Chapter 7

CONCLUSION

This thesis has been an attempt to provide the theory of grammar with a more adequate notion of syntactic variable, a notion which I showed in Chapter 1 and elsewhere to be absolutely essential if the central fact of syntax -- that there are unbounded syntactic processes -is to be captured. In Chapter 2, I argued that the earliest attempt at limiting the power of variables, Chomsky's A-over-A principle, is both too strong and too weak. A far more serious inadequacy in this principle than those I discussed in Chapter 2 is the fact that it cannot be extended in any natural way, as far as I can see, to account for the phenomena which led me to construct a theory of syntactic islands. In Chapter 3, I gave a preliminary sketch of a theory of node deletion, or pruning -- a theory which interacts closely with the constraints developed in later chapters. In this chapter, I also gave some evidence that a rather substantial revision in the syntactic component was necessary -- that many conditions previously thought to be best stated as restrictions on particular rules should instead be regarded as static output conditions, with the rules in question being freed of all restrictions. These output conditions effect no changes on final derived constituent structures -- rather they lower the acceptability of sentences output by the transformational component, if these sentences exhibit certain formal properties which are specified in

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the conditions. Thus the relationship between grammaticality and acceptability must become much more abstract than has been assumed.

In Chapter 4, I formulated two putatively universal constraints and one putatively universal convention, as well as a number of language-particular constraints, which I showed to be intermediate in generality between conditions on particular rules and universal constraints, and thus to necessitate a further addition to the syntactic component — the conditions box.

In Chapter 5, I showed that various facts made necessary the adoption of a new mechanism into the theory of grammar, so that rules whose variables would otherwise be too strong could be correctly stated. Langacker's notion of <u>command</u>, with suitable extensions, was demonstrated to be adequate to this task, and a number of interesting restrictions on types of rules were shown to be stateable in terms of this notion. Various rules of pronominalization were discussed, and it was shown that while these rules did not obey the constraints of Chapter 4, they also did not obey restrictions which could be stated in terms of command.

And in Chapter 6, I discussed a large number of rules, showing them all to be subject to the constraints developed in Chapters 4 and 5. A close examination of all rules subject to these constraints reveals that not only are feature-changing rules and unidirectional deletion rules subject to the same constraints as the chopping rules for which the constraints were first developed, but that it is only rules which

make crucial use of variables which are subject to them. Thus, in a sense, it is wrong to speak of constraints on rules -- the constraints in Chapters 4 and 5 are rather to be construed as limiting the power of variables that can appear in a certain type of rules. In conjunction with the notion command, the constraints divide up phrase markers into islands, the maximal domains of rules of the type in question.

All the proposals I have made should be regarded as being extremely tentative, for our present knowledge of syntax is ridiculously small. This thesis has raised far more questions than it has attempted to answer. Among tham are: Why should rules which adjoin terms to the right side of a variable be upward bounded, and not those which adjoin terms to the left of a variable? Why should it be that chopping rules, feature-changing rules and unidirectional deletion rules share the property of being subject to the constraints, to the exclusion of other rules? Why should there be a difference between unidirectional and bidirectional pronominalization? Why should it be that the constraints are all "downwardoriented"-- that is, why should it be that there are phrase marker configurations that prevent elements indefinitely far below them from undergoing various syntactic operations, whereas there are no configurations which affect elements indefinitely far above them? Why should complex NP's, coordinate nodes, sentential subject clauses,

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and NP's on the left branches of larger NP's all function the same in defining islands? Can islands be shown to behave like psycholinguistic entities?

While none of these questions can now be answered, the fact that they can now be asked is a major result of the thesis. For as e.e. cummings has said, "always the more beautiful answer who asks the more beautiful question."

BIBLIOGRAPHY

- Anderson, Stephen R. (1967). "How do so does so." Unpublished paper, M.I.T.
- Bach, Emmon (1967). "Problominalization." Unpublished mimeograph, University of Texas, Austin, Texas.
- Bierwisch, Manfred (1966). "Regeln fur die Intonation deutscher Sätze." <u>Studia Grammatica</u>, VII, pp. 99-201. Akademie Verlag, East Berlin.
- Blass, Birgit (1965). A Comparison of the Adverbs and Prepositions of Danish and English. Master's thesis, Columbia University.
- Bolinger, Dwight (1967). "The Imperative in English." To appear in Festschrift for Roman Jakobson. The Hague: Mouton & Co.
- Browne, E. Wayles, III.(1966). "On the problem of enclitic placement in Serbo-Croatian." Unpublished paper, M.I.T.
- Chomsky, Noam (1955). The Logical Structure of Linguistic Theory.
 Mimeographed, M.I.T. Library, Cambridge, Mass.
- Chomsky, Noam (1957). Syntactic Structures. The Hague: Mouton & Co.
- Chomsky, Noam (1961). "On the notion 'rule of grammar'." In

 R. Jakobson (ed.), Structure of Language and Its Mathematical

 Aspects, Proceedings of the Twelfth Symposium in Applied

 Mathematics, Vol. 12, pp. 6-24. Providence, R.I.: American

 Mathematical Society.
- Chomsky, Noam (1962). "A transformational approach to syntax." In

 A.A. Hill (ed.), Proceedings of the 1958 Conference on
 Problems of Linguistic Analysis in English, pp. 124-148.

