

The Language of 'Alice' [\[1\]](#) Lewis Carroll (*Alice in Wonderland*), Arlo Guthrie ("Alice's Restaurant") and Noam Chomsky's View of Language Development

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Abstract

Noam Chomsky is one of the premier philosophers of language of the twentieth century. In the course of investigating his philosophy of language development, I use the work of two notable artists: Arlo Guthrie and Lewis Carroll. Both of these artists use the language commonly called English. However, both are clearly different in style, composition, vocabulary, etc. I argue that while Chomsky's view of language acquisition involves an algorithm of language learning which is clearly necessary for his theory, the view ultimately proves insufficient to explain the profound differences and striking similarities between the language(s) of Carroll and Guthrie.

Arlo Guthrie ("Alice's Restaurant") and Lewis Carroll (*Alice in Wonderland*) are both practitioners of the English language. [\[2\]](#) Both demonstrate the flexibility of language, creating novel words, sentences, and stories. Yet, the languages in which they perform differ wildly: Carroll's, though filled with eccentricities, is still a form of the King's English while such a distinction could never be ascribed to Guthrie's. Still, both languages are called "English" and correctly so. And on Chomsky's view, both languages are far more similar than they are different because both arise from a common root peculiar to the human brain.

In both men, there was an initial state, S_0 , of the language faculty of the brain. That initial state developed over time and through exposure to its particular environment into a steady state, S_L , of the language faculty. It is from within the parameters of the language acquired through this growth process that Guthrie and Carroll created their Alices complete with "the Group W bench" and "Jabberwocky," respectively. This is an outline of the model of language acquisition advanced by Noam Chomsky. Within this essay I will briefly mention what he means by such things as "language faculty" and "steady state." However, the primary emphasis of this essay concerns the characteristics of the initial state, S_0 , which facilitate the acquisition of language on Chomsky's view.

On Chomsky's view, the language faculty is a physical aspect of the brain. He advances the somewhat controversial thesis that the brain is made up of various modules which are more or less structurally independent of one another but which function as a unit. That is simply to say that (1) the language faculty of the brain handles the acquisition and expression of language while the memory faculty governs storage and accessibility of information while the autonomic nervous system faculty handles the involuntary nervous system of the body and (2) the various faculties, while obviously in close proximity to one another, do not strictly overlap; that is, the language faculty does not handle the autonomic nervous system and vice versa.

Chomsky recognizes that from the perspective of history this is a controversial thesis for at least two reasons: (a) most scholars, philosophers, and scientists of various stripes have assumed a homogeneous brain at work in human beings[3] and (b) the position Chomsky advances entails that the mind and brain are co-extensive, or at the very least, that the mind is just the brain.[4] However, the mere fact of the presence of controversy is no contravening argument. I will address only (a) here.[5] It seems to me to be much more plausible to understand the brain as a complex organ than as some sort of homogeneous gray matter to which various properties are universally ascribed. Indeed, it seems very odd that one would build theoretical systems on the basis of a conception of the brain as a simple natural system given its complex physiological structure. Chomsky's approach is much more helpful, I suspect, because it does not posit simplicity to an obviously complex entity. Given this complexity and the understanding that the mind/brain is a part of the physical world, Chomsky is compelled to hold that the language faculty is both a module of the mind/brain and wholly a part of the physical world. This is indeed the position that he advances.

