

ZNet

What We Know

On The Universals Of Language And Rights

by Noam Chomsky ; [Boston Review](#); July 05, 2005

Thirty-five years ago I agreed, in a weak moment, to give a talk with the title "Language and Freedom." When the time came to think about it, I realized that I might have something to say about language and about freedom, but the word "and" was posing a serious problem. There is a possible strand that connects language and freedom, and there is an interesting history of speculation about it, but in substance it is pretty thin. The same problem extends to my topic here, "universality in language and human rights." There are useful things to say about universality in language and about universality in human rights, but that troublesome connective raises difficulties.

The only way to proceed, as far as I can see, is to say a few words about universality in language, and in human rights, with barely a hint about the possible connections, a problem still very much on the horizon of inquiry.

To begin with, what about universality in language? The most productive way to approach the problem, I think, is within the framework of what has been called "the biolinguistic perspective," an approach to language that treats the capacity to acquire and use language as an aspect of human biology. This approach began to take shape in the early 1950s, much influenced by recent developments in mathematics and biology, and interacted productively with a more general shift of perspective in the study of mental faculties, commonly called "the cognitive revolution." It would be more accurate, I think, to describe it as a second cognitive revolution, reviving and extending important insights and contributions of the cognitive revolution of the 17th and 18th centuries, which had regrettably been forgotten, and—despite some interesting historical research on rationalist and Romantic theories of language and mind—are still little known.

In the 1950s, the study of language and mind was commonly considered part of the behavioral sciences. As the term indicates.....

A significant insight of the first cognitive revolution was that properties of the world that are informally called mental may involve unbounded capacities of a finite organ, the "infinite use of finite means," in Wilhelm von Humboldt's phrase. In a rather similar vein, Hume had recognized that our moral judgments are unbounded in scope, and must be founded on general principles that are part of our nature though they are beyond our "original instincts." That observation poses Huarte's problem in a different domain, where we might find part of the thin thread that links the search for cognitive and moral universals.

By mid-20th century, it had become possible to face such problems in more substantive ways than before. By then, there was a clear understanding, from the study of recursive functions, of finite generative systems with unbounded scope—which could be readily adapted to the reframing and investigation of some of the traditional questions that had necessarily been left obscure—

though only some, it is important to stress. Humboldt referred to the infinite use of language, quite a different matter from the unbounded scope of the finite means that characterizes language, where a finite set of elements yields a potentially infinite array of discrete expressions: discrete, because there are six-word sentences and seven-word sentences, but no 6.2 word sentences; infinite because there is no longest sentence (append "I think that" to the start of any sentence). Another influential factor in the renewal of the cognitive revolution was the work of ethologists, then just coming to be more widely known, with their concern for "the innate working hypotheses present in subhuman organisms" (Nikolaas Tinbergen) and the "human a priori" (Konrad Lorenz), which should have much the same character. That framework too could be adapted to the study of human cognitive organs (for example, the language faculty) and their genetically determined nature, which constructs experience and guides the general path of development, as in other aspects of growth of organisms, including the human visual, circulatory, and digestive systems, among others.

Meanwhile, efforts to sharpen and refine the procedural approaches of structural linguistics ran into serious difficulties, revealing what appear to be intrinsic inadequacies in their capacity to account for the scope of human language, and the complex and subtle knowledge of speakers. It became increasingly clear that even the simplest elements of language—and surely more complex ones—do not have the "beads-on-a-string" property that is required for approaches based on segmentation and classification. Rather, they relate much more indirectly to phonetic form. Their nature and properties are fixed within the internal language, the computational system that determines the unbounded range of expressions. These expressions, in turn, can be regarded as "instructions" to other systems that are used for mental operations, as well as for the production and interpretation of external signals. In the behavioral sciences more generally, closer study of the postulated mechanisms of learning also revealed fundamental inadequacies, and soon questions were arising within the disciplines about whether even their core concepts could be sustained.

The natural conclusion seemed to be that the internal language attained by a competent speaker—the integrated system of rules and principles from which the expressions of the language can be derived—has roughly the character of a scientific theory. The child must somehow select the internal language from the flux of experience. The problem is similar to what Charles Sanders Peirce, in his inquiries into the nature of scientific discovery, had called abduction. And as in the case of the sciences, the task is impossible without what Peirce called a "limit on admissible hypotheses" that permits only certain theories to be entertained, but not infinitely many others compatible with relevant data. In the language case, it appeared that universal grammar must impose a format for rule systems that is sufficiently restrictive so that candidate languages considered and tested against the linguistic data available to the child are "scattered," and only a small number can even be considered in the course of language acquisition. It follows that the format must be highly articulated,

and specific to language. The most challenging theoretical problem in linguistics was that of discovering the principles of universal grammar, which determine the choice of hypotheses, the accessible internal languages.

At the same time, it was also recognized that for language, as for other biological organs, a still more challenging problem lies on the horizon: to discover the laws that determine possible successful mutation and the nature of complex organisms.

Investigation of such factors seemed too remote to merit much attention, though even some of the earliest work was implicitly guided by such concerns.....

Assuming that language has the same general properties of other biological systems, we should, therefore, be seeking three factors that shape the growth of language in the individual:

1. Genetic factors, the topic of universal grammar. These interpret part of the environment as linguistic experience and determine the general course of development to the languages attained.
2. Experience, which permits variation within a fairly narrow range.
3. Principles not specific to the faculty of language, including principles of efficient computation, which would be expected to be of particular significance for systems such as language, determining the general character of attainable languages

At this point we have to move on to more technical discussion than is possible here, but I think it is fair to say that in recent years there has been considerable progress in moving toward principled explanation in terms of third-factor considerations, considerably sharpening the question of the specific properties that determine the nature of language—in one form or another, the core problem of the study of language since its origins millennia ago, and now taking quite new forms.. With each step toward principled explanation in these terms, we gain a clearer grasp of the universals of language. It should be kept in mind, however, that any such progress still leaves unresolved problems that have been raised for hundreds of years. Among these are the mysterious problems of the creative and coherent ordinary use of language, a core problem of Cartesian science.

We are now moving to domains of will and choice and judgment, and the thin strands that may connect what seems within the range of scientific inquiry to essential problems of human life, in particular vexed questions about universal human rights. One possible way to draw connections is by proceeding along the lines of Hume's remarks that I mentioned earlier: his observation that the unbounded range of moral judgments—like the unbounded range of linguistic knowledge—must be founded on general principles that are part of our nature though they lie beyond our "original instincts," which elsewhere he took to include the "species of natural instincts" on which knowledge and belief are grounded. In recent years, there has been intriguing work in moral philosophy and experimental cognitive science that carries these ideas forward, investigating what seem to be deep-seated moral intuitions that often have a very surprising character, in invented cases, and that suggest the operation of internal principles well beyond anything that could be explained by training and conditioning. To illustrate, I will take a real example that carries us directly to the issue of universality of human rights. In 1991, the chief economist of the World Bank wrote an internal memo on pollution, in which he demonstrated that the bank should be encouraging migration of polluting industries to the poorest countries. The reason is that "measurement of the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality," so it is rational for "health impairing pollution" to be sent to the poorest countries, where mortality is higher and wages are lowest. Other factors lead to the same conclusion, for example, the fact that "aesthetic pollution concerns" are more "welfare enhancing" among the rich. He pointed out, accurately, that the logic of his memo is "impeccable," and any "moral reasons" or "social concerns" that might be adduced "could be turned around and used more or less effectively against every Bank proposal for liberalization," so they presumably cannot be relevant. The memo was leaked and elicited a storm of protest, typified by the reaction of Brazil's secretary of the environment, who wrote him a letter saying that "your reasoning is perfectly logical but totally insane." The secretary was fired, while the author of the memo became treasury secretary under President Clinton and is now the president of Harvard University.....

The reader who wants to read the rest of the article can google its title*; the reader who wants to see somewhat illuminated the relation of the two aspects of Chomsky's work should also google*: ZNet/China. "A Brief Review of the Work of Professor Noam Chomsky" by Moss Roberts, 9/14/2007 . Here we continue with Chomsky speaking on biolinguistics with more detail than he had started above. Let's turn page:

**OK, we finally did include here what we had skipped, but their context is right after page 30.*

Biolinguistics and the Human Capacity
Noam Chomsky
Delivered at [MTA, Budapest](#), May 17, 2004

I would like to say a few words about what has come to be called "the biolinguistic perspective," which began to take shape half a century ago in discussions among a few graduate students who were much influenced by developments in biology and mathematics in the early postwar years, including work in ethology that was just coming to be known in the United States. One of them was Eric Lenneberg, whose seminal 1967 study *Biological Foundations of Language* remains a basic document of the field. By then considerable interchange was proceeding, including interdisciplinary seminars and international conferences. The most far-reaching one, in 1974 was called, for the first time, "Biolinguistics." Many of the leading questions discussed there remain very much alive today.

One of these questions, repeatedly brought up as "one of the basic questions to be asked from the biological point of view," is the extent to which apparent principles of language, including some that had only recently come to light, are unique to this cognitive system. An even more basic question from the biological point of view is how much of language can be given a principled explanation, whether or not homologous elements can be found in other domains or organisms. The effort to sharpen these questions and to investigate them for language has come to be called "the minimalist program" in recent years, but the questions arise for any biological system, and are independent of theoretical persuasion, in linguistics and other domains. Answers to these questions are not only fundamental to understanding of the nature and functioning of organisms and their subsystems, but also to investigation of their growth and evolution.

The biolinguistic perspective views a person's language in all of its aspects - sound, meaning, structure -- as a state of some component of the mind, understanding "mind" in the sense of 18th century scientists who recognized that after Newton's demolition of the "mechanical philosophy," based on the intuitive concept of a material world, no coherent mind-body problem remains, and we can only regard aspects of the world "termed mental," as the result of "such an organical structure as that of the brain," as chemist-philosopher Joseph Priestley observed. Thought is a "little agitation of the brain," David Hume remarked; and as Darwin commented a century later, there is no reason why "thought, being a secretion of the brain," should be considered "more wonderful than gravity, a property of matter." By then, the more tempered view of the goals of science that Newton introduced had become scientific common sense: Newton's reluctant conclusion that we must be satisfied with the fact that universal gravity exists, even if we cannot explain it in terms of the self-evident "mechanical philosophy." As many commentators have observed, this intellectual move "set forth a new view of science" in which the

goal is "not to seek ultimate explanations" but to find the best theoretical account we can of the phenomena of experience and experiment (I. Bernard Cohen).

The central issues in the domain of study of mind still arise, in much the same form. They were raised prominently at the end of the "Decade of the Brain," which brought the last millennium to a close. The American Academy of Arts and Sciences published a volume to mark the occasion, summarizing the current state of the art. The guiding theme was formulated by neuroscientist Vernon Mountcastle in his introduction to the volume: It is the thesis that "Things mental, indeed minds, are emergent properties of brains, [though] these emergences are not regarded as irreducible but are produced by principles...we do not yet understand." The same thesis, which closely paraphrases Priestley, has been put forth in recent years as an "astonishing hypothesis" of the new biology, a "radically new idea" in the philosophy of mind, "the bold assertion that mental phenomena are entirely natural and caused by the neurophysiological activities of the brain," and so on. But this is a misunderstanding. The thesis follows from the collapse of any coherent concept of "body" or "material" in the 17th century, as was soon recognized. Terminology aside, the fundamental thesis remains what has been called "Locke's suggestion": that God might have chosen to "superadd to matter a faculty of thinking" just as he "annexed effects to motion, which we can in no way conceive motion able to produce."

Mountcastle's reference to reductive principles that we "do not yet understand" also begs some interesting questions, as a look at the history of science illustrates, even quite recent science. It is reminiscent of Bertrand Russell's observation in 1929, also reflecting standard beliefs, that "chemical laws cannot at present be reduced to physical laws." The phrase "at present," like Mountcastle's word "yet," expresses the expectation that the reduction should take place in the normal course of scientific progress, perhaps soon. In the case of physics and chemistry, it never did: what happened was unification of a virtually unchanged chemistry with a radically revised physics. It's hardly necessary to add that the state of understanding and achievement in those areas 80 years ago was far beyond anything that can be claimed for the brain and cognitive sciences today. Hence confidence in "reduction" to the little that is understood is not necessarily appropriate.

From the array of phenomena that one might loosely consider language-related, the biolinguistic approach focuses attention on a component of human biology that enters into the use and acquisition of language, however one interprets the term "language." Call it the "faculty of language," adapting a traditional term to a new usage. This component is more or less on a par with the system of mammalian vision, insect navigation, or others. In many of these cases, the best available explanatory theories attribute to the organism computational systems and what is called "rule-following" in informal usage -

for example, when a recent text on vision presents the so-called "rigidity principle" as it was formulated 50 years ago: "if possible, and other rules permit, interpret image motions as projections of rigid motions in three dimensions." In this case, later work provided substantial insight into the mental computations that seem to be involved when the visual system follows these rules, but even for very simple organisms, that is typically no slight task, and relating mental computations to analysis at the cellular level is commonly a distant goal. Some philosophers have objected to the notion "rule-following" - for language, rarely vision. But I think that is another misunderstanding, one of many in my opinion. It is of some interest to compare qualms expressed today about theories of language, and aspects of the world "termed mental" more generally, with debates among leading scientists well into the 1920s as to whether chemistry was a mere calculating device predicting the results of experiments, or whether it merits the honorific status of an account of "physical reality," debates later understood to be completely pointless. The similarities, which I have discussed elsewhere, are striking and I think instructive.

Putting these interesting topics aside, if we adopt the biolinguistic perspective, a language is a state of the faculty of language - an I-language in technical usage, where "I" underscores the fact that the conception is internalist, individual, and intensional (with an "s," not a "t") - that is, the actual formulation of the generative principles, not the set it enumerates; the latter we can think of as a more abstract property of the I-language, rather as we can think of the set of possible trajectories of a comet through the solar system as an abstract property of that system.

The decision to study language as part of the world in this sense was regarded as highly controversial at the time, and still is, by many linguists as well. It seems to me that the arguments advanced against the legitimacy of the approach have little force - a weak thesis; and that its basic assumptions are tacitly adopted even by those who strenuously reject them - a much stronger thesis. I will not enter into this chapter of contemporary intellectual history here, but will simply assume that crucial aspects of language can be studied as part of the natural world in the sense of the biolinguistic approach that took shape half a century ago, and has been intensively pursued since, along various different paths.

The language faculty is one component of what the co-founder of modern evolutionary theory, Alfred Russel Wallace, called "man's intellectual and moral nature": the human capacities for creative imagination, language and other modes of symbolism, mathematics, interpretation and recording of natural phenomena, intricate social practices and the like, a complex of capacities that seem to have crystallized fairly recently, perhaps a little over 50,000 years ago, among a small breeding group of which we are all descendants - a complex that sets humans apart rather sharply from other

animals, including other hominids, judging by the archaeological record. The nature of the "human capacity," as some researchers now call it, remains a considerable mystery. It was one element of a famous disagreement between the two founders of the theory of evolution, with Wallace holding, contrary to Darwin, that evolution of these faculties cannot be accounted for in terms of variation and natural selection alone, but requires "some other influence, law, or agency," some principle of nature alongside gravitation, cohesion, and other forces without which the material universe could not exist. Although the issues are differently framed today, they have not disappeared.

