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The Mind and Language: The Mutual Degradation Psycholinguistic Investigation in Language Dissolution

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Abstract

In this essay the researcher draws the reciprocal relationship between the mind and language when both of them undergo certain degrees of declination. Therefore, he suggests that the starting point should be from stuttering case concerning it as the most common language impairment that begins in childhood and normally vanishes in adulthood. Then, he shifts to Down's syndrome and its linguistic consequences setting off from its causes, symptoms and the suggested mechanisms of lessening its effects on cognitive, psychological, and linguistic aspects.

As the researcher talks about the deterioration of the mind and language, it is logical to investigate in the geriatric linguistic dissolution looking into the kinds of memory like; short term memory (STM) and long term memory (LTM) and their role in the formation and deformation of language alike. Finally autism is also checked due to its associated complexity of language disorder where the affected individual suffers from isolation and alienation among his/her society. Isolation is like a solid wall preventing him/her from acquiring language because language is a result of a social interaction and the lack of one entails the lack of the other.

Key words: *Stuttering, Down's syndrome, Autism, Aging-related disorders*

I. Introduction

The relationship between the mind and language is mutual and deterioration in one of them inevitably affects the other. Hence, the researcher, here, tries to show the correlations between them to discover the causes underlying language dissolutions and shed light on their symptoms and linguistic therapy. Some language disorders require no direct treatments. There should be a psychological and clinical intervention leading, ultimately, to linguistic adjusting. Some language impairments come to be as a result of abnormal chromosomal divisions like Down's Syndrome (DS) (Scovel, 1998: 78). or as a result of misunderstanding the educational methods used in schools and homes such as Autism Spectrum Disease (ASD) (Prelock and Nickola, 2012: 130).. In fact, some kinds

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of language disorder can be attributed to the natural declination of all aspects of human cognitive and psychological frame as in geriatric linguistic aphasia. So these kinds of abnormalities can be dealt with as problems with relatively difficult, slow and gradable solutions and some may have no solution at all due to the permanent deficiency in the brain. As a result, efforts should be focused on lessening their severity and consequences in the speech community because drawing excessive attention to the afflicted individuals would assuredly complicate their lesion and harden their treatment (Frasera and Jed, 2016: 401).

The researcher begins with stuttering because, from psycholinguistic perspective, it is easier to cure with the help of psychological and linguistic carefully planned programs. Then, he shifted to Dow's syndrome, its causes and linguistic consequences associated with child's physical and cognitive deformation. The way to tackle this kind of disorder is proportionate with the degree of its severity. Some of the affected children can easily acquire their own language and some can learn even a second language and become bilingual. Sorrowfully, some of the diagnosed cases lack the ability to acquire their own language. Autism is also a psychological disease with a related linguistic deficits resulting from child's solitude and carelessness to parental and communal communication. Undoubtedly, miscommunication in itself gives rise to the deterioration in linguistic construction because the birth of language occurs only within social and cultural contexts where the three linguistic main skills come into being; listening, imitation and production (Mody and Manoah, 2013: 220).. These are the pillars of language. Concerning geriatric language dissolutions, the researcher deconstructs their direct and indirect causes starting with the explanation of the nature of the short term memory (STM) and long term memory (LTM) and their effect of recalling the stored linguistic repertoire. Apparently, The STM deficiency is in itself a linguistic deficiency due to the crucial correlation between them. This straightforwardly manifests in Alzheimer Disease (AD) which begins as unnoticeable failure in summoning the names of individuals and objects. Then, successively develops into phonological, syntactical and semantic confusion.

Ultimately, as language is a universal phenomenon, its impairment indispensably encompasses all humans all over the world and in virtue of psycholinguistic development a lot of investigations are increasingly oriented to cure it or at least to lower the effect of its shadows.

Stuttering: Fear Mirrors Failure

First and foremost, It has been demonstrated that stuttering is one of the most common articulation problem that humans encounter in their speech community. It causes serious effects to the individuals who suffer from. Apparently, it does not occur randomly and in a spasmodic way. It, noticeably, occurs frequently on the initial consonant of a syllable, the first syllable of a word and the initial word of a clause (Scovel, 1998: 79).

