

European Journal of Literature, Language and Linguistics Studies

ISSN: 2559 - 7914 ISSN-L: 2559 - 7914 Available on-line at: <u>www.oapub.org/lit</u>

DOI: 10.46827/ejlll.v7i3.473

Volume 7 | Issue 3 | 2023

EVOLUTION OF 'ARBITRARINESS' IN 'SIGN' IN LANGUAGE TO 'REVELATION' IN 'SIGN' IN MANTRIC POETRY (WITH SPECIAL REFERENCE TO SRI AUROBINDO'S MANTRIC POETRY)

Nikhil Kumarⁱ

Professor & Head, Dr. Univ. Dept. of English, V. K. S. University, Arrah (Bihar), India

Abstract:

'Sign' in language, is, admittedly, arbitrary in nature. Having studied in the light of yogic revelations made by Sri Aurobindo of the hierarchy of consciousness, arbitrariness is found to be operative on the intellectual plane of Mind and the planes below it. The intellectual plane of Mind and all the planes below it are under the gravitational pull of the separative principle of consciousness operating on the plane of Mind as revealed by him. It is on account of the pull that the sign comes to be arbitrary. As one evolves, as a result of the realisation of the existence of the One Transcendent Divine, to the spiritual plane of Mind, the separative principle of consciousness operating on the plane of Mind tends decisively to decay, hence, the arbitrariness, too, in sign tends to decay, with the rise of a new movement on the plane of Mind, the movement towards the integrality of the Consciousness of the One Transcendent Divine. Here, one enters into the realm of spiritual consciousness. Sri Aurobindo reveals four planes of spiritual consciousness on the plane of Mind. On the two uppermost planes of the spiritual consciousness, the 'Intuitive Mind' and the 'Overmind', as he terms them, the separative principle decays to the extent that the poetry written from these planes, the poetry which, according to Sri Aurobindo, is 'Mantra' or Mantric Poetry, comes to be revelatory. Hence, the 'sign' in it comes to be revelatory.

Keywords: Arbitrary, Revelatory, Creative and Mantric poetry

1. Introduction

"Therefore, mankind has one original language based on certain eternal types of sound, developed by certain laws of rhythmic variation, perfectly harmonious and symmetrical in its structure and evolution." (Sri Aurobindo 1991:505)

ⁱ Correspondence: email <u>drnikhilkumar18@gmail.com</u>

Copyright © The Author(s). All Rights Reserved

This is what Sri Aurobindo, a yogi of the 'unknown eternal heights' discovers. Such an original language, he says, is framed in 'heaven' (1991:505), not on the earth, —the heaven which he discovers to be the highest plane of the spiritual consciousness, the 'Overmind Consciousness' as he terms, on the plane of Mind-Consciousness. The Overmind Consciousness, he explains, is the cosmic consciousness beyond which the transcendent plane of existence and consciousness, the 'Supramental' as he terms it, exists. Sri Aurobindo discovers four planes of spiritual consciousness existing above the plane of the intellectual mind-consciousness, nay, the 'mental mind' consciousness as he terms, —the spiritual consciousness wherein one has the knowledge and realisation of the One Divine, the One Cosmic Self, or wherein one comes to be aware of the existence of the Divine Self in one's being. They are, what he calls, the Higher Mind, the Illumined Mind, the Intuitive Mind, and the Overmind. These planes are the successive higher planes of the spiritual consciousness.

Sri Aurobindo's vision of the 'one original language' that mankind has got come to be intelligible to us when we look into his vision of evolution. He says that Life, Mind and higher planes of consciousness evolve out of Matter for the reason that they are involved in Matter (1990:3). He visualises a phenomenon inverse to evolution, the phenomenon which he calls involution. Involution precedes evolution, he says (1990:765). Such an involution is, therefore, responsible for evolution. On a closer examination, it is found that the Supramental which is the transcendent consciousness, as noted earlier, descends and comes to be the Overmind Consciousness, the Intuitive Mind Consciousness, the Illumined Mind Consciousness, the Higher Mind Consciousness, and the other lower planes of Mind Consciousness, and it further continues to descend to become and appear to us as the planes of, what we call, Life and Matter. Such a descent is involution. The involutionary phenomenon stops when the Supramental assumes the form of Matter. Therefore, Matter comes to be the lowest plane of existence in the hierarchy. Further, under the pressure of the involutionary force Life evolves out of Matter, and Mind out of Life, and evolution further takes place with the emergence of the involved higher planes of existence and consciousness therein (1990: 258).

The above-mentioned planes of the spiritual consciousness which came into existence earlier in their supraphysical states as a result of involution emerge from Matter. There takes place the material appearance of these planes. Therefore, the language which emerges on the plane of the Overmind Consciousness as a result of evolution can be found to have already come into existence in its supraphysical state with the prior involution of the Supramental Consciousness from Its Sovereign Transcendent Supramental plane of Consciousness. Such a language is the 'one original language'. We continue to call it 'one original language' even when it emerges in its material form or to say, in its physical state later on in the course of evolution on the higher evolutionary plane.

Though the Overmind plane of Consciousness is the plane of existence where creation with its dimensionality, finiteness, and ignorance comes first into existence just below the plane of the Transcendent Consciousness as a result of its involution in which separative principle of the Transcendent Consciousness starts working, eternity is not concealed here on account of the cosmicity of the Overmind Consciousness. Therefore, we discover the eternal types of sound here, the types on which the 'one original language' is based. The chief cosmic functionaries of the creation on the plane of the Overmind Consciousness who come into existence as a result of the involution are recognised as Gods. Therefore, such a plane of consciousness is called 'heaven' where Sri Aurobindo finds the 'one original language' to have been framed. 'OM' (AUM) which he finds to be 'the signature of Lord' is stated to be the first word to have come into existence in the creation.