While the initial state is both logically and naturally prior to the steady state, and while I am concerned primarily with the initial state, it is probably not possible to discuss S_0 without some reference to the steady state of the language faculty. So I turn my attention now to that steady state, though it is posterior in nature to the initial. The steady state of the language faculty is that state at which one would ascribe knowledge of a language to a particular individual.[6] The steady state, then, characterizes the "mature" language faculty. With his affinity for understanding the mind/brain as a part of the physical world in general and part of a particular human being in particular, it seems natural that Chomsky would use a metaphor of growth, which clearly characterizes human physical development, to describe the mind/brain's acquisition of language.[7] Extending this metaphor, then, one would not expect the steady state to be equated with a static state, e.g. one which has attained a given level of competency and vocabulary and remains fixed. Indeed, it does not seem that Chomsky is committed to such a position. He denies that after the attainment of the steady state that the language faculty of the brain ceases to grow. He also denies that it functions exclusively within the strict parameters it has incorporated in the first ten to fifteen years of life.[8] He seems committed only to the view that the mature language faculty generally operates with two constraints: (1) the specific language in question (e.g. German, English, etc.) to which the individual is exposed by a speech community and (2) the contribution of the initial state of the language faculty of the mind/brain.[9] On this view, language and its development is internal to the individual, not something with an existence external to and independent from the mind/brain. Thus, in the debate between I-Language and E-Language, Chomsky is firmly in the internalist camp.

If one of the constraints upon the steady state of the language faculty is the contribution made to that state by the initial state of the language faculty, it would be expected that Chomsky should give some account of the structure of that initial state. It is to these characteristics that I now turn. A number of characteristics of the initial state are fairly obvious from the foregoing discussion because it is part of the mind/brain, (i) the initial state is part of the physical world; as the mind/brain is modular, (ii) the initial state particular to the language faculty does not range over the entirety of the mind/brain but rather is limited to the language module; and (iii) the initial state develops into the steady state through exposure to an environment made up, at least in part, of a speech community. To say that these characteristics are obvious is not to say that

they are uncontroversial. That would be clearly false. Rather it is to make the claim that these particular characteristics follow directly from the construction of the model that Chomsky advances. A final characteristic following from the construction of the theoretical model itself is (iv) without the initial state of the internal language faculty, language could not be acquired.[10]

I have not argued for these characteristics, though I do not see how they could not be inherent to the conception that Chomsky advances. My interest lies in those things that Chomsky seems to think characterize the initial state, but which do not follow necessarily from the model of an internal, physically-based language faculty that develops from an initial state to a steady one through the influence of an environment. Or more precisely, I am concerned with those characteristics that Chomsky thinks the initial state must possess in order for such a development to take place. As Chomsky so often reminds his readers, the problem is that we know so much with so little supporting evidence. Further, the question facing linguists on Chomsky's view is to provide a theory that meets the criterion of "descriptive adequacy"; that is, it "provides the 'boundary conditions'" by which one can judge the adequacy of a given theory.[11] It seems to me that an initial state possessed of only (i)-(iv) suffers from Plato's Problem; in this case, how can a steady state of a language faculty develop from so sparse a set of characteristics and in so doing, determine something so complex and particularized as the diverse human languages? Further, Chomsky does not appear to believe that (i)-(iv) provide all of the "boundary conditions" for the theory.[12] So the question becomes: what else besides (i)-(iv) must the initial state possess in order to circumvent Plato's Problem and provide the necessary boundary conditions? It is this question to which the rest of this essay is addressed.

Without providing much in the way of supporting argumentation apart from textual references, I will sketch the characteristics to which I suspect Chomsky is committed. On Chomsky's view, the initial state of the language faculty and the study of it have come commonly to be called Universal Grammar (UG). Given such a name, it does not seem odd that Chomsky should hold that (v) the initial state is common to all of humanity.[13] Further, to generate an infinite language from a finite group of principles and limited experience, Chomsky must hold that (vi) the initial state of the language faculty has a recursive function. He states that the initial state is a procedure or algorithm "which takes as its input an array of data and yields as output" the steady state of the language faculty.[14] For these reasons, Chomsky must hold something like (vi) to be the case.