It is commonly assumed that whatever the human intellectual capacity is, the faculty of language is essential to it. Many scientists agree with paleoanthropologist Ian Tattersall, who writes that he is "almost sure that it was the invention of language" that was the "sudden and emergent" event that was the "releasing stimulus" for the appearance of the human capacity in the evolutionary record -- the "great leap forward" as Jared Diamond called it, the result of some genetic event that rewired the brain, allowing for the origin of human language with the rich syntax that provides a multitude of modes of expression of thought, a prerequisite for social development and the sharp changes of behavior that are revealed in the archaeological record, also generally assumed to be the trigger for the rapid trek from Africa, where otherwise modern humans had apparently been present for hundreds of thousands of years. The view is similar to that of the Cartesians, but stronger: they regarded normal use of language as the clearest empirical evidence that another creature has a mind like ours, but not the criterial evidence for mind and the origin of the human capacity.

If this general picture has some validity, then the evolution of language may be a very brief affair, even though it is a very recent product of evolution. Of course, there are innumerable precursors, and they doubtless had a long evolutionary history. For example, the bones of the middle ear are a marvellous sound-amplifying system, wonderfully designed for interpreting speech, but they appear to have migrated from the reptilian jaw as a mechanical effect of growth of the neocortex in mammals that began 160 million years ago, so it is reported. We know far too little about conceptual systems to say much, but it's reasonable to suppose that they too had a long history after the separation of hominids, yielding results with no close similarity elsewhere. But the question of evolution of language itself has to do with how these various precursors were organized into the faculty of language, perhaps through some slight genetic event that brought a crucial innovation. If that is so, then the evolution of language itself is brief, speculations that have some bearing on the kind of inquiry into language that is likely to be productive.

Tattersall takes language to be "virtually synonymous with symbolic thought." Elaborating, one of the initiators of the 1974 symposium, Nobel laureate

Francois Jacob, observed that "the role of language as a communication system between individuals would have come about only secondarily," perhaps referring to discussions at the 1974 conference, where his fellow Nobel Laureate Salvador Luria was one of the more forceful advocates of the view that communicative needs would not have provided "any great selective pressure to produce a system such as language," with its crucial relation to "development of abstract or productive thinking." "The quality of language that makes it unique does not seem to be so much its role in communicating directives for action" or other common features of animal communication, Jacob continues, but rather "its role in symbolizing, in evoking cognitive images," in "molding" our notion of reality and yielding our capacity for thought and planning, through its unique property of allowing "infinite combinations of symbols" and therefore "mental creation of possible worlds," ideas that trace back to the 17th century cognitive revolution.

Jacob also stressed the common understanding that answers to questions about evolution "in most instances...can hardly be more than more or less reasonable guesses." And in most cases, hardly even that. An example that is perhaps of interest here is the study of evolution of the bee communication system, unusual in that in principle it permits transmission of information over an infinite (continuous) range. There are hundreds of species of honey and stingless bees, some having variants of communication systems, some not, though they all seem to survive well enough. So there is plenty of opportunity for comparative work. Bees are incomparably easier to study than humans, along every dimension. But little is understood. Even the literature is sparse. The most recent extensive review I have seen, by entomologist Fred Dyer, notes that even the basic computational problems of coding spatial information to motor commands, and the reverse for follower bees, remains "puzzling", and "What sorts of neural events might underlie these various mapping processes is unknown," while evolutionary origins scarcely go beyond speculation. There is nothing like the huge literature and confident pronouncements about the evolution of human language - something that one might also find a bit "puzzling."

We can add another insight of 17th and 18th century philosophy, with roots as far back as Aristotle's analysis of what were later interpreted as mental entities: that even the most elementary concepts of human language do not relate to mind-independent objects by means of some reference-like relation between symbols and identifiable physical features of the external world, as seems to be universal in animal communication systems. Rather, they are creations of the "cognoscitive powers" that provide us with rich means to refer to the outside world from certain perspectives, but are individuated by mental operations that cannot be reduced to a "peculiar nature belonging" to the thing we are talking about, as Hume summarized a century of inquiry. Julius Moravcsik's "aitiational theory of semantics" is a recent development of some

of these ideas, from their Aristotelian origins and with rich implications for natural language semantics.

These are critical observations about the elementary semantics of natural language, suggesting that its most primitive elements are related to the mind-independent world much as the internal elements of phonology are, not by a reference-like relation but as part of a considerably more intricate species of conception and action. I cannot try to elaborate here, but I think such considerations, if seriously pursued, reveal that it is idle to try to base the semantics of natural language on any kind of "word-object" relation, however intricate the constructed notion of "object," just as it would be idle to base the phonetics of natural language on a "symbol-sound" relation, where sounds are taken to be constructed physical events - perhaps indescribable four-dimensional constructs based on motions of models, with further questions dispatched to the physics department, or if one wants to make the problem still more hopeless, to the sociology department as well. It is universally agreed that these moves are the wrong ones for the study of the sound side of language, and I think the conclusions are just as reasonable on the meaning side. For each utterance, there is a physical event, but that does not imply that we have to seek some mythical relation between such an internal object as the syllable /ta/ and an identifiable mind-independent event; and for each act of referring there is some complex aspect of the experienced or imagined world on which attention is focused by that act, but that is not to say that a relation of reference exists for natural language. I think it does not, even at the most primitive level.

If this much is generally on the right track, then, at least two basic problems arise when we consider the origins of the faculty of language and its role in the sudden emergence of the human intellectual capacity: first, the core semantics of minimal meaning-bearing elements, including the simplest of them; and second, the principles that allow unbounded combinations of symbols, hierarchically organized, which provide the means for use of language in its many aspects. By the same token, the core theory of language - Universal Grammar, UG - must provide, first, a structured inventory of possible lexical items that are related to or perhaps identical with the concepts that are the elements of the "cognoscitive powers"; and second, means to construct from these lexical items the infinite variety of internal structures that enter into thought, interpretation, planning, and other human mental acts, and are sometimes externalized, a secondary process if the speculations just reviewed turn out to be correct. On the first problem, the apparently human-specific conceptual-lexical apparatus, there is insightful work on relational notions linked to syntactic structures and on the partially mind-internal objects that appear to play a critical role (events, propositions, etc). But there is little beyond descriptive remarks on the core referential apparatus that is used to talk about the world. The second problem has been central to linguistic research for a half century, with a long history before in different terms.

The biolinguistic approach adopted from the outset the point of view that cognitive neuroscientist R.G. Gallistel calls "the norm in neuroscience" today, the "modular view of learning": the conclusion that in all animals, learning is based on specialized mechanisms, "instincts to learn" in specific ways. He suggests that we think of these mechanisms as "organs within the brain," achieving states in which they perform specific kinds of computation. Apart from "extremely hostile environments," they change states under the triggering and shaping effect of external factors, more or less reflexively, and in accordance with internal design. That is the "process of learning," though "growth" might be a more appropriate term, avoiding misleading connotations of the term "learning." One might relate these ideas to Gallistel's encyclopedic work on organization of motion, based on "structural constraints" that set "limits on the kinds of solutions an animal will come up with in a learning situation."

The modular view of learning of course does not entail that the components of the module are unique to it: at some level, everyone assumes that they are not - the cell, for example. The question of the level of organization at which unique properties emerge remains a basic question from a biological point of view, as it was at the 1974 conference. Gallistel's observations recall the concept of "canalization" introduced into evolutionary and developmental biology by C.H. Waddington 60 years ago, referring to processes "adjusted so as to bring about one definite end result regardless of minor variations in conditions during the course of the reaction," thus ensuring "the production of the normal, that is optimal type in the face of the unavoidable hazards of existence." That seems to be a fair description of the growth of language in the individual. A core problem of the study of the faculty of language is to discover the mechanisms that limit outcomes to "optimal types."

It has been recognized since the origins of modern biology that organism-external developmental constraints and architectural-structural principles enter not only into the growth of organisms but also their evolution. In a classic contemporary paper, Maynard Smith and associates trace the post-Darwinian version back to Thomas Huxley, who was struck by the fact that there appear to be "predetermined lines of modification" that lead natural selection to "produce varieties of a limited number and kind" for every species. They review a variety of such constraints in the organic world and describe how "limitations on phenotypic variability" are "caused by the structure, character, composition, or dynamics of the developmental system." They also point out that such "developmental constraints undoubtedly play a significant role in evolution" though there is yet "little agreement on their importance as compared with selection, drift, and other such factors in shaping evolutionary history." At about the same time, Jacob wrote that "the rules controlling embryonic development," almost entirely unknown, interact with other physical factors to "restrict possible changes of structures and functions" in evolutionary development, providing "architectural constraints" that "limit

adaptive scope and channel evolutionary patterns," to quote a recent review. The best known of the figures who devoted much of their work to these topics are D'Arcy Thompson and Alan Turing, who took a very strong view on the central role of such factors in biology. In recent years, such considerations have been adduced for a wide range of problems of development and evolution, from cell division in bacteria to optimization of structure and function of cortical networks, even to proposals that organisms have "the best of all possible brains," as argued by computational neuroscientist Chris Cherniak. The problems are the border of inquiry, but their significance is not controversial.

Assuming that the faculty of language has the general properties of other biological systems, we should, therefore, be seeking three factors that enter into the growth of language in the individual:

(1) Genetic factors, apparently near uniform for the species, the topic of UG. The genetic endowment interprets part of the environment as linguistic experience, a non-trivial task that the infant carries out reflexively, and determines the general course of the development of the language faculty to the languages attained.

(2) Experience, which leads to variation, within a fairly narrow range, as in the case of other subsystems of the human capacity and the organism generally.

(3) Principles not specific to the faculty of language.

The third factor includes principles of structural architecture that restrict outcomes, including principles of efficient computation, which would be expected to be of particular significance for computational systems such as language, determining the general character of attainable languages.

One can trace interest in this third factor back to the Galilean intuition that "nature is perfect," from the tides to the flight of birds, and that it is the task of the scientist to discover in just what sense this is true. Newton's confidence that Nature must be "very simple" reflects the same intuition. However obscure it may be, that intuition about what Ernst Haeckel called nature's "drive for the beautiful" ("Sinn fuer das Schoene") has been a guiding theme of modern science ever since its modern origins.

Biologists have tended to think differently about the objects of their inquiry, adopting Jacob's image of nature as a tinkerer, which does the best it can with materials at hand -- often a pretty poor job, as human intelligence seems to be intent on demonstrating about itself. British geneticist Gabriel Dover captures the prevailing view when he concludes that "biology is a strange and messy business and 'perfection' is the last word one would use to describe how organisms work, particularly for anything produced by natural selection" --

though produced only in part by natural selection, as he emphasizes, and as every biologist knows, and to an extent that cannot be quantified by available tools. These expectations make good sense for systems with a long and complex evolutionary history, with plenty of accidents, lingering effects of evolutionary history that lead to non-optimal solutions of problems, and so on. But the logic does not apply to relatively sudden emergence, which might very well lead to systems that are unlike the complex outcomes of millions of years of Jacobian “bricolage,” perhaps more like snowflakes, or phyllotaxis, or cell division into spheres rather than cubes, or polyhedra as construction materials, or much else that is found in the natural world. The minimalist program is motivated by the suspicion that something like that may indeed be true for human language, and I think recent work has given some reason to believe that language is in many respects an optimal solution to conditions it must satisfy, far more so than could have been anticipated a few years ago.

Returning to the early days, within the structuralist/behaviorist frameworks of the 1950s, the closest analogues to UG were the procedural approaches developed by Trubetzkoy, Harris, and others, devised to determine linguistic units and their patterns from a corpus of linguistic data. At best, these cannot reach very far, no matter how vast the corpus and futuristic the computational devices used. Even the elementary formal and meaning-bearing elements, morphemes, do not have the “beads on a string” character that is required for procedural approaches, but relate much more indirectly to phonetic form. Their nature and properties are fixed within the more abstract computational system that determines the unbounded range of expressions. The earliest approaches to generative grammar therefore assumed that the genetic endowment provides a format for rule systems and a method for selecting the optimal instantiation of it, given data of experience. Specific proposals were made then and in the years that followed. In principle, they provided a possible solution to the problem of language acquisition, but involved astronomical calculation, and therefore did not seriously address the issues.

The main concerns in those years were quite different, as they still are. It may be hard to believe today, but it was commonly assumed 50 years ago that the basic technology of linguistic description was available, and that language variation was so free that nothing of much generality was likely to be discovered. As soon as efforts were made to provide fairly explicit accounts of the properties of languages, it immediately became obvious how little was known, in any domain. Every specific proposal yielded a treasure trove of counter-evidence, requiring complex and varied rule-systems even to achieve a very limited approximation to descriptive adequacy. That was highly stimulating for inquiry into language, but also left a serious quandary, since the most elementary considerations led to the conclusion that UG must impose narrow constraints on possible outcomes in order to account for the acquisition of language, the task of achieving “explanatory adequacy,” so called. Sometimes these are called “poverty of stimulus” problems in the study of

language, though the term is misleading because this is just a special case of basic issues that arise universally for organic growth, including cognitive growth, a variant of problems recognized as far back as Plato.

A number of paths were pursued to try to resolve the tension. The most successful turned out to be efforts to formulate general principles, attributed to UG - that is, the genetic endowment - leaving a somewhat reduced residue of phenomena that would result, somehow, from experience. These approaches had some success, but the basic tensions remained unresolved at the time of the 1974 conference.

Within a few years, the landscape changed considerably. In part this was the result of a vast array of new materials from studies of much greater depth than previously, in part from opening new topics to investigation. About 25 years ago, much of this work crystallized in a radically different approach to UG, the "Principles and Parameters" (P&P) framework, which for the first time offered the hope of overcoming the tension between descriptive and explanatory adequacy. This approach sought to eliminate the format framework entirely, and with it, the traditional conception of rules and constructions that had been pretty much taken over into generative grammar. In these respects, it was a much more radical departure from the rich tradition of 2500 years than early generative grammar. The new P&P framework led to an explosion of inquiry into languages of the most varied typology, leading to new problems previously not envisioned, sometimes answers, and the reinvigoration of neighboring disciplines concerned with acquisition and processing, their guiding questions now reframed in terms of parameter-setting within a fixed system of principles of UG. No one familiar with the field has any illusion today that the horizons of inquiry are even visible, let alone at hand.