The original language, discovered on the Overmind plane of consciousness, suffered 'change, detrition, collapse' (1991: 505) on the lower planes of consciousness since the separative principle of the essential transcendent consciousness continues to remain in action as a result of the involution of Transcendent Consciousness, or to say, the Supramental Consciousness, for the creation of these lower planes of consciousness. As the separativity is at work in the 'change, detrition and collapse' of the original language, innumerable languages, vernaculars come into existence, says Sri Aurobindo (1991:505). Initially, they are found in their supraphysical existence in the course of involution. With the beginning of the evolutionary phenomenon their material appearances take place. In evolution the changed languages, on the higher planes, begin to recover from 'detrition and collapse', and finally come back to their original state as in the evolution separativity begins to lose its existence, and a movement towards integrality starts. Involution in which the transcendent integral consciousness continues to exist in a concealed or latent state on account of which movement towards integrality takes place in evolution provides these languages 'certain laws of rhythmic variation, perfectly harmonious and symmetrical' in their structure and evolution to the higher planes. The concealed or latent state of the transcendent integral consciousness in involution which Sri Aurobindo visualises comes to be intelligible to us when we find the emergence of harmony and symmetry in the structure of languages in the course of evolution. In fact, the One Transcendent manifests itself in 'harmony' and 'symmetry' which we find in the language in the course of higher evolutionary planes. The 'constant' features of sound-wave (Bloomfield 2010:76), too, in speech manifests the integrality. What we find to be the 'constant' in sound-wave is, as a matter of fact, the physical manifestation of the transcendent integrality in the speech. The Vedic Rishis, too, visualise the concealed state of the transcendent integral consciousness in the creation of which they speak poetically in the Primordial Resolve: "Eko-Ham Bahu-Syam, Praja-Eyam", "I am One, become Many, yet remain the Same." The Divine remains the same within the 'Many' and without the 'Many'.

The truth of the 'one original language' of mankind descends into the intellectual mindconsciousness and vision of Ferdinand de Saussure, the celebrated Swiss linguist who is the founding father of Structuralism. Consequent upon the descent of such truth into the plane of his intellectual mind-consciousness Saussure could visualise the existence of the basic structure of language dwelling on the plane of, what the linguists call, 'abstraction'. Jonathan Culler says very categorically:

"...structure can be defined at various levels of abstraction." (Rivkin and Ryan 2002:74)

On the highest plane of abstraction, the 'extreme level of abstraction' (Sturrock 2003: 28) the basic constituents of structure exist. Language, therefore, comes to be a thing of abstraction. It is something which is of the domain of, to use Sri Aurobindo's terminology, the supraphysical,

or to say, a very high plane of the spiritual domain, as noted earlier, —the domain which comes as something abstract to the vision of the matter-oriented intellectual mind-consciousness as the supraphysical plane is not accessible to it. In fact, what the structuralists call 'abstraction' is a thing of Universal. They discover the plane of Universal in language. The physical manifestation of the Universal they discover in language. In fact, the very plane of the Universal is the plane of language in their eyes. Language comes to be a synonym for Universal.

The basic structure of language, to Saussure, on the plane of abstraction or to say, universal, is not subject to evolution. The evolution of language of which the nineteenth-century diachronic linguistics speaks is found to be going on as per the basic structure of language since harmony and symmetry are found in the structure of language in evolution as noted earlier. The culmination of such harmony and symmetry Sri Aurobindo finds in the emergence of the 'one original language' of mankind. In fact, language, of which the diachronic linguistics speaks, is evolving to the plane of abstraction, or to say, universal to enter into the basic structure to have the 'one original language', for which the basic principle of the plane of abstraction, or universal, is found to be at work at the base of evolution, the truth which we have noted earlier while discussing the truth of involution. Such a truth of the basic structure of language as something supraphysical or abstract is quite visible when Jonathan Culler says:

"Within linguistics itself there are disagreements about what precisely belongs to *langue* and *parole*: whether, for example, an account of the linguistic system should specify the acoustic and articulatory features that distinguish one phoneme from another (/p/ is "voiceless" and /b/ "voiced"), or whether such features as "voiced" and "voiceless" should be thought of as the manifestations in *parole* of what, in *la langue* itself, is a purely formal and abstract distinction. Such debates need not concern the structuralist, except in so far as they indicate that structure can be defined at various levels of abstraction. What does concern him is a pair of distinctions which the differentiation of *langue* from *parole* is designed to cover: between rule and behavior and between the functional and the nonfunctional." (2002:74-75)

Here, *langue* comes to be the world of Unmanifest, hence abstract, and *parole* the world of manifest, or what we commonly call, speech. The universal, or to say, 'abstraction' which is the world of unmanifest is again visible when we concentrate 'between rule and behavior and between the functional and the nonfunctional' and penetrate exactly in the same manner in which we penetrate into T.S. Eliot's vision of 'neither flesh nor fleshlessness' in his poem *Burnt Norton*. There exists, what he calls, a 'still-point' between flesh and fleshlessness. Such a 'still-point' can be found to be existing between 'rule and bahavior and between the functional and the nonfunctional' too. The 'still-point' where the Transcendent makes us feel Its existence and presence is at the root of the dualism, — the Dualism which is cropped up in the world of creation as a result of the working out of the principle of separativity in involution. On the physical plane, too, the 'still-point' can be discovered in the centre of a circular motion in which exist the two dual forces, the centripetal and the centrifugal. The centre is the 'still-point' in which the duality arising out of the centripetal and the centrifugal forces is reconciled. It is unmanifest. In fact,

such an unmanifest 'still-point' is the origin of these two forces. It exists *a priori*. It is transcendent to the dualism. Therefore, the still-point is a thing of abstraction and universal, or to say, the supraphysical.

The validity of the very vision of structuralists of the 'manifestations in parole of' what is in 'la langue itself' is found to exist in the most celebrated scientist Albert Einstein's vision, too, of Matter as the manifestation of Energy. In his Theory of Special Relativity when he establishes the truth that Matter can be converted into Energy as the latter creates the former, the former comes to be the manifestation of the latter. It is for this reason that Matter has been found to be the condensed form of Energy in the realm of Physics. Of Matter Sri Aurobindo says that 'it is a structure of Energy' (1990: 652). Such a vision of Sri Aurobindo is affirmed when the Theory of Special Relativity says that 'Energy is assumed to possess mass.' (Stannard 2008: 36). Einstein very categorically says that mass is a form of energy, the measure of the content of energy. Energy is again found to be at the base when mass is found to be lost in energy when it enters the black hole where energy comes out continuously. Mass is, in fact, not lost, but found to be transformed into energy in the black hole. The black hole can, thus, be taken to exist as the world of energy where mass does not exist. The energy is, therefore, universal. In the background of such a scientific vision, one cannot deny that what we find in *parole* is the manifestation of the truth of the plane of universal *la langue*. The evolution of language of which nineteenth-century linguistics speaks can, thus, be unmistakably taken as the gradual manifestation of the truth which is on the plane of universal.

