

The Psycholinguistic Theories in the *Muqaddimah* of Ibn Khaldūn

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Abstract: *A review of psycholinguistic theories found in the Muqaddimah shows the breadth of Ibn Khaldūn's understanding of human behaviour, including language behaviour. His views on the influence of change on human habits, the relationship between language, knowledge and perception, and on the influence of constant repetition on language acquisition are, with minor modifications, valid even in the contemporary period. The causes he described for language corruption and the limitation of non-Arabs in learning Arabic are still worth examining.*

Abd al-Rahman Ibn Khaldūn was a gifted scholar whose work—the *Muqaddimah*—ranks as one of mankind's most important intellectual triumphs.¹

Ibn Khaldūn views the historical process as moving in a cycle: a culture is born, grows, rises to its peak, and decays; and then a new one is born.² All human qualities, including language, are also seen in the context of this cycle. According to him, humans are distinguished, among others, by their ability to think—a quality that enables them to acquire knowledge and create things. Like all the higher aspects of civilization, language is transformed into "habits" through continuous repetition. This is also relevant to sciences and crafts.

Human Habits

The concept of habit has a rich and influential history. It can be traced to Descartes' dualist view of body and mind and to Locke's concept of

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tabula rasa, a clean slate, potentially influenced by early experience and the installation of habits. Towards the end of the nineteenth century, the notion of habit was refined and integrated into a theory of behaviour that was to have enduring implications for modern constructs.

Reading has defined habit as a behaviour that has become automatic and dissociated from conscious awareness through a process of learning.³ According to him, habits, contrary to popular belief, are not merely a consequence of overtraining. Instead, they appear to arise because overtraining usually tends to reduce the variation in behaviour—goal correlation which initially controls action.

Watson has studied the formation of habits in both infants and adults.⁴ On the basis of these studies he has developed some generalizations on acquisition of habits.⁵ These are: (i) the lower the frequency of practice, the more efficient is each practice period; (ii) the less the number of habits formed simultaneously, the more rapid is the rise of any given habit; and (iii) the younger the organism, the more rapidly will the habit be formed. These three general statements are relevant to our discussion of human habits.

Ibn Khaldūn's Theory of Human Habits

Ibn Khaldūn views *malakah* (habit) as an attribute firmly established in the human psyche which provides a man with competence to carry out related action.⁶ Habits are qualities and colours of the soul. They do not come all at once. A person who is still in his *natural state* has an easier time acquiring certain habits and is better prepared to gain them. When the soul has been coloured by a habit, it is no longer in its natural state and is less prepared to master another habit.⁷ Man acquires a habit through mastery of its detailed principles.

Habits are also corporeal as they are manifested in either internal and external organs of the body, or in the general human character. They are connected with man's perception and knowledge as a result of his ability to think.

Ibn Khaldūn stresses the role of repeated action in habit formation.⁸ According to him, once a habit is firmly rooted through continuous and vigorous repetition, it becomes relatively permanent and difficult to remove, replace or uproot.⁹ He further notes that an individual can attain perfection in only one habit and is rarely able afterwards to master another.¹⁰ This view, however, does not recognize fully the capability and flexibility of the human mind and human competence in habit

formation.

Ibn Khaldūn argues that familiar customs and established habits determine human nature and character, and that man is a product of culture.¹¹ He also maintains that natural disposition and temperament are replaced by habitual and customary conditions that have become a quality of character for him.¹² Drawing on a Prophetic tradition, in this regard, he writes:

When customs proper to goodness have been first to enter the soul of a good person and his soul has thus acquired the habit of goodness, that person moves away from evil and finds it difficult to do anything evil. The same applies to the evil person when customs proper to evil have been first to affect him.¹⁴

Sciences, languages, crafts, and skills, as well as man's general behaviour are regarded as habits by Ibn Khaldūn. Good habits lead to success.¹⁵

Habits are transmitted from one person to another, or from one generation to another. Although each habit may have its own peculiar method of transmission and acquisition, they all share some general principles and conditions. As a human attribute, habits are part of historical processes; they are affected by the historical development of society and civilization. They may be corrupted, mixed with others, and even changed. All these, however, happen over a long period of time.