It should be mentioned here too that the cases vary from time to time and from situation to another. Sometimes, the affected individual may relatively speak fluently with little or no difficulty and at other times he/she may have a considerable trouble especially because of shyness, embarrassment or fear. This can be seen when a shy student is asked to talk to a stiff teacher who does not accept any justification for dereliction in school-works or when the stutterer talks to people who are in authority or making speeches in front of a big crowd (Ibid). Moreover, as personality differs from one person to another, their reactions are also different and varied. Surprisingly, when

they are alone or with their intimate friends all stuttering symptoms disappear as if they were normal. Hence, Malcolm Fraser in *Self-Therapy for Stutterer* says: "Nearly all those who stutter generally have little or no difficulty when they sing, shout, whisper, or read in unison with others" (Fraser, 2010: 17). In fact, stuttering is not a simple speech impediment, it is uncontrollable impairment associated with complicated physical and emotional consequences. "Stuttering is like an incredible trick you play on yourself. As you tense in reaction to your stuttering and your feelings about stuttering, you are likely to stutter more" (Fraser, 2010: 19).

Theories in the Origin of Stuttering

According to Johnson Theory the origin of this problem traces back to the early childhood. A child may be encountered by a painstaking teacher who paid a disproportionate attention to language compared to any other child's aspects of development like walking, thinking, and playing with classmates in the yard. This extremity makes child under a heavy psychological pressure. Consequently, in front of the class, the stutterer tries to say a sentence but the mind would fail in producing the onset phoneme of a syllable on time. Unwittingly, he would replicates it more and more as in "Pppplease sir". Parents also participate in creating this linguistic difficulty by focusing on their child's way of speaking and trying to inforce their child to utter some complex-structured sentences which is relatively difficult to utter at this early stage. Duplication of the initial phonemes or words causes a storm of criticism by teachers or families which, in turn, fosters frustration and stammering and worsens them alike (Scovel, 1998: 80).

On the other hand, Orton Travis theory: this is a neurological theory which demonstrates that language retrogression is merely a result of incomplete cerebral dominance. Stromsta in his remarkable work *Preliminary Final Report* adopted the same orientation when he displays the difference between stutterers and normal individuals in terms of the mentioned hemispheric dominance. Thomas Scovel, in his turn, indicates that the lesion appears " because the brain lacks an established primary language center and is indecisive about how to initiate speech" (Scovel, 1998: 81). He explains that stuttering is seen among boys rather than girls and more among left-handers than right-handers and shows why stammering tends to run in families suggesting that parents who themselves experienced stuttering in their childhood would pay an excessive attention to their children way of speech to prevent them from getting the same complexity. This exaggerated care is in itself a major cause of stuttering (Ibid).

Some linguists try to display another explanation supposing that caretakers and primary school teachers are usually women and since girls naturally supersede boys in the linguistic ability then the attention would be centralized on boys rather than girls and this in itself embarrasses them and creates a gloomy atmosphere leading to stuttering. On the other hand, Orton/Travis theory views the same evidence offered by Johnson theory as thus: neurological experiments on rats demonstrated that the high amount of testosterone affect positively bilateral representation on both hemispheres and this occurs more frequently in boys than in girls. As for the running of stuttering in families, it is related to genes moving down from one generation to another within the same family. But some neurologist believe that it can be cause by a complex interplay between neurological and environmental factors (Scovel, 1998: 82).

