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A Lexico-Semiotic Approach to Cyber-English or How Technology Affects Language and Culture.

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OUTLINE

Chapter Three: On the Evolution of the English language

PART TWO: The Effects of Cyber-English on Language and Culture

Chapter Four: The Impact of cyber-English on Language

Chapter Five: The Impact of cyber-English on Culture

Chapter Six: A semiotic study of the Jargon Dictionary

List of abbreviations

BBS (Bulletin Board System)

CMC (Computer Mediated Communication)

CP (Collected Papers)

COED (Concise English Oxford Dictionary)

COD (Concise English Dictionary)

Do (Dynamical object)

Di (Dynamical interpretant)

Fi (Final interpretant)

HTML (HyperText Mark up Language)

ICT (Information and Communication Technologies)

IRC (Internet Relay Chat)

J.D. (Jargon Dictionary)

OED (Oxford English Dictionary)

Oi (Immediate Object)

Ii (Immediate Interpretant)

MICU (Minimal Informational Cooperative Unit)

MUD (Multi-User Dungeon)

SMS (Short Message Service)

USENET (USER's NETwork)

VRML (Virtual Reality Mark up Language)

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GENERAL INTRODUCTION

The purpose of this research is two-fold, as it consists of an endeavour to satisfy two closely linked objectives. The first objective relates to a personal long lasting desire to understand more profoundly the link between technology and language, and principally between the Information and Communication Technologies (henceforth ICTs) and English. Our purpose, then, is to attempt to investigate the effects which the Internet as an ICT artefact exerts on the English language, and more specifically on its lexical components.

Our second aim is to satisfy a rather epistemological dimension as it seeks to compensate for a methodological flaw encountered in a previous research related to a similar issue. As a matter of fact, our use, for the conduction of our Magister thesis, of André Martinet's conceptual framework of the double articulation of language, directly inspired from the Saussurean binary theoretical model, in order to account for a new type of linguistic realities proved to be ineffective. The phenomenon consists of a certain number of neologies which appear on the Internet and function as "ordinary words", but whose inner structure is actually distinct from that of the basic unit of a language. Our use of the structuralist conceptual framework eventually proved unfit to give an appropriate account for some complex coinages. Therefore, part of the present work aims at correcting this flaw by resorting to another conceptual framework offered by the American semiotician Charles Sanders Peirce as a means to provide a better explanation for the observed phenomenon. Indeed, and in spite of the incommensurable clarifications that Saussure's conceptualization has brought to linguistic and semiotic issues, its exhaustiveness may reach a limit when confronted to the constraints involved by new linguistic environments such as that of the Information age.

To start with the first issue, we posit that the appearance of a new communication technology like the computer necessarily generates a certain number of linguistic practices like the ones incited by the use of cyber-English, and which once adopted by a community of users, become so habitual that they appear "natural" in the long run. Actually, the least that can be said about technology is that it consists of a particular practical or industrial art. This art can

of course extend to any cultural, technical or mechanical device created by human skill to fulfil some specific needs at particular times in particular places, under specific environmental conditions. An interesting analogy with language is that technologies develop their prestige and potential by extending their geographical influence through sustained contacts with other peoples and cultures that do not possess the same artefacts or who possess different ones, through the processes of either mere imitation or through a progressive accommodation that better fits the needs of the borrowers. In both cases, when a new technological artefact, or more precisely in our case with cyber-English, when a neology is invented or borrowed by a human aggregate, it needs some time before being adopted by the greatest number. What is remarkable is that people forget about the newness of the acquired technological artefact as soon as it is adopted. The same attitude holds for lexical neologies. They become so integrated to people's daily world that no one ever wonders about what would have happened if the tool or neology had not been invented.

After its invention, what used to be only a mere possibility, becomes an actual existent fact or even an automatism, so internalized in ordinary daily life that the artefact looks 'normal', 'natural', as if it had always been "there". In like manner, very few people would dare question the fact that what appears as 'normal' to them today, like for example to sit before a networked computer and start a query for which an immediate and satisfying answer is expected, would obviously not have been so 'normal' or 'natural' some years, decades, or centuries ago. The link between sheer possibility and actuality has simply faded.

Today, it seems such a natural behaviour for any computer user to move a mouse or some other tool in a certain manner, or strike a certain number of square buttons on a keyboard to produce the desired effect on a screen. What a wonder it would have been to Homo-sapiens, to our Berber ancestors, or even much closer to us - to our illiterate grand-parents - to see their offspring type on a strange flat tool and generate at once plentiful information for which our ancestors would have spent the equivalent of their lifetime.

As is commonly known, technologies result from a need to achieve a given purpose with tools and devices that remain to be designed. To exist, technologies require a certain know-how (whether scientific or just practical knowledge) which is supported by specific means (economic, intellectual, cultural, and political).

Once implemented and integrated into the daily lives of people, a new technology always affects the domain where it is used (cars, trains, planes, etc. affected the notion of distance, tall buildings affected the notion of habitat, the flint, the arrow, the fire guns and the late modern destructive nuclear weapons affect the notion of power, just as the invention of the quill, the brush, the pen, and later the computer keyboard have affected the notion of literature.) The same can be said about the hairdryer, the refrigerator, the microwave oven, the remote control, the cellular phone or any other important technological product.

The technological artefact most directly linked to the linguistic part of our research concerns writing. Since their appearance on the planet, humans have learnt to communicate and produce literature by using various other tools than oral sounds. The first of these tools was the invention of writing, which thanks to the Sumerians has given a remarkable impetus to the development of human communication. Writing, as W. Ong[1] has brightly demonstrated, deepened the division between physical and mental activity which started with the appearance of language, thus separating '*knower from known*'.

However, the great jump for humans was the invention of the alphabet, which we owe to the Phoenicians and to the other peoples living in the wide area of the Middle-east who brought different accommodations to it at different moments before the Greeks finally added the intermediate vowels between the consonants, which ultimately permitted to make each graph correspond to a specific sound, allowing human writings to move from the status of pictograms to that of phonemes. This move is of extreme importance in the shaping of what was to become the basic unit of language, namely the word. The passage from sounds to equivalent graphs prompted the development of what was to become later known as phonology considered as a scientific discipline concerned with the elaboration of specific rules for a given language which permit the combinations of its phonemes into larger units, those of the first articulation of language.

Thus defined, words as signs are loaded with meaning and fully assume their original status as media for the communication of meaning between the producers and consumers of the signs proper, that is, within a speech community which ascribes them roughly equivalent, though sometimes differing meanings. The

[1] W. Ong, *Orality and Literacy*: *the technologizing of the world*. Methuen, 1982.

meanings of words evolve in parallel with the evolution of the environment, and sometimes develop to extents, that even the constitutive elements of the word change to adapt to the new environments.

The semiotic adventure which started with writing paved the way for an absolutely unique human literacy whose first achievements built not only the Greek civilization, but also the Pharaonic, the Indian, the Chinese, the Muslim, the Maya civilizations and probably several other human achievements by other cultures which our present state of knowledge does not always account for. The translation of Greek works by Muslim scribes into the Arabic language was an important milestone in the human literary and scientific adventure. This intellectual activity gave a major impetus to the dissemination of knowledge through language contacts, and eventually resulted in great intellectual achievements.

The invention of the European printing press constituted another intellectual and technological climax for this fabulous human cognitive adventure. The implementation of Gutenberg's printing press in 1450 stimulated the humans' quest for the development of other communication devices. This interest has always grown crescendo and increased even faster with the invention of television, another important tool which generated the new culture of the 'Mass media' so abundantly commented on by well-known authors, like Marshall Mc Luhan. After storing information on paper, man could substitute films and then tapes to safeguard information in external memories, keep it for later uses and display it on demand in newer devices all of which have impacted in one way or another on the final shape of the information to be displayed.

We personally belong to the 'TV generation' as we saw it enter into our homes to the despair of our grandparents and parents who then refused the intrusion of the 'outside' into the 'inside', notably because the 'outside' consisted in disseminating western values through films and other broadcasts using a different language, culture, religion, morals, etc. which were poles apart from theirs. The older generation knew that they had more to lose in the exchange, but, could they fight with simple words or by sheer coercive attitudes? Present satellite dishes produce the same effects in some homes where certain programmes deemed too liberal are seen as a threat to the traditional social, moral and linguistic values.

Nevertheless, one can safely assume that humans have never witnessed such a disruption in the communication field as the one we are experiencing today with the invention of the computer and particularly with the development of Computer Mediated Communication (CMC henceforth). CMC is born from the connection of personal computers to other computers regardless of their physical location, thus definitely abolishing the notions of geographic space which habitually provides groups and individuals with a feeling of local belongingness to a particular ethnic or national culture sharing a physically bounded territory. As a matter of fact, networked computers have paved the way to the invention of the Internet which is bringing tremendous transformations in the ways humans use language for communication.

Indeed, and though the issue goes beyond the mere generation gap, the advent of the Internet holds of the same paradigm as television. Too much freedom and too much uncontrolled information so easily accessed may threaten the fragile balance patiently built locally over the generation gaps. Besides, most of the information on the Internet remains uncontrolled by the usually considered 'legitimate national authorities' and can be accessed only in "foreign powerful" languages, amongst which English enjoys the pride of place to the detriment of less spread local languages. The human voice is no longer limited by the physical limitations imposed by the vocal organs and by physical space, nor by the physical limitations imposed by the paper format in which the books, magazines and other articles are printed. The storing surface becomes limitless as man can produce, store and disseminate information with almost no physical limitation, now that the capacities of the Internet sites have grown to huge dimensions.

The decisive transformations incited by the development of the new technologies could not avoid entailing decisive implications on the way languages are used. Concerning the English language, and despite the occasional vituperations targeting the new variety of English used within the Internet, and known as cyber-English, one can affirm that English has never attained such an enviable status which, as shall be argued in the course of our research, it largely owes to its position as the language of the powerful United States of America and as the language of the ICTs which endowed it with a planet-wide glory by means of the globalization of exchanges.

Who wonders anymore at the "marvels" of the alphabet, of the pen, of the bedside book, of the television set, and perhaps even of the cellular phone or more specifically of the incredible utility of the networked home computer which have already become 'ordinary' tools for daily use? Our intention is to identify and account for the effects which the Internet as a technological artefact is exerting on the English lexicon, via cyber- English. We should like to try to both understand and highlight the extent to which the electronic word evolves from the status of a moneme obtained by the combination of phonemes to another structure that of a hyperword which we suggest to name "*componeme*".

A MICU (Minimal Informational Cooperative Unit) could be defined as a linguistic unit functioning as the initial of a 'word' which, in association with other MICUs compose a complex acronym labelled *componeme*. A MICU is pronounced like a phoneme, but has the value of a moneme. A componeme is therefore the linguistic unit which results from a coherent combination of MICUs. The relations between the MICUs which make up a componeme involve both "a syntagmatic and a paradigmatic" dimension to use a Saussurean terminology. An acronym containing MICUs is therefore structurally distinct from an ordinary 'word' in that it is formed not from phonemes, but from a number of initials of words which are amalgamated to build a single word. As shall be demonstrated, the MICUs provide a third dimension to the classical double articulation of language as elaborated by André Martinet. This third dimension finds its full expression in today's technological environment which, in analogy with the notion of hypertext could be called "*hyperword"*. Although the process remains at fledgling level, it has already started exerting a visible influence on the English lexis. The changes involved by the appearance of the MICUs could in time become determinant, for although they may still be considered as marginal today, they might well initiate appreciable transformations in the way people think and communicate in cyberspace in the long run.

In effect, if it takes a long time to invent a useful tool or intellectual device, it takes less time for it to conquer potential users. However, as soon as the new tool is adopted, it ceases to look new, or strange, or foreign and becomes like a "second nature" to the members of the society that has adopted it. It becomes like something that "has always been there". Exactly the same phenomenon happens with language concerning loan words and calques when they are adopted by

another language. They become so naturalized that it sometimes takes considerable efforts and linguistic knowledge to dissociate them and explain their presence in the target language. This part of the semiotic process, Peirce labels *Thirdness*.

Traditionally, physical territory was the only locus for human gatherings. It indicated the limits of one's geographical belongings and people had (and still do) sought to enlarge their property through expansion, especially through invasions, explorations and trade. To reach this aim, people (settlers, warriors, explorers, merchants, etc.), had to cross very long distances, often on foot, on horseback, and later by boat and other transport means to travel long distances. Very often the travellers did not possess any clear idea of the places they were heading for, and no better idea about the languages and the ways of life in use by the people they would encounter. Contacts with the locals were difficult from linguistic, social and personal standpoints, as total serendipity and permanent intuition characterized their daily lives in foreign lands.

Today, a 'de-territorialized space' or a 'de-spatialized space' is gradually building its 'cybernetic space' or to use an established coinage 'cyberspace', alongside the more concrete geographical territory we are familiar with in the 'real world'. The new virtual reality is rendered possible by computers and notably by interconnected computers which are gradually changing the way people communicate. The resulting effects may be various and manifold, and may concern all aspects of language from spelling, pronunciation, syntax to semantics and pragmatics. However, as mentioned above, given the complex aspect of the problematic issue under scrutiny, our study will be limited only to the impact of the ICTs on the English lexis.