Abandonment of the format framework also had a significant impact on the biolinguistic program. If, as had been assumed, acquisition is a matter of selection among options made available by the format provided by UG, then the format must be rich and highly articulated, allowing relatively few options; otherwise, explanatory adequacy is out of reach. The best theory of language must be a very unsatisfactory one from other points of view, with a complex array of conditions specific to human language, restricting possible instantiations. The fundamental biological issue of principled explanation could barely be contemplated, and correspondingly, the prospects for some serious inquiry into evolution of language were dim; evidently, the more varied and intricate the conditions specific to language, the less hope there is for a reasonable account of the evolutionary origins of UG. These are among the questions that were raised at the 1974 symposium and others of the period, but they were left as apparently irresolvable problems.

The P&P framework offered prospects for resolution of these tensions as well. Insofar as this framework proves valid, acquisition is a matter of parameter

setting, and is therefore divorced entirely from the remaining format for grammar: the principles of UG. There is no longer a conceptual barrier to the hope that the UG might be reduced to a much simpler form, and that basic properties of the computational systems of language might have a principled explanation instead of being stipulated in terms of a highly restrictive language-specific format for grammars. Returning to the three factors of language design, adoption of a P&P framework overcomes a difficult conceptual barrier to shifting the burden of explanation from factor (1), the genetic endowment, to factor (3), language-independent principles of structural architecture and computational efficiency, thereby providing some answers to the fundamental questions of biology of language, its nature and use, and perhaps its evolution.

With the conceptual barriers imposed by the format framework overcome, we can try more realistically to sharpen the question of what constitutes a principled explanation for properties of language, and turn to one of the most fundamental questions of the biology of language: to what extent does language approximate an optimal solution to conditions that it must satisfy to be usable at all, given extra-linguistic structural architecture? These conditions take us back to the traditional characterization of language since Aristotle as a system that links sound and meaning. In our terms, the expressions generated by a language must satisfy two interface conditions: those imposed by the sensorimotor system and by the conceptual-intentional system that enters into the human intellectual capacity and the variety of speech acts.

We can regard an explanation of properties of language as principled insofar as it can be reduced to properties of the interface systems and general considerations of computational efficiency and the like. Independently, the interface systems can be studied on their own, including comparative study that has been productively underway. And the same is true of principles of efficient computation, applied to language in recent work by many investigators with important results, and perhaps also amenable to comparative inquiry. In a variety of ways, then, it is possible both to clarify and address some of the basic problems of the biology of language.

At this point we have to move on to more technical discussion than is possible here, but a few informal remarks may help sketch the general landscape, at least.

An elementary fact about the language faculty is that it is a system of discrete infinity, rare in the organic world. Any such system is based on a primitive operation that takes objects already constructed, and constructs from them a new object: in the simplest case, the set containing them. Call that operation Merge. Either Merge or some equivalent is a minimal requirement. With Merge available, we instantly have an unbounded system of hierarchically structured expressions. The simplest account of the "Great Leap Forward" in the

evolution of humans would be that the brain was rewired, perhaps by some slight mutation, to provide the operation Merge, at once laying a core part of the basis for what is found at that dramatic moment of human evolution: at least in principle; to connect the dots is far from a trivial problem. There are speculations about the evolution of language that postulate a far more complex process: first some mutation that permits two-unit expressions, perhaps yielding selectional advantage by reducing memory load for lexical items; then further mutations to permit larger ones; and finally the Great Leap that yields Merge. Perhaps the earlier steps really took place, though there is no empirical or serious conceptual argument for the belief. A more parsimonious speculation is that they did not, and that the Great Leap was effectively instantaneous, in a single individual, who was instantly endowed with intellectual capacities far superior to those of others, transmitted to offspring and coming to predominate. At best a reasonable guess, as are all speculations about such matters, but about the simplest one imaginable, and not inconsistent with anything known or plausibly surmised. It is hard to see what account of human evolution would not assume at least this much, in one or another form.

Similar questions arise about growth of language in the individual. It is commonly assumed that there is a two-word stage, a three-word stage, and so on, with an ultimate Great Leap Forward to unbounded generation. That is observed in performance, but it is also observed that at the early stage the child understands much more complex expressions, and that random modification of longer ones - even such simple changes as placement of function words in a manner inconsistent with UG or the adult language - leads to confusion and misinterpretation. It could be that unbounded Merge, and whatever else is involved in UG, is present at once, but only manifested in limited ways for extraneous reasons, memory and attention limitation and the like; matters discussed at the 1974 symposium, and now possible to investigate much more systematically and productively.

The most restrictive case of Merge applies to a single object, forming a singleton set. Restriction to this case yields the successor function, from which the rest of the theory of natural numbers can be developed in familiar ways. That suggests a possible answer to a problem that troubled Wallace in the late 19th century: in his words, that the "gigantic development of the mathematical capacity is wholly unexplained by the theory of natural selection, and must be due to some altogether distinct cause," if only because it remained unused. One possibility is the natural numbers result from a simple constraint on the language faculty, hence not given by God, in accord with Kronecker's famous aphorism, though the rest is created by man, as he continued. Speculations about the origin of the mathematical capacity as an abstraction from linguistic operations are not unfamiliar. There are apparent problems, including dissociation with lesions and diversity of localization, but the significance of such phenomena is unclear for many reasons (including the

issue of possession vs. use of the capacity). There may be something to these speculations, perhaps along the lines just indicated.

Elementary considerations of computational efficiency impose other conditions on the optimal solution to the task of linking sound and meaning. There is by now extensive literature exploring problems of this kind, and I think it is fair to say that there has been considerable progress in moving towards principled explanation. It is even more clear that these efforts have met one primary requirement for a sensible research program: stimulating inquiry that has been able to overcome some old problems while even more rapidly bringing to light new ones, previously unrecognized and scarcely even formulable and enriching greatly the empirical challenges of descriptive and explanatory adequacy that have to be faced; and for the first time, opening a realistic prospect of moving significantly beyond explanatory adequacy to principled explanation along the lines indicated.

The quest for principled explanation faces daunting tasks. We can formulate the goals with reasonable clarity. We cannot, of course, know in advance how well they can be attained - that is, to what extent the states of the language faculty are attributable to general principles, possibly even holding for organisms generally. With each step towards this goal, we gain a clearer grasp of the core properties that are specific to the language faculty, still leaving quite unresolved problems that have been raised for hundreds of years. Among these are the question how properties "termed mental" relate to "the organical structure of the brain," problems far from resolution even for insects, and with unique and deeply mysterious aspects when we consider the human capacity and its evolutionary origins.

To form an opinion on both the similarities and the differences of both the approaches and conclusions reached by Mumford and by Chomsky on one of their overlapping interests, language, let's first see some excerpts from Mumford's *Myth of the Machine Vol. 1* on the issue of "Mind in the making". Let's turn page:

Mumford on : “Mind in the making”. The perennial role and function of homo sapiens.

“..We know now, as never before, that undisclosed potentialities of life reach far beyond the proud algebraics of contemporary science; and their promises for the further transformations of man are as enchanting as they are inexhaustible”
Lewis Mumford

“...In following the passage from animal signals to coherent human speech, man could not possibly have guessed his destination until he reached it and beheld the results: only now, indeed, do we have sufficiently information to take in that whole passage and fill in, with our imagination, the otherwise untraceable stages of that journey...

...Though birds use vocal warnings to exclude others from their territory, language for long served man as a unifying agent to keep his separate communal organization within bounds. Linguistically, each group is surrounded by an invisible wall of silence..from a different language group...In cases of brain damage affecting the speech centers, the rest of the personality is affected , until sometimes other parts of the brain take over this specialized function. Without speech associations, the world one sees is no longer as meaningful as it is to other animals.. In one case.. the loss of coherent speech in senility even produced an illusion of blindness: what the eye beheld had become “invisible”: it no longer “made sense”. Lacking words, the modes of meaning that other animals utilize vanish...Once man had created even the beginnings of language, there was no turning back: he had to hold on to speech for dear life, for he had lost forever many of his pre-lingual animal reactions...

...What has kept the chimpanzee from developing articulate speech is exactly his inability to hold [superficially unlike] images.. Nothing could better illustrate this.. characteristic [of man] than Malinowski’s interpretation of the magic formula among the Trobriand Islanders for ensuring a heavy crop of *taytu*: an incantation that invokes the dolphin “We know that the dolphin is big and long as tubers should become, that its weaving in and out of the rising and falling waves is associated with the winding and the interweaving of the of the luxuriant vines whose rich foliage means a plentiful *taytu* harvest.” Though superficially no organisms could be more unlike than a sea-animal and a vegetable, the first implies by its imagery the *abstract* qualities of the other...When the purpose that speech served was a practical one, the intended core of abstract meaning would still be buried in metaphor...The terms “metaphor” and “mythology” describe the original nature of language and apply to the preliminary stages of marking the passage from the disordered symbolic contents of dream, the ceremonial associations of “festal play” and religious rite into the richly structured world of definable meanings and consciousness purposes. In the formation of language, thought, so to say, was an afterthought...Before they could utter an identifiable word, primitive hominids may have grunted or intoned in chorus: before man learned to sing, he probably engaged in dance and dramatic pantomime. Basic to all these performances was the strict order of ritual: the group’s doing the same thing, in the same place, in the same way, without a hairbreadth’s deviation. The meanings that emerged from such a ritual had a different status—for they implied a higher degree of abstraction—from the visible signals by sight and sound with which animals communicate and learn; and that higher level of abstraction freed meaning , in time, from the here and now...This interpretation of early man’s behavior does not , I must point out, rest on pure conjecture. For one sees primordial human ritual against an older background of animal habits: the courting rituals of many animals and birds, the emotional cries uttered in the midst of sexual excitement, the howling of wolf-packs at he moon, the singing of gibbons, which impressed Darwin, the nocturnal dances of elephants, all support the notion that ritual is older than language in man’s development and played an indispensable part...

...Sympathy, empathy, imitation, identification—these are the terms an anthropologist like Margaret Mead properly uses for the transmission of all cultures: their existence in mammals,

their conspicuous existence in other primates, led to their still fuller exercise in man. Within the field of rituals, these traits produced patterns and orderly sequences that could be memorized, repeated, transmitted to younger age-groups. It is surely here that sharable meanings have their beginnings; for naming, describing, relating, commanding, rationally communicating, came as relatively late manifestations. Face-to-face communal expression through bodily movements almost surely comes first.

...Doubtless the last thousand hundred years of language have left genetic changes that are recorded in the very facial expressions and babblings of an infant, before he utters a word. Imitation, "consciousness of kind", identification, ritual order – where and when do these begin? No one can say. Jespersen's tracing back of the origin of language to the play of lovers may be accepted, like the commands of hunters, as one of the hundred different sources: but the archetypal situation for language training lies, as he also knows, in the relation of mother to child. Early on, the baby has the bodily beginnings of symbolic expression –reaching and grasping, gurgling and smiling, howling and bawling. By bodily movements, voice, facial expression, the baby brings about a response from the part of the environment most necessary to him, his mother; and there the basic human dialogue begins. At first mother and milk are one... Significantly even chimpanzees lack certain vital instinctive responses: they do not know how to copulate or nurse their babies unless they are reared in the presence of older animals and have acquired the proper knack by imitation...

..But primordial man, on the other hand, did not have the great advantage of little Helen [Keller], the intelligent companionship of other human beings in full possession of the art of using signs and symbols, by gesture and touch as well as sound. This makes man's aboriginal state roughly comparable to hers, and gives one license to suppose that at a similar moment–by "moment" one means many repeated moments over perhaps thousands and thousands of years–he experienced a similar illumination, and, like her was dazzled by the new possibilities words opened up. Once mere animal signals could be translated into complex human messages, the entire horizon of existence widened...In all likelihood conversation became early man's principal amusement, apart from sexual intercourse. Primitive peoples excel at conversation and delight in it; and among peasant populations, as in Ireland, it still ranks high as *the* social occupation...

...Not the first nor yet the hundredth association between word and movement and gesture and dream-ridden inner state would have produced the first glimmer of coherent meaning. Probably years and centuries of such effort, sustained only by acts which for long were enjoyed only for their own sake, went into the formation of language. Without the foundation in a fixed, indeed compulsive, ritual, the unexpected result, meaningful sounds, could never have been achieved: a whole world of meaning that revealed an increasingly meaningful world...Without these laborious imitative, repetitive efforts, beginning, as I suppose, in an originally wordless but not soundless ritual, the delicate coordinations of the vocal organs would never have become sufficiently articulate to produce the stable phonetic elements of speech: speech would have remained an incoherent flux of sounds, inimitable and useless...such drill must have been far more constant than tool-making or hunting. But we must not overlook the vital connection between *all* physical movement and the acquisition of speech...

...Only to the extent that sounds and words could be standardized and fixed could individualized meanings be derived from their different combinations and sequences. To manipulate the infinite number of variables opened up by language, words themselves must remain relatively constant, just as to achieve the complexities of the protein molecule, carbon, oxygen, hydrogen and nitrogen atoms have, under normal conditions to remain stable. Obviously it was not the words themselves–as discrete containers of meaning–but their power of combination that gave language its ability to enter into every function of man's life, every aspect of his habitat, every impulse of his nature...Words originally were not merely a means to the performance of magic, but were in themselves the archetypal form of magic. The right use of words created for the first time anew world seemingly under human control; any departure from meaningful order, any confusion of

tongues was fatal to this magic...[like]the mechanical precision which man now pours into science and technics...Robert Braidwood notes that a similar standardization can be detected in fairly early culture in the shaping of tools. Once a good functional shape of hand-axe was achieved, it was repeated and not wantonly modified. While the two modes of standardization doubtless, in time, re-enforced each other , the one of language was more essential and would seem, on the basis of their comparative rates of improvement, to have come first...Without that strictness.. without that emphasis on magical correctness , man's earliest words might have dissolved. Into thin air, leaving not a trace before writing could be invented. Awe and reverence for the word...compulsive orderliness were essential...to keep language from being eroded or mutilated when passing from mouth to mouth; language was ...“sacred”, inviolable...Among many primitive peoples, anthropologists have discovered, the tribe feels that it has a heavy responsibility for ensuring, by ritual and verbal spells performed punctually from day to day, that the sun shall rise and the universe shall not fall apart...In the beginning was the word? No: In the beginning , as Goethe saw, was the act ”: meaningful behavior anticipated meaningful speech, and made it possible. But the only kind of act that could acquire a fresh meaning was one that was performed in company, shared with other members of the group, constantly repeated and thus perfected by repetition: in other words, the performance of a ritual...In all its many manifestations, ritual seems accompanied by a group of traits that may be innate, for one finds them in the untaught behavior of infants and little children as well as among primitive tribal groups: a need for repetition, a tendency for forming groups whose members respond to each other and imitate each other, and a delight in playful impersonation and make belief...If meanings were not standardized and stabilized in words, so that changes would take generations or even centuries before they were generally accepted, each person would soon speak a private language to which, as with an infant, only those in most intimate contact would have a clue: baby talk. And if words changed as rapidly as the events they describe, we would be back again in a pre-lingual state, unable to hold experience in our minds...Individuals words are containers; and as I observed in “The City in History” containers can serve their function only if they change more slowly than their contents...