 Austin, Texas. Reprinted in Fodor and Katz (1964).
- Chomsky, Noam (1964a). "The logical basis of linguistic theory."

 In H. Lunt (ed.), Proceedings of the Ninth International

 Congress of Linguists, Cambridge, Mass., 1962. The Hague:

 Mouton & Co.
- Chomsky, Noam (1964b). Current Issues in Linguistic Theory. The Hague: Mouton & Co.

- Chomsky, Noam (1965). Aspects of the Theory of Syntax. M.I.T. Press, Cambridge, Mass.
- Dean, Janet (1967). "Noun phrase complementation in English and German." Unpublished paper, M.I.T.
- Fillmore, Charles J. (1965a). "On the notion of 'equivalent sentence structure'." Project on Linguistic Analysis, Report No. 11.
 Ohio State University, Columbus, Ohio.
- Fillmore, Charles J. (1965b). <u>Indirect Object Constructions in English and the Ordering of Transformations</u>. The Hague: Mouton & Co.
- Fodor, Jerry A., and Jerrold J. Katz (1964). The Structure of Language:

 Readings in the Philosophy of Language. Englewood Cliffs,

 N.J.: Prentice-Hall.
- Fraser, J. Bruce (1963). "The linguistic framework for a sentence recognition and analysis routine: Transformation structure." Working Paper W-6266. Bedford, Mass.: Mitre Corporation.
- Fraser, J. Bruce (1965). An Examination of the Verb-Particle

 Construction in English. Unpublished Ph.D. thesis, M.I.T.
- Gilbert, Katharine F. (1967). "Which-sentential relatives and asclauses." Unpublished paper, M.I.T.
- Hale, Austin (1965). "Quantification and the English comparative." Unpublished mimeograph, University of Illinois.
- Hale, Austin (to appear). Quantification and the English Comparative.

 The Hague: Mouton & Co.
- Halle, Morris, and Noam Chomsky (to appear). The Sound Pattern of English. New York: Harper & Row.
- Harris, Zellig S. (1957). "Co-occurrence and transformation in linguistic structure." <u>Language</u>, 33, pp. 293-340. Reprinted in Fodor and Katz (1964).
- Jackendoff, Ray (1966a). "Pronominalization, reflexivization and the semantic component." Unpublished paper, M.I.T.
- Jackendoff, Ray (1966b). "The erased NP in relative clauses and complements." Unpublished paper, M.I.T.
- Katz, Jerrold J., and Paul M. Postal (1964). An Integrated Theory of Linguistic Descriptions. Cambridge, Mass.: M.I.T. Press.
- Keyser, S. Jay (1964). Review of Jacobson, Adverbial Positions in English. To appear in Language.

- Kiefer, Ferenc (1966). "On emphasis and word order in Hungarian." Unpublished paper, M.I.T.
- Klima, Edward S. (1964). "Negation in English." In Fodor and Katz (1964).
- Kuroda, Sige-Yuki (1964). "A note on English relativization." Unpublished paper, M.I.T.
- Kuroda, Sige-Yuki (1965). Generative Grammatical Studies in the Japanese Language. Unpublished Ph.D. thesis, M.I.T.
- Lakoff, George (1965). On the Nature of Syntactic Irregularity.

 Mathematical Linguistics and Automatic Translation, Report
 No. NSF-16 to The National Science Foundation, Harvard
 University, Computation Laboratory.
- Lakoff, George (1966). "Deep and surface grammar." Unpublished paper, Harvard University.
- Lakoff, George (1965). "Pronominalization and the analysis of adverbs." To appear in Rosenbaum, Peter S., and Roderick Jacobs (ed.), Readings in English Transformational Grammar.
- Lakoff, George, and P. Stanley Peters (1966). "Phrasal conjunction and symmetric predicates." <u>Mathematical Linguistics and Automatic Translation</u>, Report No. NSF-17 to The National Science Foundation, Harvard University, Computation Laboratory.
- Lakoff, George, and John Robert Ross (1966). "A criterion for verb phrase constituency." <u>Mathematical Linguistics and Automatic Translation</u>, Report No. NSF-17 to The National Science Foundation, Harvard University, Computation Laboratory.
- Lakoff, George, and John Robert Ross (in preparation a). The Abstractness of Underlying Structures.
- Lakoff, George and John Robert Ross (in preparation b). The Transformational Component.
- Langacker, Ronald W. (1966). "On pronominalization and the chain of command." Unpublished multilith, University of California at San Diego, La Jolla. (Page references are to this version.) To appear in Schane, Sanford A., and David A. Reibel (ed.), Modern Studies in English. Englewood Cliffs, N.J.: Prentice-Hall.

