

FLUENCY IN NORMAL SPEECH: A SEARCH FOR PARAMETERS.

MAHMOUD OKBY

Department of English
Kuwait University

ABSTRACT

This investigation is conducted within the framework of current research in linguistic 'performance' or language in the process of 'communication'. With due emphasis on the 'dynamic' aspect of verbal interaction, it signals a departure from the narrowness of 'static' models, dictating a view of 'system' limited to the abstractions of grammatical categories and relationships, as expounded by both structuralists and transformationalists. Hence, the projected search for parameters, or variables, delimiting the nature of fluency as a 'profile' of normal speech, may be considered an attempt to explore 'systematic' manifestations in language as 'behavior', with its psychological and social-cultural determinants.

Though hard to define precisely, due to its obvious complexity, fluency happens to be one of the most remarkable aspects of normal speech. Any attempt at its elucidation would have to be 'relativistic' and 'integrative' in character. Accordingly, this investigator has identified three pivotal, converging parameters, providing complementary borderline coverage of fluency: the first is Normal/Pathological; the second is Psycho/Linguistic; and the third is Socio/Linguistic. Subsequently, related variables oscillating around these are expounded. An experimental model for measurement is outlined, covering four main aspects, together with specific criteria, related indices, and types of correlation, whether positive or negative.

Special prominence is given in this research to a few fundamental considerations, usually garbled through popular misconceptions, and rarely rectified by the specialist: 1. Treatment of fluency in terms of both production and perception. 2. Fluency and the efficiency of adaptive verbal behavior. 3. Operational facility and appropriateness of response. 4. Fluency and 'verbal communicative competence', a scene of the interplay between the abstractions of linguistic competence and the variability of actual performance.

Probably the difficulty encountered in reaching a precise definition of the concept of 'fluency' in normal speech stems from the fact that there are different contexts, hitherto considered separately in scientific research, within which this phenomenon has been variously viewed and accounted for. In the main, at least three of these may be distinguished. First, in the context of Language Learning, and particularly Foreign or Second Language Learning, fluency is almost synonymous with oral language 'proficiency', which, in turn, is another nebulous concept. Second, in the context of Speech Pathology, dysfluency, rather than fluency, becomes the focus of attention, and the outward manifestations of speech disorders in stuttering and cluttering, as related to Psychological and Social problems, assume special significance. Third, in Average Educated Usage, fluency in normal speech seems to be viewed collectively, but laconically, along the foregoing dimensions, combining a general outlook on manifestations of normal performance with a glimpse of verbal impediments obstructing its fluidity in various degrees between the least and the most serious pathological dysfunctioning.

Thus, an exploratory investigation, aimed at the discovery of parameters to delimit the nature of fluency in normal speech, would need to be conducted along various but converging dimensions. It is not only that the phenomenon in question is worth serious attempts leading to its elucidation across disciplinary territorial boundaries. But if any remarkable progress in the development of current eclecticism in linguistic theory is to be envisaged, research guidelines would have to be charted broadly enough to encompass a variety of aspects of the particular phenomenon under observation. In order to determine the variables pertinent to a workable projection of fluency in normal speech, with respect to its accountability, its measurement, and its significance in

practical applications, our research design must be relational and integrative. The ultimate objective is a modest contribution to the understanding of language in action within the framework of human communication. Bailey (1973: 21 & 31) says:

The second aspect of the new framework (of linguistic study) is the dynamic paradigm, which, in contrast with the static paradigm of both structuralism and transformationalism, includes time as a fundamental dimension of all analysis... The advocates of the new framework consider the study of the use of language an idea whose time has now come. This became very evident at the First Annual Colloquium on New Ways of Analyzing Variation in English, held at Georgetown University in October, 1972, and at the Conference on Performances, Conversational Implicature, and Presuppositions, held at the University of Texas in March, 1973.

This is our hypothetical stance in this inquiry. The search for parameters delimiting the nature of fluency in normal speech may probably be served best by a relational relativistic, interactive approach, capable of synthesizing bits of information relative to a variety of contexts, points of focus, manifestations both positive and negative, and fields of application. The adoption of such an approach will make it necessary to maintain a bi-dimensional view on various planes of interaction, which may translate mathematically into something akin to the projection of various parameters, or variables, entering into the form of fluency as an integer, a distribution of elements.