In view of that, one can empirically consider that within CMC, the notions of fragmentation mainly illustrated by hypertextuality at syntactic level and 'hyperwordacy' at lexical level play a crucial role likely to destabilize to some extent the so-called fixity of the uni-dimensional traditional text provided by the hypothetical stability of the "classical" construction of "words". Together with *fragmentation*, one can also assume that the Internet is characterized amongst other features by two major traits which impact on the electronic word, *immediacy* and *hybridity,* which can be defined as follows:

Fragmentation: by fragmentation is meant the phenomenon which consists in the breaking into pieces of a unit of storage space, whether this relates to memory or to any other means of organizing information or knowledge. Fragmentation of space offers a exceptional possibility to thread units of information within other exploded units of information, thus augmenting the possibilities for reading, writing and interpreting the electronic word. Fragmentation breaks down the supposed unity of the traditional text as well as that of the classical word. In analogy with the openness initiated by the hypertext which partly abolishes the syntagmatic linearity and fixity of the classical text, the fragmented word or hyperword can reach unexpected noetic layers. As the lexis of a language also participates in the shaping and organizing of knowledge, it can be expected that this fragmentation will also be reflected in lexis.

Immediacy: by immediacy is meant the capacity of the Internet to abolish the notion of distance and temporality brought by time and space, thus provoking the unprecedented capacity for a piece of information to be transmitted at light speed to any part of the globe as geographic, political, economic, cultural and linguistic frontiers are progressively fading away, just as the notions of day and night become meaningless as there are people connected to the Internet at any time round the clock. This feature is also expected to filter from the items of cyber-English.

Hybridity: this concept inspired from post-colonial discourse illustrates what is meant by the possibility to bring together into one unit different composite elements which ordinarily do not necessarily fit together. Within the scope of our research, hybridity will concern a)- the integration of several media into one as is the case with the hypertext, or the blending of units in unanticipated ways, b)- the merging of several lexical units into one for example in the form of complex acronyms.

Since these three features (fragmentation, immediacy and hybridity) are integral parts of CMC one may reasonably expect them to be actually displayed in the particular language used within the Internet. Moreover, holding that there are real-life people behind the invention and constant use of cyber- English, it may also be interesting to identify and unveil the attitudes and world views of these hypermodern people which necessarily filter through their neologies.

It can, therefore, be safely posited that the English language used within the Internet is operating the necessary changes to gradually fit the three above mentioned standards. However, given the enormity of the task, our investigation will be conducted around the transformations cyberspace is exerting on the English language only at the level of lexis. More precisely our study will concern a type of cyber-English lexis frequently encountered in the early years of the Internet and originating from the Jargon File, a lexicon invented by the hackers' virtual community of practice.[2]

Our scientific endeavour consists in analysing a randomly selected corpus consisting of about 10 percent of the original dictionary also known as "the Jargon File", which displays over two thousand and three hundred neologies. The document we use is version 4.2.0, January 2000, edited by Eric S. Raymond. It can be accessed at: http://www.netmeg.net/jargon/.

Like for any other dictionary, it is important to view the Jargon File as a compendium comprising items of a 'general type'. As such, it comprises general laws (the definitions) which can serve eventually as referents in case of disagreements between people making assertions when they use its symbols as sinsigns, that is, as replications of legisigns. (All these terms will be largely detailed in chapter one, section three.) Therefore, we consider the Jargon File as a collection of general types and its value lies in the power of its units to be asserted in tokens and tones in concrete acts of speech. As with other cultures, it is through the repeated use of its symbols that the users of the Jargon Dictionary impose its existence and presence among other cultures. Therefore, its semiotic analysis can be made possible only inasmuch as the items of the dictionary are used by hackers during their multiple exchanges. In this respect, the Jargon File constitutes the basic cultural artefact through which hackers exist on the Internet and occupy their virtual and symbolic space. Indeed, the Jargon File as an artefact triggers three operations simultaneously: a) - it extracts the culture from anonymity. b) - it expresses one particular world view among different other ones in the form of tokens. c) - The tokens display tones and qualities used in a distinctive way which ensures the uniqueness and singularity of the culture.

[2] As will be broadly detailed in the Fourth chapter, we use *the Jargon File* of the Hackers as a corpus model to account for the major English lexical transformations that take place on the Internet.

The hackers' jargon, which is itself a variety of cyber-English, ought to be seen as a reduced semiotic field, a microcosm in regard to the wider community of technology users at large from which it draws its substance. The novelty of this language and its exceptional creativity should not make us forget, however, that language is but mediation between two different entities: the 'real world' proper, and the hackers who use the mediation of their particular language to represent this world. In this connection, the Jargon File needs to be considered also as a semiotic marker of both the linguistic and the cultural stakes at play in the world today.

Considering that the minimal unit of language is the word, and viewing it from both linguistic and semiotic perspectives, we shall draw mostly from two major authors. The major source of our inspiration concerning the linguistic aspect of the research will be the lexicological theory developed by Jean Tournier which is in complete accordance with the Saussurean mindset, while the chief resource for our semiotic speculations concerning the corpus will be that of the American logician Charles Sanders Peirce. Our preference for the French author is motivated by the absence of more pertinent lexicological theories developed in the Anglo-Saxon world concerning this particular issue. Besides, in his lexicological study, J. Tournier has both a practical and theoretical turn-of-mind that can help us theorize about the internet jargon of hackers and make applications of it to practical sides of the issue, such as the determination of the main lexicogenic processes at work in the internet jargon. It is also worth underlining that the author, more than many other lexicologists, has shown a close interest in the language of the new technologies, and this closeness results in a deeper comprehension of the intricate relationships between language and technology.

The second reason motivating the present research conveys as mentioned previously a more epistemological dimension, and concerns the theoretical deadlock, our former research on the same grounds was brought to. In a study devoted to the exceptional lexical creativity of the English language on the Internet, an unusual process for coining neologies was brought into light, for which no convincing theoretical foundation could be satisfactorily provided. Our explanation is that given the academic conditions in which the research was conducted at that time, and notably because of the limited amount of time allotted to it, we were not in the best position to draw all the possible conclusions.

As an illustration of such a weakness, we can mention the fact that, after the identification of the lexicogenic processes brought into play by the virtual community of hackers, we were progressively led to notice the existence of a peculiar type of lexical units whose structures did not correspond to any known pattern. In other words, the issue was how to account for the existence of English words whose smallest distinctive parts are not phonemes, although they behave as if they were, since they combine into meaningful structures in such a way as to form what looks like ordinary words. Some of the neologies encountered are built from hybrid processes uncommon to traditional word-formation processes in English. For instance, the emergence of fragmented lexical units such as *grep*, or *ASCIIbetical order* is a new linguistic phenomenon generated by lexicogenic processes distinct from those which the users of English are accustomed to.

This linguistic phenomenon has been termed hypermodern for two major reasons. First, their structure is highly complex as they involve more than one lexicogenic process at a time. Second, because these coinages are like clones and can thus be considered as simulacra of 'ordinary' words to which they resemble formally, but not ontologically. Therefore, a more profound examination of these difficulties has led us to seek the answer in the methodological blind spots of which we were naturally not aware. With time, it has been realized that the dimension attained by the hypermodern word, or 'hyperword', requires theoretical and methodological tools other than the ones furnished by the binary theory of the sign.

One of the greatest difficulties encountered in the previous research is linked to our awkward attempt to adjust the results of our observations to Saussure's theoretical conceptualization. In effect, a number of fragmented complex coinages were noticed. These were built from blends, acronyms, compounds, etc. which challenge the ordinary dyadic relationship that structuralist linguists consider as universal, notably because of the high degree of motivation which filters between the components of the neologies. In other words, the failure consisted in attempting to fit into the Saussurean framework some coinages currently in use in cyberspace which do not conform to the principle of the double articulation of language, notably in the dimension concerning the codification of personal experience into linguistic units. This issue will be discussed in detail at the end of the first chapter.

To solve the theoretical flaw that has just been mentioned another theory will be adopted which, in our view, lends itself better to an account for the nature of the electronic sign. This theory is the triadic semiotic theory elaborated by the American logician Charles Sanders Peirce and developed by his followers. Our appeal to Peirce's complex semiotic theory could be regarded as a supplementary attempt to provide a workable theoretical framework capable of offering the necessary conceptual tools that would explain the formation and use of the hypermodern neologies ideally reflected and imbedded in the electronic linguistic sign, whose dynamical aspect seems poles apart from the static-like relationship advocated by the dyadic structuralist framework. The freedom and ease of thought entailed by the dynamism of the triadic theory has led us to the detection of a "third layer of language expression" which can be safely labelled the "triple articulation of language" and which perfectly integrates the hypermodern coinages.

The discovery of the triple articulation of language may help to elucidate one of the various cognitive strategies used by man in his unending attempt to both conceive and teach meaning. It may help shed some light on how people build complex words to express complex meaning and how this new meaning is transmitted to others as simply and as fast as can be, under a multimodal guise, and at the least possible cost in terms of energy and cognitive entropy, to finally end up in the form of a lexical unit as commonly shared knowledge, so well internalized that it becomes treated as "normal" and "natural".

Peirce's triadic theory of the sign appears particularly well adapted to the analysis of the hypermodern type of communication which involves "network thinking" with its corollaries – hypertext, hyperword and interactivity – and we should like to add our endeavour to that of many predecessors in order to try to corroborate it with some concrete new applications. However, if it is commonly admitted that languages evolve in accordance with social change, the practical evolution of one's proper use of language in accordance with the development of human thought wins less adhesion as people tend to identify their peers by the particular tones and linguistic constructions they habitually use in a personal way. Indeed, people generally expect one to conform to the same lexis, grammatical constructions and accent they attribute to them as iconic labels, and are generally surprised to observe a change distinct from their expectations. Therefore, holding

that the triadic theory focuses on the *Interpretant* which can evolve to integrate current knowledge, contrary to the dyadic theory for which the meaning of the text is enclosed within the text, the methodological option for the triadic theory to explicate the relationships between language and culture gains our favour, so the use of the Saussurean framework will be deliberately restricted to the linguistic analysis of the corpus.

In connection with our first aim and in analogy with what was previously written about technological artefacts, we raise the issue of the extent to which the Information and Communication Technologies represented by the Internet influence the language in which they are expressed, i.e. cyber-English. We then ask how does cyber-language in its turn, influence the principal media in which it is expressed, that is "standard English".

It is known that newly acquired habits rapidly attain the status of a 'standard thinking referent' which often leads to the exclusion of all other thinking habits. As family, social and school conditioning make use of the same operational methods, the investigation of the processes that lead to what is commonly referred to as 'common sense' constitutes a major key for the understanding of how we understand. In Peircean theory, this type of 'social habitus' serves as the locus which hosts the laws and rules that permit the interpretation of a particular semiotic phenomenon, be it a word, a sentence, a text, the scent of a flower or a plant or anything else, that is, any sort of phenomenon, whether linguistic or not, capable of being perceived by a human organ. This Peirce calls '*Thirdness*'.

For purposes of clarity then, and to situate our research in an epistemological perspective, it can be claimed that the Internet is but an effect of the hypermodern technological advances. Some basic features of these technologies determine the Internet to be such as it is, in a continuous and a changing state. Among these features or qualities, fragmentation, immediacy, hybridity, transparency, hypertextuality, etc. are assumed to have been integrated into the electronic support in which they are embodied. The Peircean category to which they correspond is called *Firstness*. In the particular case under study, the support where the qualities of *Firstness* are represented is the Internet language best illustrated by the Jargon File of the hackers in the singular form which it actually displays as can be noted in the address mentioned above.

In agreement with Peirce's conceptualization of sign categories, we consider the Internet, comprising the World Wide Web, its shape, its format, its hypertextual structure, its language, etc. as the realm of *Secondness*. The parts of *Firstness* which are actually embodied in *Secondness* concern every bit of information ever uploaded to the Internet, existing in a virtual state, and is thus capable of being accessed and retrieved at any time by some Internet user. Amongst the several representations offered by *Secondness* the focus will be only on the type of Internet language labelled cyber-language, and more precisely on the hackers' language. We shall emphasize its features, its use, and the effects it produces in two distinct fields: linguistic and anthropological. In the linguistic field, the effects will be examined in relation to the English lexicon, and in the anthropological field, the focus will be on the effects cyber-English exerts on the user of the Jargon Dictionary, whether seen as an insider or as an outsider to the community of the hackers.

To conduct this investigation, the research has been divided into six Chapters. The first Chapter provides the theoretical grounding for our study. It provides an overview of the state of the art in the semiotic field. The first section deals with the dyadic theory promoted by F. de Saussure which represents globally the European semiological approach, and the second section is devoted to the theory elaborated by C. S. Peirce, which represents the American pragmatic approach. A particular emphasis is put on the most appropriate aspects of the triadic theory which is more densely discussed for two major reasons: it is less popular in Algeria, and it provides the necessary conceptual tools which frame the theoretical aspect of our research. The chapter contrasts the two semiotic viewpoints and justifies our methodological option for the triadic theory.

The second chapter summarizes the development of human communication over time and connects the evolution of language with social and technological change. It starts with the problematic issue of the invention of language both as a communication and as a semiotic system by Homo sapiens. This question leads to another, the invention of writing as the first technology devised to supplement speech and whose effects on human intellectual enterprise has produced enduring effects. The evolution from a communication system based on orality to another, displaying graphic and thus durable testimonies, has induced an epistemological turn in the semiotic field owing to the fact that writing

physically separated the known from the knower. In effect, and for the first time in his history, Homo sapiens had the possibility to materially represent his thoughts and other noetic activity on a surface that became the outer accessible witness of his inner world and as a substitute for his metaphysical, spiritual, artistic, or more mundane numerical mental processes.

