

Introduction to the papers.

Summary.

The papers on this website suggest, controversially, that there is an ‘alphabet of meaning’ that can operate in parallel with ‘alphabets of sound’ in the formation of the words of natural languages. The papers describe a set of simple semantic primitives, constituents of word meaning, that have not previously been identified but that appear to have this function in association with some other semantic elements. The primitives were discovered in a form of sound symbolism in English that is distinct from the main well-known forms sound symbolism. The nature of the primitives I have identified suggests that they also operate, in forming the structure of word and concept meaning, independent of any association with sounds; that they are instrumental in the formation of word meaning in the core vocabulary of all languages, that they have the same function in conceptualisation; that they are based on features of human experience; and that they may be fundamentally biological in that they appear to be necessary determinants of the interaction of organisms and their environments. If this can be substantiated it points to a radically new way of understanding word meaning and human cognition.

The starting point.

These papers deal with some contentious aspects of linguistics, psychology, cognitive science and philosophy. In them I am exploring the implications of something I first noticed in language several years ago. An example is the occurrence in many ordinary words beginning with the /b/ sound of the notion of *roundedness*, *convexity* in relation to parts of the human body and natural and artificial objects as a distinct facet of the meaning of many of these words (for example *bag*, *ball*, *belly*, *bosom*, *bottle*, *bowl*, *breast*, *bubble*, *bulge*, *bull*, *bum*). Initially this seemed to be interesting but of no particular consequence. But as I explored this type of sound/meaning association further it became clear that this instance was the tip of an iceberg. In English, at least, many articulatorily similar sounds, particularly at the beginning of words, have associations with facets of the meaning of our most commonly used words, the core of the language. I eventually began to realise that the full set of 20-odd of these facets that I identified formed a remarkably coherent group. They seemed to consist of central elements of human experience. What I had found was describable as a code that was active in the construction of the meaning of words, a kind of alphabet of word meaning as it emerges from the brain. I had a tiger by the tail.

Puzzles in language and cognition.

There are a number of deep puzzles relating to human cognition of the everyday world. They are not obvious in our normal experience because they do not seem puzzling until we try to explain them. Some of these relate to word meaning: what is the nature of the meanings of words in the mind and brain, what is the actual mental form of words that enables us to recognise and use them as they emerge from the electricity and chemicals of the brain at the bidding of combinations of sounds or letters or our intention to speak? What enables a heard or seen word to refer to an entity or a state of affairs in the world? A connected puzzle involves thinking: in what form do our thoughts issue from the grey matter of the brain? It is natural to feel that we think in our spoken language because that is the form in which we are normally aware of our thoughts, but they would seem to have some other form as they arise in the brain, before they are cast in language.

An infinitely more pervasive puzzle is associated with the very concept of life, with how biological systems are motivated to operate in their self-interests, and so to survive. Stones and crystals, geological forms and planets lack this self-motivation and drive to seek the survival of selves and species. It is nothing short of extraordinary that the semantic features that I postulate as operating in the meanings of words appear to

have a role in understanding this issue at the very core of life as well as those in the previous paragraph.

I propose that all of these matters involve a previously unrecognised phenomenon, a set of primitive features that are manifest in word meaning where they occur as *semantic primitives*, constituents of word meaning, but that are also, I propose, *conceptual primitives* as they provide the structure of simple concepts, *cognitive primitives* in that they are constituents of our ability to know the world around us, and more fundamentally, *experiential primitives*, key recurrent necessary constituents of our experience.

I have come to conclude that the set of primitives I have identified have the nature of a missing link. Their recognition seems to help to penetrate some of these puzzles. I propose that some are elucidated by the very simplicity of this phenomenon. These are ambitious claims. It will seem bizarre and perhaps beyond credence that a non-expert, a mere amateur, lays claim to such insights. The evidence and argument I present will determine whether it has real substance.

The proposals I have sketched in the papers present a formidable problem: how can I satisfy the reader that what I claim to have identified is more than the products of my imagination? This is exacerbated by the fact that I am operating alone. I have no collaborators who share these ideas and I have no psychology lab where I can subject my hypotheses to testing. At the very least I need a framework, an encompassing theory in which they nest and can be judged by my peers. Linguists recognise that the study of word meaning has had far less attention than that of syntax and grammar. As a consequence there is no existing overarching theoretical framework that I can use or take as a point of departure. The difficulty stems also from the nature of the material. Although the meanings of words are common property we examine them primarily in our minds. My judgements appear subjective and very vulnerable to doubt and attack.