Saussure further speaks of a power of signification that exists within sign. Such a power is universal, he says. This power is found to have been identified by Noam Chomsky when he finds 'mind' at the centre of language and grammar. On an in-depth examination, we find that mind is the power that is universal and exists within sign. Chomsky discovers mind is responsible for producing some sentences in language which are never been heard before. He observes that Bloomfield has failed to account for the infinite creativity of language as he has negated the mind. (2003:32). Bloomfield asserts the role of 'habit' at the centre of language-formation, and further attempts to negate the role of mind in the task of the language-formation while making such an assertion. But, on further examination, such an assertion of Bloomfield fails to negate the role of mind since 'habit' in itself is a matter of mind. Habit is found to be the state of inertia in mind. Having discovered 'mind' at the centre of language and grammar Chomsky comes very close to an eminent British physicist of the twentieth century A.S. Eddington who finds the universe to be the 'mind-stuff' (1929: XV). Further, Chomsky and Eddington come close to Sri Aurobindo who says:

"...it is becoming even a little doubtful whether the acts and creations of this Energy itself are explicable except as the motions and power of a secret Mind or Consciousness of which its processes and steps of structure are the formulas." (1990:652)

Thus, the power of signification which Saussure finds to be existing within sign as Universal comes to be the power of a 'secret Mind or Consciousness' into which the arbitrariness of sign evolves and reveals its temporality.

2. Arbitrariness in 'Sign'

Saussure visualises on the plane of his intellectual mind consciousness that 'word', or to use his terminology, 'sign', the network of which, the structuralists and the poststructuralists say, is language, is arbitrary in nature. He says:

"The bond between the signifier and the signified is arbitrary. Since I mean by sign the whole that results from the associating of the signifier with the signified, I can simply say: *all linguistic sign is arbitrary.*" (2002:74-75)

Sri Aurobindo, too, speaks of word as the 'conventional word-sign' (1991:13) and finds arbitrariness in it. He says:

"In modern language, the word is a fixed conventional symbol having for no good reason that we know a significance we are bound by custom to attach to it. We mean by wolf a certain kind of animal, but why we use this sound and not another to mean it, except as a mere lawless fact of historical development, we do not know, do not care to think. Any other sound would, for us, be equally good for the purpose, provided the custom-bound mentality prevailing in our environment could be persuaded to sanction it." (1987: 563)

Such an arbitrariness in sign has been taken to be the absolute truth by linguists in the modern world. It leads Jacques Derrida to assert that sign is "under erasure", *sous rature*, to quote his expression (Spivak 1976: xiv). He finds the arbitrary nature of sign responsible for the erasure. He finds 'no stable identity, no stable origin, no stable end' (1976: xii) in sign or text since arbitrariness, according to him, is the absolute truth. Arbitrariness has produced a negative vision of the differential relationship between signs.

"The structure of reference works and can go on working not because of the identity between these two so-called component parts of the sign, but because of their relationship of difference." (1976: xvi)

For example, a differential relationship between 'day' and 'night' exists due to the absence of sunlight in night. 'Good' and 'bad' are also examples of differential relationships. And so on.

Saussure discovers the two apparent contradictory features in sign, universality and arbitrariness. He also discovers that the Universal reigns supreme. But Derrida and the other poststructuralists who discovered the sole reality of the arbitrariness in sign make such arbitrariness a ground to reject the truth of the Universal existing within sign, not taking the scientific discovery of the Universal in the Quantum Theory and Einstein's Theory of Relativity into account. To Derrida and the other poststructuralists, since arbitrariness is the fundamental truth of sign, nothing can remain stable. Therefore, they say that nothing fixed, the manifestation of which is the Universal, exists. Hence, to them, the vision of the structuralists of the Universal

is an illusion. The poststructuralists to whom the Universal is something fixed, or is a thing of fixity are yet to know that a wave, what modern Physics calls, 'probability waves' (Capra 1991: 166), which is not a three-dimensional wave like water wave or sound wave etc. exists in the universe as something transcendent. The probability wave was discovered by the Physicists when they penetrated into the deeper depths of Matter, to be more specific, in the sub-atomic world of Matter. The probability wave very clearly reveals that the universe, or to say, the Universal is not at all a fixed object. When we begin to study the phenomenon of physical creation from the probability waves down to the plane of solid Matter, we find that the probability wave which is transcendent to the three-dimensional waves has assumed the form of fixity which is clearly visible in the solid state of Matter. And, further, when we put the probability wave and the solid Matter together, it is obvious that the universe or that which exists beyond the universe or the universal is unmanifest. When it manifests in the linguistic sign their crops up arbitrariness in the sign on account of the finiteness on the plane of manifestation within which the sign exists.

In fact, the Universal, the truth of which comes into the vision of Saussure transcends the three-dimensional fragmented vision of the Derrideans.

3. Sound at the base of 'Sign' and the 'Seed-Sound'

Sri Aurobindo whom we have noted at the outset of the paper as a man of higher consciousness being a yogi of the unknown eternal heights goes deeper and finds something very scientifically at the base of a word, or to say, sign. He discovers sound at the base of the word. The word comes to be a form of sound. He shows sound at the base of 'word' or 'sign' very scientifically when he explains the relation of human speech to sound. He says:

"...let us examine the relation of human speech to sound in general. We see at once that speech is only a particular application of the principle of sound, a vibration made by the pressure of the breath in its passage through the throat and mouth. At first, beyond doubt, it must have been formed naturally and spontaneously to express the sensations and emotions created by an object or occurrence and only afterward seized upon by the mind to express first the idea of the object and then ideas about the object." (1988: 125)

The sound that came into existence naturally and expressed spontaneously the object is, as he terms, the seed-sound. He says that in such a seed-sound there is nothing arbitrary. It was used by the primitive men to speak of some object or incident. In fact, it reveals the presence of the object or the occurrence of the incident. He further says:

"By going back thus from the artificial use of a developed speech in modern language nearer to the natural use of primitive speech by our earlier forefathers we gain two important points. We get rid of the idea of a conventional fixed connection between the sound and its sense and we perceive that a certain object is expressed by a certain sound because for some reason it suggested a particular and striking action or characteristic which distinguished that object from the earlier human mind. Ancient man did not say in his mind as would the sophisticated modern, "Here is a gory carnivorous animal, with four legs, of the canine species who hunt in packs and is particularly associated in my mind with Russia and the winter and snow and the steppes; let us find a suitable name for him"; he had fewer ideas about the wolf in his mind, no preoccupation with ideas of scientific classification and much preoccupation with the physical fact of his contact with the wolf. It was this chief all-important physical fact he selected when he cried to his companion, not "here is the wolf", but simply "this tearer", *ayam vrkah*. The question remains, why the word *vrkah* more than another suggests the idea of tearing. The Sanskrit language carries one step back, but not yet to the final step, by showing us that it is not the formed word *vrkah* with which we have to deal, but the word *vrc*, that root of which *vrka* is only one of several outgrowths." (1988: 565)

Vrka is the outgrowth of the seed-sound. Such seed-sound by which our forefathers, or to say, the primitive men expressed some object, or some incident, as noted earlier, thus, comes to be revelatory. In fact, the revelatory nature is discovered by Sri Aurobindo and the Vedic Rishis to be the essential feature of sign. They discover such a revelatory feature in the sign of the language of the higher planes of spiritual consciousness. They also find that sign on the highest plane of the spiritual consciousness, is not only revelatory but creative as well.

4. Revelatory and Creative Nature of 'Sign' and 'Mantra'

Such a revelatory and creative nature of sign, Sri Aurobindo says, is found in, what he calls 'Mantra', Mantra which he finds to be the poetic expression of the deepest spiritual reality. According to him, poetry written from some higher planes of, what he calls, the Intuitive Mind Consciousness and the Overmind Consciousness which are the two uppermost planes of spiritual consciousness on the plane of Mind is Mantra. Though the Supramental Consciousness, the Sovereign Divine Consciousness exists beyond the plane of the Overmind Consciousness, the Intuitive Mind Consciousness and the Overmind Consciousness are by nature receptive to the Divine Consciousness which exists on the Supramental plane, for they are not under the gravitational pull of Matter. The Divine Consciousness is very much vibrant here on these planes. Consequently, these planes of the spiritual consciousness inhere the revelatory and creative natures, on account of which Mantra has been found to be revelatory and creative. Of the features of Mantra, he says:

"The Vedic use of the Mantra is only a conscious utilisation of this secret power of the word. And if we take the theory that underlines it together with our previous hypothesis of a creative vibration of sound behind every formation, we shall begin to understand the idea of the original creative Word. Let us suppose a conscious use of the vibration of sound which will produce corresponding forms or changes of form. But Matter is only, in the ancient view, the lowest of the planes of existence. Let us realise then that a vibration of sound on the material plane presupposes a corresponding vibration on the

vital without which it could not have come into play; that again presupposes a corresponding originative vibration on the mental; the mental presupposes a corresponding originative vibration on the supramental at the very root of things. But a mental vibration implies thought and perception and a supramental vibration implies a supreme vision and discernment. All vibration of sound on that higher plane is, then, instinct with and expressive of this supreme discernment of truth in things and is at the same time creative, instinct with a supreme power which casts into forms the truth discerned and eventually, descending from plane to plane, reproduces it in the physical form or object created in Matter by etheric sound. Thus, we see that the theory of creation by the Word which is the absolute expression of the Truth, and the theory of the material creation by sound-vibration in the ether correspond and are two logical poles of the same idea. They both belong to the same ancient Vedic system." (1988:126-127)

Thus, it is obvious that without the supramental vibration physical sound which is at the base of sign in human speech cannot come into existence. The features of sound change evolutionarily as we ascend the higher planes of existence from the plane of Matter to the planes of Life and Mind, and further to the higher planes of Mind leading to the plane of the Overmind Consciousness and beyond it. The supramental feature with which sound is instinct starts emerging on the higher planes of consciousness in the course of evolution. Since the supramental vision implies a 'supreme vision and discernment', sound on the higher planes of the spiritual mind-consciousness starts giving rise to the gradual vision of the Supramental Divine Truth. These higher planes of the spiritual mind-consciousness are the Illumined Mind Consciousness, the Intuitive Mind Consciousness, and the Overmind Consciousness. Sri Aurobindo says that the Illumined Mind is 'of spiritual light' (1990: 944), and works 'primarily by vision' (1990: 944). The 'spiritual light' emerges here as the separativity of consciousness which begins to lose its hold on the plane of Mind-Consciousness when it enters into the domain of, what he calls, the spiritual mind consciousness loses its hold all the more on the plane of the Illumined Mind Consciousness. Since on the higher planes of the spiritual mind-consciousness, the separativity of consciousness continues to diminish, the vision of the Divine Truth comes to be less eclipsed, and there emerges more clarity of the vision on the plane of the Intuitive Mind Consciousness which is, as we have noted, the next higher plane of spiritual consciousness. Of the consciousness of the Intuitive Mind, he says:

"...when the consciousness meets the Supreme Reality or the spiritual reality of things and beings and has a contactual union with it, then the spark, the flash or the blaze of intimate truth-perception is lit in its depths. This close perception is more than sight." (1990: 947)

Revelation of the Divine Truth takes place here. When one evolves and rises to the plane of the Intuitive Mind Consciousness, the latent Intuitive Mind Consciousness in one's being is no more latent. It comes in front and takes over the command of one's being with the result that the revelation of the Divine Truth takes place in one's being. When, further, one ascends the plane of the Overmind Consciousness, one finds the vision of the Divine Truth, the truth which exists on the Transcendent Supramental plane, to be the least eclipsed on account of the least separativity of Consciousness on this plane of Overmind Consciousness which, as we have noted at the outset of the paper, is the cosmic consciousness. Such a cosmic consciousness makes one 'a universal individual' (1990: 951). The 'universal individual' emerges on this plane since in evolution separativity, as noted earlier, tends to lose its existence as a result of which it comes to be the reconciling and integrating force on this plane of existence for one's evolution to the plane of the Transcendent Supramental Consciousness. The reconciliatory and integrating force, manifested in the 'universal individual', is found, on a closer examination, to be the result of the decisive act of the latent Integral Consciousness for Its final emergence on the sovereign supramental plane. Sri Aurobindo says that on the Overmind plane of Consciousness there is 'a wide cosmic perception and feeling of a boundless universal self' (1990: 950). Thought, he says, 'no longer seems to originate individualy in the body or the person but manifests from above or comes in upon the cosmic mind-waves' (1990: 950). He further says:

"...all inner individual sight or intelligence of things is now a revelation or illumination of what is seen or comprehended, but the source of the revelation is not in one's separate self but in the universal knowledge." (1990: 950)

Therefore, the signs that the sounds of these planes produce impart a cosmic and revealing vision of the Divine Truth dwelling on the Sovereign Supramental plane. They obey the laws of these planes of the spiritual consciousness.

