution* 264-65). In Kuhn’s view, “[o]nly the list of explicable phenomena grows; there is no similar cumulative process for the explanations themselves. As science progresses, its concepts are repeatedly destroyed and replaced” (264-65). Losee points out that a reaction to Kuhn’s theory might be to equate “progress in science” with “increasing descriptive knowledge,” and to adopt an agnostic approach towards theoretical progress (*Theories* 2).

Particularly relevant to the present situation of the linguistic field is Kuhn’s account of the periodic occurrence of normal science and revolutionary science. In his influential *The Structure of Scientific Revolutions*, Kuhn introduces three concepts that are, in his view, essential to typical patterns of scientific progress: *paradigm*, *normal science*, and *scientific revolution* (Preston 20-21). A paradigm is “the entire constellation of beliefs, values, techniques and so on shared by the members of given [scientific] community” (Kuhn, *Structure* 175).²¹ This set of beliefs is solidly anchored in the educational programmes and books used for training and accrediting students (5). Such rigorous and rigid education serves to ensure that the reigning paradigm preoccupies the scientific mind, both of the individual student and, by extension, the prospective scientific community (5). The robustness of the hegemonic paradigm usually stifles disruptive conceptual changes in the scientific field (5). Consequently, most scientific activity is practiced in periods of normal science (Losee, *Historical Introduction* 198). During periods of normal science, scientists attempt to account for an increasing number of phenomena through the frame of the received paradigm (198). A period of normal science lasts when scientists continue to solve problems within the confines

²¹ In the postscript to later editions of *The Structure of Scientific Revolutions*, Kuhn admits that he had used the term *paradigm* equivocally (174-75). The broad sense of the concept is the one I use throughout my thesis. In the postscript, Kuhn comes to use the term *disciplinary matrix* for this meaning (182). A disciplinary matrix contains “one or more ‘paradigms’ in the narrow sense” (Losee, *Historical Introduction* 201). In this narrow sense, paradigms refer to “the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science” (Kuhn, *Structure* 175). These paradigms are also called *exemplars* (208). Although only the former sense received critical attention (Preston 23), Kuhn considered the exemplar-sense to be “the deeper of the two” (Kuhn, *Structure* 175).

of the given paradigm (198). Revolutionary paradigm shifts occur when the dominant paradigm proves insufficient in accounting for the phenomena (198). In addition to such an anomaly, periods of revolutionary science involve a promising alternative paradigm that initiates a paradigm war. Naturally, after years of devotion, the established scientific community refuses to abandon their paradigm for another that subverts their time-honored scientific beliefs (Kuhn, *Structure* 5-6). These scientists exert themselves to defend their paradigmatic commitment in the face of the threatening paradigm (5-6). Such resistance usually gives rise to heated controversies within the field (6). Eventually, the more viable paradigm will persuade more and more scientists of its fruitfulness (146, 159),²² and will prove victorious when “at last only a few elderly hold-outs remain” (159).²³ Kuhn points out that nearly all scientists who instigate conceptual innovations are “either very young or very new to the field whose paradigm they change” (90), for the obvious reason that they are less indoctrinated by the traditional paradigm and therefore more open to world-shattering theories that can replace the anomalous old theories (90). By the same line of reasoning, Max Planck suggests that “a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it” (qtd. in Kuhn, *Structure* 151). Kuhn argues that Planck exaggerates the persistent allegiance of the older generation, and maintains that “conversions occur not despite the fact that scientists are human but because they are” (152). He finds that “[t]hough some scientists, particularly the older and more experienced ones, may resist indefinitely, most of them can be reached in one way or another” (152).

In Kuhn’s analysis, controversy among scientists is not restricted to a full-fledged scientific community; immature disciplines in a pre-paradigmatic stage are typically constituted upon a variety of conflicting standpoints (Preston 25-26). The pre-scientific stage comes to an end when one approach prevails over its rival approaches (27). This transformation amounts to initial disciplinary consensus. The discipline then enters into the first phase of normal science within the cycle of normal and revolutionary science. In Kuhn’s judgement, the entrance of this cycle heralds the onset of ‘true’ scientific activity (27-28).

²² Such fruitfulness can be expressed in terms of, for instance, “relative problem-solving ability” (Kuhn, *Structure* 155, 157), “aesthetic appeal” (156) (that is, descriptive and explanatory elegance) (155-56), and “future promise” (158).

²³ Kuhn notes that “even [the elderly hold-outs], we cannot say, are wrong” (*Structure* 159), as there is no “point at which resistance becomes illogical or unscientific” (159). It can, however, be argued that the people who stick to the old paradigm after large-scale conversion “[have] *ipso facto* ceased to be [scientists]” (159).

During a paradigm conflict, it would be useful to objectively compare the rival paradigms. This requires a paradigm-independent language by means of which the paradigms in question can be evaluated (Losee, *Historical Introduction* 199). Kuhn deems such a language unattainable (199). He argues that rival paradigms cannot be evaluated through a *point-by-point* comparison, because not only are paradigms incompatible; they are incommensurable (Kuhn, *Structure* 94, 103; Preston 90).²⁴ ²⁵ Crucially, alternative paradigms are not manifestly contradictory (that is, the viability of one paradigm cannot logically disprove its rival paradigm (Kuhn, *Structure* 95)); rather, rival paradigms are fundamentally disharmonious in oblique and elusive ways. “In a sense that I am unable to explicate further,” Kuhn writes, “the proponents of competing paradigms practice their trades in different worlds” (150). Kuhn illustrates the incommensurability of scientific worlds using examples from the natural sciences: “One [world] contains constrained bodies that fall slowly, the other pendulums that repeat their motions again and again. In one, solutions are compounds, in the other mixtures. One is embedded in a flat, the other in a curved, matrix of space” (150).²⁶ According to Kuhn, incommensurability informs the revolutionary character of transitions between paradigms. Because paradigm shifts are transitions between incommensurables, the shifts cannot take place gradually, but compel an abrupt re-establishment of the field’s fundamentals (85, 150).

In contrast to Kuhn, Laudan construes the resolution of seemingly incompatible theories as a significant part of the scientific enterprise (Losee, *Historical Introduction* 206).

²⁴ This is because, according to Kuhn, “proponents of competing paradigms are always at least slightly at cross-purposes” (*Structure* 148).

²⁵ Still, Kuhn argues that choosing a paradigm over another is rational. Whereas incommensurability precludes a “*point-by-point* comparison,” it allows a “*holistic* comparison” as to which of the vying paradigm is the most viable (Preston 90).

²⁶ John Preston points out that Kuhn’s incommensurability thesis is self-contradictory (92). He notes that incommensurable entities “have to be representations or concepts *of* a common something, a common domain” (92). Otherwise, he argues, incommensurability equals triviality (92). For expository purposes, Preston notes that the incommensurability between quantum mechanics and evolutionary biology is incontrovertible, as these respective studies share no subject-matter (92). According to Preston, Kuhn’s idea of an unattainable paradigm-independent language is discredited by the very existence of a common scientific domain. Preston maintains that the conceptual commonality implies “that there *must* be a ‘neutral’ way to identify what the . . . supposedly incommensurable representations are about; what they are conceptualizations *of*” (92). He therefore concludes that there must be “at least *some* neutral ‘language’” (92). Preston is, however, quick to notice that even though an impartial language exists, it could be argued that “there is simply not enough [of that impartial language] to form a basis on which to compare the . . . rival paradigms” (93).