On the other hand, I believe I have an advantage over other operators in the field. This is that the semantic primitives I have identified can be presented as matters of fact rather than hypothesis because they can be experienced by anyone after their attention has been drawn to their existence and they obtain some understanding of how they operate. The presence of these features is transparent and almost palpable (for example *bodily roundness* in *ball, bowl, breast, bubble, bulb* and many other b words) once initial scepticism that word meaning can be viewed in this way (as built up from constituents like a molecule rather than being atomic) has dissipated. I accordingly see my task as illustrating the presence of these features in words, demonstrating their operation in configurations that constitute the core of the meaning of many words, building credibility in the notion that these semantic features are fundamentally experiential and biological and, on this basis exploring the potential of this material for providing new explanations for a range of issues.

The primitives of human experience.

The semantic primitives that I have identified in word meanings have a character that strongly suggests that they constitute a small, tight-knit, coherent set of facets of human experience. I propose that they underlie all our experiences at a structural level. This means that they are indispensable to normal human experience in all its rich detail. Our experience from moment to moment—perception, interacting with things around us, thinking, believing, feeling emotions—simply could not operate without them. The primitives form a framework on which each moment of our experience is formed.

How can such a claim be justified? I believe the list of the primitives that I set out below, in itself, goes some of the way in supporting this claim. We have an unconscious awareness of their operation as constituents of word meaning that can be brought to conscious awareness without difficulty. In addition, when they are viewed in their totality, their coherence as a framework for word meaning, cognition and experience may begin to become credible. A lot of further support is provided in the website papers.

These facets of experience are of two kinds. The first are abstract parameters that reflect the nature of the physical world and the form of entities as we know them. The second, quite different group is a set of principles that we use to judge whether or not things and situations that we encounter are in our interests. These principles influence how we respond. They motivate our actions. I call this full set of primitive experiential entities *ground factors* because they provide one kind of grounding of our lives and experiences (in some papers I have used a different term, *zoemes* (constituents of life), which I have coined in imitation of some linguistic terms. The two are interchangeable). The ground factors are the necessary framework of everyday experience. In language they manifest as semantic primitives, sometimes but not usually, in association with specific sounds.

I will describe and discuss the ground factors/zoemes extensively in these papers but I will set them out so that the reader can begin to grasp what they represent.

There are twelve factors of the first type, the physical parameters of experience of the world:

- **Materiality, substance**, the sheer physicality of the earth, the concrete nature of all the physical things around us, our bodies, our homes and cities, our countries and the whole globe and universe. This factor is our physical sense of the nature of these things.
- **Particularity** defines the way in which materiality tends to manifest itself to a degree in actual things that have specific natures of their own in contrast with the featurelessness of materiality. Particularity is a quality of such things as stones, planets, people, utensils, ornaments, insects, atoms and also of actions and concepts.
- **Surface** is a characteristic of both featureless material and of many particulate things. Much of our physical experience is of surfaces, seen, felt, walked on.
- **Bodily roundness** or convex surface is the first of several parameters that determine the shape of physical things. This kind of surface is especially significant to us because it is a characteristic of the human body and the bodies of many living things. It is a sign of animacy. But it also underlies the shape of numerous animate things.
- **Contraction, compression** gives further distinctiveness to the shapes of things as though by squeezing them or parts of them. Necks and waists and isthmuses are characteristic contractions.
- **Extension** or stretching is an opposite parameter that is indicative of elongation as in lines, legs and some states and actions.
- **Physical intensity** delineates a diverse range of other characteristics of shape: corners, angles, spikes, twists, knots, to mention just a few.
- **Small/large** size is an obvious key physical parameter.
- **Display** is a different kind of parameter as are the remainder of this group. It delineates the way in which some entities typically expose themselves to viewing more than others.
- **Openness** is allied to *display*. It refers to the space around and between things. It is equivalent to spatiality.
- **Intensity of energy** refers on the one hand to movement and action and on the other to the dynamic energy that is inherent in some things and states of affairs—battles, arguments, games.
- **Action** includes both the action of agents and the activity they generate. It is the mark of a verb.

These factors are all objective. They relate to observable things in the world, but they all have the capacity to be internalised by our senses. We can recognise and obtain information about things with these characteristics. This bridge between body and world

is crucial to the arguments I will be developing. The last two are very different from the rest in that they are dynamic physical properties.

There are eleven factors in the second group and they have a totally different character. They are internal or subjective, and they are dependent on our awareness of factors of the first set. These are principles for evaluating the relevance of experienced things and situations to our welfare and thus have the vital function of motivating response and action:

- **Positiveness / negativeness or favourableness / unfavourableness** is a central judgement that determines attitudes to entities and our response.

- **Fullness / emptiness** is indicative of a broader attribution of value (or its lack) to entities and situations. As a marker of salience it may determine a threshold for action.

- **Abundance, generosity** describes both a subjective response to the availability of resources for one's own use and the willingness to share resources with others. The natural world is the paradigm of this factor but it is also manifested in individuals and things.