- Lees, Robert B. (1960). The Grammar of English Nominalizations. The Hague: Mouton & Co.
- Lees, Robert B. (1961). "Grammatical analysis of the English comparative construction." Word, 17, pp. 171-185.
- Lees, Robert B., and Edward S. Klima (1963). "Rules for English pronominalization." Language, 39, pp. 17-28.
- McCawley, James D. (1964). "Quantitative and qualitative comparison in English." Paper presented at the Winter Meeting of the Linguistic Society of America, December 29, 1964.
- Perlmutter, David M. (in preparation). <u>Deep and Surface Structure</u> <u>Constraints in Grammar</u>. Ph.D. thesis, M.I.T.
- Peters, P. Stanley (in preparation). <u>Coordinate Conjunction in English</u>. Ph.D. thesis, M.I.T.
- Postal, Paul M. (1964). "Underlying and superficial linguistic structure." Harvard Educational Review, 34, pp. 246-266.
- Postal, Paul M. (1966a). "On so-called 'pronouns' in English." In Dineen, F.P., S.J. (ed.), Report of the Seventeenth Annual Roundtable Meeting on Linguistics and Language Studies.

 Washington, D.C.: Georgetown University Press, pp. 177-206.
- Postal, Paul M. (1966b). "A note on 'understood transitively'."

 <u>International Journal of American Linguistics</u>, 32.1 (1966).
- Oualls. Brandon (to appear). Ph.D. thesis, M.I.T.
- Quine, Willard V. (1960). Word and Object. Cambridge, Mass.: M.I.T. Press, and New York: Wiley.
- Rosenbaum, Peter S. (1965). The Grammar of English Predicate Complement Constructions. Unpublished Ph.D. thesis, M.I.T.
- Ross, John Robert (1964). A Partial Grammar of English Superlatives.

 Master's thesis, University of Pennsylvania, Philadelphia.
- Ross, John Robert (1966a). "Relativization in Extraposed Clauses (A Problem which Evidence is Presented that Help is Needed to Solve)." Mathematical Linguistics and Automatic Translation, Report No. NSF-17 to The National Science Foundation, Harvard University, Computation Laboratory.
- Ross, John Robert (1966b). "On the nature of bounding in syntactic rules." Unpublished paper, M.I.T.

- Ross, John Robert (1966c). "Adjectives as noun phrases." Unpublished ditto, M.I.T.
- Ross, John Robert (1966d). "A proposed rule of tree-pruning."

 Mathematical Linguistics and Automatic Translation, Report
 No. NSF-17 to The National Science Foundation, Harvard
 University, Computation Laboratory.
- Ross, John Robert (1967a). "On the cyclic nature of English pronominalization." To appear in <u>Festschrift for Roman Jakobson</u>.

 The Hague: Mouton & Co.
- Ross, John Robert (1967b). "Auxiliaries as main verbs." Unpublished mimeograph, M.I.T.
- Ross, John Robert (1967c). "On declarative sentences." To appear in Jacobs, Roderick and Peter S. Rosenhaum (ed.), <u>Readings in English Transformational Grammar</u>.
- Ross, John Robert (1967d). "Gapping and the order of constituents."

 To appear in the <u>Proceedings of the Tenth International Congress of Linguists</u>.
- Smith, C. (1961). "A class of complex modifiers in English." Language 37, pp. 342-365.
- Vendler, Z. (1962). "The order of adjectives." Transformations and Discourse Analysis Project paper no. 31, University of Pennsylvania.
- Warshawsky, F. (1965a). "Reflexivization." Unpublished paper, M.I.T.
- Warshawsky, F. (1965b). "Reflexivization." Unpublished paper, M.I.T.
- Winter, W. (1965). "Transforms without kernels?" Language, 41.3, pp. 484-489.
- Zwicky, A.M., Jr., and S. Isard (1963). "Some aspects of tree theory." Working Paper W-6674. Bedford, Mass.: Mitre Corporation.

BIOGRAPHY

I was born on May 7, 1938, in Boston, Massachusetts, the son of Dr. Douglas Allen Ross and Eleanor Campbell Mott Ross. I lived in Montreal and then in Sudbury, Massachusetts, until I was nine, when we moved to Poughkeepsie, New York. I had the good fortune to go to the Poughkeepsie Day School from the third grade to the eighth grade, graduating in 1952. My luck continuing, I was accepted at, and managed, despite many disciplinary problems, to stay in, Phillips Academy, Andover, Massachusetts, where I graduated in 1956.

As I entered Yale in the fall of that year, intending to major in mathematics, I stumbled by chance into a brilliant and fascinating introductory course in linguistics -- which I had never heard of -- a course taught by the late Bernard Bloch. After I had failed out of mathematics, he allowed me to piece together a special undergraduate major in linguistics, and became my adviser. It is to his understanding, humor, and patience that I owe the fact that I am now a linguist.

After graduating from Yale in 1960, I received a grant from the Deutscher Akademische Austauschdienst and went for two semesters, to the University of Bonn and for one semester to Berlin, to the Free University and to the Technical University, where I studied a little linguistics and a lot of everything else.

Having returned to the United States, I received a Woodrow Wilson Fellowship to study at the University of Pennsylvania,