This still seems to me to be a somewhat sparse conception. And upon further investigation of Chomsky's argument, it seems that he believes it to be too sparse as well. Given (i)-(vi) it would seem to follow that that (vii) the recursive algorithm works within a finite framework of rules that are peculiar to language acquisition. He says more which seems to support such a claim. In the *Companion*, he uses a switch-box as an analogy to language acquisition. There he states that language can be thought of as a finite set of switches which, when adjusted, yield "quite different phenomenal outputs." That is, from the setting of the switches, the particular spoken language (Hungarian, English, Yoruba) is "deduced." [15]

Such an analogy suggests that the character of the "switches" themselves can be elaborated upon, perhaps as characteristic components of the recursive acquisition algorithm, e.g. the "switching" algorithm. In *Knowledge of Language*, Chomsky specifies some "descriptive

mechanisms" which convey part of the character of the algorithm. One of these is (vii.a) the Phrase Structure component. Briefly, this is a simple and finite system of rules which discriminate the syntactic structure of sentences (e.g. a sentence implies the presence of, at minimum, a noun phrase and a verb phrase). Similarly, this system of rules will specify the lexical rules which mark words as nouns and verbs.

Another of the features characteristic of the generative algorithm is (vii.b) the Transformational component. The Transformational Rules refer to the combinatorial possibilities of phrases that exist in any particular spoken language. In so doing, these rules help specify which combinations are grammatical and which are not. That is just to say that declarative sentences of proper grammatical form can be transformed into interrogative sentences without rendering the interrogative ungrammatical. The declarative-to-interrogative transformation is not the sole transformation on this view. One can similarly transform interrogatives into declaratives and either interrogative or declarative clauses into relative clauses. On Chomsky's view, these admittedly somewhat less than explicit rules preserve descriptiveness without sacrificing explanatory power.[16] Given the dependence of this conception upon rules, and thus presumably upon rule-following, a question of access arises; must one have conscious access to the rules to be said to be following them? For good or ill, Chomsky answers the question in the negative. He states that the "inability to provide 'philosophical explanations' or a concept of 'rule-following' that relies on access to consciousness is a merit or a naturalistic approach, not a defect." [17] This suggests yet another principle inherent within the initial state: (viii) conscious access to the principles is not required.

Are (i)-(viii) the extent of the characteristics or principles which obtain within the initial state of the language faculty of the mind? At the very least, (i) - (v) seem to be necessary boundary conditions while (vi) and (vii) seem to be necessary functions within those conditions. Perhaps (viii) will also prove to be a necessary boundary condition, though this is less clear. However, there seems to be a lack of specificity about the content principles of the initial state. This is troubling to me though it does not seem to be overly so for Chomsky. Indeed, he states that the clarification of principles remains one of the great "doors of discovery," though he maintains that his program is sound.[18] He seems to defend this position by stating that "no principles are known, or even imagined, that go beyond low-level descriptive observations of limited credibility and scope." [19] In short, I find that there is some initial plausibility to the model that Chomsky advances. It lends not insignificant benefits; i.e. supporting a conception of the brain as modular as well as a conception of language that is part of the natural world and not, in some sense, extramental.[20] But at the end of the day, I must confess that I am left with the nagging suspicion that the "low-level descriptive observations of limited credibility" which seem to comprise the majority of (i)-(viii) cannot deliver on Chomsky's promise and provide a sufficient explanation of the profound differences and yet striking similarities between the languages of Carroll and Guthrie.

Biographical Sketch

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[1] I decided that since Ruth Nanda Ashen, founder of the *Convergence* series of which Chomsky's groundbreaking work *Knowledge of Language* is one volume, begins her introduction to his book with a passage from *Alice in Wonderland* that it might be helpful as a way of beginning an examination of Chomsky's views on language development to note the contrast between a pair of "Alices." Hence the opening reference to folk music artist Arlo Guthrie and Lewis Carroll.

[2] Lewis Carroll is deceased and so in his case it should be "was a practitioner." However, to avoid cluttered sentences, I have elected to use present tense verbs to describe both author/artists.

[3] Chomsky, *Modular Approaches to the Study of the Mind*, pp15-16.