Language: A Definition

Ibn Khaldūn considers language a technical habit of the tongue. He refers to it as, "...the expression by a speaker of his intention. Such expression is an act of the tongue that originates in an intention to convey the meaning of speech. Therefore, language must become an established habit located in the part of the body that produces it; namely, the tongue. Its usage and formation in every nation are according to their own terminology."¹⁶ The notion that language is intentional and an act of the tongue supports Ibn Khaldūn's view of habit as corporeal.

There are many attempts in modern studies to define human language, in the light of different research interests. A typical procedure is to select what are thought to be the most important and fundamental attributes of human language and to construct a list of these defining attributes. An example is Hockett's list of design features.¹⁷

Endowed with all the characteristics of a habit, language employs

techniques similar to that of a craft. Ibn Khaldūn argues that the character of linguistic expression depends on the perfection or deficiency of the language habit. He observes that persons with already established speech habits are always deficient in their acquisition of other languages; for attainment of habits is simpler for natures in their original states.¹⁸

Zakariyah compares this definition with other definitions in modern linguistics and finds that it clearly highlighted basic characteristics of language.¹⁹ This definition does not limit language to a mere verbal habit or performance. It also includes the underlying competence involved in language usage. While this concept of language is accepted in modern studies, it will be difficult to relate Ibn Khaldūn's concept of competence to the idea of universal grammar as presented by Chomsky.²⁰

Language Change

Language is a human behaviour developed gradually over a long duration, since "language and linguistic habits are not matters of chance."²¹ It also changes over a long period as happened with the Arabic language used during Ibn Khaldūn's time.

As part of historical processes, a language changes through the mixing of dialects or languages, corruption with foreign languages, or through social change and transformation.²³

Language corruption is part of social degeneration. It usually surfaces at the phonetic and grammatical levels. This will necessitate the study of grammatical rules (i.e., science of grammar).²⁶ However, it remains largely unchanged semantically for some time. When corruption continues on account of a close contact with foreign languages, it eventually affects the conventional meanings, and makes it necessary to develop the science of lexicography.²⁷

Although he discusses the phenomenon of corruption in Arabic as spoken by the people, Ibn Khaldūn describes as nonsensical the assertion by some grammarians that habit of standard Arabic was corrupt at his time.²⁸ It should be noted that Ibn Khaldūn has adopted, by attributing the corruption of Arabic to its contact with foreign languages, a one-sided analysis. He looks only at the adverse impact of mixture and contact and ignores the effects of Arabic on foreign languages. His analysis is not constructive, as he is not concerned with advancing an alternative system of communication that can be used before one reaches linguistic perfection.

It is difficult to accept the argument that corruption in Arabic resulted

only from solecisms heard by Arabs in their dealings with non-Arabs.²⁹ If one accepts Ibn Khaldūn's theory of historical cycle and the fact that solecisms were recorded in Arabic during the time of the Prophet (SAS) and thereafter, one can not support the attribution of Arabic corruption solely to solecisms.³⁰

Moreover, if a language changes, it will be considered a new form of expression or a dialect. While Ibn Khaldūn pays attention to variations in the language of a community, he ignores variations in individual language habits; his analysis contains very little of historical change with respect to both *Himyar* and *Mudar* dialects.³¹

Perception, Knowledge, and Language

Perception refers to the way in which we interpret the information gathered and processed by the senses.³² Human perception involves the active pick-up, coordination, and interpretation of sensory information via sensory channels. Through the perceptual system, representations are built and increase in resolution with experience. Knowledge is accumulated through multiple and rich sensory experiences.

In recent years, there have been a number of new theories and approaches to the study of perception. One of these approaches is the information processing approach. It posits that human perception begins with the activity of taking in physical energy from the environment and subsequently translating the input into an abstract code. Primarily linguistic, this code derives its meaning from the interaction of various forces in a given environment.³³

The relationship between perception, knowledge, and language is described by Ibn Khaldūn as a process that starts with perception (*idrāk* or *taṣawwur*) of realities. Perception is followed by affirmation or negation of the essential attributes of these realities. The next stage in the process is the establishment of a scientific thought or knowledge in the mind.

