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Patrick Colm Hogan is a professor in the Department of English and the Program in Cognitive Science at the University of Connecticut. He is the author of ten books, including *Cognitive Science, Literature, and the Arts: A Guide for Humanists* and *The Mind and Its Stories: Narrative Universals and Human Emotion* (Cambridge University Press, 2003).

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– Noam Chomsky, Massachusetts Institute of Technology

THE CAMBRIDGE ENCYCLOPEDIA OF

THE LANGUAGE SCIENCES

Edited by

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University of Connecticut

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To the memory of B. N. Pandit (1916–2007) –
philosopher, Sanskritist, father-in-law

Puruṣa-artha-śūnyānāṃ guṇānāṃ pratiprasavaḥ kaivalyaṃ
sva-rūpa-pratiṣṭhā vā citi-śaktir-iti

– Patañjali

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A NOTE ON CROSS-REFERENCES AND THE ALPHABETIZATION OF THE ENTRIES

Cross-references are signaled by small capitals (boldface when implicit). They are designed to indicate the general relevance of the cross-referenced entry and do not necessarily imply that the entries support one another. Note that the phrasing of the cross-references does not always match the entry headings precisely. In order to minimize the disruption of reading, entries often use shortened forms of the entry headings for cross-references. For example, "this process involves **PARIETAL** structures" points to the entry "Parietal Lobe." In some cases, a cross-reference may refer to a set of entries. For example, "architectures of this sort are found in **CONNECTIONISM**" alerts the reader to the presence of entries on connectionism generally, rather than to a single entry. Finally, a cross-reference may present a heading in a different word order. For example, the target entry for "here we see another **UNIVERSAL OF PHONOLOGY**" would be listed as "Phonology, Universals of."

In general, entries with multiword headings are alphabetized under their main language term. Thus, the entry for "Universals of Phonology" is listed as "Phonology, Universals of." The main exceptions to this involve the words *language* and *linguistic* or *linguistics*, where another term in the heading seemed more informative or distinctive in the context of language sciences (e.g., "Linguistic Market" is listed as "Market, Linguistic").

PREFACE: ON THE VERY IDEA OF LANGUAGE SCIENCES

A title referring to *language sciences* tacitly raises at least three questions. First, what is a science? Second, what is language? Finally, what is a language science? I cannot propose answers to these questions in a short preface. Moreover, it would not be appropriate to give answers here. The questions form a sort of background to the essays and entries in the following pages, essays and entries that often differ in their (explicit or implicit) answers. However, a preface of this sort can – and should – indicate the general ideas about science and language that governed the development of *The Cambridge Encyclopedia of the Language Sciences*.

WHAT IS SCIENCE?

Philosophers of science have often been concerned to define a *demarcation criterion*, separating science from nonscience. I have not found any single criterion, or any combination of criteria, compelling in the sense that I have not found any argument that, to my satisfaction, successfully provides **NECESSARY AND SUFFICIENT CONDITIONS** for what constitutes a science. In many ways, one's acceptance of a demarcation criterion is guided by what one already considers to be a science. More exactly, one's formulation of a demarcation criterion tends to be a function of what one takes to be a paradigmatic science or, in some cases, an exemplary case of scientific practice.

The advocates of strict demarcation criteria meet their mirror opposites in writers who assert the social construction of science, writers who maintain that the difference between science and nonscience is simply the difference between distinct positions within institutions, distinct relations to power. Suppose we say that one discipline or theory is a science and another is not. This is just to say that the former is treated as science, while the latter is not. The former is given authority in academic departments, in relevant institutions (e.g., banks, in the case of economics), and so on.