[4] To make clear that he holds exactly this position, Chomsky repeatedly refers to the mind as the "mind/brain". See *Modular Approaches to the Study of Mind*, Noam Chomsky in *A Cambridge Companion to the Philosophy of Mind and Knowledge of Language*.

[5] For a brief, but thorough, statement of position concerning (2), see *Noam Chomsky in A Companion to the Philosophy of Mind*.

[6] I am not addressing the thorny issues of what it is to know a language or how one knows to ascribe knowledge to another person. Each of those issues is considerably more complex than can be addressed here. Suffice it to say that Chomsky seems to hold the view that one acquires the steady state around puberty or perhaps shortly thereafter and that possessing that steady state is, in some sense, what it is to have knowledge of the language. He addresses this issue at some length in his *Knowledge of Language*, specifically in chapter three, *Facing Plato's Problem*. As to the difficulty of ascription of knowledge to another, Chomsky argues vehemently and regularly against knowledge of language understood as "practical ability" with that language. So presumably, he would also hold that one cannot solely use evidence of a person's practical ability to speak a language to infer that her language faculty was in a particular steady state.

[7] The picture Chomsky paints is similar to that of an acorn from which an oak tree is generated, given the proper environmental conditions. The environment can stunt or facilitate growth, but the genetic coding of the acorn determines that the tree will be an oak. In this sense, there is a generative function in the acorn similar to that within the language faculty.

[8] Chomsky argues that the language faculty undergoes peripheral changes after attaining the steady state. *Companion to the Philosophy of Mind*, p158.

[9] *Knowledge of Language*, pp25-26.

[10] (iv) is potentially somewhat more controversial than (i) - (iii). It is not an explicitly stated feature of the initial state of the internal language faculty. However, since Chomsky holds that language acquisition is the domain of the language faculty and that when one is said to know a language it means that one's mind (specifically the language faculty) is in a particular state, i.e., the steady state, and that the steady state arises from the initial state and experience, then it seems to follow that language acquisition is not possible without the initial state.

[11] Chomsky, *Noam Chomsky, A Companion to the Philosophy of Mind*, p159.

[12] At least in the forms advanced, (i)-(iv) do not provide the boundary conditions. In his article in the *Companion to the Philosophy of Mind*, Chomsky has stated that clarification of the principles remains one of the "great doors of discovery." (p164)

[13] Chomsky's view does seem to allow for the possibility of pathology or catastrophic events to rob some individual human of the language faculty (See *Knowledge of Language*, pp18-19). At minimum, I suspect that such particular individuals would not cause Chomsky's program to unravel. It seems to me to be an open question as to whether or not the language faculty is exclusive to the human animal. Chomsky seems to assume that it is. I would suppose that such an anthropocentrism would be open to revision based on later empirical evidence. However, I do not think that assuming exclusivity to humans is problematic. On either case, exclusive or non-exclusive, the faculty must still provide the basis for the development of language.

[14] Chomsky, *Noam Chomsky, A Companion to the Philosophy of Mind*, p159.

[15] *ibid.*, p161

[16] For a fuller discussion of the descriptive mechanisms, see Chomsky, *Knowledge of Language*, pp67-72. I note here, however, that in his discussion, Chomsky argues that the descriptive mechanisms are not themselves atomic. They are in fact composed of boundary conditions which limit their scope. Chomsky states that specification of just what those conditions are is another step towards "explanatory adequacy."

[17] *ibid.*, p165.

[18] *ibid.*, p166-7.

[19] *ibid.*, p162.

[20] This benefit, of course, presupposes a position on the Katzian Realist vs. Chomskian Realist debate in favor of Chomsky. Jerrold Katz could argue that a conception which commits its adherents to understand language as dependent upon the mind is not a benefit at all but something of a deficiency. However, to those who are of a somewhat more empirical bent, Chomsky's proposal seems to give considerable comfort.

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