To polish the mind and show its soundness, knowledge has to be communicated. The role of language comes here. Communication is either through verbal expression (i.e., speech) or through written communication.³⁴ Describing the relationship between language and knowledge, Ibn Khaldūn writes:

Linguistic expression is merely the interpreter of ideas that are in the mind. One conveys them to another in oral discussion, instruction, and constant scientific research. His purpose is to obtain the various habits

of all these things through constant application. Words and expressions are media and veils between the ideas. They constitute the bonds between them and give them their final imprint.³⁵

In modern studies, the relationship between language and thought is underscored by three hypotheses. One hypothesis, advanced by Whorf, claims that language determines thinking. Another hypothesis states that language affects perception. A third hypothesis claims that language influences memory in such a way that information which is easily described in a particular language will be remembered better than information which is difficult to describe in that language.³⁷

In the light of his theories of language habit and intuition, Ibn Khaldūn argues that eloquence is the perfect way of conveying ideas.³⁹ Furthermore, he points out that written expression is adopted mostly to register scientific information about the noblest part of thinking; namely, science and knowledge.⁴⁰ In this regard, Ibn Khaldūn spells out the functions of language in extracting scientific ideas, its communication to others, and its polishing.

Language: A Vehicle for Knowledge

Language is viewed by Ibn Khaldūn as a vehicle for knowledge. According to him, a student of science extracts ideas from the words that denote them. To do this, he is required to have a knowledge of linguistic meaning of these words. This is possible only with a good linguistic habit in that language.

According to Ibn Khaldūn, one of the most fundamental properties of thought is its power to predict events. The function of thought, he argues, is to create a model of reality by means of internal symbolism. He identifies three essential stages in this process: the translation of external objects or events into symbols; the production of further symbols by inferential reasoning, hypothesising, or calculation; and the retranslation of these new symbols into external processes.⁴²

Language Competence

Language competence, as conceived in the *Muqaddimah*, is a firmly rooted habit and quality expression that a speaker (or listener) attains through constant practical use of excellent materials, expert linguistic knowledge, and through a healthy disposition.⁴⁴ Ibn Khaldūn describes competence as the quality of clarity (*bayān*) in language expression bestowed by Allah on man.

Knowledge of language rules and forms is a complimentary factor in attaining the competence. It is not actual competence itself.⁴⁵ When a person possesses competence in a language, the correct way of expression in such a language becomes natural practice for him. Consequently, his deviation from that language is not likely, since his tongue has not been used to improper speech.

Ibn Khaldūn believes that perfect competence can only be possessed in one's mother tongue; excellent mastery of habit is rarely attained in more than one craft or science. Thus, non-native speakers of Arabic are always deficient in their mastery of Arabic.⁴⁶

As should be expected, Ibn Khaldūn believes that the Arabic language competence of non-Arabs is limited. To him, this is borne out by the fact that members of non-Arab Muslim nations who adopt Arabic in communication with Arabs do not possess an intuition in Arabic eloquent expression possessed by someone whose first language is Arabic, and who has attained a high quality habit in it.⁴⁷

One indicator of language competence is the ability to give a speech act its proper measure of conformity with the requirements of *the context of situation* (i.e., the people involved and their social relation and theme of communication). This may be difficult to attain by non-native speakers because mother tongue speech habits have a firm hold on their tongues.⁵⁰

Language competence is also found in both prose and poetry. Command of both styles of expression is very rarely found combined in one person; both are habits which, if already established, will not leave room for a subsequent habit to develop.

Ibn Khaldūn's theory of language competence can be compared with that of Chomsky. The former posits that competence is acquired by repetition, can not be attained in two languages, and is related to eloquence. Chomsky's theory is based on human ability to learn and use a language according to some rules that are acquired in a language community. The term competence refers to the ability of the idealized speaker/hearer to associate sounds and meanings strictly in accordance with the rules of his language.⁵¹ A striking difference between Ibn Khaldūn's theory and that of Chomsky is that the latter argues that the attainment of language competence is not limited to any specific number of languages.