For instance, on one plane, the relational, bi-dimensional function may be accomplished in a comparative and contrastive setting, encompassing both normal and pathological speech performance. Even though we are concerned with fluency in normal speech, it is considered worthwhile to conduct our exploration within a unified perspective, whereby normal and pathological findings may be juxtaposed and explicitly interrelated. After all, in sickness health is known, as the saying goes. When we are able to take account of manifestations of dysfunction, our awareness of those pertaining to normal operation becomes more sharply focused. This would be referred to henceforth as the Normal/Pathological Parameter.

On another plane, fluency in normal speech may, in part, be explored as a function of the flow of output signals, represented by concrete linguistic data of a certain order, or constitution, that could be directly observed and accounted for in terms of structural criteria. Such a mode of

exploration would be strictly 'linguistic'. Meanwhile, fluency may also be partially examined as a function of the total speech processing operation in verbal encoding and decoding, to be indirectly observed and interpreted within the framework of cognitive psychology. However, a combination of the two angles of vision in a relational approach would constitute the Psycho/Linguistic Parameter.

On still another plane, the relational perspective may be accomplished within the context of social impact and evaluation. Obviously, the development of fluency in normal speech, as an individual accomplishment, would not take place in a vacuum. It is actually the product of social interaction with others, conditioned for better or worse operation by the kind of assessment made of it in a social framework, normally manifested by adient or abient reactions. In a word association test, should 'fluency' suggest 'oral proficiency', or 'eloquence', and also get correlated with a /+/ for an overtone marker, the signal would be one of 'social approval'. Thus, as a speech profile, fluency would be considered comely and inviting. Conversely, should the term 'glibness' get associated with 'talkativeness', or with 'verbosity' or 'loquacity', lack of sincerity, on the one hand, and chattering and idle talk, on the other, would provide a /-/ correlation for overtones, and the term in question would, under the circumstance, be considered improper or, at least, undesirable. Accordingly, in all cases of social sanction or assessment, this particular dimension of our investigation will be referred to henceforth as the Socio/Linguistic Parameter.

A condensed representation of this relational approach may be screened through a close study of dictionary definitions of fluency and a few other terms in close proximity within the same semantic field. Such a study is presumed to suggest very succinctly the significance of a relational perspective, utilizing all three parameters one way or another. Now that we propose something analogical, though much more explicit and elaborate, under the controlled conditions of scientific research and experimentation, it may be profitable, within the limits of this inquiry, to attempt an analysis of such definitions, treating them as data samples, typically representative of a universe contained between the covers of scores of English dictionaries. The American College Dictionary would probably provide some of the most succinct definitions. Nothing more detailed or elaborate is needed at this point.

Starting with speech difficulties identified as 'dysfluency' profiles, it is noticeable that definitions of 'cluttering', 'stuttering' and 'stammering',

presented in a descending order of gradient intensity, bear features of similarity in one respect, namely, interrupted movement, going from 'bustle and confusion', through 'involuntary blocks and spasms', to 'breaks and pauses'. **ACD** (1953: 229, 1203 & 1176):

Clutter: 2. to run in disorder; move with bustle and confusion. 4. to speak so rapidly and inexactly that distortions of sound and phrasing result.

Stutter: 1. to utter sounds in which the rhythm is interrupted by blocks and spasms, repetitions, or prolongations of sounds or syllables, sometimes accompanied by facial contortions.

Stammer: 1. to speak with involuntary breaks and pauses, or, with spasmodic repetitions of syllables or sounds.

Conversely, according to the next entry, the characteristics of 'fluency' in normal speech emphasize smooth flowing, or 'movement with ease and grace', which, in a contrastive setting, would naturally read as movement without undue breaks or interruptions of any sort. **ACD** (1953: 467):

Fluent: 1. flowing smoothly and easily. 2. able to speak or write readily: to speak fluent French. 3. easy, graceful, fluent motion, curves, etc.