By projecting his thoughts on a physical surface, man suddenly became aware of the virtual knowledge he, and his fellows might share once it is symbolically displayed for the others to see and react to. Over time however, he inevitably came to be concerned with the difficult issue of the scarcity of storing space. The new trouble confronted his genius to another invention: that of the printing press a few thousand years later. This paramount landmark in the intellectual development of Homo sapiens has given considerable impetus to the dissemination of knowledge, and thus to semiotic enquiry, but most of all, it remarkably updated the question of the relationship between the constraints which the features of a knowledge storing device imposes on a language on the one hand, and the linguistic, rhetoric, stylistic, and alphabetical devices used by a given intelligence to cope with these physical constraints on the other hand.

As shall be argued, all these contributions paved the way to another major transformation in the human mind of which we are the present witnesses: the invention of the dynamic electronic text, which is progressively imposing new standards on spelling, lexis, grammar, text organization, texts linking to other texts within the same document, new storage capacities, etc. These recent transformations inevitably connect themselves to the issue of the evolution of language which has no other choice than to respond favourably to the demands of its users in relation to the constant evolution of their social, economic, cultural and even sometimes private lives.

The chapter presents the new environmental and linguistic background epitomized by the Internet where hypermodern communication takes place. It focuses on the changes induced by what is commonly labelled the Information Society on the notion of communication. We start by providing a brief summary of the major features of the Internet applications related to communication. This permits us to precisely situate the object of our study in its appropriate context among the other environments present within the Internet. We offer a broad depiction of the larger context in which this hypermodern type of communication

occurs by widening the scope of its expression into what is referred to as the Global Society. Notwithstanding its other dimensions relating to economy, politics, and other sovereign issues, globalization is treated only from the point of view of communication as this constitutes the deep core of the research project.

To provide a living example of how a language may respond to the needs of its users, the third chapter illustrates the process of accommodation of a language to the twists and turns of the human adventure. It takes the English language as a sample for such an evolution by considering the intricate relationships between the evolution of a language and the changing contexts of its users. Our choice for the English language to exemplify this reciprocal evolution is motivated by four major reasons:

- its particularly recent origin (compared to older languages like Hebrew, Arabic, Berber, Greek or Sanskrit),
- its great facility to adapt to historical, political, social and cultural events,
- its unique chance to be the privileged means of communication between the people who accomplished most of the industrial revolution, and also as the language which accompanied several explorers, and finally
- its position today as the language of technology, as illustrated by the Internet where virtual communities assemble and grow, and above all as the language of the extending globalization which represents only one side of what is now termed hypermodernity.

With the appreciable help of the French lexicologist Jean Tournier, we shall scrutinize the early strata that have contributed to the progressive building of the language which in the long run, has become the language we know as the English language. The evolution of this language will be accounted for by focusing on the structural notion of 'word' as the minimal unit of study. Next, the various lexicogenic processes that have eventually shaped the English lexis will be detailed before highlighting the motives of lexical development which justify, permit or prohibit the formation of neologies.

The fourth chapter bears a more practical aspect as it is totally dedicated to the effects exerted by cyber-English on the English language. The chapter offers room for a detailed description and linguistic analysis of the Jargon Dictionary. It connects the linguistic corpus to the social virtual context in which cyber-

language evolves. The lexicogenic processes are described and analyzed in detail under the linguistic theoretical framework furnished by Jean Tournier, himself being deeply inspired by Saussure's structural episteme. The chapter defines and updates the concepts of 'speech community' by shading some light on the actual language practices of the hypermodern hackers.

The fifth chapter focuses on the impact of cyber-English on culture within the particular context of the globalization. The chapter also covers the peculiarities of the particular environment within which the virtual communities evolve. It clarifies the distinction between ordinary communities based on solidarity between aggregations of people living within a strictly bounded territory where they share a common history, beliefs, customs, language and a common feeling of belongingness, and the new type of communities which, given its virtual 'de-spatialized' aspect, notably as regards geography, language, interests but also ideology and personal behaviour, evolve in fairly different directions. Both notions of "social and cultural community" are redefined in the light of recent works in the field with a focus on the new context in which they are examined.

The sixth and last chapter is devoted to the analysis of the corpus under a pragmatic perspective. In effect, considering that Peirce's agenda seeks to make us aware of the universal categories from which we apprehend the world, it can be assumed that our examination of the Jargon File should highlight the three different standpoints from which its analysis can be conducted. In other words, the pragmatic questions which we shall be led to answer are: what qualities and feelings does the Jargon Dictionary exhibit? Which effects does it provoke on both insider and outsider to the community? Do we apprehend it in its transience, i.e. in its iconic relation to its object, in which case should our analysis stop at the level of *Firstness*? Do we focus on its brute actuality, i.e., in its indexical relation to its object, in which case we remain at the level of a mere linguistic description belonging to *Secondness*? Or do we also inspect the file in its cognitive facet, i.e. in its symbolic relation to its object and thus attain its third dimension able to account for the semiotic processes at play?

These questions will be answered in agreement with the pragmatic maxim as formulated by Peirce, who defines and delineates the pragmatic mindset in this now famous formula: "*Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.*"[3]

[3] C. S. Pierce, *How To Make Our Ideas Clear* in The Popular Science Monthly 12 (January 1878), pp 286-302.

Theoretical considerations

CHAPTER ONE: the concept of sign

1.1. INTRODUCTION

The study of signs is labelled *sémiologie*, or *séméiologie* by the advocates of the European tradition following Saussure, while the term *semiotics* is preferred by the promoters of the American tradition initiated by C. S. Peirce who equates it with the term *logic*. Both semiology and semiotics derive from the Greek word for sign *Sèmeîon* as used by the Stoic philosophers, but from 1969, the International Association for Semiotics Studies definitely opted for the term semiotics.[4] This decision explains the wider use of the term semiotics among scholars with consideration neither for their geographic basing, nor epistemological options.

John Fiske, points out that semiotics is "*essentially a theoretical approach to communication in that it aims to establish widely applicable principles*."[5] A semiotic theory is, then, an attempt towards the elaboration of a credible explanation of how the world is both apprehended and comprehended through signs. In other words, it is the elaboration of a theory of meaning which accounts for the ways in which we, as humans, perceive and explain the world through the mediation of signs. But if our perception and interpretation of the world depend totally on signs, what is the nature of these signs?

So far, and to the present state of our knowledge, there exist only two major attempts to explicate the sign: the binary theory which originates in the work of the Genevan linguist Ferdinand de Saussure and the triadic theory which results from the reflections of the American logician Charles Sanders Peirce. The two theories diverge in their respective apprehension of the ontological nature of the sign. While the Saussurean theory considers the sign as an entity which is already 'déjà-là' in the text, the Peircean theory considers the sign as something

[4] R. Marty, *Sémiotique et Sémiologie,* in « La sémiotique selon Robert Marty » http://www.univ-perp.fr
[5] J. Fiske, *Introduction to Communication Studies*, Routledge, 1982.

'observable', that is, as something in the construction of which the reader participates. But what does each theory consist in exactly?

To Saussure, it would be:

> *...a science which studies the life of signs as part of the social life; it would make up a part of social psychology, and hence of general psychology; we shall call it semiology (from Greek Sèmeîon). It will tell us what the signs consist of, which govern them. Since it does not yet exist, one cannot tell what it will become; however, it has a right to exist, its place is well determined in advance. Linguistics is only one branch of this general science. The laws which semiology will discover will be applicable in linguistics, and linguistics will be assigned to a clearly defined field among the whole set of human facts*[6].

However, as practised by Saussure's followers, semiology is confined to the study of linguistic signs to the detriment of the other types of non-linguistic signs the world is perfused with. To Peirce, semiotics is '*the doctrine of signs*'[7]. This definition which has the advantage to enlarge the object of the discipline to any type of signs leaves room for a possible cooperation between the different theories, and as R. Marty wishes, this might lead to

> *The unification of the issues related to the problem of meaning, and correlatively of the constitution of a scientific community capable of instituting and of warranting the validity of these problematic issues. This shows that the access to semiotics is instantly complex because of its position at the interface of several fields of knowledge (philosophy, phenomenology, psychology, ethnology, anthropology, sociology, epistemology, linguistics, theories of perception, neurosciences, etc.). The historical task of semiotics could consist in making these types of knowledge which are institutionally separated, cooperate to produce a new form of knowledge, a somewhat second level knowledge.*[8]

As a matter of fact, Marty's wish has not been fulfilled as the bridge between the two mentioned traditions has not yet been erected. As a consequence,

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[6] Elle est une science qui étudie la vie des signes au sein de la vie sociale; elle formerait une partie de la psychologie sociale, et par conséquent de la psychologie générale; nous la nommerons sémiologie (du Grec Sèmeîon). Elle nous apprendrait en quoi consistent les signes, quelles lois les régissent. Puisqu'elle n'existe pas encore, on ne peut dire ce qu'elle sera ; mais elle a droit à l'existence, sa place est déterminée d'avance. La linguistique n'est qu'une partie de cette science générale, les lois que découvrira la sémiologie seront applicables à la linguistique, et celle-ci se trouvera ainsi rattachée à un domaine bien défini dans l'ensemble des faits humains. F. De Saussure, *Cours de Linguistique Générale*, ENAG, 1994, p 33.

[7] C. S. Peirce, *Collected Papers,*V1, ed. by Ch. Hartshorne and P. Weiss. Cambridge, MA: Harvard University Press, 1-227.

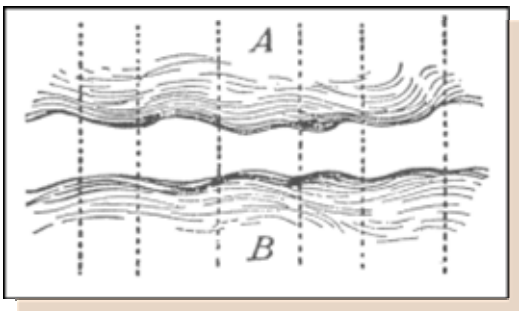
[8] L'unification des problématiques de la signification et, corrélativement, à la constitution d'une communauté scientifique capable d'instituer et de garantir la validité de ces problématiques. Ceci montre que l'abord de la sémiotique est d'emblée complexe car elle se situe nécessairement à l'interface d'un grand nombre de champs du savoir (philosophie, phénoménologie, psychologie, ethnologie, anthropologie, sociologie, épistémologie, linguistique, théories de la perception, neurosciences,...). La tâche historique de la sémiotique pourrait être de faire coopérer ces savoirs, institutionnellement séparés, pour produire un savoir nouveau, un savoir de second degré, en quelque sorte. R. Marty, http://robert.marty.perso.cegetel.net/semiotique/s001.htm

an account for the major differences between the two mentioned semiotic perspectives will be attempted in the following sections.

1.2. Saussure's Theory of the Sign and the Binary Tradition

Saussure's theory of the sign is founded on the idea that the linguistic sign unites, not a thing and a noun, but a concept and an acoustic image, later relabelled signifié (Sé) / signifiant (St), thus totally excluding any reference to the real world from his theory. Besides, Saussure insists that except for methodological considerations which may justify such an option, one should not isolate the signifier from the signified since "*language is still comparable to a leaf of paper: thought is one of its sides, and sound is its other side; one cannot cut a side without cutting the other side at the same time.*"[9] The two entities form a solidary unbreakable whole. The cooperation between the two distinct entities is illustrated in the following diagram where A represents the world of nebulous ideas, and B the world of indeterminate sounds. Saussure explains that even if both terms *signifier* and *signified* are of a psychic type, they are united in our brain through the link of association as shown in the diagram. The vertical dotted lines represent the arbitrary relationships between the signifiers and the signifieds, although there is no one-to-one link between signifier and signified, as signs may have multiple rather than single meanings, and the same signified has differing signifiers in the various languages of the world.

Diagram 1: The world of ideas and the world of sounds



The *sign* is viewed as the whole that results in the mind from the association of the signifier and the signified. The signifier, also defined as the acoustic image which results from the combinations of sound units, stands with

[9] La langue est encore comparable à une feuille de papier: la pensée est le recto et le son le verso; on ne peut découper le recto sans découper en même temps le verso. F. De Saussure, *Cours de Linguistique Générale*, Enag, 1994, p. 181.

the signified, or the concept which belongs to the world of ideas, in a relationship that resembles the two faces of a sheet of paper where one face cannot be torn without tearing the other face.

To understand a word means for a person to establish a genuine relationship between the medium used as a physical vehicle for the transmission of the word (either sound or graph), and its corresponding concept. Meaning then emerges from the connection between the two entities: the actual expression of the word through some physical channel which generates the psychic image, or the signifier, and its co-related conceptual counterpart which it brings forth, the signified.