In *Progress and Its Problems*, Laudan suggests that successive scientific theories are progressive when they show an increase in “problem-solving effectiveness” (Losee, *Historical Introduction* 207). Laudan divides scientific problems into two broad types: empirical problems and conceptual problems. The present study is concerned with a particular type of the latter category: conceptual problems that surface when co-existing theories seem incompatible (206). According to Laudan, then, scientific progress can be achieved by establishing “conceptual harmony among supposedly conflicting theories” (208).²⁷

1.5 Linguistics as a Science and the Ideal of Scientific Harmony

In this thesis, the theories described under “1.4 Theories of Scientific Progress” are used as a formal means of evaluating the linguistic field. This raises the question of whether such theories can be validly applied to linguistics. As theories of scientific progress describe the development of scientific disciplines (after all, they are theories of *scientific* progress), a scientific status of the linguistic field seems to be a prerequisite for such an application. Throughout the history of linguistics, many linguists explicitly granted linguistics the status of a science (e.g. Bar-Hillel 551; Bloomfield 89; Kasher and Lappin iii; Sapir). Indeed, this assumption is the *raison d'être* of the philosophy of linguistics. However, what kind of field [linguistics] is depends on its postulated objects of study and methodology (Postal 233). Controversy about the scientific status of linguistics can therefore be expected, given that linguistics “has not reached agreement yet about how to define its object language and how to analyse it” (Weigand 544). This becomes apparent from the disparity between Hymes and Seuren, who nevertheless share the aim of documenting the history of linguistics. Whereas Hymes holds that “[l]inguistics is a discipline and a science” (1), Seuren deems it doubtful that “linguistics is justified in claiming the status of a real science” (*Western Linguistics* xi). Many adherents of Hymes’s position subscribe to the scientific method. The linguistic field is comprised of, on the one hand, empirical or scientific approaches that observe the scientific method, and on the other hand, non-empirical approaches parallel to other non-empirical studies (Eddington 1). These non-empirical studies include pure mathematics, and formal logic, as well as scholarly disciplines in the humanities, such as literature, philosophy, and art

²⁷ An example of restored harmony is the reconciliation between “Kelvin’s calculations of the age of the earth and Darwin’s theory of evolution” (Losee, *Historical Introduction* 208).

(1).^{28 29} In non-empirical approaches to linguistics, “there is no need for experimental verification” (6), as theories are supported by, for instance, grammaticality judgements on the basis of introspection.^{30 31} Although Eddington posits that linguists should apply the

²⁸ Eddington lists the steps of the scientific method: “(1) Observe a phenomenon,” “(2) Formulate a hypothesis to explain it,” “(3) Carry out an experiment or collect other observations to test the hypothesis,” and (4) “Analyze the results to determine whether they confirm or refute the hypothesis” (1).

²⁹ This renders it difficult to put linguistics into a neatly labelled category. Fukui and Zushi note that linguistics “has been traditionally placed in the humanities and social sciences, where [linguists] don’t quite enjoy the feeling of fitting in. On the other hand, the natural sciences schools . . . have flatly closed the door to linguistics” (Chomsky, *Generative Enterprise* 187).

³⁰ Recurrent (and often acrimonious) charges of problematic non-empirical practice centre around Chomskyan orthodoxy as to linguistic intuitions. Scholz, Pelletier and Pullum note that this “rancorous, often ideologically tinged” discussion has raged unabated for 45 years (sec. 3.1). For a recent discussion on this topic, see Devitt; Gross and Culbertson; Fitzgerald; Textor. Interestingly, this dispute is highly germane to the present linguistic paradigm conflict, which will be spelled out in chapter 2. Chapter 2 will introduce three conflicting paradigms: Essentialism, Externalism and Emergentism. With respect to linguistic intuitions, Scholz, Pelletier and Pullum depict the debate between the three paradigms at its most extreme: “many Emergentists and some Externalists cast the debate in terms of whether linguistic intuitions should ever count as evidence for linguistic theorizing. And many Essentialists cast it in terms of whether anything but linguistic intuitions are ever really needed to support linguistic theorizing” (sec. 3.1). This Essentialist position is based on the availability of negative evidence in grammaticality judgements. This type of evidence lacks in corpora research, for instance. Importantly, Essentialist linguists are not exclusively engaged in theoretical linguistics; many Essentialists conduct experiments (which sometimes draw upon linguistic intuitions). Even though some Emergentist linguists would disagree (see Blawat), Essentialists typically hold that UG theories can formulate clear and falsifiable predictions and that, by virtue of this property, these theories are in fact empirical (see footnote 48).

³¹ Eddington suggests that a hypothesis based on linguistic intuitions runs the risk of “[becoming] its own explanation” (9). By way of illustration, Eddington points the finger at Chomsky, who, “[w]hen pressed for evidence that [one of his hypotheses] was correct, . . . merely responded that he was a native speaker of English,” rather than “[consulting] a corpus to confirm [the hypothesis]” (8-9). Interestingly, in 1985, Chomsky’s teacher Zellig Harris disapproved of using intuitions as evidence. For similar reasons as Eddington, Harris claimed that linguistic rules can only be deduced from an actual corpus of utterances (45). Another reason to reject introspective data is the assumption that only evidence from the brain sciences can be convincing with respect to psychological reality (Chomsky, *Generative Enterprise* 182). Chomsky responds that this claim is “just meaningless” (182). It reminds him of “the criticism that was leveled against chemistry throughout its whole history” (182). Until the 1930s, chemistry had often been denied the status of a true science like physics, as it was claimed to be a mere mode of calculation (182). Chomsky points out that in the end, “chemistry was right and physics was wrong” (182). After physics had been revised, chemistry and physics were reconciled. On this account, Chomsky concludes that “[t]here is no way of knowing how it’s all going to turn out until the answers are known” (182).

scientific method (1), he does not claim that all linguistic analyses must be empirically-based (8), for he considers non-empirical accounts of linguistic phenomena a valuable addition insofar as these generate “empirically testable hypotheses about those phenomena” (8). Still he declares that “[p]rogress in linguistics is only made to the extent that researchers adopt the method that is standard in scientific endeavors” (1).

The question arises as to whether the past development of linguistics can be validly construed as *scientific* development. Simon Dik points out that according to some linguists, linguistics “does not display the general paradigmatic unity which, in Kuhn’s view, is a precondition for ‘normal science’ to develop” (14). The field of linguistics, so they claim, has never been governed by a productive central paradigm that is defined by an overall consensus of the scientific community. On this account, linguistics has not yet outgrown its scientific immaturity (14). Other linguists, including Percival, conclude from this observation that Kuhn’s theory does not fully apply to linguistics (292).^{32 33} Paradoxically, however, Percival could not have arrived at this conclusion without applying Kuhn’s theory to linguistics. He seems to mistake the outcome of the application for the application itself. Therefore I deliberately hold that a scientific status of a discipline *seems* to be prerequisite for the use of meta-scientific theories; the application remains equally justified in the case that the discipline of linguistics cannot be identified as a proper science. In order to assess whether or not linguistics progresses as a science (and if not, in what way linguistics deviates from general scientific patterns), it is necessary to draw on theories of scientific progress, regardless of the conclusion of such an assessment. Likewise, the appraisal of a scientific status is only made possible through the use of the philosophy of science, and the possibility of a scientific status cannot be precluded without it. Essentially, a non-scientific status as well as deviations from the general course of scientific development only come into effect by virtue of their opposite: adherence to typical scientific growth.

Important to note is that the present situation of co-existent approaches to linguistic theorising does not necessarily denote scientific infancy. In addition to the possibility of a mature paradigm conflict in the Kuhnian sense, there is Laudan’s idea of solving conceptual

³² On the basis of this observation, Percival suggests “that linguists [should] abandon the theory” (285). Hymes, on the other hand, understands the controversy, but observes that Kuhn’s theory “has caught essential features of the history of scientific and scholarly disciplines” (14). According to Hymes, lack of unanimity cannot negate the relevance of Kuhn’s theory (14).

³³ This could be in part because Kuhn’s theory is underpinned by his personal observations of the history of the ‘hard’ natural sciences, such as physics.

incongruities. In Laudan's theory, scientific progress is in part afforded by the existence of alternative approaches. Simon Dik remarks that this idea does "not only [save] [linguists] from the self-denying conclusion that linguistics is not really a science" (15), but "[i]t also points to paradigmatic disagreement as a motor of, rather than an impediment to, scientific progress" (15).

Meta-scientific theories can be used to document the developments in a given discipline (Prutting, Mentis, Zitzer 379), and they are therefore valuable both to linguists who regard linguistics as a full-fledged science, and to those who reject such a characterisation. Hence linguistics as a discipline, in all conceivable stages, is amenable to theories of scientific progress.