...Before man emerged from unconsciousness, we must picture him as inarticulate and inexpressive to a degree one finds now only in idiots, for the symbolic instruments of consciousness, images and words, were lacking. We shall not go too far astray, I submit, if we picture this proto-human as a creature pestered and tantalized by dreams, too easily confusing the images of darkness and sleep with those of waking life , subject to misleading hallucinations, disordered memories, unaccountable impulses: but also perhaps animated occasionally by anticipatory images of joyous possibilities...Man's dream life has usually been overlooked , as if beneath rational notice, simply because its most significant aspects lie outside direct scientific observation...This seems a curious oversight, even among scientists who still shrink from accepting the methodologically illicit insights into human behavior achieved by psychoanalysis, for strict physiological observations of the brain, following more orthodox scientific observations on the brain , indicate that the brain remains in a state of muted activity even when the rest of the body is quiescent and the presence of dreams seems indicated , even if uninterpretable, by the rhythmic patterns that accompany sleep. Possibly many other animals share in some degree this propensity: such reactions as a dog's growling and twitching in sleep would indicate as much. But ..man's way of dreaming...spreads from his nocturnal to his daytime life...man's religious development with its significant “other world” is inseparable from the dream...Though dogs may dream, no dream ever taught a dog to imitate a bird or to behave like a God. Only in man do we have a plenitude of positive evidence that dream images constantly invade and quicken the waking life: only in him do they sometimes supplant reality, to his own peril or profit..One must infer that man from the beginning was a dreaming animal..and possibly the richness of his dreams was what enabled him to depart from the restrictions of a purely animal career..of course we have no proof that prehistoric man dreamed , in the sense we have proofs he made fire or made tools.

But the existence of dreams, visions, hallucinations, projections is well attested in all cultures, and ..since dreams , unlike other components of human culture, are involuntary reactions...it would be absurd to assume they are a late intrusion..It seems reasonable, then, to suppose that dreams have always had some effect upon human behavior; and it seems likely, if scientifically undemonstrable, that, along with man’s speech organs, they helped to make the whole structure of human culture possible. Creativity begins in the unconscious; and its first human manifestation is the dream. The dream itself testifies to a more general organic exuberance that can be hardly be accounted for on purely adaptive principles, any more than one can account for the possession of “absolute pitch” in music...Though the development of language and abstract intelligence to some extent replaces or suppresses the rich unconscious images of dreams, these images still play a larger part and often resume their sway with frightening compulsiveness; so that neurotics , in losing grip on reality, are thrown back on the disordered contents of their own minds...
...If we ask why early man took so long to improve his technical skills and his material facilities, the answer must be: he concentrated upon the greatest of all utilities first...Right up to our own time, language has surpassed any other form of tool or machine as a technical instrument: in its ideal structure and its daily performance, it still stands as a model, though an unnoticed one, for all other kinds of effective prefabrication, standardization and mass consumption...it is the most transportable and storable, the most easily diffusible, of all social artifacts: the most ethereal of cultural agents, and for that reason the only capable of indefinite multiplication and storage of meanings without overcrowding the living spaces of the planet...It is the great container of culture..and has been able to pass on a significant portion of previous history even when it has not been otherwise recorded. And no matter how much the outer scene changes, through language man retains an inner scene where he is at home with his own mind , among his own kind.. (Every member of the community has access to it up to the capacities of his experience and intelligence, his emotional responsiveness and his insight. At no point, except by the invention of writing has language ever been the monopoly of a dominant minority, despite class differentiations of usage; while the medium itself is so complex and so subtle that no centralized system of control was even after the invention of writing , completely effective)
Language, much more than tools, established human identity...Though words are often described as tools, they may be more properly regarded as the cells of a complex living structure, units quickly mobilized in orderly formations to function on particular occasions for particular uses.. By his command of words man increasingly embraced every aspect of life and gave it significance as part of a larger whole he retained in his mind. Only within that whole could technics itself have significance. The pursuit of significance crowns every other human achievement...That there is some relation between the dynamic structure of language and the nature of the cosmos, as Benjamin Whorf thought, is highly probable, though no single language can fully reveal that nature. For man , the creator of language, is himself a representative sample of the cosmos and embodies its emergent characteristics at their higher point of organization and self-awareness. But the larger structure man discovers is that which he has necessarily helped to create.....Those who seek an exact scientific description of abstracted events rightly choose to use translucent symbols of mathematics....But we do ill to read back our own highly specialized “disease of abstraction”, which reached an apex in Wittgenstein’s analysis of language, into the origins of human language.....”
...The definition of man as a “tool-using animal’ even if corrected to read “tool-making” would appear strange Plato, who attributed man’s emergence from the primitive state as much to Marsyas and Orpheus, the makers of music, as to fire-stealing Prometheus, or to Hephaestus..the sole manual worker in the Olympic pantheon...It should be plain that many insects, birds and mammals ..with their intricate nests and bowers and beehives and anthills..had made far more radical innovations than man’s ancestors had achieved in the making of tools..there was nothing uniquely human until it was modified by linguistic symbols, esthetic designs and socially transmitted symbols...

...I must point out that the fixation on stone tools has turned attention away from the bigger technical equipment of lather, sinew, fiber, and wood, and in particular has failed to give sufficient weight to the one outstanding weapon .. that reveals a remarkable capacity for abstract thought . For between thirty thousand and fifteen thousand years ago, paleolithic man invented and perfected the bow-and-arrow. This turned out to be the first real machine. Up to his point, tools and weapons had been mere extensions of the human body, like the throwing stick, or, like the boomerang, an imitation of some other creature's specialized organ. But the bow-and-arrow is like nothing in nature: as strange, as peculiarly a product of the human mind as the square root of minus one. The weapon is a pure abstraction translated into physical form: but at the same time it drew upon the three major sources of primitive technics: wood, stone, and animal guts. Now a creature who was clever enough to use the potential energy of a drawn bowstring to propel a small spear beyond ordinary hurling distance had reached a new level of thought... These technical improvements were contemporary with equivalent advances in art... "Ukwane took out his hunting bow and , setting one tip on a dry melon shell, he began to tap the string with a reed making a sound"...Prometheus and Orpheus were twins, almost Siamese twins...this hypothetical history of the bow would end, then, with its return to the point of origin in the last exquisite refinements of the Cremona violin...

(.....Perhaps it was no accident that one of the earliest observations in mathematical physics was the discovery by Pythagoras of the relation between the lengths of a vibrating string and the accompanying musical note...Hero of Alexandria designed a windmill to work an organ and, later, steam was generated to work an organ bellows, long before either force was used to pump out a mine.....)

...The bow-and-arrow might serve as archetypal model for many later mechanical inventions , by the translation of human needs into ...abstract forms...yet the feathering of the arrow, which ensured the accuracy of the weapon, was possibly due to a purely magical identification of the arrow with the wings of a living bird. This is one of those cases in which magical thinking often misled men further by sometimes actually paying off. But between the bow and the next visible machines , such as the potter's wheel, something like ten or twenty thousand years seems to have elapsed.....

Since I have sufficiently offset the over-petrified image of man's earliest economy , it is time to do justice to the positive role stone actually played from an early moment in human development.....

.....The expansion of the human powers paved the way to the city.....The new machines themselves have long awaited recognition, or rather, proper identification, for the earliest complex power machines were composed, not of wood or metal, but of perishable human parts, each having a specialized function in a larger mechanism under centralized human control. The vast army of priests, scientists, engineers, architects, foremen, and day laborers, some hundred thousand strong, who built the Great Pyramid, formed the first complex machine, invented when technology had produced only a few simple "machines" like the inclined plane and the sled...Because the components of this machine, even when it functioned as a completely integrated whole, were necessarily separate in space, I shall.. call it the "invisible machine"... when all the components, political and economic, military, bureaucratic and royal must be included, I shall refer to the "megamachine".....

...It is not by the light of the burning wood that one must seek ancestral man's source of power: the illumination that specifically identifies him came from within. The ant was a more industrious worker than early man and with a more articulate social organization . But no other creature has man's capacity for creating in his own image a symbolic world both cloudily mirroring yet transcending his immediate environment...The light of human consciousness is, so far, the ultimate wonder of life, and the main justification for all the suffering and misery that have accompanied human development...In the tending of that fire , in the building of that world, in the intensification of that light, in the widening of man's open eyed and sympathetic fellowship

with all created being, lies the meaning of human history... Without man's cumulative capacity to give symbolic form to experience, to reflect upon it and re-fashion it and project it, the physical universe would be as empty of meaning as a handless clock: its ticking would tell nothing. The mindfulness of man makes the difference... The effort to dissect human experience with sterile instruments.. rejecting myth and metaphor.. to prevent the slightest invasion of the germs of language's original metaphorical "disease" transfers the danger to the surgeon's knife which, in the act of removing a pocket of infection, also impatiently removes other organs needed for maintaining the patient's life. Something essential to man's creativity, even in science may disappear when the defiantly metaphoric language of poetry gives way completely to the denatured language of the computer [despite the fact that] it was by reaction against unbearable subjective confusion that the peculiar mythology of our own age has been built up; a mythology that gives exclusively to quantitative measures and logical abstractions the same magical properties that the primitive mind gave to colorful figures of speech... The earlier state of human development was characterized by Vico as the Age of Poetry and described by Jespersen as the Age of Song; but rather it was an age when dance, song, poesy, and prose, myth, ceremonial, and brute fact intermingled and were almost indistinguishable. By the very nature of this mythological affluence, it had a charm for man's still unformed mind.... Theoretically the present conquest of time and space might make it possible for a few hardy astronauts to circumnavigate every planet in the solar system, or still more improbably, to travel to one off the nearest stars four or five light years away. Let us grant both projects as within the realm of mechanical if not biological possibility. But even if miraculously successful, these feats would be nothing compared to the deepening of consciousness and the widening of purpose that the history of a single primitive tribe has brought into existence... when the purpose of speech was not to convey specific information but to enable the primitive man to infuse every part of his experience with significance and to cope with the mystery of his own existence.

... Instead of considering man's conventional tool-making as necessarily formative of the brain, would it not be more pertinent to ask what kind of tool could bring about this close relationship with the brain? The answer is almost implied in the question: namely, a kind of tool directly related to the mind, and fabricated out of its own special "etherealized" resources: signs and symbols... There is a high probability that most of the present characteristics of the brain were at man's service, in an underdeveloped state, before he uttered an intelligible sound or used a specialized tool. Further development doubtless came about with all of man's widened activities, with a progressive shifting of the higher functions from the "old brain" to the "new brain" where they came under conscious direction. The relationship between such increasing mental facility and the genetic enregistration by means of a larger brain with specialized areas and more complex neural patterns is still obscure, and probably cannot be uncovered without a radical change in the biologist's current approach. Until man fabricated a culture, his brain was undernourished and depleted. What should be plain nevertheless is that man, at the outset of his development, had unusual gifts, far beyond his immediate capacity for using them. The fact that the human brain "is unique in being constantly speculative and expectant" shows that man's growth was not confined to problem solving in an immediate or to adjusting himself to outside demands. He had "a mind of his own", as we say: an instrument for posing gratuitous problems, for making insurgent responses and counter-adaptive proposals, for seeking and fabricating patterns of significance. Therewith he showed a tendency to explore unknown territory and try alternative routes, never content to follow for too long a single way of life, no matter how perfect his "adjustments" to it might be.

Despite the brain's capacity for absorbing information, man does not wait passively from instructions from the outside world. As Adelbert Ames put it, "It is within a context of expectancies that we perceive, judge, feel, act and have our being."

Those who still take their biological models from physics fail to recognize this essential characteristic of the organisms, as distinguished from unorganized matter. Unorganized matter

neither records its past nor anticipates its future; whereas every organism has both its past and its potential future built into it, in terms of the life cycle of its species; and the bodily structure of the higher organisms makes ample provisions for the future, as in the storage of fat and sugar to provide energy for future emergencies, or the progressive ripening of the sex organs, long before they are needed for reproduction.

In man, this pre-vision and pro-vision for the future become increasingly conscious and deliberate in dream images and playful anticipations, in the tentative trying out of imagined alternatives. So far from reacting only to the immediate sight or smell of food, like an animal confined in a laboratory, man goes about seeking it hours, days or months ahead: Man is, one might say, a born prospector, though he often has only a fool's gold to show for his pains. As an actor, he often projects himself in new roles before the play is written, the theater chosen, or the scenery is built.

Not the least contribution to man's extraordinary brain was this heightened concern for the future. Anxiety, prophetic apprehensiveness, imaginative anticipation, which came first perhaps with man's consciousness of seasonal changes, cosmic events, and death, have been man's chief incentives to creativity. As the instruments of culture become more adequate, the function of the mind becomes increasingly that of bringing larger areas of the past and future into coherent and meaningful patterns.

Now the delicacy and complexity of man's nervous organization make him unusually vulnerable...some of the most formidable obstacles to his development derive not from a harsh environment ..of from the menace of ..creatures that share his living space; but from conflicts and contradictions within his own misguided or mismanaged self; indeed often from that over-sensitiveness, that over-imaginativeness, that over-responsiveness, which set him apart from other species. Though all these traits have their basis in man's over-sized brain, their implications for the human condition have too often been forgotten.

Man's potentialities are still more important than all his present achievements. This was so in the beginning and it still holds. His greatest problem has been how to selectively organize and consciously direct both the internal and the external agents of the mind, so that they form more coherent and more intelligible wholes. Technics played a constructive part in solving this problem; but instruments of stone and wood could not be put to work on a sufficient scale until man had succeeded in inventing other impalpable tools wrought out of the very stuff of his own body, and not visible in any other form.