Again, this is not the place for a treatise on the philosophy of science. Here it is enough to note that I believe both sides are partially correct and partially incorrect. First, as already noted, I do not believe that there is a strict, definitive demarcation criterion for science. However, I do believe that there is a complex of principles that roughly define scientific method. These principles do not apply in the same way to chemical interactions and group relations – and that is one reason why narrow demarcation criteria fail. However, they are the same general principles across different domains. Very simply, scientific method involves *inter alia* the following practices: 1) the systematic study of empirically ascertainable patterns in a given area of research; 2) the formulation of general principles that govern those patterns; 3) the attempt to uncover cases where these principles do not govern observed patterns; 4) the attempt to eliminate gaps, vagueness, ambiguity, and the like from one's principles and from the sequences of principles and data that produce particular explanations; and 5) the attempt to increase the simplicity of one's principles and particular explanations. Discourses are scientific to the extent that they routinely involve these and related practices. Note that none of this requires, for example, strict falsification or detailed prediction. For example, social phenomena are most often too complex to allow for significant prediction, in part because one cannot gather all the relevant data beforehand. This does not mean that they are closed to systematic explanations after the fact, as more data become available.

Of course, following such methodological guidelines is not all there is to the actual practice of science. There are always multiple options for formulating general principles that fit the current data. The evaluation of simplicity is never entirely straightforward. Theories almost invariably encounter anomalous data in some areas and fail to examine other areas. Moreover, in many cases, the very status of the data is unclear. Despite all this, we hierarchize theories. We teach some and do not teach others. Agencies fund some and do not fund others. The very nature of the enterprise indicates that even in ideal circumstances, this cannot be purely meritocratic. Moreover, real circumstances are far from ideal. Thus, in the real world, adherence to methodological principles may be very limited (see, for example, Faust 1984, Mahoney 1977, and Peters and Ceci 1982). This is where social constructionism enters. It seems undeniable that relations of institutional power, the political economy of professions, and ideologies of nation or gender guide what is institutionalized, valued, funded, and so forth.

In putting together a volume on science, then, I have tried to incorporate the insights of both the more positive views of science and the more social constructionist views. Put in a way that may seem paradoxical, I have tried to include all approaches that fit the loose criteria for science just mentioned. I believe that these loose criteria apply not only to paradigmatic sciences themselves but also to many social critiques of science that stress social construction. I have therefore included a wide range of what are sometimes called the human sciences. Indeed, the volume could be understood as encompassing the language-relevant part of the human sciences – which leads to our second question.

WHAT IS LANGUAGE?

Like "science," one's definition of "language" depends to a great extent on just what the word calls to mind. One's view of language is likely to vary if one has in mind **SYNTAX** or **SEMANTICS**, hearers or speakers, dialogues or diaries, brain damage or propaganda, storytelling or **ACOUSTIC PHONETICS**. A first impulse may be to see one view of language as correct and the others as false. And, of course, some views are false. However, I believe that our understanding of language can and, indeed, should sustain a great deal of pluralism.

In many ways, my own paradigm for human sciences is cognitive science. Cognitive science brings together work from a remarkable array of disciplines – literally, from Anthropology to Zoology. Moreover, it sustains a range of **COGNITIVE ARCHITECTURES**, as well as a range of theories within those architectures. Thus, it is almost by its very nature pluralistic. Of course, some writers wish to constrain this pluralism, insisting that one architecture is right and the others are wrong. Certainly, one can argue that particular architectures are wrong. However, perhaps the most noteworthy aspect of cognitive science is that it sustains a series of *types* of cognitive architecture. In *Cognitive Science, Literature, and the Arts* (2003), I argued that these types capture patterns at different levels of analysis. Thus, all are scientifically valuable.

More exactly, we may distinguish three levels of cognitive analysis: bodies, minds, and groups or societies. These levels stand in a hierarchical relation such that bodies are more explanatorily basic than minds, and minds are more explanatorily basic than groups or societies. Lower levels provide causally necessary principles for higher levels. Minds do not operate without brains. People without minds do not interact in groups. In other words, lower levels *explain* higher levels. However, higher-level patterns provide interpretive principles for understanding lower levels (see INTERPRETATION AND EXPLANATION). We explain the (mental) feeling of fear by reference to the (bodily) operation of the amygdala. But, at the same time, we understand amygdala activity as fear because we interpret that activity in terms of the mental level.