To this clarification, Saussure adds another: the notion of value which implies that concepts are defined, not positively by their own content, but negatively through their relations with the other terms of the system. Accordingly, a term acquires its value within the system only because it stands in opposition to everything that precedes or follows it from the syntagmatic standpoint, as well as the value of a term lies in its opposition to all other terms which it replaces from the paradigmatic standpoint. The exact characteristic of a term is to be what the others are not. This notion of value leads him to declare that "*in language, there are only differences*."[10]

Thus, at word level, the smallest meaningful signifier (whether it is a moneme or a morpheme) can be distinguished from another only because they differ in one phoneme, and a phoneme can be distinguished from another only because they do not share at least one distinctive feature such as voicing for example. As an illustration, the difference in meaning between the two words '*bit',* and *'pit'* /bit/ and /pit/ is generated by the difference of one phonological difference, /b/ versus /p/, because the difference in quality between the two phonemes /b/ and /p/ lies only in the presence in /b/ or absence as in/p/ of voicing.

At the paradigmatic level, differences in words as signifiers bring forth differences in the semantic constitution of sentences and so on. For example, the polysemy of certain words is solved by the analysis of the context which informs about the semantic field in which the words occur. Other momentous concepts of the binary theory are built on similar oppositions. For instance, Saussure opposes

[10] « Dans la langue, il n'y a que des différences » F. D. Saussure, *Cours de Linguistique Générale*, Enag, 1994, p 191.

'langue' to 'parole'. To Saussure, 'langue' is the language system. It is also, as D. Crystal writes, "*the totality or the 'collective fact' of a language which we could in theory discover by examining the memories of all the language users: the sum of word-images stored in the minds of individuals.*"[11] Viewed from this angle, 'langue' appears as the treasure from which one draws all the necessary rules, norms and language constituents needed to communicate by using language. Conversely, 'parole' is defined as "*the actual concrete act of speaking on the part of a person – a dynamic, social activity in a particular time and space.*"[12] It is also considered as the practical implementation of the rules of a language in an individual act of speech.

Saussure definitely relates linguistics to the study of 'langue' considered as the collective fact of language, while 'parole', which despite its irregularities, its inventiveness and its unexpectedness, remains the only object available for direct observation, is neglected by the Swiss linguist. Other dichotomies oppose a 'diachronic' study to a 'synchronic' one, and a 'paradigmatic' organization to a 'syntagmatic' one. The consideration of all these concepts as a whole confers unity to the theory.

However, because of the recurring discontent concerning the exclusion of the referent from this relationship, some linguists started expressing their theoretical discomfort. Emile Benveniste[13] was among the first followers of Saussure to attract attention on the motivated aspect of the sign when it refers to its object, especially targeting the status of the deictic elements of language such as the different pronouns. Benveniste thus re-introduced the notion of motivation and insisted on this relationship.

The linguist Roman Jakobson[14] led the enquiry further in a famous article entitled "*Quest for the Essence of Language*", published in 1965. In this article, Jakobson raises the issue of the iconicity of the linguistic sign. The question is whether some signs resemble the extra-linguistic reality they represent, or whether the relationship is exclusively arbitrary. This question lies at the heart of the

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[11] D. Crystal, *The Cambridge Encyclopedia of Language*, Cambridge University Press, 1987, p. 407.
[12] Ibid.
[13] E. Benveniste profoundly disrupted the so-called intimate relationship between the signifier and the signified by drawing attention to the relative aspect of the deictics.
[14] R. Jakobson, *Quest for the Essence of Language*, Diogenes, 51, 1966, pp 21-37.

iconicity theory defended among others by Anthony Jappy[15]. The latter considers that once freed from a dyadic linguistic posture, it becomes clear, from a triadic point of view, that there exists a likeness between the qualities of the external reality and the formal properties of the linguistic or non-linguistic sign which is used to represent this reality.

This central point leads us to a more epistemological aspect of our research which relates to the ways, we, as language users, organize this mediation between the real world and the specificities of language. Considering that one of the only ways for a person to know something about the real world is to organize it into knowledgeable sets with the help of language or some other artistic device, the status of these sets immediately comes into question. Among these questions, the linguistic one which comes first and foremost is what is the smallest unit of language which conveys meaning? Is it the graph? Is it the sound? Is it the word, or the phrase, or is it the sentence, or the assertion? Etc. Besides, once identified, what are the conventional rules that allow for the combination of those units into larger ones?

André Martinet, as a disciple of Saussure, partly solved the issue by elaborating the principle of the double articulation of language, which to many authors definitely separates between human languages and all other communication codes, whether human or not human. Following Martinet, the expression of personal experience through linguistic signs consists in conducting a double activity. The first encodes human experience in meaningful units labelled monemes, and the second allows for the physical articulation of these monemes through phonemes. The monemes are considered as the smallest meaningful units in language and may globally correspond to what we commonly refer to as "words loaded with meanings". The second articulation concerns the combination (following certain rules) of the smallest contrastive units called phonemes, into the larger meaningful units of the first articulation. All linguistic activity is built upon this frame, according to structuralist linguistics.

Assuming that this reminder is sufficient to provide an idea of the Saussurean theory, and given the fact that the binary theory is largely accessible thanks to an extensively available documentation, the discussion about Saussure's binary theory will be suspended to concentrate more deeply on Peirce's triadic theory which is less documented, and therefore requires more room.

[15] A. Jappy, *The Theory of Iconicity,* Doctoral thesis, University of Grenoble, 1994.

1.3. Peirce's Theory of the Sign and the Triadic Tradition

Charles Sanders Peirce (1839-1914) devoted his lifetime to a considerable number of scientific disciplines. He was at the same time an astronomer, a book reviewer, a chemist, a cartographer, a geodesist, an engineer, a historian of science, a logician, a mathematician, a metaphysician, a phenomenologist, a semiotician, and he probably committed himself to many other less known interests. The theoretical foundation of his thought will now be discussed and his somehow "awful" terminology will be gradually clarified as the detail of the different facets of his seminal work will be supplied.

Peirce was a profound thinker and prolific writer, and his written production was at the same time eclectic and original[16].In book I of the Collected Papers, Peirce, reflecting on the nature of reality and our apprehension of it, challenges the idea of the modern philosophers that, in the universe, there exists only one mode of being. Peirce believes that this view is, to say the least, short-sighted because it limits all aspects of reality to one mode of being, which is that of actions or events. He also comes to refute the view of Aristotle, whose evolutionary system recognizes only two modes of being. The one shared by the modern philosophers and a second one which they contested.

The second mode is described by Aristotle as "*an embryonic kind of being, like the being of a tree in its seed, or like the being of a future contingent event, depending on how a man shall decide to act*."[17] Clarifying the opinion of the Greek philosopher, Peirce mentions that in fact, "t*he embryonic being for Aristotle was the being he called matter, which is alike in all things, and which in the course of its development took on form. Form is an element having a different mode of being."*[18]These were the only modes of being recognized by philosophers before the American logician added another.

Peirce rejects the two standpoints and elaborates his own philosophy of the categories, which in his view consists not of two, but of three modes of being which he labels *Firstness*, *Secondness* and *Thirdness*.

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[16] Peirce wrote several articles on such diverse fields as logic, philosophy, mathematics, geodesy, chemistry, linguistics, and of course, semiotics. Some of these works have been compiled in the six volumes of the Collected Papers, but a huge quantity of documents is still under the process of ordering in view of their publication.
[17] C.S. Peirce, *Collected Papers,* 1.223.
[18] Ibid.

When the mind of a person is attracted by some event, three things are actually involved in such a perception: the Sign proper which attracts the observer's attention, a number of qualities that are embodied in the Sign in such a way as to distinguish it from all other distinct signs and which the sign exhibits more or less distinctly, and the connected idea which, although absent from the observer's field of experience comes before his eyes with an obstinate insistence. Peirce relates the Sign to the world of *Secondness* which involves actuality, events, actions, tangibility and so on. He designates the world of the qualities and feelings that determine *Secondness* as *Firstness*, and he names the mediation (whether of a legislative, customary, habitual, or of an unconscious nature), *Thirdness*. It is labelled mediation in the sense that it relates and explains the link between the second and the first.

As an illustration for such a hypothesis, if, while lying in bed at night one suddenly hears car horns in the street (a sign of *Secondness* which embodies qualities of loud noises), what the person has in mind is not a spectrogram of car horn movements displacing air in the form of vibrations, but the picture of cars passing by. To make meaning of such noise, one needs to fix his mind on a plausible explanation in the hope of going back to bed restfully, so, he tries to work out the events of the day that might have provoked this noise. In other words, he tries to link the noise to an acceptable cause.

In this respect, one tries to remember the possibility of a neighbour's wedding, a possible performance of the local football team or any other reason that might have caused the drivers to sound their horns (signs expressing joy or even anger). Only when one reasonably links the noise to a satisfying reason, could he feel at rest. In other words, it is only after the discovery of the reason, or the social or usual habit or convention (sign of *Thirdness*) which occasionally leads people to sound their car horns at night that one solves the problem of his restlessness. For example, the recall of a neighbour's wedding will set the observer's mind to peace. In this particular case, one's memory, or rather the knowledge of the habits of a given community which behaves in a specific manner on given occasions (*Thirdness*), help one link the celebration of a wedding "Henna" (*Firstness*) to sounding car horns in the middle of the night (*Secondness*). The noise is meant to be a joyful manifestation of the celebration.

One may also provide another example from the corpus, which relates to the situation which was at the origin of the creation of a coinage, the term *cup-holder*: One day, someone with probably little knowledge of hypermodern technology once bought a computer. At a given time, he opened the CD drive and noticed the tray which serves to hold and drive the CD in place to be read. Because of no previous knowledge of computers and CDs, he thought that the function of the tray was to serve as a cup holder and used it in this way until the tray broke. The user later called the shop where he had bought his computer to complain about the fragility of the cup-holder, and the misconduct became a legend.

A simple examination of this situation can reveal the effect which the appearance of the CD drive had on the Interpretant of the user. As the user had no previous collateral experience with objects like computers equipped with CD drives the shape of the tray reminded him of a familiar object which bears roughly the same shape: that of a cup-holder. This iconic relationship led the user to misattribute the tray another function for which it was not intended. It is clear then, that while the sign (the tray), or the percept is the same for any computer user, the effect it may have on different users may vary, according to their perceptual judgment.

To recapitulate, the disturbance in a person's consciousness caused by the unexplained (joyful) car horns heard at night pertain to *Firstness*. The noise itself which actualized the celebration of the wedding pertains to *Secondness*. The ability to link the noise to a neighbour's wedding celebration which explains the reason for the noise pertains to *Thirdness*. Semiosis in this example is ensured by the connection between the three elements of the sign.

1.3.1. The three modes of being: *Firstness*, *Secondness*, and *Thirdness*

Peirce labels the three modes of being of signs *Firstness*, *Secondness* and *Thirdness*. This framework serves as the conceptual plinth upon which the triadic theory of the sign is founded. It lays the basis for a new conception of perception and meaning which will be broadly developed in the following pages.

To the American semiotician, the interaction between the three components of the sign is the necessary and sufficient condition for the emergence

of meaning as the latter appears only when the cooperation between these entities is ensured. Providing further details on the relationship which the three entities hold among them, Peirce explains that

> *The first is that whose being is simply in itself, not referring to anything nor lying behind anything. The second is that which is what it is by force of something to which it is second. The third is that which is what it is owing to things between which it mediates and which it brings into relation to each other.*[19]

The 'things' between which the third mediates are of course the first and second. What is termed the being of positive qualitative possibility corresponds to the category of *Firstness* whose nature is close to the idea of potentiality, but which should be envisaged as a totality existing in itself without or before any link to anything else.

> *The idea of the absolutely first must be entirely separated from all conception of or reference to anything else; for what involves a second is itself a second to that second. The first must therefore be present and immediate, so as not to be second to a representation… It precedes all synthesis and all differentiation; it has no unity and no parts. It cannot be articulately thought: assert it, and it has already lost its characteristic innocence; for assertion always implies a denial of something else. Stop to think of it, and it has flown!* [20]

Notwithstanding the conceptual efforts required by this type of abstraction, the notion of First, which corresponds to what Peirce also labels the sign's Object, can be easily recognized when it is linked to a second where it can be embodied. For example the notion of danger can be manifested in red traffic lights or in triangular shaped signs.

The cognitive activity which consists in linking something clearly perceptible (since it forces itself against one's consciousness) to another maybe less perceptible but no less real (as specific qualities which determine the second into being) is a semiotic activity. Indeed, in the example mentioned above, the idea of an obligation to stop exists potentially before any driver faces any red traffic light or any triangular sign. We shall return to this cognitive activity labelled semiosis in due time after some more clarifications are brought to the complexities of Peirce's conception.

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[19] C.S. Peirce, *Collected Papers,* 1.356.
[20] C.S. Peirce, *Collected Papers*. 1.357.

For the moment, the attention should be called on the existence of a mode of being labelled *Firstness*, distinct from that of direct perception of signs which relates to *Secondness*. In fact, the mode of *Firstness* is closely related to what Heidegger means by his laconic expression "what withdraws" in an inspired book entitled '*What is Called Thinking?*' The author writes: "W*hen a man is drawing into what withdraws, he points into what withdraws. As we are drawing that way we are a sign, a pointer."*[21] Clearly, we become signs for others to see and draw conclusions upon our actions or thoughts, exactly as in the mentioned traffic red light which indicates the prohibition to move beyond the light until it turns green. The interdiction, although not directly present in the sign, is the actual object of the red light.

All along our argumentation, the category of *Firstness* will be used to refer to the unlimited potentialities previously hosted or likely to be hosted by the Internet. Some of them have already been embodied in the hypermodern type of discourse which will be discussed when the corpus is examined. Others are still waiting in the margin ready to be encapsulated in an appropriate electronic sign, whether bearing a linguistic aspect or not, while of course among the endless potentialities, some will probably never be incorporated in any technological artefact.