Horizons of Stuttering Therapy

From linguistic perspective, treatment takes a long time to achieve its goals because the mechanisms of speech is highly precise and balanced and the more you try to overcome this impairment the worse you unwillingly make it. Accordingly, some linguists design therapeutic programs, usually intensive, to treat their clients in their real community so as to naturalize the process of treatment. There, they can be provided with effective activities to transfer the desirable new behaviors. Then, the designer of the programs should, first and foremost, have a detailed knowledge about the etiology and development of stuttering "such as, episodic variation, clustering, paradoxical intention, adaptation and consistency, spontaneous recovery, fluency enhancement, arousal effects" (Pins, 1970: 125). As a result, there should be slowed rate of speech movement associated with clear and identified changing to full voice before vowel articulation. Ongoing practice to shorten the period of time taken up to fluently utter a series of successive sentences. These sentences should be related to a specific subject utilizing a computer-assisted feedback to help the stutterers to train more and more. Then, it is important to avoid interrupting the child's speech and giving him enough time to express himself freely in accordance with gradually enlarging the circle of people he interacts with to reduce the feeling of helplessness and shame (Ibid). Additionally, relaxation can also benefit speech and unlock stuttering complexity. So the language therapist has to talk to the afflicted child in a smooth, soft and slow manner to induce him/her doing the same. If general relaxation is followed by the relaxation of specific muscles related to the speech organs and if the stutterer can locate where the tension is, then, it is possible to know how to relax those muscles and facilitate fluency (Fraser, 2010: 23-24). This assures the core of language as a mixture of intermingled factors where it is not purely individual isolated within the boundaries of human brain/mind. Ney, the environmental, psychological, economic and even political and religious aspects work as builders establishing this miracle frame (language).

Down's Syndrome: Physical and Mental Deformation

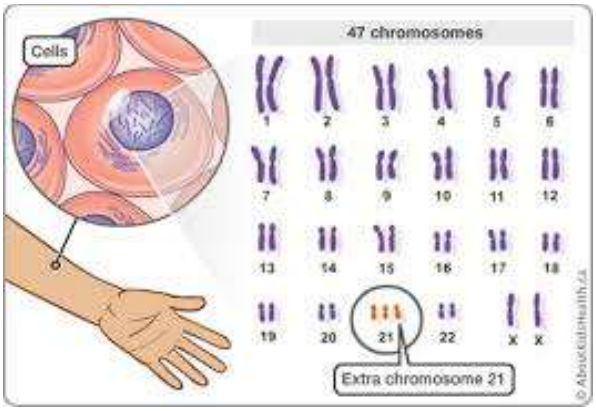
Children suffering from Down's syndrome have a variety of health problems like visual blurring, heart defects and weakness of receiving acoustic signals due to hearing declination in addition to intestinal malformation. There are also intellectual deteriorations ranging from mild to severe degrees resulted from abnormal chromosomal divisions. This is accompanied with difficulties in language acquisition in all its phases like conceptualization, formulation and articulation (Kay-Raining Bird, 2008: 10).

As a matter of fact, most children with DS do not utter the first words as early as normal children and their vocabulary develops slowly in accordance with their atrophic ability to use grammatical rules to formulate well-structured sentences. This makes the affected children's language be restricted to short telegraphic utterances. That is; saying key words and neglecting the function words such as: "I school went brother " instead of saying: "I went to school with my brother". It is worth mentioning here that pronunciation is also loosely corrupted to a certain degree that others may misunderstand most of their speech (Bray and Woolnough, 1988:315).

Knowingly, Language congruently reflects the inner mental spaces of language users because "once we have begun to master a language, we think in terms of words, we reason, recall and do mental arithmetic in words either silently or aloud" (Buckley, 1993: 3). So the silent speech in children plays a vital role in developing the short-term memory which is considered very essential for most of the mental processes. This interwoven relationship between cognitive ability and language development makes it hard for the children with DS master their own language easily. Hence, any serious language delay will indispensably lead to a delay in cognitive structure because language in itself is a cognitive tool on which the mind depends in acquiring knowledge, reasoning and remembering (Buckley, 1993: 4). As a result, improving DS's language skills is sometimes frustrated due to the severe damage in the cognitive architecture. In some cases the progress is very slow and restricted to meeting the elementary physical needs. Then, one has to put into consideration that language impairment resulting from DS is somehow unsolvable problem and the desirable development will be associated with a simplified communication within their close relatives regardless of the medium they make use of.