In the analysis of cognition, the most basic, bodily cognitive architecture is provided by neurobiology. However, due to the intricate particularity of neurobiology, we often draw on more abstract associative models at this level. These models serve to make the isolation and explanation of patterns less computationally complex and individually variable. The most important architectures of the latter sort are found in **CONNECTIONISM**.

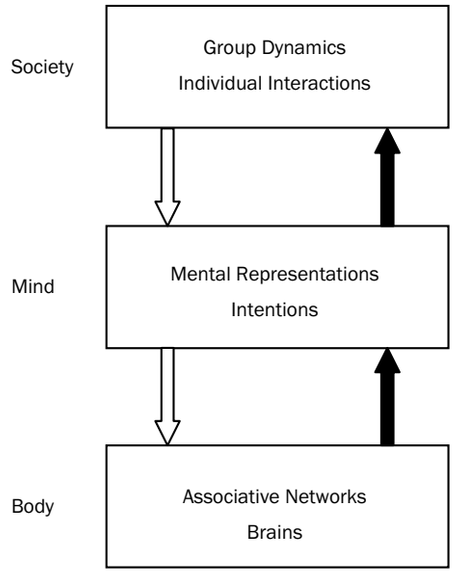

Figure 1. *Levels of cognitive analysis*. Between the levels, black arrows represent the direction of explanation, while hollow arrows represent the direction of interpretation. Within the levels, the superior items are more computationally tractable or algorithmically specifiable models of the inferior items, either singly (in the case of brains and intentions) or collectively (in the case of individual interactions). Tractability may be produced by simplification (as in the case of bodily architectures), by systematic objectification (as in the case of mental architectures), or by statistical abstraction (as in the case of social analysis).

As a wide range of writers have stressed, the distinctive feature of mind – our second level of analysis – is **INTENTIONALITY**. However, intentionality, as subjective and experiential, is often not well suited for scientific study. Many theorists have therefore sought to systematize and objectify our understanding of mind. Most cognitive treatments of the mental level have their roots in folk psychology, a minimal, commonsense objectification of intention in terms of beliefs and aims. But these cognitive treatments draw on empirical research and principles of scientific method to develop models of the human mind that are sometimes very far removed from folk psychology. Specifically, they most often replace belief by mental **REPRESENTATIONS** and algorithmically specifiable operations on those representations. We may therefore refer to these models as *representational*. Representationalism serves to make intention more tractable through a mentalistic architecture that is precisely articulated in its structures, processes, and contents.

Finally, our treatment of societies may be loosely divided into the more intentional or mental pole of individual interaction and the less subjective, more broadly statistical pole of group dynamics. (See Figure 1.)

These divisions apply to language no less than they apply to other areas of human science. We draw on our representational account of syntax to understand certain brain processes in the **PERISYLVIAN CORTEX**. Conversely, we explain

the impairment of (mental) syntactic capacities by reference to (bodily) lesions in that area. For our purposes, the crucial part of this analysis is its implication that language includes all three levels and that the sciences of language should therefore encompass brains, associative networks, intentions, mental representations, individual interactions, and group dynamics. This takes us to our third question.

WHAT IS A SCIENCE OF LANGUAGE?

The preceding sections converge on a broad, pluralistic – but not indiscriminate – account of what constitutes a language science. Specifically, a language science is the application of general principles of scientific method to language phenomena at any level. At the level of brain, we have neurolinguistics (see BRAIN AND LANGUAGE). At the level of associative networks, we have connectionism. Intentionalism leads us to certain forms of **ORDINARY LANGUAGE PHILOSOPHY**. Representational architectures are particularly well developed, including Noam Chomsky's various theories (see, for example, MINIMALISM), **COGNITIVE LINGUISTICS**, and other approaches. Personal interaction and group dynamics are taken up in **PRAGMATICS**, linguistic **DISCOURSE ANALYSIS**, and **SOCIOLINGUISTICS.** Just as language encompasses patterns at all these levels, language science necessarily includes systematic accounts of language at all these levels. Again, the levels of language are interrelated without being reducible. Similarly, the various sciences are interrelated – systematically interrelated through "upward" explanation and "downward" understanding or interpretation – without being reducible.