1.6 A Format of Assessment

In the following chapters, I will employ the above-described theories to analyse the current state of affairs in linguistics (see sec. 1.4). Assessment of the development of a field requires a conceptual template by means of which the development can be described. Figure 1 illustrates my theoretical strategy for capturing the scientific development of linguistics. This figure visualises the past, present and future of linguistics and sets out their interrelationship in diagram form. To draw a picture of the development of linguistics, I explore the recent past and present in chapter 2, and consider the future of the field in chapter 3. In reflecting upon the future of linguistics, I will briefly touch upon the present scientific debate. Figure 1 visualises the original aspects of this study in blue: consideration of the current linguistic paradigm conflict in relation to scientific development (*theoretical framework*), and reflection on various future scenarios. As I consider the future scenarios of the paradigm conflict, it is not my objective to *predict* the future of the linguistic field, nor is it to solve the conceptual disagreements. The paradigm conflict poses a seemingly insurmountable puzzle, and if at all, this puzzle admits no easy answers. In addition, it should be made clear from the outset that I do not intend to assess the correctness of the philosophical theories by subjecting them to the linguistic field. Rather, in the following chapters, I will impose the philosophical theories upon linguistics to reflect upon the development of the linguistic field.

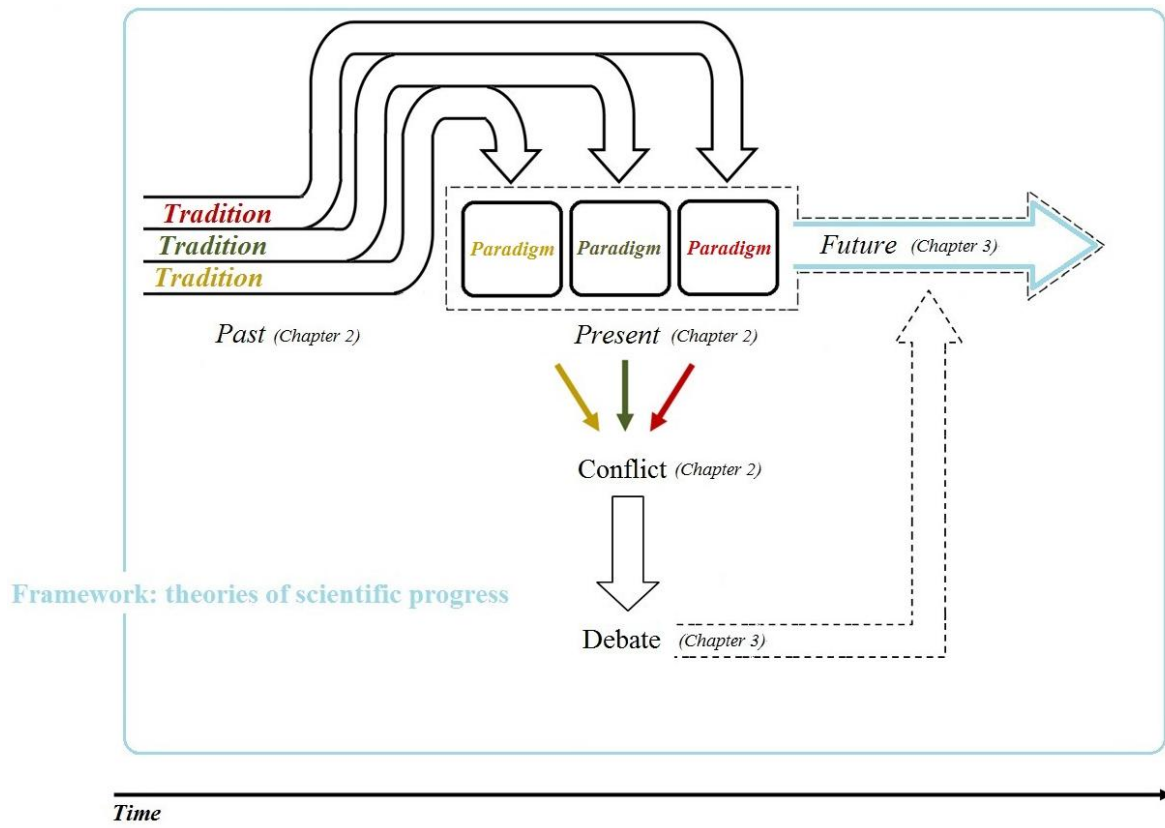


Fig. 1. Schematic strategy for describing the development of linguistics.

2. The Linguistic Paradigm Conflict

In this chapter, I will present an overview of the conflicting paradigms that fundamentally shape the current field of linguistics. I will begin by defining the present paradigm conflict through a tripartite delimitation of alternative paradigms as defined by Scholz, Pelletier and Pullum: Essentialism, Emergentism, and Externalism (sec. 1).³⁴ In the first section, I will interpret Scholz, Pelletier and Pullum's critical observations in the light of one of the theories introduced in the previous chapter: Kuhn's theory of scientific progress.³⁵ The first section will furthermore explore how the conceptual disparities give rise to correspondingly dissimilar claims about the same linguistic phenomena. In section 2, I will contextualise the paradigms by looking at their recent history. In many accounts of the history of linguistics, linguists, philosophers and historiographers touch upon philosophical issues, but only insofar as philosophical observation helps to elucidate the history of linguistics.³⁶ This chapter will look at things the other way around³⁷: it will only explore past linguistic traditions to the extent that this contributes to an understanding of the philosophical problem at issue, namely, the present linguistic paradigm conflict.

2.1 Conflicting Paradigms in Contemporary Linguistics

In their discussion of the fundamental disagreements within linguistics, Scholz, Pelletier and Pullum discern three tendencies or foci in linguistics: Essentialism, Emergentism, and Externalism (sec. 1). Throughout their article, they use the term *approaches (to linguistic theorising/to the study of language)* to refer to these respective sets of scientific beliefs and practices. In line with theories of scientific progress, I will instead employ Kuhn's term

³⁴ It is important to note that Scholz, Pelletier and Pullum's description of the current field of linguistics does not address the issue of scientific progress. Accordingly, Scholz, Pelletier and Pullum do not describe the current state of affairs in linguistics in terms of a *paradigm conflict*, nor do they employ terms such as *paradigm* and *incommensurability*. In this chapter, I interpret their findings from the perspective of scientific progress using Kuhn's theory and, as will be pointed out in 2.1, analyse their observations in Kuhnian terms (such as *paradigm*).

³⁵ Laudan's theory will be employed in chapter 3.

³⁶ Among many others, Chomsky, *Generative Enterprise*; Hymes; Jankowsky; Kaldewaij; Kibbee; Koerner, *Practicing Linguistic Historiography*; Koerner, *Professing Linguistic Historiography*; Koerner, *Toward a Historiography*; Koerner and Asher; Newmeyer, *Generative Linguistics*; Newmeyer, *Linguistic Theory*; Parret; Seuren, *Western Linguistics*.

³⁷ This accords with Dik's 1983 account of the progress of linguistics.

paradigm. Admittedly, it has been claimed that linguistics is still a pre-scientific and therefore pre-paradigmatic discipline (see sec. 1.5 of the previous chapter). However, Kuhn himself has conceded that he had been too schematic in dissociating paradigms from pre-scientific practice (*Structure* 178-79). In his postscript, he explains that “the transition [to scientific maturity] need not ([he] now [thinks] should not) be associated with the first acquisition of a paradigm” (179). Although Kuhn maintains that paradigms in the pre-scientific stage do not supply the productive guidance that mature paradigms offer, he finds that the schools of what he had called a *pre-paradigm period* correspond to his definition of a *paradigm* (179). By the same standard, Essentialism, Emergentism, and Externalism can be understood as paradigms, regardless of whether linguistics has left the pre-scientific stage or not.

Dividing the field of linguistics into three distinctive paradigms inevitably means oversimplifying the conflict (see sec. 1.3). Yet to make sense of the current state of affairs in linguistics, it is necessary to obtain a clear picture of the sharp discrepancies between linguistic perspectives. Scholz, Pelletier and Pullum provide such a constructive “sketch of the dramatis personae” in the present paradigm conflict (sec. 1). Table 1 presents Scholz, Pelletier, and Pullum’s systematic overview of the subject matter, tenets, and scientific aims of the linguistic paradigms.

It is crucial to note that *Essentialism*, *Emergentism*, and *Externalism* are by no means definitive descriptions of the contemporary paradigms.³⁸ Since the current paradigm conflict has not been clearly articulated in the literature, there are no set terms available to speak of the present linguistic paradigms. Of course, there are names to denote broad linguistic programmes, but these terms have become vexed, for they have been applied inconsistently among linguists of different schools. In Essentialist literature, for instance, the term *empiricists* has been applied to both Externalists and Emergentists, whereas only some Externalists have used the label themselves (Scholz, Pelletier, and Pullum, sec. 1).³⁹ Emergentists, on the other hand, typically use the ‘Emergentist’ tag to refer to themselves, or alternatively, name themselves “‘usage-based’ linguists” or “‘construction grammarians” (sec. 1). Lastly, the dichotomous terms *formalism* and *functionalism* are closely related to, but not always used as equivalents of *Essentialism* and *Emergentism*, respectively (secs. 1, 1.2). These examples indicate that the generalisability of the present terminology is problematic.

