I. Nature of Language

A. Methodological Preliminaries

1. We are engaged in the rigorous, scientific study of language, and not in the study of language seen as a socio-political medium—a medium of power and authority interactions, of class structure, etc. In this we follow Chomsky.

2. We are interested, though, in languages at an abstract level—we will talk, for instance, about dialects, about English and Spanish.

3. Thus, following Lewis, we will think about languages as they belong to linguistic communities.

4. To this extent, it will make sense to ask whether you are speaking a language or not. However, other normative questions (e.g., whether you are using a word correctly, or pronouncing it correctly) will not be relevant to our pursuits.

B. We need a concept of language that is suitable as a basis for empirical research. There are two competing views:

1. **Language as Internal**: so understood, language is a biological property of individual organisms, and so a property distributed across the species to which we belong.

2. **Language as External**: so understood, language can be seen as a socially distributed medium of communication, or more abstractly, as a set of sentences taken to be pairs of phonological form and logical form.

II. Thesis: Language as Internal

A. Chomsky is a champion of the view that languages are internal properties of organisms, and that all other mention of language is an abstraction from this.

B. **I-Languages**: A system represented in the mind/brain, ultimately by physical mechanisms, and in this sense internalized; it is a particular characterization of a function that takes physical events and things and assigns status to them. These
are real things and it is these that we should focus on in language study—
language study becomes empirical science.

1. **Terminology:**
   
   a. *Language*: an I-L.
   
   b. *Grammar*: a theory of an I-L.
   
   c. *Universal Grammar*: system of principles that specify what it is to be an I-L.

2. The leading idea: locate the UG in the *language faculty*, which is the subsystem of the organism responsible for the language and a species property; the UG is a component of the mind/brain and constitutes the initial state of the language faculty, modified over time by exposure to data. An I-L will be the state attained by the LF under certain conditions.

3. **Mature Theory:** The language faculty consists of a *lexicon*, or collection of words, understood to have semantic and phonological properties, an *initial state*, determined by the principles of universal grammar, and a *computation engine*, which generates strings of lexical items in a way constrained by UG. The principles that constitute UG determine lexical categories, lexical combination, etc., but they are flexible: they have *parameters* that can be variably fixed on the basis of the perception of data. These principles have a physical realization, and this is modified through exposure to linguistic usage. What results is an I-L. (*Principles & Parameters* approach.)
   
   a. The variety of languages is explained by the fact that the parameters can be fixed in different ways.
   
   b. There are finitely many languages—*not* an infinite variety.

C. Languages, such as English and Spanish, are abstractions of a certain type over I-languages.

III. **Antithesis: Language as External**

A. Following Chomsky, we will take an *E-Language (E-L)* to be an *extensional* or *externalized* language, i.e., a set of objects that is external to individual speakers.

1. **Examples.** Bloomfield:"the totality of all utterances that can be made in a speech community"; Lewis: the set of ordered pairs \(<S, M>\), where \(S\) is a sentence and \(M\) is its meaning, understood as the set of possible worlds in which \(S\) is true; Katz: a *P-language*, which is a Platonic object distinct
from all of its instantiations.

2. A grammar for an E-L is a formal system that generates the set identified as the language: a finite representation for an infinite set.

B. Lewis combines what he takes to be two conflicting views, viz.:

1. Formal System: A language (L) assigns meanings to strings.

2. Medium of Communication: Language is a social phenomenon that is a part of the natural history of human beings.

C. Languages as Formal Systems

1. Languages are functions that take strings of phonemes or graphemes as arguments and spit out meanings as values.

2. The meanings for Lewis are also functions: these take us from (facts in) possible worlds to truth values. This approach to meaning is truth-conditional: the meaning of a sentence is given by the situations in which that sentence is true.

3. This idea can be exemplified by considering a simple sentence, and it can be cast in the terminology of possible worlds. The meaning so understood can be seen simply as a set of possible worlds, and we can talk about sentences being true in L at possible worlds: L = {(φ₁, M₁), (φ₂, M₂), ...}

C. Language as a Medium of Communication

1. Language is something we use because of our common interest in communication (i.e., knowledge exchange) and profitable interaction. Its use is a type of activity that is rational (i.e., done for BDI reasons). One source of these reasons is the mutual knowledge involved: X intends to bring about a response from Y by getting Y to recognize that X intends to bring about that response; Y recognizes X's intention, and therefore has a reason to respond as expected.

2. It is a very regular type of activity, both on the side of the speaker and on the side of listener. Lewis analyzes these regularities in terms of convention.