Symbolism and Oral Language: Keys of the Locked Mind

Figure 1… It is taken from <www.aboutkidshealth.ca>



In spite of being so, psycholinguists have lately returned back to symbolism to set off towards the keys of a possible linguistic solution. This is because "symbolic construction is a cognitive ability that is essential to linguistic sign formation and, consequently, to the use of words as a form of expression" (Rogis and Ivonaldo, 2018:271). As a result the development in constructing symbols would mirror the same degree of the development of the verbal language. Language is not merely a superficial skill, it is a complex manifestation starting with cognitive, perceptual and imagistic processes which give rise to the existence of verbal language. Hence, symbolizing the outer world and turning its physical entities into abstract images will help in the formation of the mental representation which, in turn, serves as a basis of the emergence and development of oral language. In light of this, Patricia J. Prelock says that "language entails a set of abstract symbols, a lexicon, and a grammar that specifies syntax and discourse structures for combining symbols to represent an infinite variety of concrete and abstract meanings and to achieve communicative functions" (Prelock and Nickola, 2012: 129). This absolutely plays a vital role as stimulation of the child's brain plasticity. This plasticity can be achieved through playing with concrete objects which have a cognitive extension like building games, wood blocks and playing with doughs made of artificial clay with different shapes and sizes. Moreover, therapeutic programs may involve helping children discover the typography of their own bodies by touching their parts associated by mentioning their names in a slow and high voice like; head, eyes, nose, arm, fingers et cetera .

It is also preferable to accompany all these techniques with soft music, toys, cloths, booklets and colorful balls to touch or grab with their hands. showing family photos and natural scenes with carefully planned illustrations

can serve as a significance stimulation in the development of their elementary language (Fabiano and Limongi, 2010: 458-62).

Hide-and-seek game is another technique where a therapist hides in a place and asks the child with DS to find him/her. According to this technique it should be easy for the child to find the hidden subject so as to activate his/her sense of space and time. As for verbal object permanence games, the language therapist encourages the affected child to talk about people when they are not there to support the idea that people continue to exist even when they are absent . Songs, dancing and clapping can be viewed as another amusing and practical therapy that entices the child to participate in a socially communicative action which automatically makes him take the initiative to go on doing the same deed as he gets bored. These dynamic interwoven techniques will assuredly give birth to a simplified kind of language (Santana and Souza, 2014: 75).

Aging: Cognition and Language Deterioration

When humans reach the point where language is declined as part of the natural process of aging the beginning of the end has come true. It will be accompanied with weakness in all aspects of cognitive and neurological construction like memory, imagination, recognition of others in addition to a certain degree of damage in conceptualization and articulation of language. Though it is serious, very few psycholinguistic studies has been conducted to shed light on this phenomenon. "This is particularly unfortunate considering the ever-increasing size of our older populations and the potential revelation such investigations might furnish for the psychology of language" (Scovel, 1998: 83).

But what happens to language? Why it collapses like this?

To profoundly answer the questions we have to see the correlation between aging and memory and then show the outstanding relationship between memory and language.

Kinds of memory: Short and Long Term Memory

Researches show two distinctive types of memory; short and long term memory abbreviated as (STM and LTM). STM refers to the momentarily retrieval of information, whereas LTM refers to the summoning of information over longer period of time. STM can be also subdivided into two kinds; working memory where stored information is actively processed and primary memory which is associated with the raw retrieval of information (Maylor, 2005:201). In spite of this categorization several distinctions have been lately drawn to LTM. One of them is called Episodic memory where it is associated with the events one encountered in the past. For example, where he went to spend his holiday and what happened then in that travel. The second kind is marked as semantic memory which includes the general knowledge of the world such as knowing that London is the capital of England and subject precedes well-formed English sentences (Ibid).

Aging and Memory: A Travel to the Starting Point

Craik and McDowd suggest that there are three main theories about the effect of aging on memory namely: limited processing resources theory (LPRT) and reduced processing speed (RPST) and impaired inhibitory

functioning (IIFT). The first theory suggested that the aged possess limited resources for encoding information into their memory and then retrieving the stored materials from it. Consequently, they would be unable to switch on resource-demanding operations such as recalling a list of words they were previously asked to summon and they also fail to link lexical items together in a semantic way. These operations are required when the environment does not supply flashing signals at either encoding or retrieval. According to psychological latest findings, the aged have to permanently recall items rather than just recognizing them (Craik and McDowd, 1987: 475). As for the reduced processing speed approach, Neurolinguistic experiments has proven that there are two mechanisms underlying the relationship between processing speed and the age of the subjects considering the degree of their mental abilities. The first mechanism is labelled as the limited time mechanism which attributes degradation of cognitive performance to slowing of information process. The second is called simultaneity mechanism which proposes that the result of a previous process has not been existed when later processing is complete. Nevertheless, even if the old are offered unlimited time to perform their memory tackling task they do not do it actively in the same way the young do (Salthouse, 1996: 85). As for the third mechanism which is called the impaired inhibitory functioning (IIFT), Hasher and Zacks showed that the aged individuals have less inhibitory control over the content of their memory than the young do. There should be inhibition to prevent the superficial and insignificant information from entering memory and simultaneously prevent information from rooting in memory when they have been no longer irrelevant (Hasher and Zacks, 1988: 193).