³⁸ *Externalism*, for example, may also be labelled *Structural Descriptivism* (Scholz, Pelletier, and Pullum, sec. 1).

³⁹ Scholz, Pelletier, and Pullum point out that the “‘empiricist’ tag” is misleading, as it implies the rejection of an inborn drive to acquire language, whereas this belief is not intrinsic to the Externalist paradigm (sec. 1).

To steer clear of terminology issues in my thesis, I have selected Scholz, Pelletier and Pullum's "mnemonic tags" (namely, *Essentialism*, *Emergentism*, and *Externalism*) to unequivocally define the linguistic paradigms (sec. 1).

	Essentialism	Emergentism	Externalism
(1) Object of study	The intrinsic principles of language (by some Essentialists conceived as a mental grammar)	Language as a communicative, cognitive, cultural, historical, and evolutionary product	The structure of empirically attested linguistic expressions
(2) Primary data	Grammaticality judgements (linguistic intuitions)	“Facts of social cognition, interaction, and communications”	“Actual utterances as produced by language users” (available in corpora, for instance)
(3) Scientific goal	Identifying abstract linguistic universals that shine through in the grammars of specific languages (and in the process of language acquisition, according to generative Essentialists)	Accounting for linguistic features “in terms of general cognitive mechanisms and communicative functions”	Modelling the structure of linguistic expressions and predicting structural “properties of unattested expressions”
(4) Conception of linguistic structure	“A system of abstract conditions” (According to generative Essentialists: a genetically determined modular system in the human mind that is an abstract blueprint of all human languages. This mental grammar comprises the so-called linguistic universals, which, in turn, reveal the innate predisposition to acquire languages)	A communicative system “of constructions that range from fixed idiomatic phrases to highly abstract productive types”	“A system of patterns, inferable from generally accessible, objective features of language use”
(5) Conception of children’s linguistic competence	(On an abstract level of mental representation) fundamentally equivalent to “adult linguistic competence,” but “obscured by cognitive, articulatory, and lexical limits”	A sequence of developmental phases culminating in “adult communicative competence”	“A nascent form of language” (highly dissimilar from “adult linguistic competence”)
(6) The result of first language acquisition	The ability to produce and interpret “an infinite set of expressions”	“A mainly conventional and culturally transmitted system for linguistic communication”	Knowledge of “the distributional properties of the constituents” in a particular language

Table 1. Overview of the contemporary linguistic paradigms. Adapted from Barbara C. Scholz, Francis Jeffrey Pelletier, and Geoffrey K. Pullum; “Philosophy of Linguistics,” *The Stanford Encyclopedia of Philosophy*; Sec. 1; Table 1 (additional information that is not included in the original table derives from Scholz, Pelletier and Pullum’s article).

The paradigm boundaries appear to be less clear-cut than the table above might suggest.⁴⁰ Firstly, each paradigm in itself encompasses distinctive scientific movements. Within Essentialism, for instance, linguists disagree on whether or not language resides in the human mind (Scholz, Pelletier, and Pullum, sec. 2.4). The distinction between paradigms is further complicated by the ways in which paradigms relate to various sub-domains within linguistics (such as syntax, semantics, phonology, phonetics, etc.). Given the divergent scientific aims of the conflicting paradigms (see table 1, row 3), it is unsurprising that paradigms differ with respect to which sub-domains are deemed relevant, how these sub-domains are defined, and what interfaces between these sub-domains are considered legitimate. For example, semantically-inclined Essentialists typically deny the relevance of pragmatics, whereas Emergentists usually reject the distinction between semantics and pragmatics and take what can be understood as the interface of two to be a starting point for linguistic theory (sec. 2.5). Furthermore, the archetypal Essentialist linguist claims that syntactic form is autonomous, whereas the Emergentist linguist typically holds that syntax, semantics, and pragmatics are interdependent (sec. 1.2). However, discrepancies in sub-domain demarcation do not only exist across paradigm boundaries, but can also be found within the confines of one paradigm. Within Essentialism, linguists disagree about the role for semantics in linguistics. Whereas some Essentialists devote themselves to the study of semantics, numerous Essentialists adopt Chomsky's idea that semantics should not be part of the linguistic enterprise at all (sec. 1.3, 2.5).⁴¹ Lastly, the distinction between paradigms blurs when paradigmatic analyses of structural properties draw on the conceptual instruments devised within another paradigm. Emergentist accounts of syntactic phenomena are in part modelled on Externalist descriptions of syntactic features, and some Externalist work on computational parsing is predicated upon rule systems formulated by Essentialists (sec. 1).

The underlying premises and theoretical claims of the respective paradigms cannot be reconciled (yet). This has particular significance in postulations of (and subsequent theories on) language acquisition, as becomes apparent from table 1 (see the bottom two rows). For instance, the Essentialist and the Externalist respective perspectives on children's linguistic competence seem irreconcilable, for children's linguistic competence cannot be both deeply comparable to, and simultaneously, extremely different from adult language (see table 1, row

⁴⁰ This is one of the reasons that the conflict has proved elusive over the last decade.

⁴¹ This dispute stems from a notorious conflict within generative Essentialism, colloquially known as *the linguistic(s) wars*, which took place during the 1960s and 1970s (see Newmeyer, *Generative Linguistics*; Newmeyer, *Linguistic Theory*; Randy Harris).

5). However, it cannot be inferred from this observation that the respective paradigmatic claims are mutually exclusive, as the paradigms lack a fair basis of comparison: the paradigms assume fundamentally dissimilar definitions of the subject matter (see table 1, row 1),⁴² adopt different standards of evidence (see table 1, row 2), and presuppose divergent rationales behind the linguistics enterprise (see table 1, row 3). Although the paradigms incorporate the same terminology (including terms as *language*, *acquisition*, *etc.*), linguists working in different paradigms actually discuss different (abstract) entities when they employ the same terms. This invokes Kuhn's notion of semantic incommensurability. According to Kuhn, semantic incommensurability exists implicitly in conflicting paradigms that employ similar vocabulary and apparatus (Kuhn, *Structure* 149). Kuhn argues that "[t]he inevitable result [of semantic incommensurability] is, . . . though the term is not quite right, a misunderstanding between [proponents of competing paradigms]" (149). Inextricably connected to the idea of semantic incommensurability is Kuhn's notion of incommensurable scientific worlds. As discussed in section 1.4, Kuhn holds that adherents of conflicting paradigms "see different things when they look from the same point in the same direction" (150). In other words, adherents of different paradigms do not only refer to intricately related yet dissimilar entities, but actually perceive different things when observing the same phenomenon. "That is why," Kuhn explains, "a law that cannot even be demonstrated to one group of scientists may occasionally seem intuitively obvious to another" (150). Equally, it is why paradigms differ in the types of analyses considered acceptable given a particular phenomenon (148).⁴³ Kuhn's idea of incommensurable scientific worlds finds resonance in the linguistic paradigm conflict: although linguists' respective conclusions about the outcome of first language acquisition are clearly disparate, they are not evidently contradictory (see table 1, row 6). Rather, they seem incommensurable in the Kuhnian sense.

In addition to language acquisition, the respective Essentialist and Emergentist beliefs yield divergent conclusions about the phylogenetic emergence of language (Scholz, Pelletier,

⁴² When discussing the subject matter of linguistics, philosophers of linguistics often draw on Katz's distinction between three ontological conceptions within the linguistic field: Platonic realism, nominalism, and conceptualism (see, for instance, Carr, "Philosophy of Linguistics and of Science" 38). In my thesis, I will not elaborate on Katz's metaphysics any further, as none of the paradigms under discussion are united on the basis of Katz's distinction (Scholz, Pelletier, and Pullum, sec. 2.4).