Closely related to competence is performance. It is the actual use of language and provides data for the study of linguistic competence. Performance does not simply reflect intrinsic rules; it involves many

other factors, including extra-linguistic beliefs, cognitive structure, etc.⁵²

Some Reflections

Ibn Khaldūn persistently argues that man's ability to acquire language habit is limited. According to him, one's competence can only be perfect in one's mother tongue. This view does not take into consideration the effect of constant practice and gradual changes which are considered instrumental in attaining a language habit. Experience has shown that a person can reach a level of high competence in a language other than his mother tongue. In this case, the mother tongue will be relegated to a second position. A case in point is the standard of emigrants' language and the effect of their new community language on their competence in their mother tongue. A specific case in point is, until recently, the French language in Algeria.

In a diglot case, a speaker may have competence in two modes of speaking in a language: the classical and the colloquial. A case in point is Arabic as presented by Ibn Khaldūn and the present situation of Arabic in Arab countries. On the other hand, not only can many language users in bilingual societies communicate easily and conveniently in both languages but also attain the level of native speakers. It is not always easy to establish near nativeness in language usage as discussed by some writers on bilingualism.⁵³

In the context of the so-called "language of thought," a person may be thinking or meditating through a language that enables him to acquire some knowledge or experience. A scholar may even prefer discussing issues relating to his area of specialization in the language through which he learns them.

This seems to explain why it is difficult to accept Ibn Khaldūn's claim that non-Arabs will always be inferior to Arabs in sciences written in the Arabic language.⁵⁵ This contradicts the fact that many non-Arabs became distinguished in some sciences. This might not be possible without an outstanding knowledge of Arabic, which was a vehicle for these sciences. The view that most of these scholars came to Arab lands in their childhood is not tenable, since most of them had earlier had contact with another language, a factor in Ibn Khaldūn's theory that denies one an opportunity of having perfect competence in another language. It should be recalled that Ibn Khaldūn regards early childhood as the best period for language acquisition.

The notion that if a language habit is firmly rooted it will be difficult

to replace or uproot does not support the assertion that the corruption of Arabic is due to the contact of Arabs with non-Arabs. Specifically, this assertion may not be valid at the individual level where a language habit is described as firmly established.

Ibn Khaldūn conceives language corruption as a loss of social habit. However, he is silent on the loss of linguistic habits. This may be justified in the light of the view that an individual is always under the influence of his environment and that a corrupt natural society will only produce corrupted individuals.

Linguistic Intuition

The intuition of native speakers is a source of unconscious linguistic knowledge. It requires perfect or near-perfect competence in a native language through which idealized utterances are perceived, produced, and evaluated. A linguistic study of language represents the larger part of this. Arab linguists count very much on native intuition. They argue that an Arab speaks standard Arabic based on endowed skills. This makes it impossible to deviate from the natural correct use of the language.⁵⁹

Ibn Khaldūn holds that proper linguistic habit leads to linguistic *dhaug* (intuition) which enables someone with linguistic competence to judge naturally the originality of a language expression, decide its acceptability, and produce it.⁶⁰ Linguistic intuition helps in understanding and appreciating, for example, the inimitability of the Qur'ān in its choice of words and excellence of arrangement and combination. It helps reciters of the Qur'ān to identify breaks of the verses where speech stops. It also denotes the tongue's possession of the habit of eloquence which is the conformity of speech to the meaning intended. This is an attribute attained through constant and simple adherence to the rules of this conformity in language usage of native speakers. Non-native speakers may attain it through constant practice of a particular language speech and repeated listening and understanding of peculiar qualities of its word-combinations.⁶²

Linguistic intuition is a sensation caused by quality habit. It produces an inner reaction to the language expression and easy appreciation of the beauties of poetry and prose. For instance, if a person hears a word combination that is not familiar, he spits it out, and his ear recoils from it upon the slightest reflection. Indeed, no reflection is needed; for, an individual's reaction is the consequence of the linguistic habit he has obtained.⁶³

Deviations from eloquent ways of expression and practice may be identified without any consequent ability to support one's attitude by arguments, since the correct use of a language is intuitive as it results from constant practice.