Besides, while 'stammering' and 'stuttering' may be similar basically, as manifestations of fluency problems, accentuated by excitement, it is suggested, within a 'relativistic frame of reference', that stuttering is more likely than stammering to be considered an inherent speech defect. The example, 'to stammer one's thanks for a surprise gift' is given in support of this assumption, which is really based on sheer established usage. As for the incidental remark that, in both cases of stuttering and stammering, trouble is accentuated by excitement, confusion, embarrassment, or other emotions, it may be considered illustrative of the Psycho/Linguistic Parameter, sensitive to relationships between psychological states, or processes, and their overt verbal manifestations. It would certainly be logical to presume a similar relationship, in reverse, between 'fluency' and other emotions aroused through simultaneous feedback, which enhance, or intensify, operation by reinforcement, while sustaining the speaker's self-confidence.

Let us now consider 'fluency' in the context of similarity and contrast with other speech profiles in the vicinity. **ACD** (1953: 514, 1365, 720 & 1350):

Glib: 1. ready and fluent, often thoughtlessly or insincerely, so: glib speakers, a glib tongue. 2. easy as action or manner.

Voluble: characterized by a ready and continuous flow of words, as a speaker or his tongue or speech; glibly fluent: a voluble talker.

Loquacious: 1. talking or disposed to talk much or freely; talkative. 2. characterized by or showing a disposition to talk much: a loquacious mood.

Verbose: expressed in, characterized by the use of, or using many or too many words; wordy.

It is noticeable that the given definition of 'fluency' suggests a number of attributes, which are also shared with those other profiles. However, most of the differences that set it apart from them are established 'pragmatically' in terms of social impact and evaluation, which happen to be correlated with negative overtones, signalling social disapproval of all but fluency. Such is the case, when 'fluency' is compared and contrasted with 'glibness', 'volubility', 'loquacity', 'verbosity', etc. While practically all of these speech traits may share with fluency the relative ease and speed of production in verbalization, as well as the abundance and diversity of output in operation, 'glibness' is negatively associated with excess and lack of sincerity, and 'volubility' is likewise associated with tiring talkativeness and undue profusion. As for 'verbosity', it is depreciatingly defined as 'superfluous wordiness': and so is 'loquacity' pejoratively defined as 'a disposition to talk much or freely'. All this goes to prove that individual skills would necessarily get assessed within a social framework; hence the validity of the Socio/Linguistic Parameter.

However, before we go on to elaborate on the operation of this particular parameter, it would be worthwhile to do well on the 'circularity' of the language processing operation, which happens to be particularly relevant to our view of fluency in this investigation. Strangely enough, in spite of the fact that the encoding and decoding of verbal messages constitute one indivisible operation, the significance of this finding has been somehow de-emphasized, unintentionally garbled, or simply ignored in most available definitions of fluency, whether entered in dictionaries, or popularly held by those interested in it as a speech profile. It simply translates into the assumption that fluency is simultaneously applicable to speech comprehension and speech production, even though our focus of attention may be on the latter in a verbal communication situation. Under the circumstance, it would be practically impossible to limit our view to speech production, for the simple reason

that it is part of a unified process, part of a cycle initiated in response to stimuli, which must have already been received, and perceived, or cognitively nestled. Hence, it is here emphasized that what may be referred to as 'speech processing', and presented as the seat of variability in observable manifestations of speech fluency, is not a 'one-way' operation, but a dyadic process of events, interactive and cyclic in nature. This may be demonstrated with reference to a process-oriented theory of cognition, whereby the mind is conceived of as an array of interrelated functions a dynamic stream of interrelated events, having the capacity to initiate and sustain adaptive verbal and nonverbal behavior.

Accordingly, an individual engaged in the performance of a speech act has a mind that communicates with itself and the outside world, part of which is one actual, or potential, listening/speaking individual. How he behaves verbally or nonverbally is largely dependent on the information he has available, as well as on the speed and accuracy of its reception and interpretation. Basic to our approach is the cognitive assumption that the human mind is a system that processes information symbolically through the verbal encoding/decoding operation. Bourne, Jr. et. al. (1971: 13):

The human mind can be described as an information-processing system, and human behavior is a consequence of such processing. The processing that occurs depends on, but is not wholly determined by, informational input from the environment and from memory. Information represents the elements on which our skills operate to calculate possible and sensible forms of behavior.