⁴³ For a particularly useful example of an Externalist's, an Emergentist's and an Essentialist's respective analyses of the same linguistic phenomenon (namely, the syntax of double-object clauses), see Scholz, Pelletier, and Pullum (sec. 1.4).

and Pullum, secs. 6-6.2).^{44 45} Apposite to the discussion about language evolution are (1) presumptions about the modularity of language, (2) presumptions about the relevance of historical linguistics, and (3) presumptions about the relation between, on the one hand, human and non-human communicative abilities, and on the other hand, uniquely human linguistic capacity (secs. 6-6.1). In general, Emergentists do not preclude on theoretical grounds the possibility of finding clues about language evolution in animal communication, nor do they rule out the possibility of finding clues by analysing historical changes in particular languages (secs. 6-6.1). Essentialists, on the other hand, tend to reject the relevance of anything other than the uniquely human capacity to acquire language (secs. 6-6.1), although there are notable exceptions (see, for instance, Bolhuis and Everaert). Consequently, as Scholz, Pelletier and Pullum indicate, “Essentialists debate among themselves about the plausibility of adaptive explanations for the emergence of essential features of a modular language capacity” (sec. 6.1), whereas Emergentists seek for “broad evolutionary explanations of the features of languages . . . and communicative capacities . . . conceived in non-essentialist, non-modular ways” (sec. 6.1). This leads to divergent critical understandings of language evolution that can be placed along the following continuum: at one extreme, there are Essentialists such as Bickerton arguing that “nothing resembling human language could have developed from prior animal call systems” (512), and at the other extreme, there are Emergentists like Cheney and Seyfarth claiming that “monkeys and apes exhibit at least five characteristics that are pre-adaptations for human communication” (Scholz, Pelletier, and Pullum, sec. 6.1). These respective results of observation are clearly disjointed (yet not necessarily disjunctive); once again, Kuhn’s incommensurability reveals itself in the friction between the contemporary linguistic paradigms.

2.2 The Origins of the Present Paradigms

The present linguistic paradigms result from past traditions within the linguistic field, and can be traced back to the genius of particular intellectual ancestors with different scientific backgrounds. In a sense, these ancestors can be said to have invented the paradigms. This accords with Kuhn’s theory that paradigms can be brought about by a single scientist. Kuhn explains that “[a] new paradigm, or a sufficient hint to permit later articulation, emerges all at

⁴⁴ An insightful article on this topic is “Your Theory of Language Evolution Depends on Your Theory of Language” by Jackendoff.

⁴⁵ Externalists do not seem to concern themselves with evolutionary matters.

once, sometimes in the middle of the night, in the mind of a man” (*Structure* 89-90).

The Externalist paradigm has its origins in American structuralism, led by Leonard Bloomfield (Scholz, Pelletier, and Pullum, secs. 1.1, 1.3). In 1926, Bloomfield introduced a typical extensional definition of language (Dik 9): “[a]n act of speech is an utterance . . . The totality of utterances that can be made in a speech-community is the language of that speech-community” (qtd. in Dik 9). Modern Externalism is still imbued with Bloomfield’s conception of language (see table 1, row 1 and 2). Moreover, in the 1920s, American structuralists pioneered in establishing linguistic corpora, which are now the main source of evidence in Externalist research (Scholz, Pelletier, and Pullum, sec. 1.1). With this in mind, it comes as no surprise that Externalism continues to flourish in computational linguistics, where, as Scholz, Pelletier and Pullum point out, “very large, computationally searchable corpora are being used to test hypotheses about the structure of languages” (sec. 1.1).

In the same way that Bloomfield can be considered the intellectual father of Externalism, anthropologist-linguist Edward Sapir can be seen as the father of Emergentism (Scholz, Pelletier, and Pullum, sec. 1.2). The spirit of Emergentism is epitomised in Sapir’s conception of language as a cultural or social product that is to be seen in relation to the “human conduct in general” (Sapir 214). In 1929, Sapir criticised linguists’ failing “to look beyond the pretty patterns of their subject matter” (214). In modern-day linguistics, this could be interpreted as an accusation at the Externalists’ address, as Externalists commit themselves to determining the precise architecture of these ‘pretty patterns.’ Contemporary Emergenists, on the other hand, argue that studying linguistic properties in itself cannot do justice to the quintessence of language. They regard the human language faculty as a part of general cognitive and social human abilities (Scholz, Pelletier, and Pullum, sec. 1.2). In present-day linguistics, the Emergentists’ creed thrives in factions of sociolinguistics and psycholinguistics. In sociolinguistics, especially the variationist branch is characteristic of the Emergentist paradigm (sec. 1.2).⁴⁶ An example of typical psycholinguistic Emergentism is Tomasello’s work, which calls attention to the role of theory of mind in language acquisition and use (sec. 1.2).⁴⁷

⁴⁶ As a broad sub-domain, sociolinguistics includes “discourse analysis, studies of interaction, sociology, anthropology, cultural studies, feminism,” and many other studies (Meyerhoff 315). In a more restrictive sense, *sociolinguistics* is sometimes used to refer to “variationist studies in the Labovian tradition” (315).

⁴⁷ Importantly, not all psycholinguists and sociolinguists are Emergentists. Essentialist psycholinguists, for instance, argue that linguistic competence is innate and language processing modular (Harley 28). They reject the Emergentist view that processing is interactive and that it involves general cognitive functions, such as

The origins of Essentialism can be traced to Noam Chomsky (Scholz, Pelletier, and Pullum, sec. 1.3). Essentialists, unlike Emergentists and Externalists, are unimpressed by language variation. Instead, they focus on cross-linguistic commonalities, as they attempt to reveal the essential core of all human languages (sec. 1.3).⁴⁸ A majority of the contemporary Essentialists still adheres to Chomsky's generative enterprise (sec. 1.3),⁴⁹ and generative Essentialism, in turn, is the mainstream approach within the linguistic field in general (Kibbee, back cover text).⁵⁰ ⁵¹ It is therefore unsurprising that in the eyes of many linguists, modern linguistics did not start off until 1957, when the publication of Chomsky's *Syntactic Structures* ushered in a new era of linguistic inquiry (Kibbee, back cover text).⁵² On this account, Van Riemsdijk proclaims Chomsky "the undisputed grand master of linguistic research" (Chomsky, *Generative Enterprise*, back cover text). With respect to historiography, Kibbee notices that the history of Essentialism has often been documented "in hyperbolic terms- a 'revolution', to start with, and then ongoing 'counter-revolutions', 'revolts' and

learning on the basis of statistical regularities (28). This Emergentist view in psycholinguistics is sometimes called *connectionism* (23-24). Remarkably, as Harley observes, "in the USA, people who believe in innate modular rules tend to live on the east coast (mostly in and around Boston), and those who believe in the laid-back general patterns acquired by experience tend to live on the west (mostly around Los Angeles)" (28-29).

⁴⁸ Within generative Essentialism, this common core of all languages is construed as a Universal Grammar (UG), a "mental system present at birth which permits the acquisition of the complex grammar of any human language" (Fromkin 718). Generative inquiry is guided by predictions made in view of UG. The presumption of UG derives from observations of first language acquisition. This presumption is central to generative theorising as it serves to resolve the *logical problem of language acquisition* (for further explication of this matter, see, for instance, Fromkin 15). According to generative theory, UG encompasses abstract principles, which reveal themselves in profound structural similarities across languages as well as in the universal and uniform developmental phases in first language acquisition (Scholz, Pelletier, and Pullum, sec. 1.3).

⁴⁹ An example of non-generative Essentialism is the tradition inaugurated by Montague (Scholz, Pelletier, and Pullum, secs. 1.3, 2.4). Essentialists in this tradition employ "powerful higher-order quantified modal logics and possible worlds" to describe the essential properties of human language (sec. 2.4).

⁵⁰ Throughout the history of Essentialism, there have been many fervent defenders of the Essentialist paradigm. In 1981, for instance, Jerry Fodor endorsed Chomsky's transformational approach to syntactic theory (Devitt and Sterelny 497). Devitt and Sterelny note that, "[w]ith careful neutrality," Fodor labelled Chomsky's approach "the Right View," as opposed to the label "the Wrong View," which he reserved for Chomsky's opponents (497).

⁵¹ Nevertheless, Chomsky's ideas have been frequently challenged (see, for instance, Antony and Hornstein).

⁵² Antony and Hornstein point out that in addition to "fundamentally [restructuring] the science of linguistics," Chomsky "transformed the science of psychology, rehabilitating the doctrines of mentalism and nativism after their long exile during the reign of behaviorism" (1).