In discussing the basis of criticism of some poems and art of literary appreciation, Ibn Khaldūn concludes that the judge in such matters is one's taste or intuition and that "a sound taste and a healthy natural disposition will confirm the correctness of this observation to the intelligent critic of eloquence."⁶⁴

Ibn Khaldūn places some stress on the impact of a healthy nature in producing a strong intuition based on a good habit. According to him, correct Arabic speech is a linguistic habit of proper speech arrangement that has become so firmly established in native speakers that it superficially appears to be something natural.⁶⁵

Theory of Language Acquisition

Ibn Khaldūn views language as a habit in the tongue acquired in its best form when an individual's soul is "natural" and the environment "original."⁶⁶ According to him, habits result only from repeated action. When an action is undertaken, it contributes an attribute to essence. When repeated, an action becomes a condition which is an attribute that is not firmly established. After more repetition, it becomes a habit which is a firmly established attribute.⁶⁷

There are two processes of language acquisition identified in the *Muqaddimah*: Acquisition in the language's natural environment and learning through memorization and constant practice.

Language Acquisition in Its Natural Environment

An individual acquires his mother tongue right from childhood through repeated listening and communicating in the medium of expression prevailing in the society. This natural acquisition has no connection with the racial origin of a child. Listening, speaking, and constant practice will be repeated until an attribute is contributed and a habit firmly established.⁷⁰

A habit acquired through this process will be perfect and original. It provides the learner with an intuition in the language, if his tongue has not been occupied with another language habit. It is through this process that languages and dialects are passed from generation to generation. Obviously, the natural acquisition of language from childhood is quite

relevant to a mother tongue. In addition, it has no connection, as previously noted, with the racial origin of the learner. In this regard, Ibn Khaldūn states that being non-Arab in language is something different from being non-Arab by descent.⁷¹

This applies to non-native speakers who migrate to another language-society before the habit of speaking their mother tongue is firmly established in their tongue. In such a case, the language of the new society assumes the place of their native language, and their habit in it will not be deficient. This is widely applicable to children who are in a sensitive period of language learning (i.e., from about 18 months of age to puberty). In this period, the brain is particularly capable of learning more than one language.⁷²

Evidently, this process is helpful in learning a second language. The longer a learner practises the language and is able to reduce the influence of the tongue's ingrained natural disposition, the closer he/she is to perfection in the habit of that language. In this case, the possibility of deficiency is minimal.

Memorization and Constant Practice

In the light of recognizing the diglot state of his society, Ibn Khaldūn is of the view that the Arabic of the people of his time was different from the original *Mudar* Arabic. The fact that these people had to learn *Mudar* Arabic as the language of the Qur'ān and sciences, led him to suggest that standard Arabic be learned in situations similar to that of natural acquisition of language. According to him, this should be done through the memorization and constant practice of quality literary materials selected from the Qur'ān, ḥadīth, and the speeches and verses of the early and of outstanding Arabs, as well as the statements of early men of mixed-race parentage in all disciplines. When a great deal of these are memorized with an expert knowledge of them, the person involved begins to resemble someone who has grown among speakers of Arabic, learned directly from them, and has their firmly established habit of Arabic. Such efforts, he maintains, are a substitute for the natural environment.⁷³

Ibn Khaldūn recommends this method of learning for Arabs who have lost the habit of *Mudar* Arabic, and for non-native Arabic speakers who desire to learn it. Although he includes the latter group in his recommendations, he believes that they are unlikely to be successful in acquiring perfection in Arabic.⁷⁵

Ibn Khaldūn's method (i.e., memorization and constant practice) is an advanced one. In modern theories of language acquisition, memorization is not intended directly. Necessary vocabularies, texts, and grammatical rules are internalized and transformed into unconscious knowledge after a long period of repetition. In dealing with a non-living language or a dialect, as the case with *Muḍar* Arabic or with the literary styles of a native or a foreign language, the importance of memorization cannot be overemphasized.