...The size and neural complexity of the human brain brought about two familiar consequences the head was big enough...difficulties of childbirth...extra care when the brain case was knitting ...This evoked further display of normal mammalian tenderness...infantile dependence prolonged...Loving underlies effective learning; indeed, it is the basis of all cultural transference and interchange. No teaching machine can supply this...If speech is not acquired before the fourth year, it usually cannot, except in the crudest form be acquired later, as we know from both deaf-mutes and a few of attested examples of wild children; and without speech other forms of symbolism and abstraction remain defective, no matter how ample the physiological capacity of the brain. The long period of emotional intimacy between parent and child remains essential, we know, to normal human growth; unless love is offered from the beginning, other necessary human qualities, including intelligence and emotional balance will be deformed. Even with monkeys, experimenters at the University of Wisconsin, in the face of their barely concealed hopes of finding a cheap mechanical substitute for maternal care in the absence of a mother's affection and instruction, including reproof for misbehavior, leads to profound neurotic disturbances...
...Every attempt to give objective reality to the billions of years the cosmos supposedly passed through before man appeared, secretly smuggles a human observer into the statement, for it's man's ability to think backwards and forwards that creates and counts and reckons with those years...Physical universe: unable to realize the potentialities of its own earlier development until man, or sentient creatures with similar mental capabilities, finally emerged from the utter

darkness and dumbness of pre-organic existence...Except on the lighted stage of human consciousness, the mighty cosmos is but a mindless nonentity. Only through human words and symbols, registering human thought, can the universe disclosed by astronomy be rescued from its everlasting vacuity. Without that lighted stage, without the human drama played upon it, the whole theater of the heavens, which so deeply moves the human soul, exalting and dismaying it, would dissolve again into its own existential nothingness, like Prospero's dream world...Man's reason..informs him that he is a participating agent in a larger cosmic process he did not originate and can only in the most limited fashion control..Without man's time-keeping activities the universe is yearless, as without his spatial conceptions, without his discovery of forms, patterns, rhythms, it is an insensate, formless, timeless, meaningless void. Meaning lives and dies with man , or rather with the creative process that brought him into existence and gave him a mind. The physical universe is unable to behold itself except through the eyes of man...He may be described as that minute , rare, but infinitely precious part of the universe which has, through the invention of language , become aware of its own existence. Beside that achievement of consciousness in a single being, the hugest star counts for less than a cretinous dwarf.. the organism of a tiny ant, arrested in its development some sixty million years ago still embodies in its mental organization and in its autonomous activities a higher mode of being than the whole earth afforded before life appeared...sentient creatures of any order , even the lowly amoeba, seem to be extremely rare and precious culminations of the whole cosmic process.. Organic life and sentient creatures may exist elsewhere , they are infrequent enough to make man's achievement of his mind-molded culture infinitely more important ..than his conceivable voyages through space.. Escaping the field of gravitation is trivial compared to man's escape from .. brute unconsciousness. In the light of human consciousness, it is not man, but the whole universe of still "lifeless" matter that turns out to be impotent and insignificant.. I put "lifeless" in quotation marks. What we call lifeless matter is an illusion, or rather a now-obsolete description based on insufficient knowledge. For among the basic properties of matter.. is one that for long was ignored by the physicist: the propensity for forming more complex molecules out of atoms more complex than hydrogen atoms...Let there be light! With those words, the story of man properly begins..but it's the light of consciousness that is so far the ultimate wonder on life.. It is only through the light of consciousness that the universe becomes visible, and should that life disappear, only nothingness would remain"

It would not disorient but rather help the understanding of the problem of the nature of language as a tool if we saw 1. some excerpts from Konrad Lorenz related to the “human a priori”, mentioned by Chomsky in his passing note to ethology, even if we only show such excerpts on the nature of another faculty, or “capacity”, the spatial sense we humans share with animals (one could also give excerpts with very detailed analyses by Konrad Lorenz of the issue we here interrupted, i.e. Chomsky’s views on the universals of ethics and of rights (and of the relation of these issues too with the “human a priori”) but, at least for the time being, we preferred to skip it. The reader can look this issue up in e.g. Lorenz’s “On Aggression”) 2. some excerpts from Castoriades on the “primitive operation that takes objects already constructed, and constructs from them a new object: in the simplest case, the set containing them” (“Merge operation”), mentioned by, again, Chomsky

1. “ KANT’S DOCTRINE OF THE A PRIORI IN THE LIGHT OF CONTEMPORARY BIOLOGY
Konrad Lorenz

(Translated by Charlotte Ghurye from *Blatter fur Deutsche Philosophie*, 1941, 15, 94-125)

For Kant, the categories of space, time, causality, etc., are givens established a priori, determining the form of all our experience, and indeed making our experience possible. For Kant, the validity of these primary principles of reason is absolute. This validity is fundamentally independent of the laws of the real nature which lies behind appearances”. This validity is not to be thought of as arising from these laws. The a priori categories and forms of intuition cannot be related to the laws inherent in the “thing-in-itself” by abstraction or any other means.... The biologist convinced of the great creative events of evolution asks of Kant these questions: Is not human reason with all its categories and forms of intuition something that has organically evolved in a continuous cause-effect relationship with the laws of the immediate nature, just as has the human brain? Would not the laws of reason necessary for a priori thought be entirely different if they had undergone an entirely different historical mode of origin, and if consequently we had been equipped with an entirely different kind of central nervous system? Is it at all probable that the laws of our cognitive apparatus should be disconnected with those of real external world? Can an organ that has evolved in the process of a continuous coping with the laws of nature have remained so uninfluenced that the theory of appearances can be pursued independently of the existence of the thing-in-itself, as if the two were totally independent of each other? In answering these questions the biologist takes a sharply circumscribed point of view. The exposition of this point of view is the subject of the present paper. We are not just concerned with special discussions of space, time and causality. The latter are for our study simply examples of the Kantian theory of the a priori, and are treated incidentally to our comparison of the views of the a priori taken by transcendental idealism and the biologist... Our view of the origin of the “a priori” (an origin which in a certain sense is “a posteriori”) answers... Kant’s question as to whether the forms of perception of space and time, which do not derive from experience (as Kant, contrary to Hume, emphasizes quite correctly) but which are a priori in our representation” were not mere chimeras of the brain made by us to which no object corresponds, at least not adequately.” If we conceive our intellect as the function of an organ (and there is no valid argument against this) our obvious answer to the question why its form of function is adapted to the world is simply the following: Our categories and forms of perception, fixed prior to individual experience, are adapted to the external world for exactly the same reason as the hoof of the horse is already adapted to the ground of the steppe before the horse is born and the fin of the fish is adapted to the water before the fish hatches. No sensible person believes that in any of these cases the form of the organ “prescribes” its properties to the object. To everyone it is self-evident that water possesses its properties independently of whether the fins of the fish are biologically adapted to these properties or not... Most certainly Hume was wrong, when he wanted to derive all that is a priori from that which senses supply to experience, just as Wundt or Helmholtz who simply explain it as an abstraction from preceding experience. Adaptation of the a priori to the real world has no more originated from “experience” than has adaptation of the fin of the fish to the properties of water. Just as the fin of the fish is given a priori, prior to any individual coping of the young fish with water, and just as it is this form that makes possible this coping: so is it also the case with our forms of perception and categories.. in their relationship to our coping with the real external world by means of experience... The clarification of this question shows further the great and fundamentally new discovery of Kant, i.e. that human thought and perception have certain functional structures prior to every individual experience... Contrary to Hume, we believe as did Kant in the possibility of a “pure” science of the innate forms of human thought independent of all experience. This “pure” science, however, would be able to convey only a very one-sided understanding of the essence of the a priori forms of thought because it neglects the organic nature of these structures and does not pose the basic biological question concerning their species-preserving meaning...”

2. “

THE IMAGINARY INSTITUTION OF SOCIETY

Cornelius Castoriades

...*Legein*..(distinguish-choose-posit-assemble-count -speak), ... *Teukhein*..(assembling-adjusting-fabricating-constructing...)...The essential operative schemata for *legein* are, with one exception, directly and immediately the same as those of *teukhein* . For assembling-adjusting-fabricating-constructing, the following must be available: separation and union, the *with respect to* ..., value as *standing for* ... and *as serving for* ..., hence equivalence and possible use...It would be ..senseless to debate whether *legein* borrows its schemata from *teukhein* or the other way around (whether ‘speech’ precedes ‘tool’ or the opposite). For it is easy to see that *legein* and *teukhein* refer to one another and circularly imply one another...

...Neither is what is given an ensemble or a hierarchy of ensembles...What is given is not congruent to ensemblist logic, to the organization of the *legein*...In another way, we have also seen that within language itself the relations between code and language are themselves neither chaotic not identity; and in yet another way, this is also true of the relations between ‘private worlds’ and a ‘common world’ in society. What we seek to understand is the mode of being of what gives itself before identity or ensemblist logic is imposed; what gives itself in this way in this mode of being , we are calling a *magma*. It is obviously not a question of giving a formal definition of it in received language or in any language whatsoever. The following statement, however, may not be unhelpful:

A magma is that from which one can extract (or in which one can construct) an indefinite number of ensemblist organizations but which can never be reconstituted (ideally) by a (finite or infinite) ensemblist composition of these organizations.

...Everything is always ensemblizable...but beyond certain limits ...everything is so in a trivial way (one can always count the typographical signs in a book, weigh the statues in the Louvre, which would be most important if they were to be moved...)...Let us try then, by means of an accumulation of contradictory metaphors, to give an intuitive description of what we mean by magma...Or, we might think of an indefinite number of terms, which may possibly change, assembled together by an optionally transitive pre-relation (referral); or of the holding-together of distinct-indistinct components of a manifold; or, again, of an indefinitely blurred bundle of conjunctive fabrics, made up of different cloths and yet homogenous, everywhere studded with virtual and evanescent singularities. And we have to think of the operations of identity logic as simultaneous, multiple, dissections which transform or actualize these virtual singularities, these components, these terms into distinct and definite elements, solidifying the pre-relation of referral into relation *as such*, organizing the holding-together, the being-in, the being-on, the being-proximate into a system of determined and determining relations (identity, difference, belonging, inclusion), differentiating what they distinguish in this way into ‘entities’ and ‘properties’, using the differentiation to constitute ‘sets’ and ‘classes’. We are positing that everything that can actually be given—representation, nature, signification—is according to the mode of being of the *magma*, that the social-historical institution of the world, of things and individuals, considered as the institution of *legein* and *teukhein*, is always the institution of identity logic as well and hence the imposition of an ensemblist organization on an initial stratum of the given which unceasingly lends itself to this. But we are also positing that it is never and can never be *simply* that—that it is always at the same time necessarily the institution of a magma of social imaginary significations, and, finally, that the relation between *legein* and *teukhein* and the magma of social imaginary significations cannot be thought in terms of the identity and ensemblist grid—any more than the relations between *legein* and representation, *legein* and nature or between representation and signification, or representation and world, or ‘conscious’ and ‘unconscious’.”

Before going to 3, let's repeat the context in which Mumford puts Ames' remark that he cites:

“Therewith he showed a tendency to explore unknown territory and try alternative routes, never content to follow for too long a single way of life, no matter how perfect his “adjustments” to it might be. Despite the brain’s capacity for absorbing information, man does not wait passively from instructions from the outside world. As Adelbert Ames put it, “It is within a context of expectancies that we perceive, judge, feel, act and have our being.” Those who still take their biological models from physics fail to recognize this essential characteristic of the organisms, as distinguished from unorganized matter. Unorganized matter neither records its past nor anticipates its future; whereas every organism has both its past and its potential future built into it, in terms of the life cycle of its species; and the bodily structure of the higher organisms makes ample provisions for the future, as in the storage of fat and sugar to provide energy for future emergencies, or the progressive ripening of the sex organs, long before they are needed for reproduction. In man, this pre-vision and pro-vision for the future become increasingly conscious and deliberate in dream images and playful anticipations, in the tentative trying out of imagined alternatives. So far from reacting only to the immediate sight or smell of food, like an animal confined in a laboratory, man goes about seeking it hours, days or months ahead: Man is, one might say, a born prospector, though he often has only a fool’s gold to show for his pains. As an actor, he often projects himself in new roles before the play is written, the theater chosen, or the scenery is built. Man’s potentialities are still more important than all his present achievements. This was so in the beginning and it still holds. His greatest problem has been how to selectively organize and consciously direct both the internal and the external agents of the mind, so that they form more coherent and more intelligible wholes. Technics played a constructive part in solving this problem; but instruments of stone and wood could not be put to work on a sufficient scale until man had succeeded in inventing other impalpable tools wrought out of the very stuff of his own body, and not visible in any other form.”

...OK, what in the first three pages was skipped was: 1. the rest (the Rights part) of “...the Universals of Language And Rights” (a few things before the point where we resume were also skipped but here we’ll just include the ones after it) 2. material by Lorenz on such Universals (not in excerpt form but in free narration mainly from Lorenz’s “On Aggression” and “King Solomon’s Ring”). 3. some material, not unlike a follow-up on Lorenz’s such views, heard in an interview of a resigned psychologist of the American army taken by California’s Jerry Brown in his radio hour “We the people” (some of these hours collected circulate in book form, maybe with the title “We the people” or with the title “The Other America”, I don’t remember if this last title was the one used in USA too or only in Greece) 4. the already mentioned article by Moss Roberts titled “Brief Review of the Work of Professor Noam Chomsky” (ZNet 9/14/2008). We include all such skipped stuff here.

*A later PS had better also be read here (it’s definitely an omission not to have available the name of that officer, so I either have to remember whom of my friends I had lent my copy to, nine years ago, or google under “Jerry Brown , we the people, book”...OK, here’s what might be more informative (and more definitely complementing Chomsky’s and Lorenz’s views on the universality of morality) than just the name if one happens not to have read that interview:

...The title of the book was “Dialogues” (by Jerry Brown). In the table of contents the title of that chapter (out of a total of 18 such chapters, one interview each) was: “The Myth of a Killing Instinct”, it was the interview of colonel Dave Grossman and its abstract under the title was:

“There is this natural safety mechanism—call it a violence immune system—that is present in human beings. The average human being is profoundly uninterested in killing others and the military has had to confront this for millennia.”

1.

ZNet

What We Know

On The Universals Of Language And Rights

by Noam Chomsky ; [Boston Review](#); July 05, 2005

..... To connect more smoothly with what we have already seen from this article let's repeat the last few paragraphs we had seen:

We are now moving to domains of will and choice and judgment, and the thin strands that may connect what seems within the range of scientific inquiry to essential problems of human life, in particular vexed questions about universal human rights. One possible way to draw connections is by proceeding along the lines of Hume's remarks that I mentioned earlier: his observation that the unbounded range of moral judgments—like the unbounded range of linguistic knowledge—must be founded on general principles that are part of our nature though they lie beyond our “original instincts,” which elsewhere he took to include the “species of natural instincts” on which knowledge and belief are grounded.

In recent years, there has been intriguing work in moral philosophy and experimental cognitive science that carries these ideas forward, investigating what seem to be deep-seated moral intuitions that often have a very surprising character, in invented cases, and that suggest the operation of internal principles well beyond anything that could be explained by training and conditioning. To illustrate, I will take a real example that carries us directly to the issue of universality of human rights.

In 1991, the chief economist of the World Bank wrote an internal memo on pollution, in which he demonstrated that the bank should be encouraging migration of polluting industries to the poorest countries. The reason is that “measurement of the costs of health impairing pollution depends on the foregone earnings from increased morbidity and mortality,” so it is rational for “health impairing pollution” to be sent to the poorest countries, where mortality is higher and wages are lowest. Other factors lead to the same conclusion, for example, the fact that “aesthetic pollution concerns” are more “welfare enhancing” among the rich. He pointed out, accurately, that the logic of his memo is “impeccable,” and any “moral reasons” or “social concerns” that might be adduced “could be turned around and used more or less effectively against every Bank proposal for liberalization,” so they presumably cannot be relevant.

The memo was leaked and elicited a storm of protest, typified by the reaction of Brazil's secretary of the environment, who wrote him a letter saying that “your reasoning is perfectly logical but totally insane.” The secretary was fired, while the author of the memo became treasury secretary under President Clinton and is now the president of Harvard University.

The reaction led to evasions and denials that we can ignore.

What is relevant here is the virtual unanimity of the moral judgment that the reasoning is insane, even if logical. That merits a closer look, now turning to the modern history of human-rights doctrines.