5. Supramental Vibration and Derrida's Negation of the 'Other'

The truth of the supramental vibration at the base of the physical sound, thus, rejects Derrida's negation of the 'other' existing outside language, the 'extra-linguistic world', as called by the linguists, in the signification of sign or text. Derrida does not accept the existence of the 'other', the 'extra-linguistic world' existing outside the language. In fact, he has a sheer physical view of language. There is no controversy on the point that Derrida has no such higher vision of the supramental truth since he is not a man of yogic and spiritual consciousness. Therefore, his negation of the 'other' outside the language is untenable. He lacks scientific vision too since the discovery of Physics of the power of creation and destruction of forms in the vibration of sound does not come into his vision, sound which is at the base of sign as noted earlier. In the absence of such scientific knowledge, the creative and revelatory features of sound are yet to come into his experience. He requires to know the universality of sound since sound exists on the plane of ether too, and further, the other scientific fact as well that the powers of creation and destruction in the vibration of sound do not act arbitrarily. It is to be noted here that the existence of ether cannot be denied in the absence of evidence of its existence in the realm of Science. The very validity of the scientific argument in favour of its existence has not yet been questioned. It is to be noted here that the fifth dimension of space-time in Kaulza-Klien theory corresponds to the existence of ether (Oxford Dictionary of Physics 2009:174). The existence of ether still waits for

Nikhil Kumar EVOLUTION OF 'ARBITRARINESS' IN 'SIGN' IN LANGUAGE TO 'REVELATION' IN 'SIGN' IN MANTRIC POETRY (WITH SPECIAL REFERENCE TO SRI AUROBINDO'S MANTRIC POETRY)

some newer evidence to come to establish its existence in the matter-oriented mind of man. The poststructuralists have, now, no room to negate the ancient vision and Saussure's vision too that language is the medium to express the ideas, feelings, truth which, according to the Vedic Rishis and Sri Aurobindo, pre-exist on the plane of Timelessness and Spacelessness, the plane which is the 'extra-linguistic world'. In fact, language as a medium becomes revelatory of the Truth that exists on the plane of Timelessness and Spacelessness, the plane which the Theory of Special Relativity, too, discovers. Further, on an examination, the seed-sound of the primitive men, the outgrowths of which are the formed words in the modern language, is found to be the physical manifestation of the revelatory and creative natures of sign of the summit of the spiritual consciousness or, as Sri Aurobindo says in the above lines, of 'the original creative Word'; and finally the seed-sound of the primitive men is found to be the manifestation of the Supramental on the physical plane, - the Supramental which being the integral consciousness transcends the plane of the spiritual in the Mind-Consciousness as noted earlier. The truth of the existence of the integral consciousness within the inmost self of sign very clearly falsifies Derrida's vision of the warring forces and arbitrariness to be the ultimate truth within sign or text. Hence, the vision of deconstruction denying the truth of the existence of the Universal comes to be an eclipsed one. One has to evolve to the higher planes of consciousness to have the vision of the Universal, and consequently the basic structure of the language. Such a basic structure will eventually enable one to discover the 'one original language' of mankind.

6. Cause of the Vision of the Arbitrariness in 'Sign' and End of Arbitrariness

We have earlier found that language is a thing of universality and eternity, and sound is at the base of language. In other words, universality and eternity are inherent in the sound. On the plane of creation, sound comes into existence first on the Overmind plane of Consciousness, the plane which is the cosmic consciousness, as noted earlier, and is created with the descent, or to say, the involution of the Transcendent Supramental Consciousness. Eternity within the sound on this plane of consciousness is not lost in spite of the truth that the separative principle of the Transcendent Supramental Consciousness comes here into action as a result of the involution. Here eternity begins to come to be hidden as a result of the active state of the separative principle of the Supramental Consciousness. It is on account of such a beginning of the concealment of eternity that the immediate Transcendent Supramental appears as the Supreme Divine to the Overmind Consciousness. This is what we find in the Overmind poetry, —the Vedas, the Upanishads, and the Gita. However, in order to arrive at the Supreme Divine, according to Sri Aurobindo who embodies the Supramental Consciousness, the sovereign plane of Eternity, we have to ascend several planes of the Supramental.

When we descend the lower planes of spiritual consciousness from the plane of the Overmind Consciousness, eternity continues to be hidden gradually, and finally, on the plane of Matter it is fully hidden. As it goes to be hidden more and more from the higher planes of consciousness to the lower planes of consciousness, the separativity of consciousness grows more and more. In other words, the involution gives rise to the growth of the separativity. The growth of separativity in which Eternity comes to be hidden gradually on the lower planes of

Nikhil Kumar EVOLUTION OF 'ARBITRARINESS' IN 'SIGN' IN LANGUAGE TO 'REVELATION' IN 'SIGN' IN MANTRIC POETRY (WITH SPECIAL REFERENCE TO SRI AUROBINDO'S MANTRIC POETRY)