The long term memory (LTM) which is considered as a conspicuous faculty diminishes by the passage of time and since language is a pivotal component of LTM, it would be adversely affected by such a form of deficit. It is like a process of recapitulation of the stages of language acquisition as if the aged has really returned back to the early childhood. But one has not to fall in such overgeneralization because a ten-year child can recall naturally and easily the whole memory and recognize more people and more facts than the old do. Then, “it is more logical to assume that the more you have to remember, the easier it is to forget” (Scovel, 1998: 84).

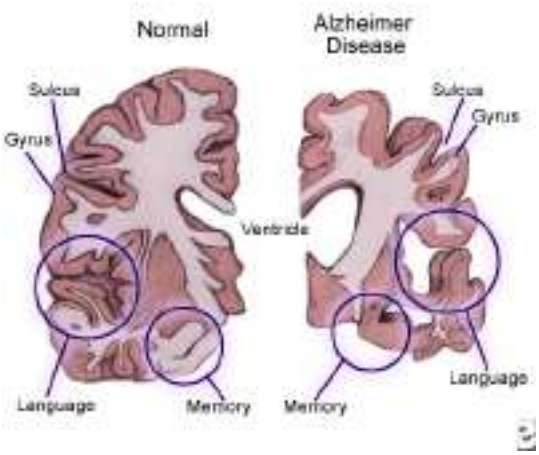
Additionally, it has been demonstrated that immediate recall of the stored material in young adults declines as a result of degraded stimuli. This deteriorated performance is resemble to the performance of the aged afflicted with hearing weakness even though the acoustic signals are clear enough to understand. In fact, hearing impairment, though it is mild or moderate, leads to deformation of representation of the auditory stimuli in speech processing zone in the brain (Peelle et al., 2011). Aging affects both, auditory and cognitive process such as immediate and long term memory. So, if the hearing-impaired aged is subjected to linguistically complex sentences will show stronger deterioration in understanding than the younger subject with the same degree of hearing deficiency (Wingfield et al., 2006). Moreover, there is a correlation between the lack or shortage of the acoustic signals and the immediate short memory where the latter atrophies by acoustic depredation (Heinrich and Schneider, 2011: 191). Then. Hearing-loss affects adversely on the semantic knowledge which begins leaking away by the passage of years. Even though the old uses the hearing aids.

There is always Hope

Finally language dissolution is not an inevitable end of aging because the whole matter is straightforwardly related to illness not to aging. So language inclination may not occur if the aged still relatively in good physical and psychological conditions. Psycholinguistic experiments on a grocery list of fifteen words to test LTM of the aged have shown that people forgot one item for every successive decade but this is not a very serious deficiency. This is because, after forty minutes, the subjects were asked to recall the list again and the result was that both the younger and old recalled the same number of words (Scovel, 1998: 82). It follows that the memory constraints seems to be due only to the short term memory (SLM) and the long memory (LTM) would be remarkably robust. Hence, the impact of aging on language relatively encompasses lexical recalling not syntactical or phonological aspects. To make it clear, Geriatric language deficiency is straightforwardly, then, related to health and feeling rather than to the passage of years.