The standard codification of human rights in the modern period is the Universal Declaration of Human Rights (UD), adopted in

December 1948 by almost all nations, at least in principle. The UD reflected a very broad crosscultural consensus. All of its components were given equal status, including “anti-torture rights,” socioeconomic rights, and others, such as those enumerated in Article 25:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

These provisions have been reaffirmed in enabling conventions of the UN General Assembly and international agreements on the right to development, in almost the same words.

It seems reasonably clear that this formulation of universal human rights rejects the impeccable logic of the chief economist of the World Bank, if not as insane then at least as profoundly immoral—which was, in fact, the virtually universal judgment, at least as far as it was publicly expressed.

The word “virtually” must not be overlooked. As is well known, Western culture condemns some nations as “relativists,” who interpret the UD selectively, rejecting components they do not like. There has been great indignation about “Asian relativists,” or the unspeakable communists, who descend to this degraded practice. Less noticed is that one of the leaders of the relativist camp is also the leader of the self-designated “enlightened states,” the world’s most powerful state. We see examples almost daily, though “see” is perhaps the wrong word, since we see them without noticing them.

To illustrate, let’s go back to March 1. There were lead stories in the press about the release of the State Department’s annual report on human rights around the world. The spokesperson at the news conference was Paula Dobriansky, the undersecretary of state for global affairs. She affirmed that “promoting human rights is not just an element of our foreign policy; it is the bedrock of our policy and our foremost concern.” But there is a bit more to the story. Dobriansky was the deputy assistant secretary of state for human rights and humanitarian affairs in the Ronald Reagan and George H.W. Bush administrations, and in that capacity she sought to dispel what she called “myths” about human rights, the most salient being the myth that so-called “economic and social rights” constitute human rights.” She denounced the efforts to obfuscate human-rights discourse by introducing these spurious rights—which are entrenched in the UD and formulated through U.S. initiative, but which the U.S. government explicitly rejects, and increasingly the entire West rejects, within the framework of the neoliberal doctrines on which the chief economist of the World Bank was relying.

I should stress that it is the U.S. government that rejects these provisions of the UD. The population strongly disagrees. One current illustration is the federal budget that was recently announced, along with a study of public reactions to it carried out by the world’s most prestigious institution for study of public opinion. The public calls for sharp cuts in military spending along with sharply increased social spending: education, medical research, job training, conservation and renewable energy, as

well as increased spending for the UN and economic and humanitarian aid, and the reversal of President Bush's tax cuts for the wealthy. Government policy is dramatically the opposite in every respect. Studies of public opinion, which regularly demonstrate this sharp divide, are rarely even reported, so the public is not only removed from the arena of policy formation, but is also kept unaware of public opinion.

There is much international concern about the "twin deficits" of the United States, the trade and budget deficits. Closely related is a third deficit: the growing democratic deficit, not just in the United States but in the West generally. It is little discussed because it is welcomed by wealth and power, which have every reason to want the public largely removed from policy choices and implementation, a matter that should be of considerable concern, quite apart from its relation to the universality of human rights.

It is unfair to focus on Dobriansky. Her position is standard. UN Ambassador Jeane Kirkpatrick described the socioeconomic provisions of the UD as "a letter to Santa Claus . . . Neither nature, experience, nor probability informs these lists of 'entitlements,' which are subject to no constraints except those of the mind and appetite of their authors." Essentially the same view was expressed in 1990 by the U.S. representative to the UN Commission on Human Rights, Ambassador Morris Abram, explaining Washington's unilateral veto of the UN resolution on the "right to development," which virtually repeated the socioeconomic provisions of the UD. These are not rights, Abram informed the Commission. They yield conclusions that "seem preposterous." Such ideas are "little more than an empty vessel into which vague hopes and inchoate expectations can be poured," and even a "dangerous incitement." The fundamental error of the alleged "right to development" is that it presupposes that Article 25 of the UD actually means what it clearly says, and is not a mere "letter to Santa Claus."

Recently, Condoleezza Rice praised Jeane Kirkpatrick as an exemplary model when she announced the appointment of John Bolton as ambassador to the United Nations. Bolton has been clear and forthright in expressing his attitude toward the United Nations: "There is no United Nations," he said. "When the United States leads, the United Nations will follow. When it suits our interests to do so, we will do so. When it does not suit our interests, we will not." That position is at the extreme of a rather narrow elite consensus, which is opposed by the overwhelming majority of the public. Public support for the UN is so strong that a majority even thinks that the United States should give up the Security Council veto and accept majority decisions. But again, the democratic deficit prevails.

The principle of universality arises in other connections too. One instructive example occupied the World Court for several years. After the 1999 bombing of Serbia, a group of international lawyers presented the International Criminal Tribunal for the Former Yugoslavia with charges against NATO, relying on documentation by the major human-rights organizations and admissions by the NATO command. The prosecutors refused to consider the matter, in violation of tribunal rules, stating that they relied on NATO's good faith. Yugoslavia then took the matter to

the World Court. The United States alone withdrew from the proceedings. The reason was that Yugoslavia had invoked the Genocide Convention, which the United States had signed after 40 years, but with a reservation that it does not apply to the United States. Apparently, Washington retains the unilateral right to carry out genocide. The court, correctly, agreed with this argument, and the United States was excused.

That has happened before, in ways that are highly relevant today. John Negroponte was recently appointed as the first director of intelligence. Like Bolton, he has credentials for the position. In the 1980s, during the first reign of the current incumbents in Washington or their mentors, he was ambassador to Honduras, where he presided over the world's largest CIA station, not because Honduras is so important on the world stage, but because he was supervising the camps in which the American-run terror army was trained and armed for the war against Nicaragua—which was no small matter. If Nicaragua had adopted our norms, it would have responded by terror attacks within the United States, in self-defense; in this case, authentic self-defense. Instead, Nicaragua pursued the peaceful means required by international law. It brought the U.S. attack to the World Court. Nicaragua's case was presented by the Harvard law professor Abram Chayes. The court bent over backward to accommodate Washington, even though it refused to appear. The court eliminated a large part of the case that Chayes presented, because when the United States had accepted World Court jurisdiction in 1946, it entered a reservation excluding the United States from multilateral treaties, notably the UN Charter, which bans the unauthorized use of force as criminal—the “supreme international crime,” in the words of the Nuremberg Tribunal.

The Court therefore kept to bilateral United States–Nicaragua treaties and customary international law, but even on those narrow grounds it charged Washington with “unlawful use of force” (in lay terms, international terrorism), and ordered it to terminate the crimes and pay substantial reparations, which would go far beyond overcoming the debts that are strangling the country, accrued during the American war. The Security Council affirmed the court's judgment in two resolutions vetoed by the United States, which immediately escalated the attack, leaving the country utterly wrecked, with a death toll that in per capita terms would be 2.5 million if it had happened in the United States, more than all American deaths in all wars in its history. The country has so declined that 60 percent of children under age two are suffering from severe malnutrition, with probable brain damage. All of this is deep in the memory hole in the elite intellectual culture. So deep that we can read editorials the last few days puzzling about “anti-American attitudes” in Nicaragua after the “failed revolution.”

There are several relevant conclusions to be drawn from this case. One is that it is another illustration of Washington's self-exemption from international law, including humanitarian law based on universal principles of human rights, one with very grim human consequences. The example also reveals again the self-exemption of the elite intellectual culture from responsibility for our crimes, a conclusion reinforced by the reaction to the fact

that Washington has just appointed to the post of the world's leading anti-terrorism czar a person who qualifies rather well as a condemned international terrorist for his critical role in major atrocities. Orwell would not have known whether to laugh or weep.

The United States has refused to ratify most of the enabling conventions that were passed by the General Assembly to implement the UD. More accurately, it has accepted none of them, to my knowledge, because the few cases of ratification are accompanied by reservations that exclude the United States. That includes the anti-torture conventions that have stirred up a good deal of recent debate. There was an important article on the matter in the journal of the American Academy of Arts and Sciences by the distinguished constitutional law specialist Sanford Levinson. Joining most others, he condemned the Bush administration's Justice Department, including the recently appointed attorney general, for having articulated "a view of presidential authority that is all too close to the power that Schmitt was willing to accord his own Führer"—referring to Carl Schmitt, the leading German philosopher of law during the Nazi period, whom Levinson describes as "the true (c)minence grise of the [Bush] administration." Levinson nevertheless offers some defense of the Justice Department's authorization of torture. He points out that when the Senate ratified the UN Convention Against Torture and Other Cruel, Inhuman, or Degrading Treatment or Punishment, it "offered what one might call a more 'interrogator-friendly' definition of torture than that adopted by the UN negotiators." And the unilateral American definition does go some way toward permitting the practices that have recently enraged the world, and much commentary here.

It is depressingly easy to continue, but I will end with one last observation about the current scene. A few months ago I took part in a meeting at Hope Church in downtown Boston called by CRISPAZ, commemorating the 25th anniversary of the assassination of Archbishop Oscar Romero of El Salvador, a "voice for the voiceless," murdered by security forces backed by the United States. Romero was assassinated while performing mass, shortly after sending President Carter an eloquent letter pleading with him not to send aid to the brutal military junta in El Salvador, which "will undoubtedly sharpen the injustice and the repression inflicted on the organized people, whose struggle has often been for respect for their most basic human rights." State terror increased, with constant and decisive American support. The hideous decade ended with the murder of six leading Latin American intellectuals, who were also Jesuit priests, by an elite battalion armed and trained by the United States that had already compiled a shocking record of atrocities, targeting mostly the usual victims: peasants, working people, priests and lay workers, anyone connected even loosely to "the people's organizations fighting to defend their most fundamental human rights."

CRISPAZ was one of the mostly church-based organizations formed after the Romero assassination to support those fighting to defend their most fundamental human rights. Their actions broke entirely new paths in many centuries of Western violence: by living with the victims, helping them, hoping that a white face

might protect them from the wrath of the American-backed state terrorist forces.

I had the privilege of sharing the platform with Mirna Perla, a Salvadoran supreme-court justice who is also the widow of Herbert Anaya—once the leading human rights activist in El Salvador—and who is attempting to continue his work under terrible conditions. Anaya was imprisoned and tortured by the American-imposed government, then assassinated by the same hands that murdered the archbishop and the leading Jesuit intellectuals, along with tens of thousands of the usual victims. In a society that valued its freedom, it would be unnecessary to recount any of this, because it would be taught in the schools and well known to everyone, and we would be commemorating the 25th anniversary of the assassination of archbishop, and the 15th anniversary of the assassination of the Jesuit intellectuals, who were also “voices for the voiceless.” And we would be reacting the same way to the continuing atrocities by military forces armed and trained by Washington—for example, in Colombia, for many years the leading human-rights violator in the hemisphere and through those years the leading recipient of U.S. military aid and training, a more general correlation well established in scholarship. Last year, Colombia apparently maintained its record of killing more labor activists than rest of world combined. A few months ago, the military reportedly broke into the most important of the towns that had declared themselves zones of peace and murdered one of its founders and others, including young children—I happened to have met this leader not long ago, on a visit arranged by Father Javier Giraldo, the courageous priest who heads the church-based Justice and Peace Center, himself targeted for assassination and withdrawn from the country by the Jesuit order, though he insisted on returning to his human-rights work.

Again, all of this would should be too familiar even to mention. But little is known outside the circles of people like CRISPAZ, who are authentically devoted to defending universal human rights.

I mention these few examples so that we remember that we are not merely engaged in seminars on abstract principles, or discussing remote cultures that we do not comprehend. We are speaking of ourselves and the moral and intellectual values of the communities in which we live. And if we do not like what we see when we look into the mirror, we have ample opportunity to do something about it. <

Noam Chomsky is a professor of linguistics at MIT and the author of, most recently *Hegemony or Survival*. His essay was adapted from a talk sponsored by MIT's Program on Human Rights and Justice.

2.

Konrad Lorenz... was one of the biologist who co-founded ethology, the study of animals not in captivity but in freedom, thinking that like the study of a man living for year in a cage would not be a study of exactly a human being but of a distorted human being, similarly the study of a monkey or lion or bird or fish etc living for years in a cage or bowl would not be a study of a monkey or a lion or bird or fish etc. He coexisted with animals in a large farm, since he was born, (his father having been a zoologist with similar orientations) to his nineties. He lived with them, talked with them and wrote a book about how one, in a sense, talks with ducks, geese, crows, etc; he and his wife raised their children along with the animals sharing their farm and raising their own children there, he reached conclusions on what social life happens during, for instance, the walking back and forth of geese in groups all day long, which means what betrothals, marriages, adulteries, duels, pecking orders, showoffs of bravado and displays of chivalry or care and protection etc happen in ways illuminating corresponding human patterns, and from these he reached insights and implications ranging from the nature of archetypes to the nature of language, from the nature of evolutionary ideas to the nature of spatial sense (he even held the Kant chair in the philosopher's birthplace for a while), and from the nature of aggression to the nature of religion; and also wrote simple and concise books ranging from accounts of talking and jesting with animals, as if wearing "King Solomon's ring" (as is called the mythical magic ring which allowed talk with animals) to efforts of intervention in the course of civilization spelling out what he called civilization's mortal sins. Chips from such a master's bench, as the expression goes, were made whole books or films by people whom he inspired, for instance that film with that teenage girl who taught geese how to fly because they had mistaken her for their mother was related to a discovery and to a life event of Lorenz: he was kneeling over some goose eggs ready to burst open to observe the process and then he noticed that the fledglings were crying even when their goose mom was around but stopped crying when he approached, thus he realized that with geese, but not with other birds as it turned out, mother is the being they see when coming out of the egg. He also realized by their crying that they only recognized him when they saw him on all fours, not when he stood up, and thus he also realized that in order to not leave orphans, in the name of experimental science, some poor gooselings, he would have, for quite some time, to spend a good deal of his day and to make a good deal of his other activities while walking on all fours in front to them. Which he did; and while promenading them in the yard like that, he in front and on fours, mimicking their goose cackle and looking over his shoulder to check if some of them were not lost from the group, was seen by passers by and was considered a rather questionable personality and when he raised a fence for such things not to happen and make him lose his poise and whatever good name he had in the village, there came a necessity of checking something in the language of crows without being recognized by them as the same person that they were seeing when younger, and he wore a Mephistopheles carnival costume and climbed to the crows' high branches of a tree reaching over the fence and visible to his fellow villagers who saw the savant dressed in a devil costume crowing to crows on a tree; anyway there are even funnier stories in the at book, in particular an event in his relation to a not very clever vulture which terrified his wife's tea guests in their living room and a young monkey ...OK, or a friend monkey of his children ..., OK, which I can hardly stop myself from recounting, but his relation to humor I'm driving at is not this but something else, so let's go to see what all this, apart from funny parts of a CV, has to do with laughter: We know that one way in which male animals try to attract a particular female animal they have chosen -many times what they do is not an indiscriminate call to any female-is by dedicating to them, as erotic address, a dance also containing symbolic fight movements, as if to say to the female "this is the way I will fight to protect you if need be"; even homosexual geese, or rather ganders, dance like this to each other; and, by the way, if a goose happens to have fallen in love with one of them she follows them all day long, and when they make love to each other she tries to put herself between them and then both of the homosexual lovers make love to her, in turns; also ganders build a nest for their beloved goose, but if they have a parallel adulterous relation they don't build a nest for their mistress too; finally, also according to Lorenz, the way male animals say to a female animal "I love you" is by making an as-if-attacking movement to their beloved but then diverting it, at the last moment, to hit a nearby object or even another animal passing by; the, so to speak, word-like movements for "I love you" being "these are the movements I'll never do against you". It is also known that most animals become edgy if you smile to them, because baring your teeth as if in smile, is for them as alarming as baring your teeth to attack and bite them. Combining the two ideas Lorenz conjectures that human smile was, for the pre-verbal period of humanity, the speech-like movement corresponding to the "I love you" that animals say by the as-if-attacking movement animals do. "I bare my teeth but don't bite you so you know my mood" became the