mind-consciousness gives birth to several principles which are not in harmony with one another. Such a situation causes arbitrariness in sign. It is on account of the higher intensity of the separativity which results in the arbitrariness of the principles on the plane of the intellectual mind consciousness that Derrida visualises the warring forces within sign, and finds the word, or to say, sign to be 'inaccurate' (1976: xiv); so, he says, 'it is crossed out' (1976: xiv). He fails to visualise some 'stable identity', some 'stable origin' due to his own subjection to the separativity of the consciousness of the plane of the intellectual mind as he is a man of the intellectual mind consciousness. Sign gets rid of the warring forces and arbitrariness when eternity emerges as a result of the evolution of consciousness to its higher planes. In the evolution, with their unfoldment the elements of universality and eternity within sound bring about an end of arbitrariness in sign in the language which is used by the men of the plane of the Overmind Consciousness, the cosmic consciousness as we see in the case of the Vedas, the Upanishads, and the Gita. It is to be noted that these poetic masterpieces have been found by Sri Aurobindo to have been written from the plane of the Overmind Consciousness. Here, separativity tends to attain integrality to come into the absoluteness of the oneness in this integrality. In fact, the intellectual vision of arbitrariness as the absolute truth comes to be illusory here. Hence, the vision of the warring forces, too, in sign comes to be an illusion, and, therefore, no differential relationship on account of the warring forces can be said to be existing between two signs –, the differential relationship which the Deconstructionists assert to be the irreversible and absolutely true feature of the signs. Several meanings coming out of a sign reveal that they exist in the background of infinity. The principle of erasure as viewed by Derrida is not found in existence. Different dimensions of the One Integral Truth are found to be existing integrally in a sign. There is no Derridean arbitrariness in the sound, the seed-sound, as Sri Aurobindo calls it, which was used by the primitive men to speak of some object or incident since the seed-sound reveals the presence of some object and the occurrence of the incident as well.

7. Human Emotion as Impetus to the Evolution of Consciousness

In the evolution to the higher planes of consciousness from the plane of the intellectual mindconsciousness where the arbitrary nature makes sign devoid of life human emotion plays an important role. As the sign comes under the magnetic effect of the emotion of the higher planes of the mental consciousness, it has a new life in which the revelatory and creative nature exists. Of it Sri Aurobindo says:

"When we wish to put a more vital power into them, we have to lend it to them out of ourselves, by marked intonations of the voice, by the emotional force or vital energy we throw into the sound so as to infuse into the conventional word-sign something which is not inherent in itself." (1991:13)

There are different planes of mental consciousness as we know. We find emotion on every plane of consciousness. Since divisiveness, or to say, separativity on the higher spiritual planes of mental consciousness continues to diminish, emotions of these higher planes infuse higher lives in the word-sign. The supramental vibration concealed in the word-sign develops receptivity in it to the higher 'emotional force or vital energy' of the truth and power dwelling on the spiritual planes of the mind-consciousness and effectuates the infusion of the higher life. Such a receptivity further paves the way for the emergence of the revelatory and creative nature of the word-sign. Sri Aurobindo speaks of the poetry recovering the revelatory nature of the seed-sound which we earlier saw in the case of the word *vrc* in Sanskrit. He says while speaking of the future of poetry:

"Now poetry goes back in a way and recovers, though in another fashion, as much as it can of this original element. It does this partly by a stress on the image replacing the old sensational concreteness, partly by a greater attention to the suggestive force of the sound, its life, its power, and the mental impression it carries. It associates this with the definitive thought value contributed by intelligence and increases both by each other. In that way, it succeeds at the same time in carrying up the power of speech to the direct expression of a higher reach of experience than the intellectual or vital. For it brings not only the definitive intellectual value of the word, not only its power of emotion and sensation, its vital suggestion, but through and beyond these aids its soul-suggestion, its spirit. So, poetry arrives at the indication of infinite meanings beyond the finite intellectual meaning the word carries. It expresses not only the life-soul of man as did the primitive word, not only the ideas of his intelligence for which speech now usually serves, but the experience, the vision, the ideas, as we may say, of the higher and wider soul in him. Making them real to our life-soul as well as present to our intellect, it opens to us by the word the doors of the Spirit." (1991: 14)

When the doors of the Spirit, the Divine Self are open in our being, we have a new poetry. It is revealed poetry which Sri Aurobindo and the Vedic Rishis call 'Mantra'. It is the revelation of the Divine Truth existing on the Sovereign Transcendent Supramental plane. With the revelation of the Divine Truth divine inspiration rises in the soul-being of man, and enters into the mental, the vital, and the physical selves of man. In such a revelation and inspiration a word-sign emerges. The word-sign comes to be the consciousness of the soul-being of man. It is, in fact, a form of the consciousness of the soul-being of man. Consequently, the word-sign comes to be expressive of the Divine Truth.

Thus, we can conclude that arbitrariness in sign is not the absolute truth. More to say, if we are in the possession of the Supramental Consciousness as a result of the evolution and transformation of our consciousness, we shall nowhere find arbitrariness in sign on the plane of the intellectual mind too. A state of harmony exists in place of separativity on the plane of the intellectual mind consciousness as the supramental consciousness pervades here. What we find to be arbitrary, here, prior to the supramental evolution of our consciousness, evolves and becomes receptive to the truth of the Divine plane of Existence. It further becomes revelatory after supramentalisation of the consciousness. In fact, separativity comes to be seen as multiplicity inherent in the One Integral Transcendent Truth. Such a multiplicity is not in the warring state. It is found to be in a great harmonious state. The multiplicity is found to be the one integral whole. We discover it in Sri Aurobindo's *The Life Divine* which is unquestionably an epic prose. The intellectual mind consciousness in it is found to be working integrally as it is in full control of the Supramental Consciousness which he embodies. The intellectual mind-consciousness reveals very clearly the Supramental Truth in this monumental work of his. It acts as the instrument of the Supramental Consciousness to express and work out the Divine Truth. On account of being the instrument of the Supramental Consciousness it contains a true poetic spirit and force.

8. Supramental Plane and Einstein's Four-Dimensional Plane of Existence and Human Speech

When we find the supramental vibration at the root of the vibrations on the material, the vital and the mental planes, we find a hierarchy of existence. We found the hierarchy earlier, too, while discussing the phenomenon of involution to explain evolution at the outset of the paper. Matter, or to say, the physical world comes to exist at the lowest plane in the hierarchy. Above the physical plane of existence there exists the plane of Life, or to say, the vital plane. Going above the vital plane of existence we discover the plane of Mind, and beyond it, the plane of Supramental existence. The supramental plane of existence which is the plane of the integral consciousness is further found to be responsible for the existence of the planes of existence below it. In other words, the supramental plane, the plane of integral consciousness is the origin of the mental, the vital, and the physical planes which manifest the separative principle of consciousness. In the realm of Science, such a vision of Sri Aurobindo is affirmed by Physics and Mathematics. Einstein who has brought about an evolutionary breakthrough in the world of Science discovers the existence of the four-dimensional plane, the Spacetime, or Space-Time Continuum as it is called. The four-dimensional plane of existence is the sovereign plane of the Integral Existence as Time and Space are found to be existing here integrally. They are found to be in One Transcendent Existence. Einstein makes it clear that Time and Space existing separately and incompatibly in the three-dimensional plane of existence and originate from the four-dimensional transcendent integral plane of existence. He establishes in his Special Theory of Relativity that the three-dimensional plane of existence is the projection of the fourdimensional plane of existence in the manner in which shadow is a two-dimensional projection of the three-dimensional reality. Such a scientific truth while revealing the four-dimensional truth at the base of the three-dimensional plane of existence affirms the supramental vibration at the base of all the material, the vital and the mental planes.