‘wars’” (xi).⁵³ Yet other historians of linguistics argue that linguistics has never undergone a revolution in the Kuhnian sense. They consider linguistics to be a pre-scientific (and therefore pre-revolutionary) discipline (Dik 14). The accounts of Chomskyan revolutions might result from what Joseph recognises as linguists’ want to see themselves as revolutionary (380).⁵⁴ Despite debates on Chomskyan revolutions, Chomsky has undeniably effected “a substantial shift in the conception of language” (Wearing 566), as the Essentialist paradigm displaced the formerly predominant Externalist paradigm. After the publication of *Syntactic Structures*, more and more linguists came to see language as “an internally represented (implicit) system” instead of “an external object” (566).⁵⁵

2.3 Conclusion

In this chapter, I have applied Kuhn’s theory of scientific progress to Scholz, Pelletier, and Pullum’s description of the current state of affairs in linguistics. This application suggests that the linguistic field is constituted upon three incommensurable paradigms: Essentialism, Emergentism, and Externalism. Each of these three paradigms can be traced back to a historical linguistic tradition associated with a particular intellectual ancestor: Essentialism belongs to Chomsky’s tradition, Emergentism originates from Sapir’s conception of language, and Externalism pursues the scientific course initiated by Bloomfield. So far, this thesis has explored the recent past and the present of the linguistic field. The next chapter moves on to consider the future of linguistics.

⁵³ Many books and articles address the issue of a Chomskyan revolution, see for instance, Kertész, “From ‘Scientific Revolution’”; Kertész, “Two Notions”; Kibbee; Koerner, “Chomskyan Revolution”; Koerner, *Practicing Linguistic Historiography*; Koerner, *Professing Linguistic Historiography*; Koerner, *Toward a Historiography*; Koerner and Asher; Newmeyer, *Generative Linguistics*; Vidanović; Winston. However, in 1979/1980, Huybregts and Van Riemsdijk pointed out that Kuhn’s theory and terminology “[have] been quite badly misused” in describing the developments in linguistics (Chomsky, *Generative Enterprise* 65).

⁵⁴ Indeed, in 1979/1980, Chomsky observed that linguists were “discovering revolutions everywhere,” whereas according to him, “real conceptual changes in the significant sense are very rare” (*Generative Enterprise* 66). Furthermore, in 2001, Reuland noticed linguists fallaciously employing the term *revolution* in *Natural Language and Linguistic Theory* (879-80). He argued that these linguists “fail to dissociate their assessment of purported revolutionarity from their assessment of the merits of [changes in linguistic theorising] as such” (879).

⁵⁵ In juxtaposition with Bloomfield’s extensional interpretation of language (Dik 9), Sapir’s idea of language as a communicative method (8), and Chomsky’s mentalist conception (10), Simon Dik explores Saussure’s conception of language as a system of signs (10). He concludes that these respective conceptualisations of language are fundamentally different (10).

3. The Future of Linguistics

In this chapter, I will inventory and contrast the possible future scenarios of the linguistic field by extrapolating from the course of developments that has given rise to the present paradigm conflict, as documented in the previous chapter. I refrain from making a firm assessment of the likelihood that any one scenario will occur, as I cannot, of course, predict the future of linguistics. I will, however, reflect upon the respective scenarios on the basis of the meta-scientific theories introduced in chapter 1: Kuhn's and Laudan's respective theories of scientific progress. The logical possibilities of the future of linguistics include both scenarios in which the present paradigm conflict is resolved and scenarios in which the conflict continues to exist. The outcome of the paradigm conflict may take the form of: (1) a persistent state of pre-scientific activity, (2) the permanent co-existence of conflicting paradigms, (3) lasting synthesis of rival paradigms, or (4) a revolution, either through (4a) the emergence of a new paradigm, or by (4b) the replacement of two of the existing paradigms by their rival paradigm. The following sections will successively consider these possibilities. I will conclude the chapter by commenting on the debate between adherents of different paradigms.

3.1 Persistent State of Pre-Scientific Activity

As discussed in the first chapter (see sec. 1.5), some linguists claim that linguistics is still in its pre-scientific stage (Dik 14).⁵⁶ Among these linguists is Chomsky, who in 1979/1980 thought of linguistics as "natural history," and who argued that the first linguistic revolution was yet to take place "when normal science [would become] work that is involved in deepening explanatory theories" (*Generative Enterprise* 66). Although Chomsky at that time suggested that the first linguistic revolution was "maybe somewhere on the horizon" (66), in 2002, he speculated that linguistics "[was] going to be very descriptive in the future, especially in the semantic and phonetic areas" (186).⁵⁷ On Chomsky's 1979/1980 account, then, linguistics has still not undergone its first scientific revolution.

According to Kuhn's theory, paradigmatic consensus has to be achieved in order for

⁵⁶ Hymes, for instance, indicates that within the history of linguistics, no paradigm has achieved complete authority (10). He therefore argues that the prevalent approach should not be considered the reigning paradigm but rather the *cynosure* of the discipline (10).

⁵⁷ Chomsky cautiously added to this that "every speculation [he] would have made in the past would have been wrong" (*Generative Enterprise* 186).

linguistics to become a true science (Dik 14). Some linguists who consider linguistics to be an immature discipline argue that pre-scientific research is a poor activity of “data collecting and ideological quibbling” (14). These linguists would therefore suggest that other linguists “should get off [their] private hobby-horse in order to loyally embrace the one most promising research paradigm; not surprisingly, this paradigm would turn out to coincide with the personal view of the recommender” (14).⁵⁸ In the present situation of the linguistic field, compliance of this suggestion would effect an instance of possibility (4b): one of the existing paradigms would decisively triumph over the other two. In this scenario, more and more linguists would be converted, and the number of research programmes, scientific articles and books founded on the victorious paradigm would increase. Finally, this paradigm would prevail in educational programmes of linguistics departments. Research programmes and educational programmes based on the other paradigms would gradually become more and more marginal.

Should it be correct that linguistics is still an immature discipline, then another possibility is that linguistics will remain in its pre-scientific stage (possibly, but not necessarily involving the paradigms in their current manifestations). In theory, a pre-scientific phase could last forever. In this scenario, initial paradigmatic unity will not be achieved at all. Kuhn’s and Laudan’s respective theories both allow for this possibility in the case that none of the existing paradigms proves to be more viable than the other two,⁵⁹ or when, in Laudan’s theory, linguists cannot resolve the conceptual conflicts between the paradigms. Importantly, in Laudan’s view, this scenario would be unwelcome, because, according to his theory, establishing conceptual harmony among vying research traditions is a means of engaging in the problem-solving activity that is science (Losee, *Historical Introduction* 206-08).

3.2 Permanent Co-Existence of Conflicting Paradigms

For the same reason that a persistent state of pre-scientific activity in linguistics could be considered unfortunate, Laudan would deem the permanent co-existence of mature paradigms undesirable. In fact, these two scenarios entail the same situation in linguistics; they differ

⁵⁸ Simon Dik furthermore notes that this is paralleled by Van Riemsdijk’s 1982 recommendation that nonconformists should “drop their minority views” and accept transformational grammar (30).

⁵⁹ Laudan posits that “the choice of one tradition over its rivals is progressive . . . to the extent that the chosen tradition is a better problem solver than its rivals” (*Progress* 109).

only in the amount of productivity that they ascribe to their paradigms.⁶⁰ According to Laudan, scientific advancement can be achieved by solving conceptual conflicts among scientific movements; failure to resolve a conceptual problem is therefore regrettable.

In contrast to Laudan, Hymes would see no intrinsic problem in the current multiplicity of paradigms in linguistics. He advocates a linguistic field “that is pluralistic in ideal and in practice- even” (19).⁶¹ According to Hymes, linguists should simply embrace the plurality of paradigms within the linguistic field, because, so he argues, adherents of alternative paradigms “answer to the interests and needs of different extra-disciplinary communities, different aspects of the role of language in human life” (19). Hymes therefore recommends to escape from “the pressure [imposed by the media] to have some one community touted as ‘the’ community” (19), and more importantly, to avoid interpreting scientific developments in terms of “struggles and victors” (19). As opposed to Laudan who posits that conflicting approaches only *appear to be* incompatible, Hymes seems to offer an optimistic response to the idea of incommensurability as postulated by Kuhn. According to Dik, on the other hand, it is misleading to interpret paradigms as monolithic wholes (16). Although Dik does not preclude the possibility that some paradigms might indeed complement one another and coexist peacefully, he argues that there are conflicting paradigms which “may be alike in certain respects, while differing in others” (16).