Prior to the transmission of speech signals, to be described as more or less fluent, the speaker must have played the reverse role of receiving other signals from memory and / or the outside world peopled by other speakers. Through the activity of sensory nerves, these incoming signals are represented by stimuli other than the original ones, and the responses made are adapted to these representations. In reverse, when the speaker's response is verbally actualized as a phono-grammatical sequence of sematic import, it is again converted from some neural activity to muscular and vocal combinations. This two-way traffic is the flow that we should be considering, when we talk about fluency in normal speech. Because listening and speaking constitute a unified form of mental activity, concerned with information processing, and characterized by complexity and reversibility, the 'operational facility' enjoyed by fluent speakers must, of necessity, be true of both comprehension and production. The skill and agility of a leading basket-ball player is true of both

'catching' and 'throwing', not just 'throwing'.

Another notion of equal significance in the search for relational fluency variables is that of 'relativity'. In the first place, relativity is fundamental to our hypothetical stance, specifying 'normality', which is very hard to pin-point. It specifies consideration of the phenomenon, thus tentatively sketched parametrically, as a profile of 'normal' speech. It so happens that fluency would need to be identified within a continuum that runs into 'non-fluency', before it reaches the hazy limits theoretically separating normal from pathological functioning. This haziness is due to the fact that it is only in severe cases of stuttering, cluttering, and dysarthric, or dyspraxic speech that we stop talking about the fluency/nonfluency continuum, substituting the concept of 'dysfluency', which is obviously pathological. In other words, there is no dividing line between normal nonfluency and pathological dysfluency. The distinction becomes operative only with reference to the Socio/Linguistic Parameter. It assumes significance only where both speaker and listener are fully aware of the problem most of the time, and where verbal communication suffers obvious disruption. Consequently, it would be fair to say that the fluency/nonfluency continuum, delimiting the scope of our investigation could be roughly determined, as pertaining to normal speech operation, as long as we are able to figure out what constitutes serious speech dysfunction in a social setting. Dalton and Hardcastle (1977: IV):

It is accepted that normal nonfluency exists in the utterance of all speakers, varying with the context, the emotional state of the speaker, and the complexity of what is being said. ... In more severe cases of stuttering, cluttering, dysarthric and dyspraxic speech, dysfluency is readily recognized by both speaker and listener, as disturbing the expression of ideas and the reception of what is being said.

Accordingly, it is reasonable to assume that the fluency/nonfluency continuum starts to merge into dysfluency only under the specified circumstances «readily recognized by both speaker and listener». Any degree of nonfluency, stopping short of «disturbing the expression of ideas and the reception of what is being said», is normal, and therefore falls within the scope of our investigation.

Secondly, when fluency, as a speech trait of great complexity, is characterized by the qualities of flowing ease, coherence, speed, copiousness, and accuracy or appropriateness, it is obviously understood that, in more than one sense, these qualities are not absolutes. With one

and the same person, fluctuations above and below 'average performance' are bound to occur. As we have noted earlier in our discussion of the Socio/Linguistic Parameter, combined with the personal or individual variables are social and situational concomitants, determining the 'what' and 'how' of message make-up in verbal communication.. These variables would suggest certain choices, corresponding to contextual requirements, involving sender-receiver relationships, purpose-effect calculations, feedback-adaptation monitoring, among other attending factors. A chemist by profession knows enough about chemistry, that would enable him to speak more fluently, discussing the properties of a certain form of sugar with a colleague at work, than if he got into discussion with a philosopher on the subject of Existentialism, a doctrine he has frequently heard about, without ever getting the chance to study. By the same token, he would be less fluent in an argument with his wife, trying to convince her to be more complacent about the late hours he spends at the lab, than he would be, if he tried to convince his son of the need to proceed systematically in order to solve a particular problem. These and similar situational dynamics must have their impact on one's ability to speak 'relatively' easily, coherently, copiously, and accurately, or rather, more or less fluently.