Linguistics is distinguished from language acquisition. The former may not be instrumental in the latter, though the impact of expert linguistic knowledge and of intensive study of the language on attaining a firmly rooted habit is recognised. According to Ibn Khaldūn, the reason for this is that Arabic linguistics is merely a knowledge of the rules and forms of this habit. It is knowledge of a quality; it is not the quality itself.⁷⁶

Conclusion

This paper has reviewed Ibn Khaldūn's psycholinguistic theories advanced in the *Muqaddimah*, and analyzed his understanding of human behaviour, including language behaviour. It has presented different views on the impact of interaction of languages on language change and corruption. It is argued that corruption of Arabic should not be attributed only to its contact with other languages. The relationship between language and knowledge, as presented by Ibn Khaldūn, has been used to defend the thesis that native speakers of a language can not claim superiority in sciences written in that language, merely because it is their mother tongue.

The paper has also attempted to establish that an individual can have language competence in more than one language. Contrary to Ibn Khaldūn's opinion, perfect competence can be acquired in a language other than the mother tongue. If language competence in a second language is attainable, linguistic intuition will be acquired through constant practice, as suggested by Ibn Khaldūn.

Finally, memorization and constant practice are effective methods in second language learning. Memorization is an essential tool in dealing with literary texts of a language that is learned in a non-native language community. The effect of constant practice in this regard cannot be overemphasized.

Notes

1. °Abd al-Rahmān Ibn Khaldūn, *The Muqaddimah: An Introduction to History*, trans. Franz Rosenthal (Princeton, N.J.: Princeton University Press, 1980). 1: lxxxvii.
2. For some commentary and interpretation, see Heinrich Simon, *Ibn Khaldun's Science of Human Culture* (Lahore: Sh. Muhammad Ashraf, 1978) 96; and Syed Omar Syed Agil, "Ibn Khaldun's Theory of Social Science" *IKIM Journal*, 1 (1), 1993: 39-71.
3. Paul Reading, "Habit," in V. S. Ramachandran, (ed.) *Encyclopedia of Human Behavior* (San Diego, California: Academic Press, 1994), 2:477-89.
4. John Broadus Watson, *Psychology from the Standpoint of a Behaviorist* (London: Routledge/ Thoemmes Press, 1994), 281, 290, 241.
5. Watson, *Psychology*, 385-91.
6. Rosenthal translated *malakah* as "habit," this is adopted here with full awareness that Ibn Khaldūn used *malakah* to denote both "habit" and "competence," Ibn Khaldūn, *Muqaddimah*, 3:297.
7. *Ibid.*, 2:315.
8. *Ibid.*, 3:297.
9. *Ibid.*, 2:309.
10. *Ibid.*, 3:372.
11. *Ibid.*, 1:251.
12. *Ibid.*, 1:229.
13. Muḥammad bin Ismā'īl al-Bukhārī, *al-Jamī' al-Ṣaḥīḥ* (Cairo: Al-Majlis al-A'lā Li al-Shu'un al-Islamīyah, 1966), 1: 341.
14. Ibn Khaldūn, *Muqaddimah*, 1:225.
15. *Ibid.*, 3:183.
16. *Ibid.*, 3:279.
17. Gillian Cohen, *The Psychology of Cognition* (London: Academic Press, 1983), 100-2.
18. Ibn Khaldūn, *Muqaddimah*, 3:326. The term *original states of nature* is ambiguous as it relates to language. It is equally true to indicate Skinner's "state of mind" or Chomsky's "natural ability to learn a language."
19. Mishal Zakariah, *Al-malakah al-lisāniyah fī Muqaddimah Ibn Khaldūn* (Beirut: Al-Muassasah al-Jamiyah, 1986), 11-20.
20. Noam Chomsky, *Language and Mind* (San Diego: Harcourt Brace Jovanovich, 1972), 120-7.
21. Ibn Khaldūn, *Muqaddimah*, 3:302.