The preceding points should serve to clarify something that is obvious, but rather vague, in ordinary speech: Language science is not the same as language. Language science is a systematic treatment of language that seeks to provide both explanation and understanding. Thus, an encyclopedia of the language sciences does not present the same material as an encyclopedia of language. It presents the current state of theoretical explanation and understanding (along with some historical background that is important for contextualizing current theories). It does not present the current state of knowledge about particular features of particular languages – except insofar as these features enter into research programs that aim toward broader explanatory accounts or principles of more general understanding. Thus, the **PHONOLOGY** of Urdu, the **MORPHOLOGY** of Quechua, the metrical principles of English **VERSE LINES**, and the **STORY AND DISCOURSE** structure of Chinese narratives enter into the following essays and entries only insofar as they enter into larger theoretical concerns.

Of course, to say this is only to mark out a general area for an encyclopedia of the language sciences. It does not determine precisely what essays and/or entries should make up such a work. This leads to our final concern.

THE STRUCTURE OF THE VOLUME

The preceding view of language science guided the formulation of topics for the entries and the organization of the introductory essays. However, it was not the only factor. In language sciences, and indeed in human sciences generally, we need to add two further considerations. The preceding analysis implicitly treats language patterns as if they are comparable to any patterns isolated in the natural sciences. However, there are two differences between patterns in language and, say, the patterns isolated by physicists. First, language patterns are mutable. They are mutable in three ways – at the level of groups, at the level of individual minds or brains, and at the level of common genetic inheritance. Insofar as language patterns change at the level of groups, this mutability is comprehended by group dynamics and related processes (most obviously in **HISTORICAL LINGUISTICS**). But mental and neurobiological theories do not necessarily treat the other two sorts of mutability, for such theories tend to focus on steady states of language. We therefore account for changes in the individual mind or brain by reference to development or acquisition (see PHONOLOGY, ACQUISITION OF; SYNTAX, ACQUISITION OF; and so on). We account for changes in common genetic properties through the evolution of language (see **PHONOLOGY, EVOLUTION OF; SYNTAX, EVOLUTION OF**; and so on).

The second difference between patterns in language and patterns isolated by physicists is related to the first. Just as we may be insufficient in language, we may be more than sufficient. In other words, there is a difference between ordinary usage and skilled usage. Rocks do not fall well or badly. They simply fall, and they do so at the same rate. People, however, speak well or badly, effectively or ineffectively, in a manner that is clichéd or unusually creative (see CREATIVITY IN LANGUAGE USE). The point is most obvious in verbal art – which leads us to "the most sweet and pleasing sciences of poetry," as Cervantes put it (1950, 426).

In keeping with the preceding analysis, then, the main topics in language science are treated initially in a series of seven overview essays. The first essay provides a general introduction to the study of language. Its purpose is to orient readers toward the field as a whole. The second and third essays turn to the mental level of language since this is the most widely analyzed. Due to the amount of work in this area, and due to the diversity of approaches, the treatment of this level is divided into two chapters. The first addresses "formal" aspects of language – syntax, phonology, and so forth. The second takes up meaning. The fourth and fifth chapters address the other two levels of language – society (at the "top") and the brain (at the "bottom"). The latter also addresses the topics of genetics and evolution, integrating these with the treatment of the brain. The sixth chapter takes up language acquisition. Thus, it turns from the evolution of the general language capacities of the human brain to the development of the particular language **COMPETENCE** of individual human minds. Finally, the seventh chapter considers the nonordinary use of language in verbal art.

The subsequent entries specify, elaborate, augment, and revise the ideas of these essays. Here, of course, the editor of a volume on language sciences faces the problem of just what entries should be included. In other words, if language sciences encompass the language-related part of neuroscience, social science, and so forth, just what is that language-related part? What does it include, and what does it exclude? One might define

this part very narrowly as including only phenomena that are necessarily bound up with **ORAL** speech, **SIGN LANGUAGES**, or **WRITING**. More theoretically, one might define this part as comprising neurobiological, mental, or social phenomena that occur only in connection with distinctive properties of speech, signing, or writing.