Aging and Alzheimer Disease (AD) Though its causes haven't yet undetermined, Alzheimer Disease (AD) affects millions of people all over the world. Some scientists attribute it to hereditary reasons and other may link it to environmental factors. Nevertheless, the deterioration of the patient's brain is significantly evident to a certain degree that it affects all aspects of cognition and language. Recently, with computational linguistics it has been easy for the linguists who make use of its automated analyses of speech to distinguish the patient with (AD) from health controls and to specify the various forms of dementia severity whether they are mild or advanced (Guinn and Habash, 2012: 10). Apparently, as disease progresses patients with AD frequently show linguistic deficiency starting with semantics and moving then to syntax and phonology. Though it is attributed to the medial temporal lobe, the lesion is normally restricted to mild degree of impairment in high-level language whereas the degradation in micro-linguistic aspect is still believed to be a result of the spread of pathology throughout the cortex (Frasera and Jed, 2016: 408). More clearly, "Cortical involvement in AD is highly variable across individuals and certain distinct variants of AD have been described, differing in both age-of-onset and cortical atrophy" (Ibid). In fact, the onset of AD is vaguely determined as a natural process of aging but neuropsychological diagnose can shed light on it eight years before turning into clinically AD. The damage of short term memory (STM) is overtly considered as the most remarkable deficit which is represented in difficulty of recalling information of the newly recognized information and showing disability to acquire new knowledge. Moreover, aphasia is another linguistic symptom indicating the development of the case where 36% of mild AD and 100% of the advanced had been aphasic (Faber-Langendoen and Morris, 1988: 367).

Figure 2 AD brain taken from<emedicinehealth.com>



Rapp and wild's researches have shown that there is a serious declination in macro-linguistic functions such as knowing symbolic speech, metaphorical expressions and distinguishing the difference between the semantic

versus pragmatic meanings. As in conversation, they are disable to manifest thematic coherence during their social interaction (Rapp and Wild, 2011: 210). Accordingly, in a comparing study on language production in AD and semantic dementia, it has been proves that 20 patients with AD produced fewer complex syntactic sentences when they were asked to describe a picture in front of them. The same result was calculated in conversing with the subjects about different matters. On the other hand, 10 AD subjects of the sample involving 30 individuals showed the same level of complexity in their syntactic construction if compared with control participants in spontaneous conversation (Fraser and Jed et al, 2016: 408).

More precisely, to distinguish between AD and non-AD language, Guinn and Habash built classification model using 80 conversations between 31 AD subjects and 57 normal health controls. They proved that the AD linguistic features such as lexical enrichment and diversity and POS tags were less useful if compared with measuring their initial phoneme and word repetition, incomplete words. Ultimately, they achieved a best accuracy of 97.5% (Guinn and Habash, 2012: 8-13). Kathleen and Fraser in their joint work used a larger sample and utilized machine learning accompanied with a larger number of linguistic features to shed light on the distinctive language impairments in AD to characterize heterogeneous patterns among the tested subjects (Fraser and Jed et al, 2016: 409).

Autism Spectrum Disease (ASD): Solitude and Self-Centralization

There has been a long discussion about the origin of autism spectrum disease (ASD) whether it is neurological or behavioral but the majority of the autistic cases can be attributed to unknown causes (Mody and Dara Manoah et al, 2013: 224). Nevertheless, what it concerns here is how to linguistically diagnose the beginning of this psychological disorder in early stage of childhood. The majority of experiments has found out that the communication impairment in autism may be considered as a straightforward manifestation of deficit which is, in turn, reflected in social reciprocity and motivation (Dawson and Meltzoff et al, 1998: 479). Apparently, parental communication with their neonates can be conspicuously observed at birth through mutual eye gaze and facial expressions that connects the emotional bond between them (Prelock and Nickola, 2012: 132). Suffice it to say, that the autistic individuals are normally encountered with serious challenges to initiate and maintain conversation with other people accompanied with abnormal language use. In some cases, the child may use unusual, odd and private kinds of metaphors such as “ice cream trees” referring to snow-covered trees. He may also use restricted and stereotyped language with excessive questions and echolalia. That is; repetition of what is said and heard that serves as a technique to take a turn in a futuristic potential conversation. Another linguistic symptom children with ASD exhibit is perseverated speech which involves imitated, repeated , and fixated phrases or sentences with no real intent to have a response such as: “don’t touch …don’t touch” or “let him go …let him go”. These kinds of sentences are usually uttered with absent-mindedness, self-alienated and increased anxiety which leadingly complicate the ability of the children with ASD to interact and develop friendship with others.