22. Ibid., 3:299.
23. Ibid., 3:315-16, 3:301. Ibn Khaldūn (3:299-301) claimed that competence in Arabic language during his time was still perfect. He supported his claim on the basis of the existence of a sound and quality intuition. Though he persistently said that the language of the people of his time was corrupted. It seems that he was attributing this sound intuition to the competence in Arabic language in general, since intuition can not be existent in a language not in use (3:305-06). This came, perhaps, in a defensive context.
24. Ibid., 2:348.
25. Ibid., 3:243.
26. Ibid., 3:271-2. It is noted that, science of grammar has not necessarily evolved as a result of language corruption. Crucial social-psychological role of language and its relation with vocal aspects has earned the attention of men and led to linguistic knowledge of language (see Neil Smith & Deirde Wilson, *Modern Linguistics: The Results of Chomsky's Revolution* (England: Penguin Books, 1979) 32-4. As it regards Arabic grammar language is an influential factor but the drive to understand the Qur'an and the non-Arab target of assimilation into Arabic society are prime factors.
27. Ibn Khaldūn, *Muqaddimah*, 3:283.
28. Ibid., 3:300.
29. Ibid., 3:280-81.
30. On the corruption of Arabic and the emergence of solecisms, see Mohamed Sami Anwar, "The Legitimate Fathers of Speech Errors," in Cornelis H.M. Versteegh, Koerner Konard, & Hans J. Niederehe (eds.) *The History of Linguistics in the Near East* (Philadelphia: John Benjamins, 1983), 13-29.
31. Ibn Khaldūn, *Muqaddimah*, 3:306.
30. See Smith & Wilson, *Modern Linguistics*, 190-229 for details on language variation and change.
32. Michael W. Eysenck, *Principles of Cognitive Psychology* (Hillsdale: Lawrence Earlbaum Associates, 1993), 11.
33. Laura A. Thompson & Dominic W. Massaro, "Perceptual Development," in V. S. Ramachandran (ed.) *Encyclopedia of Human Behavior* (San Diego, California: Academic Press, 1994), 3: 441-51.
34. Ibn Khaldūn, *Muqaddimah*, 3:242.
35. Ibid., 3:274-5.
36. Ibid., 3:351.
37. Eysenck, *Cognitive Psychology*, 126.
38. Chomsky, *Language and Mind*, 78-80. See also, Noam Chomsky, *Language and Thought* (Wakefield: Moyer Bell, 1993), 16-24.

39. Ibn Khaldūn, *Muqaddimah*, 3: 351.
40. Ibid., 3:243.
41. Ibid., 3:277.
42. Cohen, *Cognition*, 127.
43. Ibid. 130.
44. Ibn Khaldūn, *Muqaddimah*, 3:308.
45. Ibid., 3:309.
46. Ibid., 3:276-7.
47. Ibid., 3:326.
48. Ibid., 3:277-8.
49. Ibid., 3:278.
50. Ibid., 3:324-6.
51. Chomsky, *Language and Mind*, 116.
52. Ibid., 115-6.
53. Insup Taylor & M. Martin, *Psycholinguistics: Learning and Using Language* (Princeton N.J.: Prentice-Hall, 1990), 326-361.
54. Muḥammad Ali al-Khūlī, *Dictionary of Theoretical Linguistics: English-Arabic* (Beirut: Librairie Du Libān, 1982), 149.
55. Ibn Khaldūn, *Muqaddimah*, 3:278.
56. Ibid., 3:270.
57. Ibid., 2:271.
58. Ibid., 1:225.
59. Abu al-Barakāt al- Anbarī, *Al-'Inṣāf fī Msa'il al-Khilāf* (Beirut: Dār al-Fikr, 1982) 2:702-6.
60. David Crystal, *An Encyclopedic Dictionary of Language and Languages* (Oxford: Blackwell, 1992). Ibn Khaldūn used *dhaqq* for what we have translated as "intuition." Rosenthal translated it as "taste."
61. Ibn Khaldūn, *Muqaddimah*, 3:308.
62. Ibid., 3:313-4.
63. Ibid., 3:313.
64. Ibid., 3:313, 339, 350.
65. Ibid., 3:313-4.
66. Ibn Khaldūn's theory of language acquisition was represented in diagrams by Zakariah. These were used here with modifications; see Zakariah, *Al-Malakah al-Lisāniyah*, 67-71.
67. Ibn Khaldūn, *Muqaddimah*, 3:297.

68. Ibid., 3:345.
69. Ibid., 1:225-6.
70. Ibid., 3:297.
71. Ibid., 3:278.
72. Spencer A. Rathus, *Psychology* (Orlando, Florida: Harcourt Brace College Publishers, 1993), 298.
73. Ibid., 3:345-6.
74. Ibid., 3:344.
75. Ibid., 3:316-7.
76. Ibid., 3:309.