way to communicate in visual terms the sweet mood one felt for the other before movement speech gave its place to speech through word-sounds, possibly passing from or coexisting with or preceded by, phases where other sounds, not words, were speech enough like in animals or like melodies are still with us humans even without lyrics. This baring of teeth without biting may have been the origin of smile and laughter. But to go to Lorenz's final point we need one more remark of his: he considers as very misleading and egocentric on the part of man the impression that his touch with his animal nature would make him very aggressive and that his rational faculties, performed through his brain's cortex, a recent development of evolution and much more perfected in man than in other animals and differentiating him from them in many very central features, OK, he also considers that man's impression that rationality makes him less aggressive is wrong: animals do wait for a population they use for food to grow before eating it, man as is often repeated is the species which could use its rationality to kill the last whale to make money from whalebone. He considers the touch with elements of our unconscious that are animal-like makes more civilized and not the other way around, and also considers that one of the things through which religion makes us less aggressive is to bring us in touch with such pre-rational elements of our unconscious that make us as pacifist as animals; and he considers that many of the presumptuous notions we have for our differences from animals, especially with respect to our rationality and our freedom of will, are, ironically, the places exactly where we do follow patterns like those animals follow: for instance, out betrothal periods for free trial and selection of our future marriage partners, are also patterns of the life of many animals. Let alone how different from animal behavior is the behavior of husbands who beat their wives because they can't beat their boss while animals can hit a passerby to remind their wife they love her and would never do that to her. And also leaders of nations contemplating war and peace in endless conferences, like also Indian chiefs deciding while smoking the peace pipe and thinking whether not attacking exposes their country or tribe in the eyes of the opponent country tribe, or them themselves in the eyes of their own country or tribe, as cowards, have their counterparts in animal duels, where fish entangle their jaws and goats entangle their horns pushing almost immobile for hours, to check realistically if their strength can afford fight with their particular opponent, and whether they are exposed as cowards in front of the onlookers. Usually retreat in front of stronger opponent does not expose them as cowards, what does expose them as cowards is not daring to even reach the stage of entangling jaws or horns to check, in arm-wrestling way, whether they could afford it. The body language of dignified retreat is that the one who does acknowledge superiority of opponent, retreating, usually offers uncovered his body's most sensitive spot where a bite or beak blow could even be lethal and usually, the stronger opponent is chivalrous enough not to use the opportunity. Not only does all this seem, in many aspects, more dignified and free, and even more rational, than many situations with humans, who often do reach near distance entanglement only if they have, or think they have, so much more developed guns that there is no risk, but also all this seems very similar, Lorenz remarks, with human behavior in myth or history about chivalrous behavior either in Homeric or knightly times: the one of the dueling fighters removing his helmet and kneeling and bowing in front of the stronger or more experienced fighter to receive or be spared the lethal blow. Also Lorenz conjectures that one of the reasons humans are more and more lethal is that their arms kill from a distance, bigger and bigger progressively, and that if to kill they had to come to skin to skin touch with their opponent and feel his pain and agony dying they would identify enough to have more inhibitions about it; but colleagues of him, using game theory models they say, have disputed that and claim they have proved that the reason animals come less often than man to the point of killing other animals of the same species, that is to the point of killing animals that they don't see as food, is not identification with their victim but fear of its nails and teeth on their own body. With the animals they use for food this element does not exist, nobody bases his diets on animals of equal or bigger strength. Now let's see a point at which Lorenz drives when he takes his insights or conjectures on love and smile as non biting baring of teeth and combines them with these additional elements, on the relation of animals to peace and aggression and to the relation of religion to peace and to the animal-like substratum of man. It is a point that he considers so hopeful that he puts in what he calls an "epilogue of optimism" and he also considers it as so crucial in case it is true, that he even feels the need to apologize to the reader for claiming his very careful attention just in case the reader considers him as too presumptuous and unwise, at the moment a whole Goethe had a maxim going like, or just about like, "somebody's silence on some matters may not be due to indifference or to ignorance of their importance, but only to knowing that he doesn't have anything to offer to make man's condition less painful", oh: I remembered: Goethe says: "I don't show up because I have nothing to say which would help humanity improve itself" and Lorenz says "The reason I'm not arrogant when I show up when Goethe didn't, is that is that I believe that the conclusions I

have reached watching animals , when they are understood will appear so trivial and so self evident as they really are". Let's see some more details: Lorenz says, or quotes someone as saying , that man is the tragic animal that finds itself in an untenable position consisting in the fact that : 1.freeing its creativity also unleashes its aggression 2. repressing its aggression also makes it lose the cutting edge of its creativity 3.The aggression it is capable of unleashing is capable of destroying completely both it and all life on earth. Then he says that humor is a function that brings into touch man's rationality and irrationality and unconscious and also is a venting of his aggression in non destructive ways like the smile's teeth-baring is non biting; and so it doesn't eradicate creativity since touch with his aggression too is not eradicated. And thus, in a faithless age , maybe man through humor is progressing to direction of pacifism, in the same way that in other times he was progressing towards there through religion. In a sense humor is becoming a religion in a way that may both save man's creativity from becoming extinct and save life on the planet from man's aggression . In that context he analyzes some ideas of Chesterton on humor as taking the place of religion too but let's not go any further into that now. OK...possible misgivings or objections about the overall perspective of Lorenz one can very well have; after reading Mumford one can acquire one more objection; and before reading Mumford one can have several other type of objections which one runs into e.g. while one discusses Lorenz with friends from other walks of life than studies in spatial sense etc; let's see some of the most expected ones: The objection one acquires after Mumford is that the image of man in the tragic untenable position Lorenz diagnoses may be very conditioned by man's, and Lorenz's, lack of insight in the roots of war. The aphorism that man is unlike other animals by tragically having creativity too connected with aggression may be itself ,too, subject to the same criticism Mumford has expressed on Lorenz's book on aggression: Good zoology, bad sociology, since it doesn't explain what happened a few thousand years before our days and changed the concept of war. So maybe the aphorism of Lorenz on the connection of creativity with aggression on man is too conditioned by man's picture in these few thousand years which Lorenz didn't analyze at all anyway. Let's go to the other objections: There are other human possibilities besides laughter that may have equally deep and relevant undertones; only if we have focused very much on the possibility that creativity and aggression are very deeply connected will we focus so much on the saving role of laughter as a peaceful baring of one's teeth. Let's see other functions or faculties with deep undertones and examine their possible relevance for war and peace. Lorenz's focusing on laughter shouldn't mislead us into thinking that laughter is unique and not part of a more well rounded whole set of attitudes to the world that do have equally deep undertones. Isn't dance something similar?: touching on both conscious and unconscious, and on both our human and our animal part, and able to express both peace vibes and aggression vibes with the war dances, and as able as laughter to detonate aggression in non violent ways of peace vibes? Even football detonates warlike needs and , anyway, don't street gangs sometimes do break-dance competitions instead of street fights? Besides dance, isn't sex something like that even despite the aggression due to rivalry it often arouses? Isn't tenderness, even in the most asexual and non-orgasm oriented marriage, equally capable of undertones as deep and primal as those of primitives around a fire etc , if primitiveness is the criterion of depth of state of mind? Isn't love for cooking and giving one's children and husband delicacies with which to experience pleasure, equally primal and primitive and conducive to peace in marriage partners of mentalities compatible in this issue? Isn't love for music or dance or even for science and for even technocratic invention, equally conducive to such vibes? Even if only art and music and Einstein-like theoretical physics are sufficiently pre-word and pre-rational to give obvious vibes of primitiveness, and even if more nut and bolts science, are based on rationality and cortex etc, the love for these rational cortex subjects does happen through pre-rational and not just cortex based functions. If all those faculties were irrelevant the Greeks would not have tried to well-round their pantheon with gods for twelve kinds of primal vibes. Why, by the way, didn't they have a god or goddess for laughs too but only for music, eros, war, knowledge, crafts, home etc etc? Probably because all gods could laugh, like all men could laugh, while only some men could compose or play music or base their possibility for fun too heavily on the possibility of sexual adventure or being thinkers etc and thus only one god or goddess existed who specialized in one particular of these functions. Maybe same goes for dance, there was no god of dance because all gods danced like all men did dance, at least in the times where speech was being created with the help of dancing; to have a god of dance would be like having a god of speech or of vision or hearing; people would say "Why have a whole patron god just for the specialty of speaking? People who speak are not specially talented. Big deal! There is no child in the class without the ability to symbolically manipulate and comprehend messages in sound-made symbols! This ability is just a long name for the word "speak" and it was a possibility in every human's nervous system, it just took time to be discovered and to be cultivated and evolved a little, but most of it was there

waiting to just be discovered, it did not have to be invented and added to us. If people who could speak existed at those times they could have taught speech to all infants of that time as easily as to the infants of our present times, it just took time because all humanity was still discovering this possibility. Let alone a god of seeing or hearing etc . These things did not even have to wait to be discovered and were not exclusive privileges of humans. They had grown concurrently with all life, yet from the point of view of pinpointing how they work in order to teach them to a computer they are equally god-like. Anyway...so: laughing is not unique in the peace vibes. But obviously none of the above objections would make Lorenz for me, or for anyone, a smaller figure than I considered him before encountering or thinking any of these objections. And OK, something did affect my impression of him, but I cannot tell you why it only affected it very slightly except through also giving you a detailed explanation without which you have every right to say that I use double standards and that my Anti Americanism blinds me to similarities of an Austrian savant in Nazi days with some American intellectuals in Patriot Act days: OK: In case you haven't heard of any of all the marvels we saw about Lorenz it is not because of any error in Sweden or Norway, like it was in the case of Mumford not ever receiving a Nobel in something (Lorenz and the one or two friends who co-founded ethology did receive a Nobel prize) maybe it's more due to an error of his which he did recognize, at least I saw a paragraph of his book on aggression passingly referring to that, in the context of mob psychology if I remember well, where he acknowledged that even a specialist as he himself was with such insights on aggression and on human nature, did become, even transiently, a Hitler's idiot or something like that, I couldn't figure out exactly what, through just his book on aggression, I only found out after the advent of google-like things,...

3.

Concerning that psychologist* who resigned from his position as officer in the American army: Interviewed by Jerry Brown in "We the people"*** he mentioned the all too Lorenzian insight, coming not through zoology however but through statistics during the two World Wars, that soldiers in trenches don't shoot to kill but to only contribute to the war noise, and only try to kill if they feel threatened by the enemy having reached face to face or by an officer looking over their shoulder to see what they are doing. Well, Americans considered this not as an interesting clue on human nature but as a defect of the soldiers' training and changed the content of this training to dramatically reverse the statistics towards a majority that tries to kill (other interesting parts of that interview concerned the fact that the heroic return ritual or ceremony is the only thing that helps as catharsis of the guilt inherent in killing, even if one is a soldier; and the Vietnam veterans' exclusion from that contributed to the well known syndromes (the ones we also have witnessed in Rambo 1, although in, at least, retrospect, it seems the only reason the issue was rekindled by Hollywood, at the same time as the Rocky 2 movie, was not to sensitize people for the veterans' problems (=these people were pushed both to extreme risk (and at a time awareness of government's non-ideal motives were not so lucid) and, then, to full rejection by society) but to use that sensitivity as a pretext in order to start a little later a preemptive removal of guilt for the people who in their army age would be the bombardiers in the humanitarian bombings of 1999 and later would go to Iraq, after having received a training correcting the defects of human nature which has animal-like inhibitions in front of killing).

*Dave Grossman

**Jerry Brown's book on those interviews is titled "Dialogues" and its chapter on Grossman is titled "The Myth of a Killing Instinct". The abstract of this chapter in the table of contents is: "There is this natural safety mechanism—call it a violence immune system—that is present in human beings. The average human being is profoundly uninterested in killing others and the military has had to confront this for millennia." On google one can see the names interviewed, the titles and abstracts of a total of 18 such chapters.

4.

**Brief Review of the Work of Professor Noam Chomsky
September 14, 2007 By Moss Roberts**

[Moss Roberts was invited by the widely circulated Chinese magazine *Nanfang Renwu Zhoukan* to write an article introducing Chinese readers to the work of Noam Chomsky. The essay appeared on January 11, 2007. This is an expanded version of the original Chinese article.]

Noam Chomsky, born December 7, 1928, and raised in the city of Philadelphia, is Professor Emeritus of Linguistics at MIT. Like his father, William, a respected scholar of the Hebrew language, Professor Chomsky knows Hebrew and published a study of its phonetic system. His own early training as a scholar of the Old Testament and its commentaries introduced him to the rabbinical tradition of intensive critical questioning of texts and the idea of an 'activist mind.'

Well before the state of Israel was established in 1948, in the household of his parents the questions of the Zionist movement and the settlement of Jews in Palestine were as important as the study of the Hebrew Bible. Family life brought the young Chomsky into the milieu of socialists and idealists who in the 1930s and 40s strove for social reform in the US and for the creation of Israel as a secular state based on collective principles of social justice, and co-existing peacefully and productively with its Arab neighbors. Thus even as a youngster his interest in language and in politics were connected and had begun to influence each other. Robert Barsky's biography, called *Noam Chomsky: A Life of Dissent*, and published by MIT Press in 1997, contains a useful discussion of his early years. Today, Professor Chomsky is distinguished for his innovative work in the field of linguistics, but his wider public renown is due to his authoritative voice as a critic of US foreign and domestic policy.