The three-dimensional world, further, comes to be, to use Shakespeare's word, a 'shadow' (Macbeth, V. V., 24). Therefore, Sri Aurobindo remarks that human speech is a shadow of the Divine Word. He says:

"Human speech is only a secondary expression and at its highest a shadow of the divine Word, of the seed sounds, the satisfying rhythms, the revealing forms of sound that are the omniscient and omnipotent speech of the eternal Thinker, Harmonist, creator." (1988: 128) On the plane of shadow, there are many languages, vernaculars, or to say, speeches. They all can be called 'shadow-languages'. But once one transcends the plane of shadow, one discovers a language in which all the shadow languages in the three-dimensional world come to evolve to be the One Transcendent Language. Shakespeare's phrase 'walking shadow' (Macbeth, V, V, 24), on an examination, speaks of the evolutionary dynamism latent in the three-dimensional life. We can now be led to think of 'a wordless speech' (Sri Aurobindo 2012: 237) on the transcendent plane consequently. It is the Sovereign World of Consciousness. The very concept of speech evolves in such a sovereign world of 'Consciousness'. We come to be conscious of the Truth without making words the medium of Its expression. We no longer require words to know the Truth. There appears to exist the mental and the supramental vibrations replacing the physical sound vibration of which the speech is a manifestation. There is no requirement of the physical sound vibration on the plane which exists beyond the 'plane of shadow'. The mental vibration, too, of the present nature will not be found on the plane where the 'wordless speech' exists.

9. The Mantric Poetry as an Instrument for the Evolution of Consciousness

Sign in the Mantric poetry plays a pivotal role in the evolution of consciousness to its spiritual planes when it comes down to the planes of human consciousness which are yet to evolve to the planes of the spiritual consciousness. The divine force within the Mantric word-sign gives an impetus to the latent divine consciousness in spiritually untransformed man to evolve to the higher planes of consciousness when he tries to make an intellectual understanding of the Mantra, or chants it even without making any effort to conceive it intellectually. Sri Aurobindo explains such a truth:

"The Mantra can not only create new subjective states in ourselves, alter our psychical being, reveal knowledge and faculties we did not before possess, can not only produce similar results in other minds than that of the user, but can produce vibrations in the mental and vital atmosphere which result in effects, in actions and even in the production of material forms on the physical plane." (1988: 125)

Of Mantra in his epic Savitri, he says:

"As when the mantra sinks in Yoga's ear, Its message enters stirring the blind brain And keeps in the dim ignorant cells its sound; The hearer understands a form of words And, musing on the index thought it holds, He strives to read it with the labouring mind, But finds bright hints, not the embodied truth: Then, falling silent in himself to know He meets the deeper listening of his soul: The Word repeats itself in rhythmic strains: Thought, vision, feeling, sense, the body's self Are seized unalterably and he endures An ecstasy and an immortal change; He feels a Wideness and becomes a Power, All knowledge rushes on him like a sea: Transmuted by the white spiritual ray He walks in naked heavens of joy and calm, Sees the God-face and hears transcendent speech..." (2012: 381)

Consequently, the word-sign in Mantra or to say, the Mantric word-sign becomes instrumental in the transformation of the consciousness of man, leading to his rise to the higher planes of spiritual consciousness, and finally to the plane of the Supramental Consciousness. The transformation of the individual consciousness finally results in the transformation of the terrestrial existence and its consciousness since the Sovereign Divine Consciousness percolates into the terrestrial existence through the transformed individual consciousness. The transformed individual consciousness becomes the field for the higher consciousness to work in the terrestrial existence.

Such a role of sign in Mantra can well be said to be creative in nature.

10. The Summit Vision in Sri Aurobindo's Savitri

Sri Aurobindo's *Savitri* is the poetry which he has written from the plane of the Supramental Consciousness. He begins to reveal the Supramental Consciousness in his being when he shows the pre-creation state of existence in the opening canto of the epic. In the very opening line of the epic, he says:

"It was the hour before the Gods awake." (2012: 1)

Such a pre-creation state of existence in which the Gods are sleeping, or to say, the chief cosmic functionaries are in a suspended state, —the chief cosmic functionaries who come into existence with the creation of the plane of the Overmind Consciousness in the course of the involutionary phenomenon as noted earlier—, cannot be said to be the imaginative picture of the mental consciousness in which sign is arbitrary since Mind cannot transcend the creation as it has come into existence as a result of evolution. Since the mind does not exist prior to creation, there is no point for the imagination of the pre-creation state of existence to arise. It is all the more clear when Sri Aurobindo further portrays the pre-creation state of existence in which he shows the 'abysm of the unbodied Infinite' (2012: 1) and a 'fathomless zero occupied the world' (2012:1):

"Across the path of the divine Event The huge foreboding mind of Night, alone In her unlit temple of eternity, Lay stretched immobile upon Silence' marge. Almost one felt, opaque, impenetrable, In the sombre symbol of her eyeless muse The abysm of the unbodied Infinite; A fathomless zero occupied the world." (2012: 1)