Consequently, neurological statistics has lately proven that “approximately 25% of individuals with autism spectrum disorder (ASD) never develop functional language despite years of intervention” (Mody and Dara Manoah et al. 2013: 224). This is obviously because of the mental and psychological difficulties in language acquisition and

language production (Prelock and Nickola, 2012: 129). Assuredly, the lack of communicative gestures and degradation in speech development would increase child isolation and self-centralization (Perlock and Nickola, 2012: 130). Accordingly, since the autistic have a higher degree of sensitivity, and since they live in solitude they will certainly create their own defensive strategies to stop self-revelation and interaction. This would, ultimately, increase the complexity of their psychic distortion (Bergman and Escalona,1949:333). Olga Bogdashina found out that "abnormal perceptions might give rise to high levels of anxiety. This, in turn, would result in obsessive or compulsive behaviors, and social and communication problems. Thus these more commonly accepted criteria of autism" (Bogdashina,2010:19). However, It is clear that language occurs within social and psychological contexts and since meaning is a result of those contexts, this inevitably follows a severe and spontaneous degradation of the mind and language alike. The problem comes into being as a result of the impaired joint attention and shared reference between 9–12 months of age (Mody and Manoah, 2013: 224). In other words, the autistic messy behaviors also include clear reduction in speech output in early toddler years. In addition to deviated prosody like poor controlled intonation and difficulties in speech imitation, apraxia of speech is apparently diagnosed in early childhood and all phases of pre-language like cooing, babbling. Creative idiomorphs are also delayed. From phonological view, the affected child can be characterized by deformed consonant inventory and remarkable reduction of using phonetic contrasts, assimilation, elision and consonant merging in addition to cognitive confusion during speech (Landa and Garett, 2006: 630). These deviations which are observed in phonology are associated to miscommunication of the afflicted individuals in their linguistic environment (Ibid). "By contrast, semantic deficits (e.g., idiosyncratic word use, neologisms and excessively literal interpretation of statements) are among the few consistent findings in autism" (Mody and Manoah, 2013: 225). Like other linguistic levels, syntactic impairment in ASD has been precisely examined and showed deficits in syntactic complexity, morphological errors especially in grammatical morphemes and a great deal of Chaos in using tenses with definite and indefinite articles. Luckily, the prevalence of these kinds of linguistic abnormalities gradually vanish with the passage of years (Rapin and Dunn, 2009: 70).

II. Conclusions

Ultimately, the researcher proves that stuttering is of a psychological origin resulting from the early childhood when child got encountered with a stiff teaching by parents or teachers who paid an exaggerated attention to adjust their children's language or to keep them away from this mental deficiency "stuttering". Then, there should be a special linguistic therapy through which teachers and parents lower the psychological tension and pay less attention to the linguistic errors and mistakes whether they are phonological or syntactical. Moreover, they have to give a relatively long period of time to express themselves without any kind of constraints or interruption. Down's syndrome, on the other hand, has its own linguistic effect which is the indirect result of the degradation in the cognitive architecture as a whole. Language erosion arisen from the atrophic brain manifests in different levels of dissolution according to the degree of its severity. So intensified learning programme should take into account that some of the brain damage cannot be completely cured and its linguistic consequences will be slowly upgraded. On

the other hand, Autism differs from Down's syndrome in that the first is completely psychological with linguistic abnormality. Hence, the lesion is not a result of a brain anatomical damage. It is a reflection of isolation which encircles child and keeps him/her away from parents and society. Child feels no will to interact with the outside world because the inner world is sufficient for him to quench the thirst of feeling existed. Seemingly, internalization is one of the most serious obstacle preventing his cognitive and linguistic development. Consequently, breaking down the sold wall of loneliness is the first step to pave the way to initiate growing language and cognition framework.

Geriatric language deficit is also considered as a common manifestation associated to aging starting with the loss of the ability to recall the newly stored information followed by forgetting individual and object names. To activate the aged memory one has to urge them to socially interact with others and make them participate in making decisions and practice some kinds of soft sports like walking with friends and listening to music or watching TV channels. Paying attention to their political analysis and their views in all aspect of intellectual life can also support their linguistic and psychological health as well.

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