In the aggregate, however, it is noticeable that some speakers are readier than others with their verbal responses. More often than otherwise, they are less hesitant. Even at points of high level selectivity, presenting a relatively high degree of entropy in language processing for perception and / or production, their pauses do not seem to disturb the more or less accurate balance, maintained all over predictable junctures. These speakers are rarely witnessed to move 'erratically' in search of verbal expressions considered 'appropriate' to suggest meanings they have in mind, that they would like to share with an 'attentive' listener. All in all, they are less in danger of floundering, twisting and turning for the particular speech item or items that would get their message across. Consequently, they would be expected to enjoy savings in time and energy, which they constantly put to advantage in reinforcing their skillful communicative approaches. This, in turn, would help them maintain a relatively high level of operational facility and accuracy in speech most of the time.

Thus far, while taking into consideration the three basic parameters, provisionally sketched in our attempt to furnish a relational design for the subject of this research, we seem to be approaching the point, where we may give a tentative definition of fluency in normal speech. Such a

definition would be feasible in the event we were able: 1. to describe more or less precisely the characteristic features of smooth operation; 2. account for the flowing ease of spontaneous performance; and 3. correlate operational facility with 'accuracy', a necessary concomitant that stands in need of some elaboration.

First, a flow of speech signals, characterized by smoothness and coherence, is usually marked in the main by the relative absence of impediments likely to break its continuity, distort its transitions, disorganize its grammatical pauses, or junctures, jumble its intonational or rhythmic cadence, and slow down unduly its overall tempo. Clearly, this capsule description is just intended to demonstrate the application of the Normal/Pathological Parameter. The overt features of normally fluent speech have been captured through the enumeration of salient characteristics of pathological speech in cases of dysfluency.

Second, in order to account for the flow of speech signals bearing the referred to linguistic features, it would be necessary to correlate it with the principles of cognitive psychology, pertaining to the two-way process of both verbal and non-verbal perception and speech production. For instance, it would be impossible to explain 'continuity' or lack of continuity without reference to the thematic structure of cognitive response, a feature of 'ideation'. Similarly, it would be impossible to explain thematic development by easy stages in 'transition' without reference to some charted procedure or 'program', amenable to predictable unfolding under the control of a 'monitory' system. The same thing holds if we try to account for certain 'grammatical' or 'euphonic' features in terms of individual choices at these levels of verbalization. We are here guided by applications of the Psycho/Linguistic Parameter.

Third, in order to distinguish between the easy flow of speech in the case of 'fluency' and other forms of easy speech flow, characteristic of those profiles dealt with earlier in this research, we would need to correlate it with the degree of 'accuracy' maintained by the speaker in language processing. In speech perception, the potential speaker makes choices relative to phonological, grammatical, lexical, semantic, and pragmatic decoding, which must be accomplished within the narrowest margin of error, to arouse such reactions as would help him grasp the intended meaning, and fast enough to allow time and energy savings to utilize in response. Similarly, in speech production, the now-actual speaker makes those choices in reverse. According to his ideational schema, marking the pragmatic and semantic stages of verbal encoding, the rest of the neurolinguistic program is put into effect through motor

regulation and constant monitoring, thereby allowing him as a speaker to proceed through the stages of grammatical and phonological encoding within the narrowest margin of error, and again, fast enough to capitalize on time and energy savings. Needless to say, our reference to the question of 'accuracy' versus 'inaccuracy', or 'error has to do with the listener/speaker's relative efficiency in the assessment of psychological, social and cultural constraints, as variables determining the 'acceptability' and 'appropriateness' of choices made at linguistic and general communicative levels of performance. Hence, the significance of the Socio/Linguistic Parameter in our exploration of this interactive process. Van Dijk (1977: 185):

Most philosophical and logical investigations into the nature of action are limited to analyses of actions performed by one agent. Indispensable to a theory of action that seeks to explain the nature of communicative acts is, however, an account of the nature of interaction. ... In fact, most of our activities have social implications, and our acts are therefore part of interactions.