As a scholar of linguistics, Professor Chomsky is one of the founders of a school called generative transformational grammar. This school of linguistic research and analysis develops the theory that the power to acquire and utilize language is inborn and found only in humans. This theory rejects the idea that the capacity to learn and produce language develops only mechanically through external conditioning. A child's speech does not simply imitate what has been heard. Rather, external conditioning is actively received and worked upon as the mind (*renxin*) grows and develops the ability to generate new ideas and new sentences. The mind is the principal agent, the creative factor. By the age of five or six the result of this process is the basic mastery of a language, the ability to transform "finite words and rules" into, as Barsky says, "an infinite number of sentences." The process unfolds throughout life. Professor Chomsky's position on language may remind some of Mencius' affirmation (opposing Gaozi and Mozi) of the existence of human nature (*renxing*). For Mencius, man is not merely a blank entity to be shaped by external conditions but has an endowed active potential to be developed through cultivation and learning, ideally under a benevolent sovereign. Man's disposition toward the social virtues is natural says Mencius, just as Chomsky views the capacity for language use as natural. Since language is the mode of human socialization, the two philosophies are compatible, though Mencius has higher expectations for government than Chomsky does. Mencius' key term 'benevolent government' (*renzheng*) is not found in Professor Chomsky's writings.

Of course, when Professor Chomsky affirms the existence of a "human nature with innate powers" independent of social and historical conditions, his philosophical sources are not Confucian but rather such Enlightenment thinkers as Spinoza and Descartes. Professor Chomsky acknowledges the influence of Descartes' view of

language as a unique human endowment, categorically different from machine-like animals (Barsky 108). The 17th century Jewish thinker Spinoza, who understood God in terms of nature and reason, is another source of Professor Chomsky's thinking. Human nature is a crucial category in all of Professor Chomsky's thought. His 1970 television debate on the subject with Michel Foucault (who gives more weight to external conditions) was published in September 2006.

When Professor Chomsky turns to social questions, one may observe him working on ideas of free development similar to those underlying his theory of language. He holds that humans do not need much in the way of external control in order to form wholesome and productive social relationships. He "wants to see a society moving toward voluntary organizations and eliminating as much as possible the structures of hierarchy and domination, and the basis for them in ownership and control" (*Chomsky on Democracy and Education*, p. 298, RoutledgeFarmer, 2003). In his view such powerful forces as official propaganda and state coercion distort human psychology and relationships and thus stifle intellectual development and social life in general. An opponent of the all mighty State, Professor Chomsky identifies himself as part of the anarchist tradition (defined as voluntary or anti-authoritarian socialism with institutions controlled by and serving workers). He also speaks of himself as a 'left libertarian' or a 'libertarian socialist.'

For those not familiar with the term, 'libertarianism' is an outgrowth of Enlightenment liberalism. In advocating freedom of individual development, libertarianism is part of the Anglo-American tradition of suspicion of official authority and institutions as arbiters of society and morality. As capitalism developed, however, libertarianism became almost the opposite of the more familiar doctrines of liberalism which look to benign state power to protect by law individual rights. In American politics today right-wing libertarians (many of whom came into prominence when Reagan was president) also oppose a strong (or too strong) state and Washington's war policies, because they strengthen the state at the expense of all other values and interests. This is why terms like right and left do not easily apply to Professor Chomsky. He calls himself a 'left' libertarian partly because of his support for government policies that improve the lives of poor people (both in the US and abroad), partly because the left is by far the weaker force in US politics, and partly because of his early hopes for a socialist Israel. But more often than not his focus is on epistemology, how the mind processes political language and reaches conclusions. As for Marxism, he sees it as useful for critical analysis but has little sympathy for it when it serves as an ideological instrument of state control or for justifying official positions.

Professor Chomsky's critique of the State is mainly directed toward his own. He turns his analytical anger on Washington's cruel maltreatment of third world people, its ruthless foreign policies and disregard for international law, its abuse of US citizens and residents, and its violations of democracy and Constitutional Law. He argues that this pattern of behavior became dominant after World War II left the US state in a position of unchallengeable power. It was US aggression against Vietnam that most powerfully influenced him to become a critic of US foreign policy. His essays on the war are collected in *American Power and the New Mandarins* (1969) and in *At War With Asia* (1970); these books remain relevant today. Chinese readers may have a particular interest in what he has written about the Vietnam War since the US invasion was justified in the US and round the world by the need to contain China. Fortunately for China and America, the Vietnamese successfully contained Washington's power and thus opened the door to a period of relative peace and partial prosperity in eastern Asia in the last thirty years.

In his latest work, *Failed States: The Abuse of Power and the Assault on Democracy* (2006), he challenges another myth of the Vietnam War, that US military force can

impose democracy on other peoples. He argues that the real motives of Washington are for material and strategic gains and not for the ideals (freedom, democracy) so often claimed as motives (Chapter 4 "Democracy Promotion Abroad"). For Professor Chomsky, Washington is no exception as it follows the historical pattern of earlier empires whether Roman or British. He suggests that "the more there is a need to talk about the ideals of democracy, the less democratic the system usually is" (*Chomsky on MisEducation*, p. 17, 2000).

Professor Chomsky's logic is to apply universal principles when judging the behavior of government. In *Hegemony or Survival: America's Quest for Global Dominance* (p. 4) he writes, "Those who are seriously interested in understanding the world will adopt the same standards whether they are evaluating their own political and intellectual elites or those of official enemies. . . . Truth [is] veiled by intentional ignorance that makes a crucial contribution to ongoing crimes." He regards the quest for truth and the struggle against official evasion and mendacity as the "responsibility of intellectuals."

In his own work Professor Chomsky diligently measures his government's actual behavior against its idealized but false representations widespread in media and educational institutions. He shows how these misrepresentations serve the goal of indoctrination and "manufacturing consent," which is the title of one of his most important books and also of a film made about him. In *Failed States* (103) he writes: "It is no easy task to gain some understanding of human affairs. In some respects, the task is harder than in the natural sciences. Mother Nature doesn't provide the answers on a silver platter, but at least she does not go out of her way to set up barriers to understanding. In human affairs, such barriers are the norm. It is necessary to dismantle the structures of deception erected by doctrinal systems. . . ." Thus the core of Professor Chomsky's approach is as much about thought and language as about politics. He seeks to uncover how indoctrination systems work to prevent people from gaining a real and practical understanding of the major questions of our world, and how they enable intellectuals to exempt their government from criticism of the very same evils for which they easily (and rightly, but safely) condemn other governments. Nothing troubles him more than this double standard. Thus he says that polls show about 70 percent of Americans agreeing that the war in Vietnam was immoral, while most intellectuals and officials prefer to call the war a well-meaning mistake, something they would never say about Russia's invasion of Afghanistan or Czechoslovakia. We see the same practice in the moralizing of crimes: bombing is called humanitarian, invasions are rescues, political adversaries are evil tyrants, etc. However, Professor Chomsky also observes that this hypocrisy of misrepresentation shows that Washington is well aware that Americans would not accept the real purposes of its policies and have to be fooled into accepting immoral acts of violence. This further suggests that Americans like all people have a natural universal aversion to immorality that has to be taken into account by the rulers.

Here is one example of such deception: in *Failed States* (p. 47-48) Professor Chomsky writes as follows about the US destruction on November 9, 2004 of Falluja General Hospital in Iraq: "The word 'conflict' is a common euphemism for US aggression, as when we read [in the *New York Times*] that 'now the Americans are rushing in engineers who will begin rebuilding what the conflict has just destroyed' -- just 'the conflict,' with no agent, like a hurricane." Professor Chomsky expresses his outrage at the way a leading newspaper contrives to obscure moral responsibility for destroying a hospital filled with patients and medical personnel while reassuring readers that some kind of meaningful rescue is underway.

Professor Chomsky has often written letters to the press to complain about and correct such misrepresentations. His letters are almost never published. He

recognizes that major newspapers and even television stations do at times carry partial criticism of policies, but he remains frustrated at how little influence the occasional critic has. He appreciates the fact that there are small oases in the system, places where free critical inquiry does go forward, sometimes at elite universities like his own. These places have value but also create the illusion of a wider freedom of discussion that does not exist. At the same time he argues that a good part of the educational system participates in indoctrination to create consensus. Sheer force and fear, used freely in the Third World, would not work so well on the American middle class. One of the books in which he explores this question is *Necessary Illusions: Thought Control in Democratic Societies* (1989). Professor Chomsky's effort to expose governmental wrongdoing brings together his study of language and mind and his study of politics. Professor Chomsky's approach is epistemological: he is interested in the process of thinking. He seeks to understand how official positions are communicated to the public, how they are learned and accepted, but also how citizens can think for themselves and overcome official misrepresentation.

Independent thought, self-generated transformative critical thought as a basis for well-informed collective activism for rational humane goals, therefore, are perhaps the highest moral values for Professor Chomsky. Informed citizen activism (including legal protection for it) is the necessary preventative or corrective for bad policies. This helps explain his great admiration for Bertrand Russell, the famed English philosopher and anti-war activist, who joined public demonstrations against British governmental injustice and its eagerness for war-making. Despite the unequal struggle against official policies and their misrepresentations, Professor Chomsky usually is cautiously optimistic. He believes that human nature and the natural powers of mind will in the long run prevail, just as he believes that --however limited -- human progress has been made over the last 500 years.

In his many books on the subject of Washington's policies abroad and at home, Professor Chomsky writes about government policies not as an expert but as an informed citizen taking responsibility for his government. He believes that a person with an ordinary level of education and intelligence when given relevant facts and honest analysis should have no difficulty figuring out the meaning of events despite official efforts to obscure the facts, interests, and motives behind policy choices. For this reason Professor Chomsky writes plain straightforward English and is sometimes critical of academic theories couched in overly complex language. He finds much fashionable post-modernist and post-colonialist academic writing too pedantic and too far from common discourse even when he might agree with the ideas expressed. Perhaps the main myth Professor Chomsky seeks to expose is that Washington has a benevolent and god-given leadership role to play among the nations of the world, and that whatever nation happens to be the principal enemy of the moment deserves to be demonized: yesterday Russia, Vietnam and China; today Iraq, Iran, and Korea; tomorrow -- who knows? Focusing on a mythical evil, be it communism, terrorism, or some other 'ism,' is for him a device to promote war (cold or hot) and to deceive Americans into supporting bad means for unreal ends. For Professor Chomsky the reality is that Washington has supported oppressive dictatorships all round the world: in Indonesia, the Congo, Central America, Latin America, the Philippines, Iraq, Iran, Saudi Arabia, Egypt, South Korea, and elsewhere. These dictatorships earn Washington's support by opening their economies to corporate exploitation of their natural resources and their labor. Foreign (multi-national) corporate goals rarely serve the local people of smaller nations and are usually injurious to them. Therefore, at times, extreme violence against one small nation is useful in getting others to obey Washington's orders without too much protest. He notes that a majority of Americans are kept uninformed about these large world realities.

In condemning the failure of Washington's policies to live up to the ideals that most Americans aspire to, Professor Chomsky might be compared to Old Testament prophets like Jeremiah, who condemned the leaders of the Jews for breaking their binding covenant with God. He wants to call on Americans to honor their promised ideals, and hold themselves responsible and their leaders to account for violations of their own professed ideals. As for his own role, his ability to speak and publish, he understands that to be effective, a mature and sophisticated propaganda system has to make a little room for the occasional critic or dissident (if it must), but only at the margin, ensuring that critical messages are unlikely to get far enough to cause much to change.

Critics of Professor Chomsky have said that he pays too much attention to Washington's wrongdoing and not enough to those of other governments. To this charge, his answer is simple. As one committed to universal principles, he is aware and critical of the wrongs others commit, but he reserves his main energy for studying the state that he is a citizen of, and therefore bears primary responsibility for, his own. Students of early Chinese thought will notice an important Confucian principle in this approach, namely that one must make one's self (one's society, one's nation) a good example before trying to rectify others: *Zheng ji, zheng ren*. From a Chinese point of view it might seem that despite changes in rhetoric (democracy instead of civilizing) modern international law, trade practice, and war-making have changed little from the days when gunboat diplomacy imposed unequal treaties on China (and many other colonies) in the 19th and early 20th centuries. Smaller third world economies are vulnerable to the negative policies of the IMF and World Bank. Free trade is often coercive trade that blocks free trade in agricultural products. The only thing protecting China as it has advanced from colonial status through revolution to stakeholder in the global system of trade and diplomacy is its strong state. Here is an important problem that Professor Chomsky does not address. How does China fit into his general political analysis? How would he analyze the entire course of the Chinese revolution, with its emphasis on state-building, from Sun Yat Sen to Mao Zedong and those who came after him?

Although he mentions China occasionally and recognizes its sufferings from Western imperialism, Professor Chomsky rarely explores its history or culture in detail. Perhaps this is because his negative attitude toward the State contradicts the larger political traditions and modern history of China. The result is a dilemma. How can a weak state fight imperialism? It was the revolutionary post-1949 Chinese state that played a key role in restraining Washington's aggressions in Asia. It is the post-revolutionary Chinese state that has played a key role in protecting the Chinese economy from the World Bank, the US Treasury and Department of Commerce and even the Pentagon. In the ideological shift away from Communist egalitarianism and class struggle the Chinese leadership turned to Confucianism as a means to exert its authority over the population and also as a means to reclaim the cultural allegiance of all Chinese around the world (and their investment capital). This reassertion of the traditional culture serves in addition as a barrier to the 'soft penetration' of Christians on a mission.

Thus when it comes to the role of the state as a moral force with patriarchal leaders who discipline and educate the people Chomsky's libertatian anarchism as a political philosophy must part company with Confucianism, however quietly, even if Confucian theories of the mind seem compatible with Chomsky's theories of man's innate capacity for language and morality.

As the ideology of political order, Confucianism combines the political and the moral in a way that is rare in the modern West, where religion and the state are normally separated into different if not independent spheres. In the West, law justifies state power while religion then claims for itself the sphere of morality. Perhaps because of

the joining of government and morality (*zhengzhe zhengye* as Confucius says, "governing is a matter of moral rectitude"), China is far more secular in its political ideology than the US or the Muslim nations.

If religion is marginal or dispensable for most Chinese, a good number of Americans in the grip of missionary illusions still believe that they have the cure (religion, human rights, democracy) for many of the problems that China faces, even if these "cures" have to be forced on the Chinese. A number of Chinese share such views. Many Christians still believe in the medieval mission of converting the Jews and look upon the Chinese as equally good candidates for conversion. Chomsky's writings are a useful antidote to such illusions of benevolent intervention, showing in detail how noble ideals are perverted to serve the most inhuman economic and strategic ends. As Mark Twain wrote in 1900, those missionary idealists who have gone to convert the Chinese to Christianity should return home at once to save their own desperate countrymen from the sin of participating in the lynching of blacks: "The Chinese . . . are plenty good enough just as they are; and besides every convert runs a risk of catching our civilization . . . O kind missionary, O compassionate missionary, leave China! Come home and convert these Christians!" ("The United States of Lyncherdom").

Moss Roberts is Professor of Chinese at New York University. Recent articles by him include "Bad Karma in Asia" (in Harootunian and Miyoshi, *LEARNING PLACES*) and "'We Threaten the World'" (in Ross and Ross, *ANTI-AMERICANISM*). He has also translated works of Chinese literature and philosophy. He was a founding member of the Committee of Concerned Asian Scholars, which published the journal *Bulletin of Concerned Asian Scholars*. Among the initial board members of that journal was Noam Chomsky