The second category is defined by Peirce as *Secondness*. This consists of each and every single fact, event or reality that embodies properties or qualities. *Secondness* is a category which cannot exist without a First *vis à vis* which it appears as second, and as Peirce reminds us,

> *Just as the first is not absolutely first if thought along with a second, so likewise to think the second in its perfection we must banish every third. The second is therefore the absolute last. But we need not, and must not, banish the idea of the first from the second; on the contrary, the second is precisely that which cannot be without the first. It meets us in such facts as another, relation, compulsion, effect, dependence, independence, negation, occurrence, reality, result…. We find Secondness in occurrence, because an occurrence is something whose existence consists in our knocking up against it….. The idea of second must be reckoned as an easy one to comprehend. That of first is so tender that you cannot touch it without spoiling it; but that of second is eminently hard and tangible.*[22]

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[21] M. Heidegger, *What is Called Thinking?* translated by Glenn Gray, Harper Perennial, 2004, p.18.
[22] C.S. Peirce, *Collected Papers,* 1.358.

Secondness then refers to any known or perceptible thing which is standing out there whether we like it or not, staring at us or forcing us to reckon its presence amongst us. This mode of being matches what we mundanely label tangible things. It comprises physical objects, artistic objects, linguistic texts and any other accessible thing or tool. In our work, this category is epitomized by the hackers' Jargon File.

The relations between first and second, in other words, between the potentialities that are already embodied or that may be embodied in Internet language someday, are to be seen as those that hold between agent and patient. In our problematic issue, the agent as first is the potential qualities that bear a chance of being embodied in electronic discourse someday. The second category determines the patient, here represented by the Jargon Dictionary entries which are seen as the practical linguistic items, which we shall attempt to link logically to the category of the first upon which they are dependent. This cognitive operation is precisely what Peirce calls semiosis. However, this operation cannot take place without the mediation of the third category which Peirce labels *Thirdness*.

Thirdness then, is the norm, the law, or habit which mediates between the two categories by linking the second to the first in a way that appears either natural or logical. It is the collateral experience of the observer or his habitual way of dealing with events or things which presents the link as seeming natural or logical, that is, as accepted by the culture to which he belongs. For example, one almost naturally links the observation of smoke to the presence of fire, like a car driver learns to naturalize the link between a traffic red light and the obligation to stop, before getting a driving licence, or the perception of a gloomy moon to the advent of an eclipse.

Peirce defines *Thirdness* or the pragmatic knowledge one has about events as consisting of

> *What we call laws when we contemplate them from the outside only, but which when we see both sides of the shield we call thoughts. Thoughts are neither qualities nor facts…. A thought then is not a quality. No more is it a fact. For a thought is general…… No collection of facts can constitute a law... Law, then, is something as remote from both quality and action as these are remote from one another.*[23]

[23] C.S. Peirce, *Collected Papers,* 1.420.

This long quotation unambiguously clarifies the different hierarchic levels of the three modes of being and allows one to proceed to a concrete adaptation of Peirce's theory to our subject of study. In other words, the last category, *Thirdness,* corresponds in our work to the pragmatic knowledge of the rules of language which permit a conventional interpretation of linguistic items. It bears a sort of juridical aspect as it deals with the commonsense rules and laws according to which an item is interpreted in a way and not in another.

To summarize this semiotic conception, let us admit with Peirce that any constituent of the universe can be defined only in terms of the three categories of first, second and third. The category of first is that of a feeling *sui generis*. It consists of a possible quality or qualities which may be embodied at anytime in any existent object in the form of an event, that is, in any Second.

As mentioned above, in order to be perceived, the first needs to be embodied in some physical material or channel and anything that serves this purpose belongs to the category of *Secondness*. In the absence of an intelligence that draws a relationship between the two categories, what is presented before the mind is simply a crude object with no connection to anything. Therefore, as long as a feeling remains a feeling, and as long as a physical phenomenon draws no attention to its Object, no semiosis can take place. We need a third instance able by its 'nature' to bring this connection to life. In order that a given intelligence logically links the two entities, it needs to make use of a plausible argument likely to produce a belief that such a link is natural or logical and necessary, at least for a given community of belief. In other words, this intelligence solves the problem of the once unexplained phenomenon by drawing a commonsensical relation between the experienced fact (here the phenomenon, or Second) and its necessary correlate (here the Object or First).

The potential qualities relating to each and every domain of human life and thought capable of being felt and of being implemented in Internet language compose the domain of *Firstness*. The actual expression of these feelings in language or some other means pertain to *Secondness* and the rules of logical inferences or habitual conventions that are fit to mediate between *Firstness* and *Secondness* is that of *Thirdness*. As will be shown in the last three chapters, *Thirdness* in our research consists mainly for us in bringing to light the linguistic and semiotic rules at play within the community of hackers, which reveal the

values embedded in the latter's Jargon File. The possible conclusions that might be drawn will be assumed as ours but may hopefully serve another reader as an even more complete sign. For as Peirce insists, semiosis is an unending process which fully considers the importance of possible evolution, and reflection upon phenomena often leads to consider the resulting effects of a cause as the cause of further effects, which in their turn can be the cause of other effects and so on, *ad infinitum*.

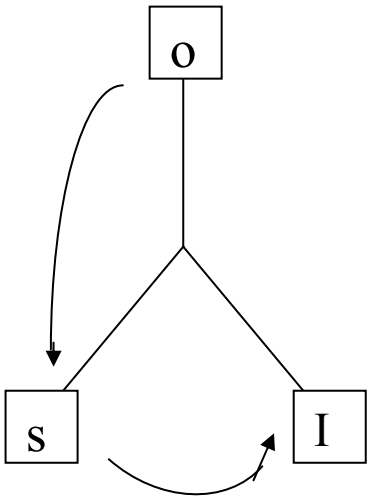
1.3.2. The three constituents of semiosis: Object, Sign, and Interpretant.

Semiotics, which Peirce assimilates to logic, is described as "*the quasi-necessary, or formal, doctrine of signs.*"[24] By sign is meant not only the physical support through which the sign is manifested (*the Sign or Representamen*), but also that other element which determines it to be such as it is, (*its Object*), and a third element, (*the Interpretant*), which enables an intelligent mind to link the Sign to its Object, thus permitting semiosis to take place.

In our research, we describe the constituents of the Jargon File and therefore, we deal with Representamens. The Representamens are to be seen as types, and therefore as legisigns. As a legisign, a representamen is always iterative, while a sinsign is singular, unique and evanescent because it continuously changes its context, and thus changes its actuality. When they are used in assertions, representamens become replicas of legisigns, or sinsigns. The qualities which they express or display at both graphical and phonological levels are examples of qualisigns. As mentioned previously, semiosis is the cognitive process generated by the active cooperation of the three entities (Object, Sign, and Interpretant) to attain meaning. The following diagram illustrates the relationships between the three entities:

[24] C.S. Peirce, *Collected Papers,* 2. 227.

Diagram 2: The determinations from Object to Interpretant



For a better explanation of Peirce's theory, let us say after Peirce that by *Sign* is designated anything, whether linguistic or non-linguistic, through which an object can be manifested. In this way, a word, as well as a cloud, a drawing, a caricature, a smile, a knock at the door, can be considered as signs. They constitute the physical media through which an object can be perceived. Peirce observes that *the Sign stands for something else*, because its *raison d'être* is to point to or signify its *Object*. Its *Object* which is what it stands for is called a *First*. By *Object*, or *First*, Peirce means that to which the *Sign* refers, whether it exists or not. In this connection, a myth, a legend or any popular or folkloric fictitious character can serve as an object, as well as any other abstract potential.

The *object* determines the *Sign* to be such as it is, by getting it to incorporate its qualities. In this way, the linguistic sign as *Second* appears in the shape its *Object* forces it to bear mostly by convention. By *Interpretant*, is meant the cognitive mind which, because it is sufficiently trained through different sorts of social conditionings (familial, pedagogical, professional, etc.) is able to link the *Sign* to its *Object*. As soon as the *Interpretant* or cognitive mind labelled t*hird* connects the S*ign* to its *Object*, Semiosis is set in motion and understanding takes place.

The categories of First, Second, and Third are not to be understood as some sort of linear or chronological conduit in the observation process of

phenomena. Signs or Representamen are, as seconds, determinations of the objects they stand for. Logically, the semiotic process starts only when the observation of a second (Sign) attracts the attention of an observer who is lead by a third (Interpretant of the Sign) to link the observed Sign to the Object it points to. The semiotic process begins when the observer links the perceived phenomena (the Sign, which by now has become a second) to a logical first, absent from the context but actually preceding the sign through a process of logical inference (Third).

As a result, the Object ought to be considered as a First, since it determines the second to be such as it is. The Sign exists then as Second, and the Interpretant as a Third, which leads the observer to connect the Sign to its Object. However, Peirce identifies two types of Objects: the Immediate Object (Io) and the Dynamical Object (Do). To clarify the difference between the two types of objects, let us consider with Peirce that the Immediate object is the object *as "the sign itself represents it, and whose Being is thus dependent upon the Representation of it in the Sign, from the Dynamical Object, which is the Reality which by some means contrives to determine the Sign to its Representation."*[25]

To illustrate this terminology, we shall consider two examples, one from casual discourse (a), and the other (b) from the Jargon Dictionary. The examples are respectively: (a) *the teacher is sick* and (b) *drunk mouse syndrome*

In the sentence (a) *the teacher is sick* the (Io) is the piece of writing conveyed to a reader through the units of the sentence saying that a teacher is sick. The reality of the sickness of the teacher concerned is the Dynamical Object which determined the writer to assert the proposition in which the Immediate Object dispenses the information about the teacher. It can also be said that the Dynamical Object is itself an effect of the situation which has entailed the production of a discourse.

In the sentence (b) *drunk mouse syndrome* the Immediate Object is the whole of pieces of writing making up the sentence reading *drunk mouse syndrome*, while the Dynamical Object requires consideration of the pragmatic situation at the origin of the production of the assertion. When the mouse cursor is seen to move in random directions on the screen, a user may utter (b) sentence.

[25] C.S. Peirce, *Collected Papers*, 2. 236.

Besides the two types of objects, Peirce recognizes three types of Interpretant: the Immediate Interpretant (Ii), the Dynamical Interpretant (Di) and the Final or Logical Interpretant (Fi). These three types are defined by Peirce as follows:

> *In regard to the Interpretant we have equally to distinguish, in the first place, the Immediate Interpretant, which is the interpretant as it is revealed in the right understanding of the Sign itself, and is ordinarily called the meaning of the sign; while in the second place, we have to take note of the Dynamical Interpretant which is the actual effect which the Sign, as a Sign, really determines. Finally there is what I provisionally term the Final Interpretant, which refers to the manner in which the Sign tends to represent itself to be related to its Object*[26]

In order to illustrate the three types of Interpretant, let us consider that the Immediate Interpretant in the previous sentence (a) is its meaning. i.e. that a teacher is sick. Considering that the Dynamical Interpretant is the effect of the signs on the observer, then, in our example the Dynamical Interpretant is to be seen as the effect that the information will have on the reader of the sentence. For example, a student may feel some compassion, while another would jump with joy. A colleague may change their agenda for the day to pay a short visit. The Final Interpretant which is also called the Logical or Pragmatic Interpretant would *be the true interpretation if consideration of the matter were carried so far that an ultimate opinion were reached*[27]. In our example, the Final Interpretant of the sentence for a close colleague who knows more about the teacher's health could be the decision that the latter is sick because she has not respected the doctor's prescription and will now have to take some drastic dietetics measures to lower her cholesterol rate. Therefore, her students will be left without lectures and this means an additional work for the colleague.

In sentence (b), the Immediate Interpretant is its meaning, i.e.: the mouse behaves in an odd and unsteady manner like a drunk person would. The Dynamical Interpretant would link the mouse to the electronic mouse which behaves in a disorderly manner, producing an effect on the user who may try thanks to the Final Interpretant to unplug the mouse before re-plugging it again to solve the momentary problem.

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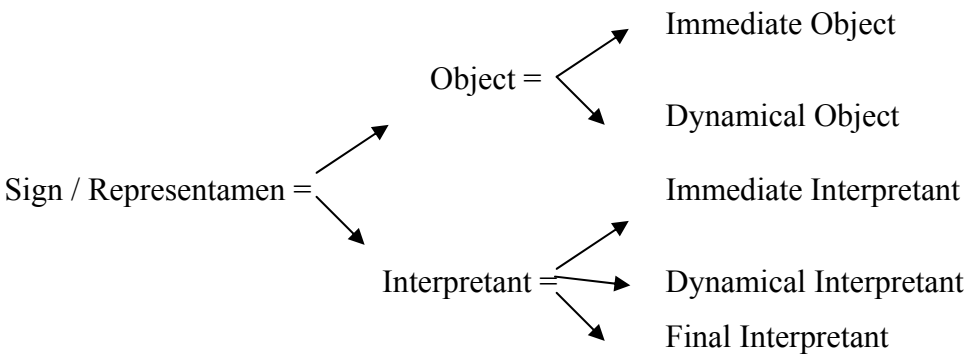
[26] C.S. Peirce, *Collected Papers* ,2.236
[27] C.S. Peirce, *Collected Papers,* 1.184.