In other words, the two dimensions of 'operational smoothness' and perceptive as well as productive 'accuracy' must be considered concomitant in the presented view of fluency in normal speech. Most probably, it is through this necessary linkage that 'fluency' and oral language 'proficiency' have been interchangeably used in descriptive language terminology. When a speaker is referred to as 'fluent', it is usually understood that he enjoys oral proficiency in a particular language, possibly his own. And yet, for all its significance, this particular fact can be easily muddled in such a field of application as foreign or second language teaching. In a recently published FORUM article, entitled "Oral Fluency Training and Small Groups", responding to the usual urge to segment learning tasks, adapting teaching methodology to each segment more or less independently, the author (Davies, 1980⁷) makes two separate entities of 'fluency' and 'accuracy'. He defines the former as "the ability to speak readily and without undue hesitation", and leaves the latter undefined. Immediately afterwards, he states his belief "that training for accuracy and training for fluency are usually dealt with separately, as there is, undoubtedly, a conflict between the two".

Obviously, the author's curt definition of 'fluency' in that particular article makes it equivalent to a surface view of what we would call 'the relative easy flow of speech', which has to be correlated with a number of

variables, to constitute what we conceive of as 'fluency'. Because 'accuracy' is partly 'linguistic' and partly 'communicative', it should be considered inherent in all variables, recognized as pivotal in this exploration. The trouble is that accuracy, more often than otherwise, is narrowly associated with the 'correctness', or 'acceptability' of pronunciation, intonation, grammatical structure, and semantic constraints, as 'systematized' for all language users at different levels of usage. Therefore, if Average Educated Usage is our target, 'accuracy' would be evaluated and measured by established standards relative to these subsystems of language. In other words, 'accuracy', at these generalized levels would be determined according to general rules and broad constraints. However, fluency parameters emphasize variability in actual language performance, in actual verbal behavior, which is based on 'adaptability' to evaluate it and measure it according to the speaker's ability to interact adequately and smoothly in a variety of verbal communication situations. In the addition of 'operational propriety' to 'systemic acceptability', we would be including 'accuracy' within the framework of psycholinguistic, and sociolinguistic variability in normal speech fluency. Dittmar (1976: 16):

The abandonment of a narrow grammatical perspective, restricted to phonology and syntax..., in favor of an analysis of the pragmatic and communicative function of language in verbal interactions can be attributed to different recent developments both within and outside the field of linguistics: anthropological approaches ('the ethnography of speaking', Hymes, 1962), studies of verbal interaction (cf. Gumperz and Hymes, 1972; Sudnow, 1972), and situation-oriented analysis of speech acts (Mass and Wunderlich, 1972).

Therefore, it is not too much to reiterate that the specification of 'accuracy' criteria, applicable to both linguistic and nonlinguistic considerations, would help set fluency apart from those negatively connoted speech profiles previously mentioned, which seem to share with it the qualities attributed to 'smoothness of operation'. We have seen how fluency and glibness, for instance, may in outward manifestation display all signs of 'mechanistic' efficiency in the processing of speech data. And yet, fluency would, by virtue of the speaker's discriminatory awareness of considerations relative to linguistic acceptability and communicative appropriateness, stand out as different from glibness and the rest. Fluency in speech would tend to correlate positively with oral language proficiency at large, which, in turn, must be broadly viewed along linguistic, psychological, and social-cultural dimensions. The claim that some

speakers may be very precise and articulate, without necessarily being 'fluent', implies a contradiction in terms and/or a different definition of fluency. Most probably, such a claim should be partly re-worded "without necessarily maintaining a relatively fast tempo". In popular parlance, or usage, the most salient characteristic of fluency seems to be 'speed', which may be considered indicative of 'readiness' and 'easy performance'. And yet, technically speaking, even though speed is one of the recognized features of fluency, it does not constitute a sufficient and decisive factor.

In the context of evaluation and measurement 'tempo' may indeed be considered a significant factor, if and when it proves to be positively correlated with 'accuracy'. However, in view of the fact that all the features that go into the make-up of fluency have to be measured relatively, and relationally, two things would have to be determined at the outset: 1. the particular features to be measured and evaluated, and 2. ways of performing such measurement. Not before this is done, could the relationship between fluency and speed, or indeed any other factor, be determined more meaningfully. For the purpose, the following account is offered as a concise projection of a model that we hope to pursue in greater detail in subsequent evaluation and measurement research.