3. Analysis of Convention: A regularity R, in action or in action-&-belief, is a convention in a population P iff, with P, the following conditions hold:

   a. Everyone in P conforms to R.
b. Everyone believes that the others conform to $R$.

c. This belief in (b) gives everyone a good and decisive reason to conform to $R$. (This goes back to the point made about mutual knowledge, and these reasons could be practical or epistemic.)

d. There is general preference for general conformity to $R$ rather than slightly-less-than-general conformity.

e. $R$ is not the only possible regularity meeting (c) and (d).

f. (a) - (e) are matters of common knowledge.

4. **Examples**: driving on the right, turn signals on bicycles, going on green, sell things for money, etc. Lewis argues that there are conventions of language: arbitrary elements that perpetuate themselves because of a common interest in communication.

D. *The Combination*: A particular language $L$ is the language of a population $P$, where this connection is conventional (i.e., within a population $P$, the conventions of language will be conventions with respect to $L$) since another language $L'$ could have been the language. The convention in play whereby $P$ uses $L$ is a convention of *truthfulness and trust in $L$*.

1. **Truthfulness**: to try to never utter any sentence in $L$ that isn't true.

2. **Trust**: to impute truthfulness in $L$ to others and so come to believe the sentences they utter.

IV. **Critical Interlude**

A. *Against E-Language* (Chomsky)

1. **Argument 1**: “E-Ls are not necessary”

P1. Languages as we experience them include semi-grammatical sentences.

P2. Functional E-Ls will have to draw the line between grammatical and semi-grammatical, and so exclude semi-grammatical sentences.

3. Therefore, E-Ls do not work to model languages as we experience them.

P4. Our scientific goal should be to model languages as we experience
C. Therefore, the E-L approach will not enable us to achieve our goal.

2. **Argument 2: “E-Ls are not sufficient”**

   P1. There are many grammars (in principle, an infinite number) that could generate the sentences in a given E-L, understood as a set of sentences.

   P2. If the E-L approach is correct, then it makes no sense to ask which of these is the correct grammar, as the facts of the language situation will underdetermine our selection.

   P3. However, there is something about the mind/brain of an English speaker that differentiates her from a speaker of Japanese.

   P4. If (P3), then there must be some specific grammar at work in her head.

   5. Thus, there must be some specific grammar at work in her head.

   P6. If there is a specific grammar in play, our scientific goal must be to ask what it is and seek a response.

C. Therefore, the E-L approach is not correct.

3. **Argument 3: “E-L is not productive”**

   P1. The scientific study of language requires that we employ a conception of language that is empirically productive.

   P2. The formal, E-L conception is not empirically productive.

C. Therefore, we should not use the formal, E-L conception.

B. **Responding on Behalf of E-Language (Lewis)**

   1. **Argument 1: “Rebutting Chomsky’s Argument 1”**

   P1. We do make a distinction between noises that count as language and noises that do not.

   P2. Wherever this distinction is eventually made, we can provide a formal model that gets it right, even if this includes semi-
C. There is no reason to believe that the E-L approach will be extensionally inadequate.

2. **Argument 2: “Rebutting Chomsky’s Argument 2”**

   P1. As proponents of E-L, we needn’t commit to the behaviorist principles that lie behind (P2) of Chomsky’s Argument 2.

   P2. The E-L approach of Lewis does produce a superset of grammars that can be narrowed using other criteria that can include internalistic principles. (See p. 571—he notes that his definition of a grammar is “meant to be general enough to encompass transformational and phrase-structure grammars for natural language”.)

   C. Therefore, the E-L approach of Lewis is not committed to (P2) of Chomsky’s Argument 2 and so is not touched by the conclusion.

3. **Argument 3:**

   P1. Even if we take language to be fundamentally internal, there are still convention-dependent characteristics of language (pp. 573-4).

   P2. If language is at all conventional, then we must ask what accounts for the fact that a certain convention-laden language is spoken by a certain community.

   P3. If we are to ask this, then we must use Lewis’s E-L approach.

   C. Even if we take language to be fundamentally internal, we must use Lewis’s E-L approach.

V. **Synthesis: Language Inside and Out**

   A. *Overriding Interest:* provide a scientific explanation of language that is predictively powerful and explanatorily adequate.

   B. *Primary Question:* does the E-L approach, and in particular, the E-L approach of Lewis, provide any scientifically relevant support?

   C. *The Negative Argument:*

      P1. For Lewis’s account to be relevant, language must be conventional.
P2. Language is fundamentally internal and biological.

P3. Given (P2), language is not something we choose—it is something that “grows within us.”

P4. Given (P3), in no causal sense is it the case that our language could have been any different than it actually is, as this requires choice and we didn’t choose it.

P5. Lewis’s account requires that our language could have been different, as this is a necessary feature of his analysis of convention.

6. Given (P4) and (P5), language is not conventional.

C. Therefore, Lewis’s account of convention is not relevant.

D. Inadequate Response #1: Chomsky uses English and Spanish.

E. Adequate Response #2: Convention is operative at the level of language use, and so is relevant to scientific work on communication.