Diagram 3: The division of signs



As has been pointed out, semiosis is ensured through the cooperation of three entities, in an unending manner. In order to better illustrate the semiotic process which involves a *First, a Second*, and a *Third*, we shall consider two examples: a) – two children in a playground and b) - the example of the user confronted to the *drunk mouse syndrome*:

a) - Two children play in a field, when one of them digs out a previously buried grenade.

Case 1: none of the children knows what the grenade is, and both children are exposed to a serious danger. This ignorance may result in casualties.

Case 2: the second child knows what a grenade is. Hopefully he manages to take it carefully from his friend and throws it away, where it explodes violently.

Here, the situation is common to both observers since both children saw the grenade. However, the Interpretant of the Sign for the two children is different. The Interpretant of the first child could not relate the Sign to any sort of Object (apart perhaps from a toy), since the boy had never had (whether in films, books, oral narrative or whatsoever) the experience of the dangerousness of a grenade before. He could thus have been injured, had it not been for the contribution of the Interpretant of the second child who (because of a previous experience of the potential danger laying in the manipulation of grenades) was then able to prevent a possible tragedy. It then appears clear that, while the Sign to both children is common, or better, while the percept is common, the perceptual judgment is not, and therefore their Interpretants are different. The effects of the

sign are also different. In the two examples mentioned above, the object of direct observation was the discovery of a grenade by a child. This is the phenomenon which is exposed to the different experiences of the two children. In the mind of the first, this relates to the images of all the fun and pleasures this object will raise, while in the mind of the second, it is all the horrifying images of the previous experiences of the grenade that the second child has stored ever since he came to know of the harm that a grenade may provoke.

In the example of the *drunk mouse syndrome*, if it is the first time that the user is confronted to this phenomenon, s/he would probably be puzzled and would not know how to react to this strange mouse behaviour. The user would remain in total vagueness towards the new experience in the world of *Firstness*. If the user tries to understand what causes the mouse to react so strangely to the movements of the hand, s/he may notice that the mouse only re-acts to the movements of the hand, and does not act on its own. This means that something provokes this odd behaviour and the user may try hard to work out the source of the problem. However, by that time, the user has moved ahead even if s/he does not yet understand the problem. The fact that the disorderly movements are caused by some unknown reason projects the user in the world of *Secondness*. If the user, because s/he had already seen some more experienced computer user re-start the computer or unplug the mouse or keyboard to solve a similar problem, s/he may use an argument such as 'the other day, I saw X re-start his computer and the keyboard / mouse functioned perfectly. This may also work with mine!' As a matter of fact, such an attitude may result in the mouse working perfectly after its being unplugged. The user may also call a friend or colleague more accustomed to solve this type of hardware problems and the user would personally, and for ever learn how to react in similar situations in the future. This knowledge will project the user into the world of *Thirdness*.

Let us now move to another momentous aspect of the triadic theory, that of the trichotomies of the sign. Indeed, for the sake of clarifying his theory, Peirce establishes three trichotomies according to whether the Representamen is apprehended in its relationship to itself, to its Object, or in its relation to its Interpretant.

1.3.3. Three trichotomies of signs

A valuable distinction provided by Peirce may help better apprehend the object of our study. It concerns the difference between what he names a type, a token and a tone. In the previous paragraph, one can count as many as five times the word/determinant "the". It is the same, each and every time, although it refers to five different objects in the paragraph. Peirce reminds that there is only one word "the" in the English language and, writes Peirce,

> *it is impossible that this word should lie visibly on a page or be heard in any voice, for the reason that it is not a Single thing or Single event. It does not exist; it only determines things that do exist. Such a definitely significant Form, I propose to term a Type.*[28]

All the Jargon File entries are to be considered as types that mediate between the technological objects to be named and the Representamen of these objects in language which as we show below are called tokens. A type, is therefore to be considered as a general term whose existence can be attested only through its embodiment in some concrete occurrence in language. As Peirce argues, "i*n order that a Type may be used, it has to be embodied in a Token which shall be a sign of the Type, and thereby of the object the Type signifies. I propose to call such a Token of a Type an Instance of the Type*."[29] Accordingly there are five instances of the type "the" in the paragraph above. As to the concept of tone, it relates to the effect (quality or feeling) which the token produces on the hearer or reader. As he explains, "*an indefinite significant character such as a tone of voice can neither be called a Type nor a Token. I propose to call such a Sign a Tone*."[30]

Now that these preliminary clarifications have been mentioned, let us move to the trichotomies of signs as defined by the American semiotician

A – *Qualisign, Sinsign, Legisign*

Let us start with the first trichotomy. When the sign is seen in its relation to itself, it may be a qualisign, a sinsign, or a legisign. The items of the first division are defined as follows:

[28] C.S. Peirce, *Collected Papers*, 2.537.
[29] Ibid
[30] Ibid.

"A Qualisign is a quality which is a Sign. It cannot actually act as a sign until it is embodied; but the embodiment has nothing to do with its character as a sign."[31] For instance, a vague feeling or a colour like greenness, or any other colour which has not yet been incorporated in an object, is a mere quality. In our corpus, any feeling of belongingness to hypermodernity as a whole involves a qualisign.

> *A Sinsign (where the syllable sin is taken as meaning "being only once," as in single, simple, Latin semel, etc.) is an actual existent thing or event which is a sign. It can only be so through its qualities; so that it involves a qualisign, or rather, several qualisigns. But these qualisigns are of a peculiar kind and only form a sign through being actually embodied*[32].

Any object which is a replica of a prototype is a sinsign. Therefore all singular objects that fall under the perception of our senses are sinsigns. For example, all perceptible forms of objects in a room, or all congeries of things somewhere are replicas of initial objects which they represent as sinsigns. In the particular scope of our research, all the items of the Jargon File that are used in exchanges between hackers are sinsigns which embody a certain number of qualities according to which they will be identified..

> *A Legisign is a law that is a Sign. This law is usually established by men. Every conventional sign is a legisign [but not conversely]. It is not a single object, but a general type which, it has been agreed, shall be significant. Every legisign signifies through an instance of its application, which may be termed a Replica of it. Thus, the word "the" will usually occur from fifteen to twenty-five times on a page. It is in all these occurrences one and the same word, the same legisign. Each single instance of it is a Replica. The Replica is a Sinsign. Thus, every Legisign requires Sinsigns. But these are not ordinary Sinsigns, such as are peculiar occurrences that are regarded as significant. Nor would the Replica be significant if it were not for the law which renders it so.*[33]

For example all the items of the Jargon dictionary viewed as dictionary entries are legisigns. They are general types which, when used in particular assertions by their users become sinsigns. Another example is police uniforms (independently from being actually worn by a person). They are legisigns as they endow any person wearing them with the authority of a legislator. If worn by a person a uniform appears as a sinsign or as an instantiation of this authority.

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[31] C.S. Peirce, *Collected Papers*, 2.245.
[32] Ibid.
[33] Ibid. 2.246.

B – Icon, Index, Symbol

According to the second division, when a Sign is seen in its relationship with its Object, it may bear the form of an icon, of an index, or of a symbol. As Peirce writes,

> *An Icon is a sign which refers to the Object that it denotes merely by virtue of characters of its own, and which it possesses, just the same, whether any such Object actually exists or not. It is true that unless there really is such an Object, the Icon does not act as a sign; but this has nothing to do with its character as a sign. Anything whatever, be it quality, existent individual, or law, is an Icon of anything, in so far as it is like that thing and used as a sign of it.*[34]

Therefore, an iconic sign is a sign which shares with its object a formal likeness. For example, the drawing of a house will necessarily involve similarity between the formal drawing of a house and the shape of the house itself. Accordingly, any picture, photograph, diagram or work of art can be considered as hypoicons which of course need a tangible index through which they can be manifested. In our corpus, all coinages which display one form of linguistic economy through their shape involve iconicity. For example, BOF, SPOD, W2K bug.

> *An Index is a sign which refers to the Object that it denotes by virtue of being really affected by that Object. It cannot, therefore, be a Qualisign, because qualities are whatever they are independently of anything else. In so far as the Index is affected by the Object, it necessarily has some Quality in common with the Object, and it is in respect to these that it refers to the Object. It does, therefore, involve a sort of Icon, although an Icon of a peculiar kind; and it is not the mere resemblance of its Object, even in these respects which makes it a sign, but it is the actual modification of it by the Object.*[35]

This means that an index, just like a pointing finger is a sign whose purpose is to indicate something about its object. For instance, the blue ink under certain words/phrases in electronic texts serves to indicate a hyperlink, exactly as a smoking gun is an indication that it has just been fired. An index always incorporates an icon which in our first example is the hand which appears when the mouse goes over the hyperlink, or, in the second example, the smoke arising

[34] C.S. Peirce, *Collected Papers,* 2.247.
[35] C.S. Peirce, *Collected Papers,* 2.248.

from the gun which points towards its object: the burnt powder contained in the fired bullet and the presence of a force which triggered the gun.

> *A Symbol is a sign which refers to the Object that it denotes by virtue of a law, usually an association of general ideas, which operates to cause the Symbol to be interpreted as referring to that Object. It is thus itself a general type or law, that is, is a Legisign. As such it acts through a Replica. Not only is it general itself, but the Object to which it refers is of a general nature. Now, that which is general has its being in the instances which it will determine. There must, therefore, be existent instances of what the Symbol denotes, although we must here understand by "existent," existent in the possibly imaginary universe to which the Symbol refers…* [36]

In other words, a symbol is a sign which relates to its Object through a convention i.e., symbols bear an arbitrary relationship to that which they stand for. To Peirce, symbols refer to their objects by virtue of a law, rule or habit. For instance, a sign warning of danger where a picture of a lightning flash is drawn indicates the proximity of a dangerous area, as well as the glyph @ indicates a connection to an Internet address. A symbol which is of a general type always incorporates an index and an icon, and accordingly, in our corpus the entire dictionary entries are to be considered as general types.

C – Rheme, Dicisign, Argument

According to the third trichotomy, when the sign is seen in its relation to its Interpretant, the sign may be a rheme, a dicisign, or an argument. Here are the definitions provided by Peirce to the terms involved in the third division of signs

> *A Rheme is a Sign which, for its Interpretant, is a Sign of qualitative Possibility, that is, is understood as representing such and such a kind of possible Object. Any Rheme, perhaps, will afford some information; but it is not interpreted as doing so*[37].

In other words, a rheme represents its objects in its characters merely, while a dicisign or dicent sign represents its object with respect to actual existence. Seen in isolation, the components of the Jargon File are rhematic when Internet users do not manage to link them to their appropriate objects although they know that they do indicate something. In assertions, a proposition commonly fulfils the role of a dicent sign. A dicisign then, is a sign which says something about its object by displaying information about its object. For example, a caption

[36] C.S. Peirce, *Collected Papers,* 2.249.
[37] C.S. Peirce, *Collected Papers,* 2.250.

indicating the name of a town in a postcard is a dicisign which provides information about the object of the postcard which is the town represented by the postcard. In our corpus, the complex type of acronyms labelled MICUs also serve as dicent signs since they provide information about their objects.

> *A Dicent Sign is a Sign, which, for its Interpretant, is a Sign of actual existence. It cannot, therefore, be an Icon, which affords no ground for an interpretation of it as referring to actual existence. A Dicisign necessarily involves, as a part of it, a Rheme, to describe the fact which it is interpreted as indicating. But this is a peculiar kind of Rheme; and while it is essential to the Dicisign, it by no means constitutes it.*[38]

The last type of signs mentioned by Peirce is the argument which in language is best represented by an act of assertion of a proposition. Mathematic formulae and theorems also appropriately fulfil the role of arguments, since they consist of generalizations that explain or typify a variety of phenomena.

> *An Argument is a Sign which, for its Interpretant, is a Sign of law. Or we may say that a Rheme is a sign which is understood to represent its object in its characters merely; that a Dicisign is a sign which is understood to represent its object in respect to actual existence; and that an Argument is a Sign which is understood to represent its Object in its character as Sign.*[39]

As shall be developed further in our argumentation, any proposition which starts with: *If* Q (protasis), then P (apodosis), will bear the form of an argument. To Peirce, it represents the most accomplished category of signs. As an illustration, in our former example, an argument may take the following form: if the user knew what CD trays were, he would have placed a CD, not a cup in the tray. Or else, anytime he sees a CD tray, he will insert a CD on it. In this case, the argument will be: if (Q) the tray comes out from the computer, then (P) I will have to insert a CD or DVD on it!

[38] C.S. Peirce, *Collected Papers,* 2.251.
[39] C.S. Peirce, *Collected Papers,* 2.252.

The First trichotomy: The sign in relation to itself:

	A Qualisign
The sign is:	a Sinsign
	A Legisign

Second trichotomy: The sign in relation to its Object:

	An Icon
The sign is:	an Index
	A Symbol

Third trichotomy: the sign in relation to its Interpretant

	A Rheme
The sign is:	A Dicent sign
	An Argument

As has already been mentioned in the introduction, the intention of the present work is to investigate whether the linguistic sign used in the electronic virtual environment is congruent with the requirements of the ICTs. In other words the issue is to examine whether the phenomenon of hypermodernity envisaged as the world of *Firstness* has linguistic implications in the world of *Secondness*, that is, for example on the forms in which technological know how is linguistically incarnated. If it does have implications, then we should like to highlight "the nature" of these implications by drawing the necessary links between the actual existence of cyber-English and the qualities of *Firstness* using Peirce's trichotomies. In other words, our endeavour is to study the relation of the sign to itself (cyber-English in itself as qualisign, sinsign or legisign), to its object (cyber-English as icon, index or symbol), and finally to its Interpretant (cyber-English as rheme, dicisign or argument). This study will be given close attention in the last chapter of our research.