If history is to repeat itself, it seems unlikely that the present paradigm conflict would proceed undisturbed in its current composition, given that the record of past linguistic paradigms is characterised by discontinuity (Hymes 19).⁶² As Dik puts it, “[I]inguistic paradigms seem to die hard and to revive at unexpected moments” (14). In view of the past developments, a more likely scenario seems to be a continuous succession of linguistic paradigms. These paradigms would then alter in the course of time without one paradigm ever gaining absolute authority over the others.

⁶⁰ In my argument, I adopt Kuhn’s revisited definitions of *a paradigm* and *a pre-scientific discipline* (as was pointed out in 2.1 of this thesis). According to Kuhn’s revisited definition, a pre-scientific discipline is not at all pre-paradigmatic (*Structure* 179). In his postscript, Kuhn postulates that “[w]hat changes with the transition to maturity is not the presence of a paradigm but rather its nature. Only after the change is normal puzzle-solving research possible” (179).

⁶¹ This ideal is analogue to Chomsky’s anarchistic political interests (Hymes 19).

⁶² Chapter 2 of this thesis has only dealt with the recent past of linguistics pertinent to the present paradigm conflict. For an exhaustive account of the (discontinuous) past of linguistics, see Hymes.

3.3 Lasting Synthesis of Rival Paradigms

Lasting synthesis of rival paradigms seems to be an ideal situation. Dik follows Laudan in his belief that linguists should attempt to achieve such synthesis. Dik argues that “[i]n research, possibilities for integrating the different disciplinary and interdisciplinary contributions should be actively pursued” (29). In the 1990s, both Daneš and Newmeyer (*Language Form*) took up this task, as they attempted to bridge the gap between formalism and functionalism (see sec. 1.2 of this thesis). Judging from the recent literature, however, it seems that contemporary linguists do not generally concern themselves with this admittedly weighty undertaking.⁶³ Perhaps modern linguists are preoccupied with Kuhn’s idea of incommensurability. Attempting to reconcile incommensurable paradigms is, according to Kuhn’s thesis, a futile exercise, because alternative paradigms are, by definition, incompatible (see sec. 1.4 of this thesis).

3.4 Scientific Revolution

The exciting scenario of a scientific revolution may occur in linguistics through the emergence of a new paradigm or by the victory of one of the existing paradigms. As a result of the inescapable paradigmatic lens through which scientific developments are interpreted, it is impossible to envisage the emergence of a new tradition-shattering paradigm. Likewise, it seems impossible to indicate whether or not one of the existing paradigms will eventually triumph over the others, and if so, which one will prove successful. In this respect, Chomsky indicates that “[predicting] the course of thought, ideas, discoveries . . . is even more vain than predicting human affairs generally” (*Generative Enterprise* 187). Interestingly, scientific

⁶³ It is not unusual for the modern linguist to use terms such as *synthesis*, *reconciliation*, and *harmony*, and to speak of an ideal of *plurality* or *holism*. When recommending such ideals, these linguists generally refer to the relationship between linguistics as whole (by which they usually mean just one paradigm) and the other sciences, rather than the alternative paradigms within linguistics. Chomsky, for instance, argues that language “should be studied . . . in many different disciplinary contexts” (*Generative Enterprise* 187). He furthermore suggests that generative Essentialism could “fall, in principle, into human biology,” speculating that “there is a fair chance that institutional arrangements will evolve in that direction” (187). Furthermore, in her article, Weigand discusses the consilience between the Emergentist paradigm and biology, sociology, and neurology. Lastly, Seuren voices the “need for interdisciplinary action” of “a group of psychologists, linguists, pragmatists, logicians, philosophers, and possibly also geneticists, anthropologists and prehistorians” in order to restore “the cognitive factor in the human sciences” (“How the Cognitive Revolution” 75). He is nevertheless skeptical about the feasibility of this project (75).

developments are in part influenced by human affairs in general. As linguists are only human, the developments in linguistics will not only depend on purely scientific considerations, but also on social and political *climates of opinion* (Hymes 11). For instance, Hymes indicates that the reaction against German culture after the First World War played a role in the acceptance of the Swiss-French linguist, de Saussure (11). Another example is the popularity of Bloomfield's theory among young American linguists, which, according to Hymes, "can hardly be understood apart from the skeptical climate between world wars" (11). The social dimension of scientific practice complicates the reflection upon contingent scenarios of the paradigm conflict, as changing climates of opinion might affect the situation in unexpected ways.

With respect to the scenario that one of the present paradigms will eventually prevail over the other two, it is worth noting that the present paradigms do not fully correspond to Kuhn's description of paradigms at war.⁶⁴ According to Kuhn, paradigm shifts are brought about by the failure of an existing paradigm, and that failure is recognised as a *crisis* by the scientific community (*Structure* 67). By contrast, the current linguistic paradigms have not been invented by their respective intellectual ancestors because of the failure of one of the other paradigms at issue (see sec. 2.2 of this thesis), and there is no notable failure of a paradigm that is acknowledged by the entire community of linguists, including the proponents of the paradigm in question.

Even though the current situation in linguistics deviates in some respects from Kuhn's description of a paradigm war, some linguists might argue that generative Essentialism is the reigning paradigm in contemporary linguistics (see sec. 2.2 of this thesis), and that this paradigm shows the type of failure that in Kuhn's theory could have initiated a crisis. For instance, while some linguists dismiss the Essentialist concept of Universal Grammar because they claim that it is *not* falsifiable (e.g. Sampson), the Emergentist linguists Levinson, Enfield and Tomasello claim that Universal Grammar has already been falsified (Blawat). Stephen Levinson argues that "[l]anguages differ so significantly at every level of their structure that . . . it [is] difficult to identify even a single feature that is common to all of them" (Blawat). Modern Essentialists would probably respond that linguistic universals reveal themselves in the description of most and not all languages and, essentially, in the universal process of first language acquisition (see sec. 2.2 of thesis). Furthermore, they would argue that predictions made on account of Universal Grammar are in fact falsifiable (see sec. 2.2, footnote 48).

⁶⁴ This might be interpreted as a sign that linguistics is still a pre-scientific discipline.

Despite deviations from Kuhn's account of a discipline in crisis, it is evident that the present linguistic field is confronted with deep-seated conceptual incongruities that give rise to heated disagreements in the field.

3.5 The Inter-Paradigmatic Debate in Linguistics

It is a common misconception that Kuhn's incommensurability thesis precludes communication between adherents of different paradigms (Preston 90). In this respect, Hymes calls Kuhn's theory "a treacherous guide" (20), for it might cause linguists to "commit themselves to a kind of 'tunnel vision'" (18). Proponents of a paradigm who close their eyes to other paradigms might be instilled by Kuhn's idea that the debate between adherents of different paradigms is "necessarily circular" (*Structure* 94), as "[e]ach group uses its own paradigm to argue in that paradigm's defense" (94). However, these linguists do not heed Kuhn's observation that the circularity by no means renders the debate ineffectual (94). In fact, Kuhn argues that the arguments of one paradigm may persuade adherents of another paradigm (94). Therefore, paradigm changes are not only brought about by "the impact of nature and of logic" (94), but also by "the techniques of persuasive argumentation" (94).

It seems to me that both from the standpoint of Kuhn's theory and from the standpoint of Laudan's theory, the present situation in linguistics would benefit from a critical evaluation of the debate between adherents of different linguistic paradigms. In the light of Kuhn's observations, critical evaluation might shed light on the validity of the arguments employed by the different paradigms, and this might contribute to a rational paradigm choice. From the perspective of Laudan's theory, examining the debate might help to identify the gaps in the present scientific dialogue. On the basis of the examination, suggestions can be put forward for subsequent discussions, which, in turn, could enable linguists to solve conceptual disagreements. To date, philosophers and linguists who are concerned with the present paradigm conflict have either analysed certain aspects of the conflicting paradigms (e.g. Léon; Scholz, Pelletier, and Pullum; Smith), or have contributed to specific disputes about fundamental linguistic assumptions (e.g. Antony and Hornstein; Eddington; Hinzen and Uriagereka; Phillips; Postal; Weigand) (these disputes are nevertheless still quite exceptional in the linguistic field). The scientific debate itself, on the other hand, has not been analysed at all, on a meta-level, that is.