And so on. The consciousness which visualizes such a pre-creation state of existence is, therefore, the Consciousness which exists beyond the plane of the mental consciousness, the 'Supramental Consciousness' we can call it. In his vision of the pre-creation state of existence, Sri Aurobindo transcends the spiritual mind-consciousness. One can, now, logically make a conclusion that the language which is used to portray the pre-creation state of existence is revelatory in nature. So, the epic is Mantra. In the case of Savitri we can say that it is the Mantra that transcends the Mantra of the Intuitive Mind Consciousness and the Overmind Consciousness. It is the Mantra of the Transcendent Supramental Consciousness. Here is a vision and discernment, further, of 'A nameless movement, an unthought Idea' (2012: 2) in the precreation state of existence. Such a 'nameless movement', he views, 'teased the Inconscient to wake Ignorance' (2012: 2) for the higher creation to come into existence. In fact, as a result of the 'nameless movement' creation earlier came into existence with the creation of the Inconscient, or what we call Matter which is yet to evolve Life, Mind, and higher planes of Consciousness. The very portrayal of the pre-creation state of existence in the opening canto of the epic is the result of the poet's supramental vision of the Truth. Sri Aurobindo's supramental consciousness continues to be intelligible to us in Savitri's supramental yoga which she undertakes to 'vanquish Time and Death' (2012: 481). Time and Death are the creations of the divisive, or to say, separative principle of consciousness, -the principle which we find on the plane of Creation. Consequent upon such a yoga of vanquishing 'Time and Death' which manifest the separative principle of consciousness, the integral consciousness, or to say, the supramental consciousness descends from the sovereign plane of the supramental consciousness into Savitri's being, and consequently, into the being of the terrestrial existence. The supramental consciousness replaces the separative consciousness in the being of Savitri, and subsequently in the being of the terrestrial existence to bring about a new creation. Earlier, one visualises the eclipsed consciousness in her, the eclipsed consciousness which is the result of the working out of the separative principle of consciousness when she initially refuses to undertake the yoga of supramentalisation to avert the evolutionary crisis:

"My strength is taken from me and given to Death, Why should I lift my hands to the shut heavens Or struggle with mute inevitable Fate Or hope in vain to uplift an ignorant race Who hug their lot and mock the saviour Light And see in Mind Wisdom's sole tabernacle, In its harsh peak and its inconscient base A rock of safety and an anchor of sleep?" (2012: 482)

But when she realises that the mission of her birth is to replace the Ignorance-Consciousness with the Truth-Consciousness, or to say, the Supramental Consciousness in the terrestrial existence, she undertakes the yoga of supramentalisation as a result of which the supramental consciousness descends into her being from the sovereign plane of the transcendent supramental consciousness, and a higher transformation takes place in her being.

"All underwent a high celestial change: Breaking the black Inconscient's blind mute wall, Effacing the circles of the Ignorance, Powers and divinities burst flaming forth..." (2012: 536)

We see further:

"The immortal's thoughts displaced our bounded view, All things now bore a deeper heavenlier sense. A glad clear harmony marked their truth's outline, Re-set the balance and measures of the world. Each shape showed its occult design, unveiled God's meaning in it for which it was made And the vivid splendour of his artist thought. A channel of the mighty Mother's choice, The immortal's will took into its calm control Our blind or erring government of life; A loose republic once of wants and needs, Then bowed to the uncertain sovereign mind, Life now obeyed to a diviner rule And every act became an act of God." (2012: 536)

It is an act of the supramental consciousness which will rule the existence eventually after dethroning the separative principle of existence. In such a revelation of truth there is no opportunity at all for the other sign of the lower planes of consciousness to replace the sign that the Seer of the Truth uses in portraying the picture of the pre-creation state of existence or in any other truth revealed in the epic. If it is done, the vision of the Divine Truth will be eclipsed and distortion will take place consequently.

It can, now, be unmistakably concluded that the Supramental Consciousness has housed Itself in the Mantric word-signs of the epic *Savitri*. When they are received by the lower planes of consciousness, they will make necessary preparations for the supramental transformation not only of an individual but of the terrestrial existence too. For, with Its descent into the being of an individual through the Mantric word-signs the Supramental Consciousness gets an opportunity to percolate eventually into the terrestrial existence as stated earlier.

Conflict of Interest Statement

The author declares no conflicts of interest.

About the Author

Dr. Nikhil Kumar is a Professor & Head, Department of English, Veer Kunwar Singh University, Arrah in the state of Bihar in India. He has been teaching for over thirty-six years as a university teacher in the state of Bihar in India. He has done extensive work on Sri Aurobindo, a great literary luminary of a very high plane of yogic consciousness. Dr. Kumar has published more than two dozen research papers on Sri Aurobindo's poetic works in different international journals and the journals published from Sri Aurobindo Ashram, Pondicherry, now, Puducherry in India. He has made an in-depth study of Sri Aurobindo's poetic and dramatic works, especially, his monumental epic *Savitri* which is a poetry of the future since it has been written from the transcendent plane of Supramental Consciousness, the consciousness to which mankind is yet to evolve. The supramental consciousness is an evolutionary breakthrough. The present paper is a piece of evidence of his rich academic inheritance from his father Professor (Late) Devendra Kumar who imbibed Sri Aurobindo's yogic vision in him.

Works Cited

- Sri Aurobindo: *The Hymns to the Mystic Fire*, Sri Aurobindo Ashram, Pondicherry, now, Puducherry, 1991;
- Sri Aurobindo: The Life Divine, Sri Aurobindo Ashram, Pondicherry, now, Puducherry, 1990;
- Julie Rivkin and Michael Ryan (Ed.): *Literary Theory: An Anthology* (Introduction: "The Linguistic Foundation" 1975), Blackwell Publishers Ltd., Oxford, First Indian Reprint 2002;
- John Sturrock: *Structuralism*, 2nd edition, Blackwell, 2003;
- A.S. Eddington: *The Nature of the Physical World*, The Macmillan Company, Cambridge, England, 1929;
- Russell Stannard: Relativity: A Very Short Introduction, OUP, 2008;
- Sri Aurobindo: *The Secret of the Veda,* (The Origin of the Aryan Speech, first published in the monthly review *Arya* during 1914-20), Sri Aurobindo Ashram, Pondicherry, 1987;
- Gayatri Chakravorty Spivak (Tr.): *Of Grammatology*, Motilal Banarasidass Publishers Pvt. Ltd., Delhi, 1976;
- Fritjof Capra: The Tao of Physics, Flamingo, 1991;
- Sri Aurobindo: *The Upanishads,* Sri Aurobindo Ashram, Pondicherry, now, Puducherry, 1988; Sri Aurobindo: *Savitri*, Helios Books, Chennai, 2012;

Sri Aurobindo: *The Future Poetry*, Sri Aurobindo Ashram, Pondicherry, now, Puducherry, 1991; Shakespeare: *Macbeth*;

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). and European Journal of Literature, Language and Linguistics Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a <u>Creative Commons Attribution 4.0 International License (CC BY 4.0)</u>.