Certainly, an encyclopedia treating language will focus on phenomena that are inseparable from speech, sign languages, and/or writing and on such distinctive aspects of natural language as syntax. However, here, too, I believe it would be a mistake to confine language sciences within a narrowly defined domain. Therefore, I have adopted a looser criterion. The volume centrally addresses distinctive properties of natural language. However, it takes up a wider range of phenomena that are closely connected with the architectural or, even more importantly, the functional features of speech, sign languages, and writing.

There are several cognitive operations for which speech, signing, and writing appear to have direct functional consequences. One is *referential* – the specification, compilation, and interrelation of intentional objects (see the entries on REFERENCE). Here I have in mind phenomena ranging from the division of the color spectrum to the elaboration of causal relations. A second area is *mnemonic* – the facilitation and partial organization of memory (see, for example, ENCODING). A third is *inferential* – the derivation of **LOGICAL** implications. A fourth is imaginative – the expansion and partial structuring of simulation. One could think of the first and second functions as bearing on direct, experiential knowledge of present or past objects and events. The third and fourth functions bear, rather, on indirect knowledge of actual or possible objects and events. Two other functions are connected with action rather than with knowledge. The first is *motivational* – the extension or elaboration of the possibilities for emotional response (see EMOTION AND LANGUAGE). A final area is *interpersonal* – the **COMMUNICATION** of referential intents, memories, inferences, simulations, and motivations.

In determining what should be included in the volume, I have taken these functions into account, along with architectural considerations. Thus I see issues of interpretation and **EMPLOTMENT** (one of the key ways in which we organize causal relations) as no less important than phonology or syntactic structure. Of course, we have more firmly established and systematic knowledge in some areas than in others. Thus some entries will necessarily be more tentative, and make reference to a broader variety of opinion or a more limited research base. But that is not a reason to leave such entries aside. Again, the purpose of an encyclopedia of language science is not to present a compilation of well-established particular facts, but rather to present our current state of knowledge with respect to explanation and understanding.

In keeping with this, when generating the entries (e.g., "Phonology," "Syntax," "Neurobiology of Phonology," "Neurobiology of Syntax," "Acquisition of Phonology," and so on), I have tried to be as systematic as possible. Thus the volume includes some topics that have been under-researched and under-theorized. For example, if neurobiology does in fact provide a causal substrate for higher levels, then there should be important things to say, not only about the **NEUROBIOLOGY OF SYNTAX**, but also about the **NEUROBIOLOGY OF PRAGMATICS** and the **NEUROPSYCHOLOGY OF VERBAL ART**. The first has certainly been more fully researched than the second or third. But that is only more reason to stress the importance of the second and third, to bring together what research has been done, and to point to areas where this research could be productively extended.

While it is possible to be systematic with research areas, one cannot be systematic with theories. Theories are more idiosyncratic. They differ from one another along many axes and cannot be generated as a set of logical possibilities. I have sought to represent theories that have achieved some level of acceptance in scientific communities. Given limitations of space, decisions on this score have often been difficult – particularly because social constructionist and related analyses show that acceptance in scientific communities is by no means a straightforward function of objective scientific value.

This leads us once again to the issue of the validity of theories. It should come as no surprise that my view of the issue in effect combines a pluralistic realism with a roughly Lakatosian advocacy of research programs and a Feyerabend-like practical anarchism (Feyerabend 1975; Lakatos 1970). Specifically, I take it that some theories are true and others are not. However, I do not believe that only one theory is true. Different theories may organize the world in different ways. There is no correct way of organizing the world (though some ways will be more useful than others for particular purposes). On the other hand, once the world is organized in a certain way, then certain accounts of the world are correct and certain accounts are incorrect. To take a simple example, we may divide the color spectrum in different ways (see COLOR CLASSIFICATION). No division is correct or incorrect. But once we have a division, there are facts about the color of particular objects. (This view is related to Donald Davidson's (1984) argument that truth is not relative to a conceptual scheme, though it is, of course, relative to the meaning of one's words. It also may have some similarity to Hilary Putnam's (1981) "internal realism," depending on how that is interpreted.)