3.6 Conclusion

Kuhn's and Laudan's respective theories hold a mirror up to the face of the linguistic community. Laudan's theory suggests that linguists might be able to establish conceptual harmony among paradigms by evaluating the scientific debate. In the inter-paradigmatic debate linguists might find clues as to how to reconcile the paradigms. From a Kuhnian perspective, such an evaluation might assist linguists in making a sound choice between competing paradigms. Even though Kuhn's and Laudan's respective theories prove valuable in reflecting upon the future of linguistics, it seems to me that only time can tell whether or not linguistics is on the verge of a revolution, or whether the present conflict will be resolved at all.

Conclusion

This thesis started with the observation that the clashing approaches in contemporary linguistics are indicative of a deep-seated paradigm conflict. From this starting point, I set out to describe and evaluate the present linguistic paradigm conflict and its consequences for the development of linguistics. Employing Kuhn's and Laudan's respective theories of scientific progress, I aimed to answer the question as to how the scientific development of linguistics can be characterised from a philosophical perspective. To answer this question, chapter 2 addressed the first two sub-questions and chapter 3 addressed the final sub-question of the three sub-questions posed in the introduction: (a) what paradigms are involved in the current linguistic paradigm conflict, (b) what past traditions have given rise to the present paradigms, and (c) what are the possible future scenarios of linguistics?

As discussed in the first chapter (see sec. 1.3), my study is subject to inherent limitations. The most obvious limitation lies in the high level of abstraction that is necessary to present a clear picture of the current state of affairs in linguistics. My study has abstracted the broad paradigms (which largely constitute the linguistic field) from the less salient tendencies in linguistics that deviate from the main research foci. Consequently, my thesis does not offer an exhaustive description of the present linguistic field; rather, it provides a representation of the current linguistic paradigm conflict. Another important limitation is the precariousness of meta-scientific theories. Observers of a scientific field unavoidably encounter the fragility of their own (paradigmatic) approach. My strategy for documenting the progress of the linguistic field pivots on Kuhn's and Laudan's meta-scientific theories. In line with the scientific theories that Kuhn's and Laudan's meta-scientific theories discuss, Kuhn's and Laudan's (meta-)theories are themselves predicated upon paradigmatic suppositions that cannot be objectively validated. By extension, my thesis is predicated upon such suppositions as well.

Returning to the first sub-question, it is now possible to state that the present linguistic paradigm conflict involves three paradigms: Essentialism, Emergentism, and Externalism. The constructs of these paradigms revolve around the intrinsic, social, and extensional aspects of language, respectively. Importantly, the friction between these paradigms is informed by Kuhn's incommensurability thesis. With respect to the substantial concerns of first language acquisition and language evolution, Kuhn's theory reveals that both the presumptions that underlie and the claims that arise out of the respective paradigms seem to be incommensurable.

As regards the past traditions that have given rise to the present paradigms, Essentialism, Emergentism, and Externalism can be said to have been brought about by Chomsky, Sapir, and Bloomfield, respectively. Even though Externalism thrives in computational linguistics, and Emergentism is prevalent in sociolinguistics and psycholinguistics, Essentialism (and generative Essentialism in particular) is noticeably the mainstream approach in the present linguistic field.

Extrapolated from the past developments and the present situation, the future of linguistics can be envisaged as: a persistent state of pre-scientific activity, the permanent co-existence of conflicting paradigms, lasting synthesis of rival paradigms, or a revolution. It is impossible to predict which scenario will show in the future, as Kuhn's and Laudan's theories account for all of these scenarios. It is, however, possible for linguists to engage in the current development of the field by actively evaluating and participating in the inter-paradigmatic debate.

Using the conceptual template presented in the first chapter (see sec. 1.6, fig. 1), I have explored the three dimensions of the development of linguistics: the past, the present, and the future of the field. On the basis of my findings, it is now possible to sketch the development of linguistics in the format of figure 1 (see fig. 2).

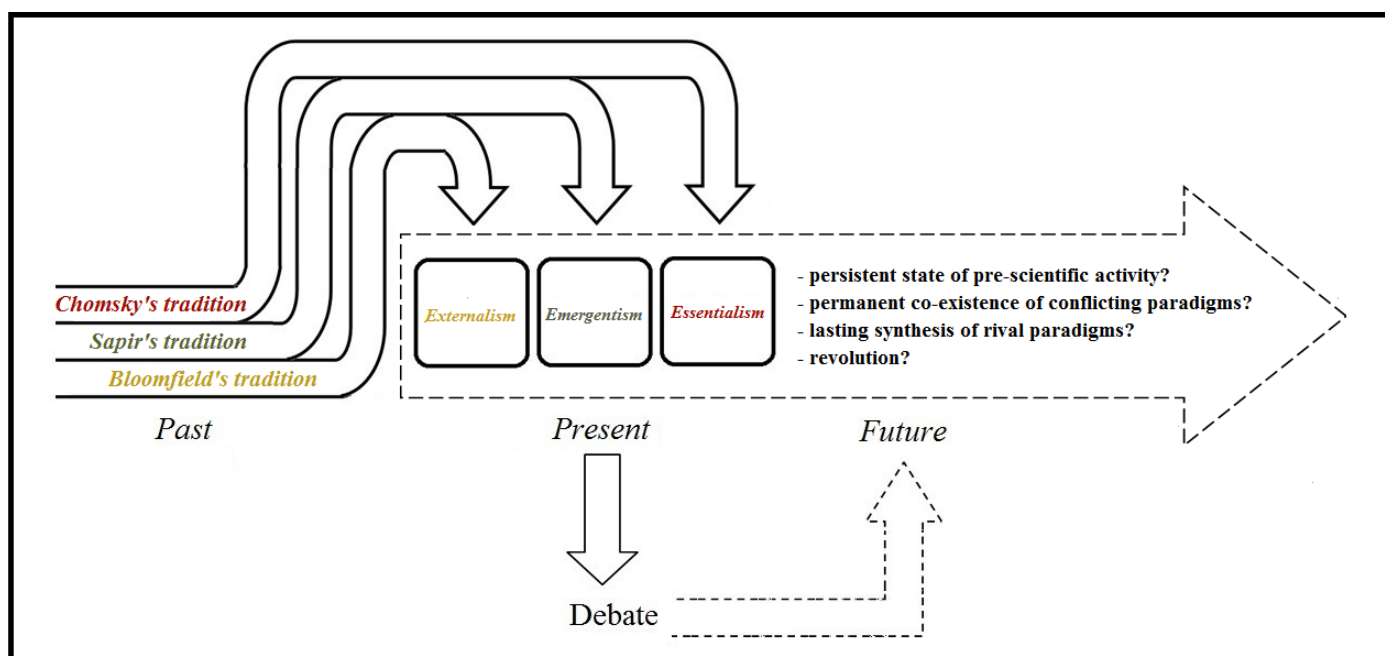


Fig. 2. Abstract overview of the development of linguistics.

This thesis took a first step towards a critical understanding of the present paradigm conflict in linguistics and its implications for the development of the field. Importantly, a full understanding of the conflict would allow the scientific community of linguists to (1) acquire self-awareness as regards paradigmatic subjectivity, (2) identify fundamental problems implicit in the linguistic field, (3) recognise the emergence of a new paradigm, and (4) act upon their knowledge of the broad field of linguistics (this, for instance, could prevent immature arguments in scientific debates).

The findings of this thesis suggest several courses of action for linguists. Firstly, more work needs to be done to establish a greater degree of accuracy on the theoretical differences between the present paradigms. In addition, examination of the actual scientific debate is strongly recommended; Kuhn's and Laudan's respective theories suggest that progress in linguistics might be achieved by promoting and evaluating discussions across paradigm boundaries. This course of action might prove beneficial in rationally assessing (and eventually opting for one of) the paradigms (on the grounds of Kuhn's theory), or alternatively, in bridging the gaps between the alternative paradigms (on the grounds of Laudan's theory).

The implications of my thesis do not only bear on research policy, but also extend to education. Students of linguistics could be prevented from unquestionably accepting the claims of one paradigm; they can be trained in assessing the present paradigms as well as recognising the emergence of new paradigms.

Crucially, the conflict between paradigms is problematic because all linguists, regardless of their paradigm, attempt to understand the phenomenon of natural language. Conceptual incongruities within the linguistic field obscure linguists' collective understanding of this phenomenon. Therefore, further investigation into the conceptual conflict contributes to the enterprise all linguists purport to undertake: solving the mystery that is human language.

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