It encompasses the two basic requirements of measurement, expounding the 'what' and 'how' of fluency in normal speech, to which 'validity' and 'reliability' checks would naturally be added in field research, even though validity is theoretically discussed in this investigation. In other words, once the main aspects of this phenomenon are determined, specific criteria can be stated, together with the indices to be observed, and the types of correlation presumed as holding in each case. All in all, there are four sides to the framework of our model, which we will attempt to sketch in 'relational' perspective, showing how the sides hold together to cover the phenomenon in question, and how each side may be subjected to evaluation and measurement.

First, the Temporal Aspect of fluency provides us with speed for a 'criterion', manifested by a relatively fast tempo, or rate of progression to be 'indexed' by the number of words produced within a given time span. The type of 'correlation' assumed to hold between index and criterion is positive.

Second, the Quantitative Aspect of fluency suggests copiousness for a 'criterion', manifested by relative fullness of expression, to be 'indexed' by the number of words covering treatment of a thematic or textual segment in discourse. The type of 'correlation' is also positive. Clearly, these two sides seem to be the easiest to handle, and may be considered byproducts

of the next two, even though, as pointed out earlier, speed, in particular, is usually identified by many as 'the' mark of fluency.

Third, the Sequential Aspect of fluency yields the 'criterion' of operational facility, as may be overtly manifested by the flowing ease, coherence, and continuity of speech. Now, in view of the fact that this particular criterion is rather elusive, we have found it expedient to utilize one of our three basic parameters, namely the Normal/Pathological, in determining various 'indices' to be correlated with the criterion in question. Only, because these very indices would be used in the evaluation and measurement of dysfluency, we must naturally expect 'correlations' to be negative for fluency. Now, substituting 'interrupted speech sequence' for its antithesis 'continuous and easy-flowing speech sequence', we offer the following eight indices: 1. hesitation pauses, both filled with hemming and hawing, and unfilled ones. 2. exaggerated or unusual vowel and consonant prolongations. 3. haphazard, or erratic segmental repetitions of any sort. 4. awkwardly revised, or recast, structures of any length. 5. all forms of incongruous and distracting interjections, including nonverbal gestures. 6. distorted intonation contours. 7. distorted stress patterns. 8. distorted rhythmical cadences.

Fourth, the Monitory Aspect of fluency, which is a built-in evaluative procedure within the speech-processing operation, suggests the all-important accuracy 'criterion', which breaks down into two major components: linguistic and communicative. The fundamental assumption here is that the control of operational facility and continuity impinges on the availability of feedback information, relative to the favorable assessment of the speaker's performance by his audience, in terms of the conventional 'acceptability' of the language at his command, and of the 'appropriateness' of his communicative stylistic traits. Accordingly, for the linguistic criterion, also reversed to read 'incorrect adherence to language rules and constraints', the following 'indices' are suggested, with negative correlations for fluency: 1. lexical errors manifesting violations of semantic constraints 2. inaccuracies of morphological or syntactic structures. 3. errors of segmental phonology, with the understanding that errors of sequential phonology are taken care of under the sequential aspect. As for the communicative criterion, it is, too, reversed to read 'lack of attuned responsiveness to the exigencies of the communication situation in toto'. Admittedly, this is rather tough to handle. However, some of its 'indices' may be the following six:

1. textual errors showing lack of fidelity or veracity in the representation of message content.
2. faulty reasoning or

argumentation. 3. scarcity or absence of called for modifications, or qualifications. 4. aberrations of social-role requirements or common courtesies. 5. violations of cultural norms. 6. disregard for individual reactions as overtly signalled, or implied. Natural, this index list is open-ended; it could not possibly be all-inclusive; therefore, additional insinuations of unfavorable audience response would certainly be conceivable in this respect.

With this, we come to the end of our sketch of a model for the measurement of fluency in normal speech. In the light of experimentation, a full scientific treatise would be needed to convert it into an efficient tool.