Moreover, even for one organization of the world, we can never definitively say that a given theory is or is not true. Note that this means we cannot even strictly falsify a theory. We can refer to the ongoing success of a research program – and that is important. Yet I do not share Imre Lakatos's (1970) optimism about research programs. To some extent, research programs appear to succeed insofar as they have powerful institutional support, often for not very good intellectual reasons. Here, then, I agree with Paul Feyerabend (1975) that orthodoxy in theorization is wrong. It is wrong not only in explicitly or implicitly identifying institutional support with validity. Thus, it is wrong not only for social constructionist reasons. It is wrong also for, so to speak, positivist reasons. It is wrong in diminishing the likelihood of intellectual progress, the likelihood of increasing the validity of our theories, which is to say the scope of explanation and understanding produced by these theories.

Whether or not this very brief sketch points toward a good philosophy of science, it does, I believe, point toward a good philosophy for an encyclopedia of science – perhaps

particularly language science. I have tried to follow this philosophy throughout the volume. Specifically, I have sought to present a range of theoretical ideas (as well as more theory-independent topics), placing them together in such a way as to encourage a mutual sharpening of ideas and insights. To borrow M. M. Bakhtin's terms (1981), I have not set out to provide a monological source of authoritative discourse. Rather, I have sought to present a heteroglot volume with which readers may interact dialogically (see DIALOGISM AND HETEROGLOSSIA) – hopefully, to produce more intellectually adequate theories later. Toward this end, I have encouraged authors to be open about their own judgments and attitudes. There is a common view that a piece of writing is biased if the speaker frankly advocates one point of view. But, in fact, the opposite is the case. A piece of writing is biased if a speaker acts as though he or she is simply reporting undisputed facts, when in fact he or she is articulating a partisan argument. Being open, dialogical, and multivocal does not mean being bland. Indeed, insight is more likely to be produced through the tension among ideas and hypotheses that are clearly delineated in their differences. This is no less true in the language sciences than elsewhere. Indeed, that is one reason why this volume treats *language sciences*, not *the science of language*.

– Patrick Colm Hogan

WORKS CITED AND SUGGESTIONS FOR FURTHER READING

Bakhtin, M. M. 1981. *The Dialogic Imagination: Four Essays*. Ed. Michael Holquist. Trans. Caryl Emerson and Michael Holquist. Austin: University of Texas Press.

Cervantes Saavedra, Miguel de. 1950. *The Adventures of Don Quixote*. Trans. J. M. Cohen . New York: Penguin.

Davidson, Donald. 1984. "On the very idea of a conceptual scheme." In *Inquiries into Truth and Interpretation*, 183–98. Oxford: Oxford University Press.

Faust, David. 1984. *The Limits of Scientific Reasoning*. Minneapolis: University of Minnesota Press.

Feyerabend, Paul. 1975. *Against Method: Outline of an Anarchistic Theory of Knowledge*. London: Verso.

Hogan, Patrick Colm. 2003. *Cognitive Science, Literature, and the Arts: A Guide for Humanists*. New York: Routledge.

Lakatos, Imre. 1970. "Falsification and the methodology of scientific research programmes." In *Criticism and the Growth of Knowledge*, ed. Imre Lakatos and Alan Musgrave, 91–195. Cambridge: Cambridge University Press.

Mahoney, Michael. 1977. "Publication prejudices: An experimental study of confirmatory bias in the peer review system." *Cognitive Therapy and Research* **1**: 161–75.

Peters, Douglas, and Stephen Ceci. 1982. "Peer-review practices of psychological journals: The fate of published articles, submitted again." *Behavioral and Brain Sciences* **5**.2: 187–95.

Putnam, Hilary. 1981. *Reason, Truth, and History*. Cambridge: Cambridge University Press.

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