1.3.5. Table 1: The classes of signs

The ten classes of signs are synthesized in the following table. [40]

TYPE of SIGN	DEFINITION	EXAMPLE
1.1.1. Qualisign	A Qualisign is any quality in so far as it is a sign. Since a quality is whatever it is positively in itself, a quality can only denote an object by virtue of some common ingredient or similarity; so that a Qualisign is necessarily an Icon. Further, since a quality is a mere logical possibility, it can only be interpreted as a sign of essence, that is, as a Rheme.	[e.g., a feeling of "red"] Or, in our corpus, the feeling of newness or neology
2.1.1. Iconic Sinsign	An Iconic Sinsign is any object of experience in so far as some quality of it makes it determine the idea of an object. Being an Icon, and thus a sign by likeness purely, of whatever it may be like, it can only be interpreted as a sign of essence, or Rheme. It will embody a Qualisign.	[e.g., an individual diagram] Or, any emoticon
2.2.1. Rhematic Indexical Sinsign	A Rhematic Indexical Sinsign is any object of direct experience so far as it directs attention to an Object by which its presence is caused. It necessarily involves an Iconic Sinsign of a peculiar kind, yet is quite different since it brings the attention of the interpreter to the very Object denoted.	[e.g., a spontaneous cry] Or ENQ? At the beginning of an online interaction
2.2.2. Dicent Sinsign	A Dicent Sinsign is any object of direct experience, in so far as it is a sign, and, as such, affords information concerning its Object. This it can only do by being really affected by its Object; so that it is necessarily an Index. The only information it can afford is of actual fact. Such a Sign must involve an Iconic Sinsign to embody the information and a Rhematic Indexical Sinsign to indicate the Object to which the information refers. But the mode of combination, or Syntax, of these two must also be significant.	[e.g., a weathercock] Or FAQlist which indicates the file where to find answers to previously asked questions by other people.
3.1.1. Iconic Legisign	An Iconic Legisign is any general law or type, in so far as it requires each instance of it to embody a definite quality which renders it fit to call up in the mind the idea of a like object. Being an Icon, it must be a Rheme. Being a Legisign, its mode of being is that of governing single Replicas, each of which will be an Iconic Sinsign of a peculiar kind.	[e.g., a diagram, apart from its factual individuality] Or the signal to noise ratio principle.

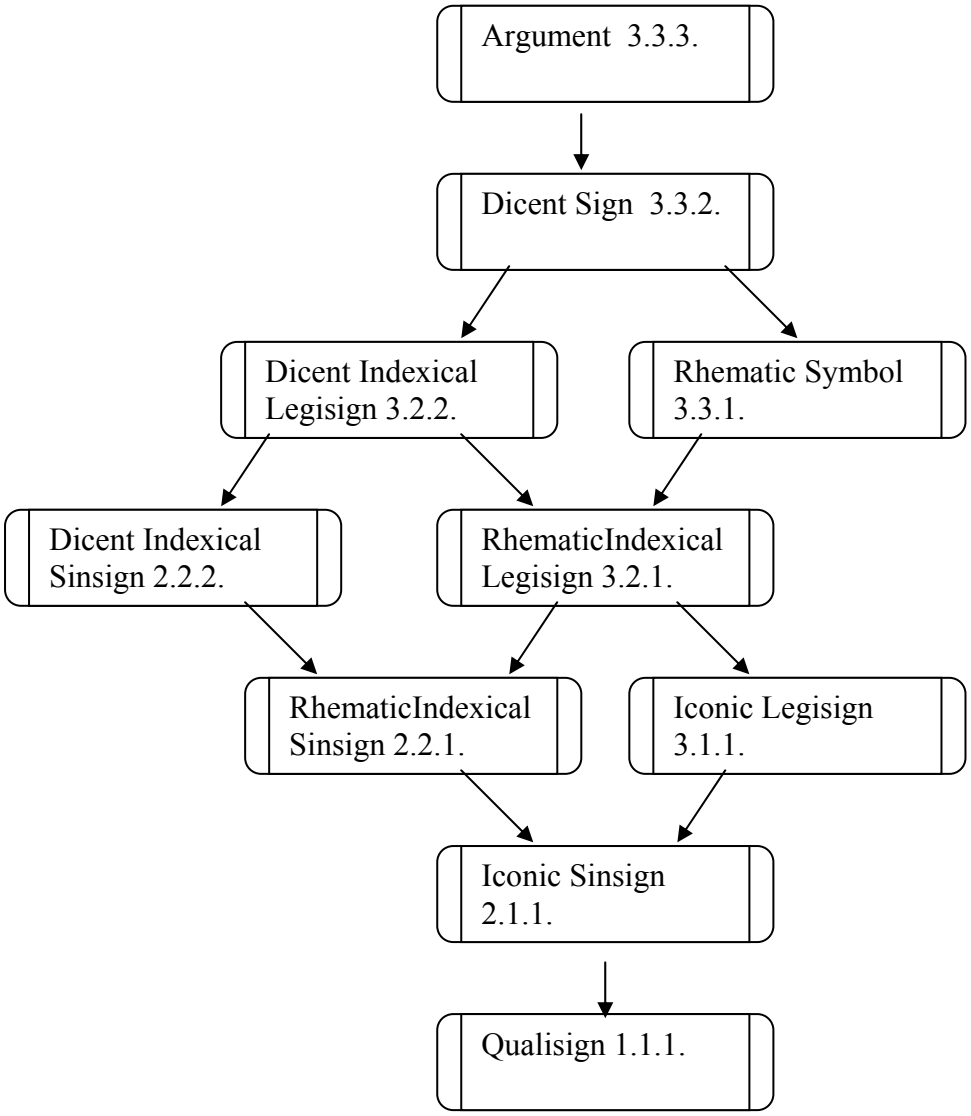
[40] Idem. 2.254.

3.2.1. Rhematic Indexical Legisign	A Rhematic Indexical Legisign is any general type or law, however established, which requires each instance of it to be really affected by its Object in such a manner as merely to draw attention to that Object. Each Replica of it will be a Rhematic Indexical Sinsign of a peculiar kind. The Interpretant of a Rhematic Indexical Legisign represents it as an Iconic Legisign; and so it is, in a measure--but in a very small measure.	[e.g., a demonstrative pronoun] The instruction to use a ROT 13 process in online conversation.
3.2.2. Dicent Indexical Legisign	A Dicent Indexical Legisign is any general type or law, however established, which requires each instance of it to be really affected by its Object in such a manner as to furnish definite information concerning that Object. It must involve an Iconic Legisign to signify the information and a Rhematic Indexical Legisign to denote the subject of that information. Each Replica of it will be a Dicent Sinsign of a peculiar kind.	[e.g., a street cry] Or the componeme L.A.S.E.R., even when written in low-case characters: laser.
3.3.1 Rhematic Symbol	A Rhematic Symbol or Symbolic Rheme is a sign connected with its Object by an association of general ideas in such a way that its Replica calls up an image in the mind which image, owing to certain habits or dispositions of that mind, tends to produce a general concept, and the Replica is interpreted as a Sign of an Object that is an instance of that concept. Thus, the Rhematic Symbol either is, or is very like, what the logicians call a General Term. The Rhematic Symbol, like any Symbol, is necessarily itself of the nature of a general type, and is thus a Legisign. Its Replica, however, is a Rhematic Indexical Sinsign of a peculiar kind, in that the image it suggests to the mind acts upon a Symbol already in that mind to give rise to a General Concept. In this it differs from other Rhematic Indexical Sinsigns, including those which are Replicas of Rhematic Indexical Legisigns. Thus, the demonstrative pronoun "that" is a Legisign, being a general type; but it is not a Symbol, since it does not signify a general concept. Its Replica draws attention to a single Object, and is a Rhematic Indexical Sinsign. A Replica of the word "camel" is likewise a Rhematic Indexical Sinsign, being really affected, through the knowledge of camels, common to the speaker and auditor, by the real camel it denotes, even if this one is not individually known to the auditor; and it is through such real connection that the word "camel" calls up the idea of a camel. The	[e.g., a common noun] The Jargon dictionary as the locus of the hackers' lexicon.

	same thing is the Replicas of Rhematic Symbols very different from ordinary Rhematic Indexical Sinsigns, but so likewise are Replicas of Rhematic Indexical Legisigns. For the thing denoted by "that" has not affected the replica of the word in any such direct and simple manner as that in which, for example, the ring of a telephone-bell is affected by the person at the other end who wants to make a communication. The Interpretant of the Rhematic Symbol often represents it as a Rhematic Indexical Legisign; at other times as an Iconic Legisign; and it does in a small measure partake of the nature of both.	
3.3.2. Dicent Symbol	A Dicent Symbol, or ordinary Proposition, is a sign connected with its object by an association of general ideas, and acting like a Rhematic Symbol, except that its intended Interpretant represents the Dicent Symbol as being, in respect to what it signifies, really affected by its Object, so that the existence or law which it calls to mind must be actually connected with the indicated Object. Thus, the intended Interpretant looks upon the Dicent Symbol as a Dicent Indexical Legisign; and if it be true, it does partake of this nature, although this does not represent its whole nature. Like the Rhematic Symbol, it is necessarily a Legisign. Like the Dicent Sinsign it is composite inasmuch as it necessarily involves a Rhematic Symbol (and thus is for its Interpretant an Iconic Legisign) to express its information and a Rhematic Indexical Legisign to indicate the subject of that information. But its Syntax of these is significant. The Replica of the Dicent Symbol is a Dicent Sinsign of a peculiar kind. This is easily seen to be true when the information the Dicent Symbol conveys is of actual fact. When that information is of a real law, it is not true in the same fullness. For a Dicent Sinsign cannot convey information of law. It is, therefore, true of the Replica of such a Dicent Symbol only in so far as the law has its being in instances.	the answer NAK to a posting.
3.3.3 Argument	An Argument is a sign whose interpretant represents its object as being an ulterior sign through a law, namely, the law that the passage from all such premisses to such conclusions tends to the truth. Manifestly, then, its object must be general; that is, the Argument must be a Symbol. As a Symbol it must, further, be a Legisign. Its Replica is a Dicent Sinsign.	If a hacker intrudes into a company network and destroys the system, then one can assume that the action is done by a black collar hacker or a cracker.

Robert Marty[41] has synthesized this complex elaboration in the following diagram where the hierarchical scaffolding and the various relationships between the classes of signs are clearly highlighted.

Diagram 4: The lattice of signs



To simplify things, let us consider the following example:

The graph 'h' shown to four different people of totally different backgrounds would yield at least four different types of answers.

[41] R. Marty, *L'algèbre des Signes*, Collection "Foundations of Semiotics", John Benjamins, Amsterdam/Philadelphie, 1990, p 171.

A) - A troglodyte with obviously no knowledge of the alphabet and who has never seen or heard of an object like a chair designed for resting.

B) – a person with no knowledge of the alphabet.

C) - A person with knowledge of writing

D) - A hacker using the Rot13 encryption procedure with another hacker

1 – No answer.

2 - A chair.

3 – The eighth letter of the alphabet

4 – The twenty first letter of the alphabet U

a) - the first person would not be able to answer anything, because 'h' means nothing to her/him. There is no semiosis and the graph makes absolutely no reference to anything and thus bears no meaning to A, unless some relation be made at some point with something else.

b) – B may answer that 'h' is a chair because the graph resembles a chair with which it shares a certain number of geometric features and qualities such as the quality of verticality, of horizontality, of flatness, etc. Because B has already had a previous experience of what a chair is - Peirce would say that person has a collateral experience of some chair -, and of no other similar object then to B the Interpretant of the 'h' would indicate her/him a chair, which in this way is the immediate object represented by the graph h. By analogy between the graph (new object of experience) and the chair (an already experienced object), B infers the link between the two and decides that 'h' is a chair because it resembles one. Here semiosis operates mainly at the iconic level of *Firstness*.

c) - the third person's knowledge of the alphabet requires simply for C to resort to the context where the graph 'h' is encountered in order to conclude that 'h' indicates the eighth letter of the alphabet. In the absence of any co-text, C may seek other indices to decide whether the graph really represents the letter h. In the absence of such information, C infers that 'h' is to be read as the eighth letter of the alphabet. In this respect, C decides that 'h' resembles in all its features the eighth letter of the Latin alphabet and is therefore perceived as a legisign. Here, the link between the perceived graph and its connection with the Latin alphabet

results from a schooling education which serves as the mediation between the two entities. Education then enacts semiosis at the level of *Thirdness*.

d) –The fourth person who, like B and C knows the both the Latin alphabet and numbers, also possesses another knowledge, that of the hackers which compels her/him to produce a supplementary cognitive effort to make a final decision concerning the meaning of 'h'. D has to scrutinize the context in which the graph 'h' is encountered, and then assuming that the graph belongs neither to the domain of B, nor to that of C, decides that the Interpretant here belongs to a higher level of analysis, that which is required by users of another code where it takes the meaning of U. The code of the hackers using the Rot13 procedure where each letter of the alphabet needs to be rotated thirteen times to be identified. Consequently if the next graph is 'I' it would be interpreted as V. Likewise, a word using the Rot13 encryption such as UVER would be read as '*hire*'. Here again, D needs to resort to an inference to decide that 'uver' means 'hire'. The argument results from a decision that is due to D's previous experience of the Rot13 encryption method, and his considering that in the context in which 'uver' appeared, the only possible meaning to 'uver' after the Rot 13 method is performed is 'hire'. As can be observed, semiosis in this case also operates at the level of *Thirdness*. The difference with C is that D resorts to the symbolic dimension of language offered by a technological tool (ROT13) to draw the link between 'h' and 'U'. It then appears quite clearly that semiosis operates here at the symbolic level of *Thirdness*.