- **Possession, self-interest** is a contrasting subjective principle of defending one's own property, space and interests, an important principle for survival. Shorthand for this and the previous factor is *giving* and *having*.

- **Somatic affect** is an extension of these principles into a wide range of affective responses to entities, events and situations. These affects take the form of a variety of feelings. They have a subtle presence in many words' meanings.

- **Tactility** is a purely physical counterpart of the last principle in that it is the most direct form of evaluation.

- **Uncertainty** is a default position for any of the former principles, indicative of a holding position pending further information and assessment.

- **Displacement** is an allied principle, a distinct awareness of things being out of kilter and of potential detriment. It is a motivation for remedial action.

- **Existential value** is a less specific principle that is a marker of the central importance of core entities, events and so on to human welfare.

- **The community life-world.** This and the next are quite different kinds of factors. They have a taxonomic function. This one indicates simply that an entity or event belongs to the community or social sphere as distinct from the territory of the next. Its key characteristic is social intimacy and cohesion.

- **The external life-world** is the remainder, the vast and diverse physical domain in which communities exist and operate. These two factors place an object or event or word meaning in one or other of these distinct spheres and sometimes in both.

I propose that the factors operate in clusters or configurations in all aspects of human experience and behaviour: in sensation and perception, in interaction with other people and our environment, in thoughts, attitudes, beliefs, emotions, memory and in language. In all these situations the factors constitute the *structure* or framework for sensory, motor and affective activities and also for automatic, instinctive and deliberate responses. This is a very heavy load but I believe the factors are capable of bearing it. My main focus is on their operation in the constitution of word meaning. In the papers I will propose that the structure of the meanings of many of our commonest words (but not their full sense) can be described formulaically by configurations of ground factors.

The nature of the ground factors/zoemes.

There is a great deal to discuss about the ground factors/zoemes and how they operate in our experience, thought, language and perception of the world. That is the purpose of the

papers on the site. Here I will just outline some of their central features.

Polarity. The ground factors have a polar nature, that is, they relate to a range or scale that has two extremes. This is obvious in first two of the evaluative factors as described. In a number of cases this polar element involves two factors that have been identified separately above. In others the polarity is simply the reverse image of the descriptor I have used. For example, the negative pole of *materiality* is *immateriality*, the mental, conceptual, spiritual and temporal domains. This hugely broadens the scope of this factor. The basis of polarity is simply that these fundamental qualities are not one-dimensional: a gradation from one extreme to the other is natural. An interdependence of the extremes is arguable. Here is the set of ground factors in their polar form, and with the terms alpha and beta that I use to distinguish the two types:

Alpha factors	Beta factors
Materiality / non-materiality	Positiveness / negativeness
Surface / particularity	Fullness / emptiness
roundness / lifelessness	paucity / abundance
extension	Compression /
featurelessness	Possession, self-interest /
Displacement / conformity	Physical intensity /
Somatic affect / tactility	Largeness / smallness
Existential value	Display / concealment
Intensity of energy / rest	Openness / concealment
Action / inertness	Community / physical lifeworld

The dual nature of the factors. All of the ground factors have two inherent characteristics that are vital to their functions. First, they are abstract parameters and principles upon which physical and mental actualities supervene. Second and contingent on the first: in experience, cognition and meaning the ground factors are intrinsically associated with some brain or bodily activity that is sensory or kinesthetic in the case of the alpha factors and affective, visceral or proprioceptive in the case of the beta type. I propose that the representation of these bodily activities in regions and neurons of the brain provides the building blocks of our mental experience and of word and concept meaning. The alpha factors thus have a distinctive character in that these abstract parameters of things are manifested in sensations and perceptions that reflect, represent or simulate aspects of things in the world. The beta factors all have an affective character that can operate in determining responses to external events and mental representations. In combination the factors form a bridge between the living subject and the world, a bridge that allows perception to occur and the subject to respond. This is their role in the motivation of action and behavior. This role can only be performed, however, because the structural abstract physical parameters are inherent in physical things and the affective principles are implicit in the very principle of life. In language and thought the factors form the structure of words and concepts.

Biological primitiveness. The factors have a central role in human existence, but they are fundamentally biological. Their bodily nature means that they are not dependent on the things that make us human: self-awareness, consciousness, intelligence and language. They are equally able to operate in animals and organisms. It is not difficult to envisage all of the factors operating in the behavior of the family cat or dog, and only a little more difficult in a goldfish or a worm. It is my contention that the ground factors have had a central and necessary role for all creatures and organisms from the earliest stages of evolution. This claim may appear to be difficult to justify, but it is based on the self-evident fact that all organisms are completely dependent on their interaction with the world that surrounds them and the two sets of factors appear to have the surprising

capacity to adjudicate that interaction for any otherwise viable organism with their surrounding worlds. I describe the ground factors in my papers as *the dimensions of the space of biological interaction*. In the absence of this full set of factors the physical systems of biology, even of the simplest organisms, could not have operated. This is an astounding conclusion that is discussed at length in the third paper.