With all aspects, criteria, and indices now fresh in mind, let us elaborate still further on this crucial assumption, that fluency and accuracy are not separate entities; that accuracy is an integral part of fluency. In the first place, we have now seen that the actual combination or merge is between 'accuracy' and 'operational facility', as manifested by speed, copiousness, and the relative absence of obstructions, distortions, breaks, etc. The combination is not between accuracy and fluency, to yield something else, but between accuracy and operational facility to yield fluency. Secondly, the interaction between accuracy and operational facility is actually mediated, rather than direct. The mediation process has been referred to as 'monitory control'. In other words, the conditions favorable to the maintenance of relative speed, copiousness, and continuity are, in the last analysis, external conditions, pertaining to stimuli from the actual speech situation, to which the speaker responds. If, in responding to these external stimuli, the speaker is able to demonstrate his relative fitness, both linguistically and communicatively, to show his ability to observe rules and constraints, to meet most of the textual or situational requirements, then all, or most of the feedback signals will be favorable to subsequent speech-processing operations, and that is how he keeps going, maintaining a relatively high level of easy performance. Thus, the speaker's perception and interpretation of, as well as his action on, feedback information is what constitutes the referred to mediation through monitory activity. No speaker would be reasonably assumed to be permanently equipped with 'fluency powers', that could constantly operate at relatively high levels of efficiency under all circumstances, regardless of the variability of external situational factors.

In conclusion, the import of this exploration can be briefly stated as

follows. Three pivotal parameters have been identified and expounded as providing borderline coverage of fluency in normal speech: Normal/Pathological, Psycho/Linguistic, and Socio/Linguistic. In the course of our discussion, related variables oscillating around these three have been suggested and taken account of. Gradually, a synthesis of factors and features has emerged, allowing an integrative view of the phenomenon in question. Hopefully, we have been able to provide clearer and deeper insights into a concept that has been taken too much for granted, and not without a few popular misconceptions.

In attempting to rectify some of these misconceptions, we have, in the first place, demonstrated the fact that fluency, as a normal speech profile, consists in an interactive process, involving both production and comprehension in language-processing operations, not just production. Secondly, we have emphasized the fact that fluency, as a speaker's personal accomplishment, is not altogether his own individual endowment; that it is partly contributed to, and mainly enhanced by cooperative listeners under a variety of favorable circumstances. Hence, the value of situational and social-cultural factors. Thirdly, we have reacted positively to the most prevalent misconception of fluency in terms of speedy linguistic performance. We have indicated that, even though speed may be considered a criterion of the temporal aspect of fluency, it is not fluency per se, nor is it 'the' most important variable in fluent speech. Fourthly, in discussing the interrelations among all four aspects of fluency in normal speech, particularly those between the Monitorial aspect and the rest, the question of accuracy and operational facility has hopefully been logically resolved. Otherwise, any heap of linguistic material, spouted easily and smoothly at relatively high speed by a confused and confusing chatterbox, lacking in self control, would earn for him a mark of distinction as a 'fluent' speaker.

Fifthly, because most current definitions of 'accuracy' in speech are usually conceived narrowly in terms of 'linguistic acceptability', or relative freedom from 'errors', systemically labelled phonological, morphological, syntactic, and semantic, it has been necessary to present an expanded view of accuracy in the dynamic process of verbalization, by incorporating the all-important notion of 'communicative adjustment' to the totality of a speech situation. It is thereby implied that, pragmatically, verbal maladjustment to any variable in the situation would constitute an 'error' of style or approach, which would, in turn, reflect on audience reactions and subsequent feedback signals, with their negative effect on the speaker's performance. Conversely, verbal communicative adjustment

has been shown to receive stimulation from favorable audience feedback, emanating from reactions in approval of the speaker's ability to decode and encode messages adequately and satisfactorily.

Finally, the projected Model for Measurement of fluency in normal speech is characterized by the following features:

1. It is based on a more or less comprehensive view of the phenomenon in a relational, relativistic perspective.
2. It is adjusted to meet rectified dimensions and fill gaps in existing models.
3. Even though it covers temporal, quantitative, sequential, and monitory aspects, together with specific criteria, related indices, and types of correlation, it remains open-ended.

What we need to do with it later is further elaboration and modification in the light of experimentation in the field, in order to make of it a truly valid, reliable and sophisticated instrument. For the present, however, the development of this model has guided our course, and tentatively confirmed our stance in this exploration

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