Multimodality. The alpha factors may have the appearance of belonging to vision but, in fact, they are applicable in any sensory modality. The beta factors with their affective nature have a very primitive character that occurs in other creatures in a purely normative form. These qualities underlie their ability to operate across the whole field of biology, in creatures with brains and without, with and without complex sensory systems (even perhaps in plant-life). It is notable that all the alpha factors could operate through touch alone. The factors have the appearance of having been designed (i.e. having evolved under selective pressures) for use by relatively simple organisms of the kind that operated through a large proportion of evolutionary time before neural systems and the more advanced sensory modalities of vision and hearing evolved. But they are also, I propose, the fundamental basis of cognition in all its forms in *Homo sapiens* where they are complemented by supplementary mechanisms in order to handle new cognitive functions such as thinking and language.

The arguments for the assertions in the last two paragraphs are set out in the papers on this site but their plausibility can be probed by a simple thought experiment: try to imagine the interaction with its environment of a bird, a reptile, an insect or a micro-organism without the ability to use the alpha factors to monitor its surrounding world and without the ability to use the beta factors, through its innate behavioural mechanisms, to determine its response. Such a situation is inconceivable. Of course organisms and animals cannot *feel* the affects associated with the beta factors in human beings. They operate purely through genetically-based activators that trigger the appropriate behavior but it is mandatory for genetic mechanisms to accommodate the alpha factors and the beta factors if organisms are to interact adaptively with the environment. It may seem unlikely that a simple single set of factors could operate across such an immense variety of biological systems with such different makeup. However, I submit that this is just a consequence of the nature of the physical world as manifested in the alpha factors, and the irreducible requirements for the viability of life systems that are distilled into the beta factors.

The similarity principle. Finally I need to touch on an important underlying principle discussed in the papers. I propose that the interactive function of the factors operates through the principle of *similarity at a structural level* between perceived entities on one hand and representations (or registrations) within organisms' neural/somatic systems on the other. The modus operandi of this principle is discussed in the papers. In effect, organisms simulate or represent entities and situations in the external world using the alpha factors and associating them with appropriate beta factors that are instrumental in adjudicating response through associated genetic and learned triggers or activators. This principle applies not only to the interactive mechanisms of animals and organisms, but also to word and concept meaning where, I propose, an isomorphism between the body-based semantic representations and external entities is combined with appropriate beta factors to generate the structure of meaning. This controversial issue is discussed in the papers.

In conclusion, and on a somewhat deflationary note, I need to point out that it is possible to view the situation that I have been outlining as simply a rather inconsequential matter of fact. The alpha and beta factors are self-evident, transparently natural and necessary features of the biological world in action and may have no further specific implications such as I have proposed. Their influence is all-pervasive but they may have

no central composite function such as I advocate. Perhaps it is delusive to view them in the ways I have proposed. If this is the case we need to be able to explain why the iconicity between the sounds of words and facets of their meanings that I describe in the papers produces such a remarkable, coherent and systematic set of principles. Beyond this we would need to explain away the power the ground factors have to create a new perspective on a range of cognitive issues such as I describe in the papers. At bottom we are left with the ordinariness and simplicity of the factors and their coherence and symmetry, all of which are desirable features of scientific explanations. This ambivalence between the facticity of the set of ground factors in the role I ascribe to them and their sheer individual facticity is both a threat to my thesis and a vital asset because I do not need to argue for their actuality, but only for their composite function. I have a great deal of confidence in the matters I describe in the papers but the possibility of delusion cannot be discounted until there is some validation of my research by other authorities.

The papers on this site have all been prepared for publication in academic journals with a view to explaining the discoveries I believe I have made and the hypotheses I have developed, but none has yet been accepted. Each has a distinctive approach but there is some overlap between them. The first paper, *The Alphabet of Meaning* and the second, *The Sound of Meaning* present the evidence that led me to formulate the idea of the zoemes/ground factors, evidence that lies in human language. Here the factors have an almost palpable presence in the form of an association of sound and meaning in words. It is both surprising and significant that the factors are identifiable in what appears to be a fairly complete form in English and to a somewhat lesser degree in the other languages I have studied.

The third paper, *A New Biological Grounding for Cognition and Language*, approaches the discussion of the factors from a different direction. It begins by positing the existence of the ground factors in the interaction of organisms and the environment and considering how they must operate in a very primitive reptile, the New Zealand tuatara, a survivor of the age of the dinosaurs. It then describes how they may have operated in apes and in early pre-linguistic hominids as creatures with increasing levels of intelligence before examining again their operation in the human situation in language and thought.