Let us now recall again that our aim is twofold: First, attempt to show the scientific validity of our option for Peirce's theory which fits our personal expectations. This feeling is sustained notably by its flexibility towards knowledge which it considers from a dynamical and evolutionary standpoint. Second, try to demonstrate by using this theoretical framework, that Internet language is already a step ahead in the area of reticular thinking, and indisputably impacts on both the English language and its culture and by extension on the world's languages and cultures, forcing them to adapt to the new realities it imposes at the global level.

1.4. Methodological Considerations

The reader may rightly question our option for the triadic theory to undertake a semiotic analysis of cyber-English, when a priori the binary theory seems quite fit for such an enterprise, since it is the linguistic model 'par excellence' adopted by most linguists in more or less similar enquiries. However, several reasons justify our option for the triadic conceptualization.

Actually, and as has already been pointed out, the triadic theory will be used only after the linguistic examination of the Jargon Dictionary which will be entirely undertaken under the framework supplied by Jean Tournier, which is itself characterized by a fundamentally binary aspect. However, our argument is that, in order to account for the type of neologies which involve the triple dimension of language as illustrated by a few coinages, resorting to a triadic theory imposes itself as a plausible alternative.

As an illustration of some uncommon coinages engendered by the ICTs, let us consider the following items: *bit, laser, grep, radar, sonar, or ASCIIbetical*. The novelty is that these acronyms have been naturalized in the English language and are sometimes written with lower-case characters as if they were ordinary lexical units. Then, as it often happens with simple lexical units, the new coinages become subject to the same grammatical processes as any other ordinary lexical units. In fact, some acronyms are now integrated into English as verbs as is the case with QC (Quality Control), or X (to indicate an incorrect answer). Actually, the effects of this mutation from one lexical category to another are much more critical than generally acknowledged.

In effect, a phonological analysis of the structure of an ordinary English lexical unit, as for instance the word 'house', will display some of the following features:

If the word is pronounced, that is, if it is articulated through a person's vocal tract, by dint of a certain amount of air travelling from the lungs through the vocal organs towards the mouth, and then out into the open air, the initial amount of air coming from the lungs undergoes a series of obstructions along its way which will model its final shape. For instance, to produce the word 'house', only one syllable is necessary. However, three phonemes are needed: two consonants, one standing in initial position /h/ makes up the onset of the syllable, and a final consonant /s/

standing for its termination. In between the two consonants, lays the back closing diphthong /aʊ/. Phonologically then, the word ‘house’ consists of three speech sounds belonging to the English phonemic system, and uttered in the following order: /h/ + /aʊ/ + /s/. The first phoneme /h/ can be featured as a voiceless glottal fricative. The second /au/ is described as a back closing diphthong, and the last phoneme, /s/ as a voiceless alveolar fricative sound.

If the word is written, or carved, or engraved, or even if it is coded in machine language in order to be displayed on a computer screen, the word ‘house’ appears as consisting of five graphs that have to be typed in a linear way from left to right, starting from the graph ‘h', up to ‘o’, then to ‘u’, next, to ‘s’, and finally to the graph ‘e’. The morphology of the word ’house’ can be altered by the addition of affixes or inflexions. Accordingly, it is possible to build the following derivations: *housing, houses, houseful, household, housework, housewife*, etc.

In spite of their structural likeness with ‘house’, items like ‘bit’, ‘laser’, ‘grep’ or ‘radar’, are not articulated in accordance with the principle of the double articulation of language, because neither ‘bit’ ‘laser’ nor ‘grep’ nor ‘radar’ are simple lexical units. The truth is that these items are acronyms so well internalized by a process of familiarization that they appear as simple lexical units. In effect, the acronym bit is built from ‘**B**’ which stands for binary, and from **‘it’** for ‘dig**it**’. In ‘laser’, ‘**l**’ stands for ‘light’ and thus appears not as a phoneme but as a lexeme. ‘**a**’ stands for the lexeme ‘amplification’, ‘**s**’ for ‘stimulated’, ‘**e**’ for ‘emulsion’, and ‘**r**’ for ‘radiation’. ‘Grep’ is the acronym for **G**lobally search for the **R**egular **E**xpression and **P**rint the lines containing matches to it. ‘Radar’ is the acronym for **Ra**dio **D**etection **A**nd **R**anging, and ‘sonar’ is the acronym for **So**und **Na**vigation and **R**anging.

However, one has to admit that all these words, ‘bit’, ‘laser’, ‘grep’, ‘sonar’ and ‘radar’ are simulacra of simple lexical units. This can be easily proved by a simple transcription. As a matter of fact, when transcribed into phonetic alphabet, a word like ‘laser’ which consists of five initials is transcribed into four supposed equivalent phonemes /leizə/. In other words, what can be observed here, is that *laser* is transcribed as if it were composed, on the one hand of two syllables, with primary stress falling on the first syllable, and as if the lexical unit is formed out of real phonemes transcribed into graphs, on the other hand.

What the transcription reveals is that the initials of words are confused with alphabetic letters. This explains why L.A.S.E.R is transcribed / leizə/. The initials are arranged in this particular order, where /l/ stands for 'L.', /ei/, stands for 'A.', /z/, stands for 'S.', and finally the closing schwa /ə /, which stands for both 'E.', and 'R.', as in, say 'brother' or 'labour', where the last two graphs are transcribed with the symbol /ə/, thus increasing the confusion between the two different categories.

In fact, the primary function of the initials forming an acronym is to behave like circumstanced metonyms pointing contextually towards their immediate objects. The initials in bold type are what we call MICUs.

Light
Amplification by
Stimulated
Emulsion of
Radiation

However, in the examples above, the initials of acronyms do not impose their individual presence as representatives of the lexical units they stand for. Rather, they lend themselves to the habitual way of transforming speech into writing as if the acronyms were initially spoken before being written, while we suspect that these words became acronyms to facilitate their transfer into speech. This real inversion in the verbalization process deserves full attention as it illuminates a rather obscure side of lexicalization.

Thus, L.A.S.E.R., becomes laser, and it is transcribed /leizə/

L A S ER
/ l ei z ə /

Four sounds and five graphs, while there should be at least an equivalent symbol for each initial! Besides, once it is coined, a word like 'laser' can evolve grammatically into the verb to 'lase', 'laserize' or to compounds such as 'laser disc, laser chicken'. The two types, simple lexical units and acronyms, although different, behave 'structurally' as belonging to the same class, while 'grammatically' they belong to two different classes.

Therefore, the novelty with the examples mentioned above, is that when written with lower-case characters, the form of an acronym undergoes a mutation which makes it behave as an ordinary lexical unit. Indeed, the components of

laser, bit, or grep, etc. are not phonemes operating within a clearly-bounded phonological system but constitute a new linguistic phenomenon labelled MICUs, and standing for Minimal Informational Cooperative Units. These units are termed MICUs in analogy with the definition of phonemes as Minimal Contrastive Units. Indeed, the MICUs are built on the model of phonemes, sharing with them their minimal contrastive features, except that while phonemes combine to build simple lexical units, MICUs combine to form complex structures which sometimes appear as simple units. The elucidation of the existence of the MICUs will also serve to explain the presence in English of already naturalized complex units such as Apex, MEcon, (Advance Purchase Excursion, Master of Economics) etc.

Similarly to phonemes, MICUs combine with other MICUs to form larger units of meaning. A single change in the informational units making up the overall structure entails a total change in the meaning of the acronym. However, no isomorphism can be claimed between the phonological constituents of a lexical unit such as for instance, *lamer* and a componeme like *laser.* Despite the similarity of their graphic constituents and even of their pronunciation, the simple character of phonemes and the complex character of MICUs are profoundly different. In effect, to distinguish between two simple lexical units, an ordinary minimal pair can be used to illustrate a semantic difference entailed by a phonemic difference. For example, /m/ and /s/ serve to distinguish /mi:t/ meat, from /si:t/ seat. However, to distinguish between a simple lexical unit such as *lamer* /leimə/ and an acronym like *laser* /leizə/ involves a second order analysis since despite its similarity to an ordinary simple lexical unit, *laser* is a complex unit built on a structure which involves not phonemes but a combination of the initials of whole words.

It has already been mentioned that in the Saussurean framework, the reality of a phoneme lies only in its capacity to distinguish a morpheme from another as can be shown by contrasting minimal pairs such as *fair* and *hair*, or *cat* and *bat*, etc. The reality of a MICU lies mainly in its ability to combine with other MICUs to form larger units of meaning which we won't fear, in relation to Martinet's classical double articulation, to label the Triple Hypermodern Articulation of Language (THAL) because, contrary to phonemes, MICUs comprise individual meanings conferred by the context in which they are assembled. One can even

write that MICUs are to componemes what phonemes are to ordinary lexical units. This feature turns Martinet's double articulation into a triple one, where the first articulation remains the same, but between Martinet's first and third articulation, a second articulation imposes itself. This second articulation is the one where only the initials of the successive monemes (the MICUs) are selected into coherent wholes. It is the pronunciation of these MICUs as if they were phonemes, which makes up the third articulation of language.

This trait grants the MICUs an unlimited freedom to modify their meanings in accordance to the ever changing environment in which they are used. To use the Saussurean terminology, one could say that the MICUs, similarly to ordinary phonemes combine on the syntagmatic linear level to permit paradigmatic associations, but contrary to phonemes, the MICUs use both sound and graphic registers to duplicate themselves on demand over a second level layer. This characteristic explains why the MICU ***A***, is not the same in **A**BEND, as it is in **A**FAIK, as it is in **A**IDS. The same observations can be made for FISH, acronym of **F**irst **I**n, **S**till **H**ere, which can turn into FISHing, GREP into greped, etc. similarly, we observe the appearance of newly coined 'verb acronyms' such as *to R&D* (Research and Development). This double naturalization poses a problem never accounted for, and thus requires a meticulous description in order to be explained satisfactorily. In this connection, ample argumentation will be provided in the last chapter where the details of this linguistic and semiotic innovation are analyzed.

Despite the rather clear-cut criticism which can be addressed to the Saussurean framework, it should be strongly underlined that the latter is of no comparable value to describe linguistic signs as long as they are not complex lexical units. However, when the nature of the linguistic sign under investigation bears an alphanumeric shape, or is an amalgamation of both speech and writing as in electronic messages which involve permanent allusions to the referent, then the linguistic binary model becomes non constructive, and only the arbitrariness of the sign holds ground. Even so, the arbitrariness we are concerned with concerns only the nature of the relationship that binds the signifier to the signified. In no

case does it involve the relationship between the signifier and the referent which linguists like Benveniste have already revealed as being motivated[42].

The examples of new lexical units mentioned above show a double reference which only blurs this motivation as shall be shown now: in the example of laser, on the one hand, L is an initial for the simple lexical unit *light* which it represents within the acronym L.A.S.E.R. At the same time it plays the role of a phoneme within the 'ordinary' lexical unit *light*. If, concerning ordinary simple lexical units one does totally agree with Saussure about the arbitrariness of the linguistic sign, our support does not extend to involve non ordinary simple lexical units. In effect, the referent of "L" in *laser* is *light* and the "L" in *light* cannot help being motivated by its external shape which as an icon resembles the first letter of the acronym "l". In other words, "L" referring to *light* in *laser* cannot be replaced by any other letter, because otherwise the acronym would change its referent.

As an instantiation of such new linguistic phenomena which break the unity and the solidarity of writing towards speech, let us consider the following expressions which have been randomly selected from the Internet: *CU, B4U come, Meet U@home, to R&D, to X* something, etc. In CULater, what may be seen as a single lexical unit is in fact the abbreviation of a whole sentence. *I will see you later*. However, and due to considerations of economy (time, effort, screen size, or any other), the sentence is reduced solely to two initials which stand for the whole sentence. Making the best of this similarity, the first unit reads as it is pronounced [C], "see", /si:/, omitting the subject and the auxiliary along the way. To the second acronym [U],"you", /ju::/, can be added an adverb like 'later'. In *B4U come*, we note the use of the same device but this time even soundalike numbers are associated with this combination, as the connection of B to 4 permits to coin *before* by using only one letter and one number. In *Meet me @home*, the glyph @ simply replaces the preposition 'at', but in so doing it undoubtedly confers a 'hypermodern' touch to the expression. These examples clearly expose the unsuitability of the Saussurean model for the treatment of such new linguistic phenomena, mainly concerning the written aspect of language.

As a result of these observations, we were brought to the conclusion that the Saussurean approach is drastically limited by its linguistic closure, which

[42] E. Benveniste, *Problèmes de Linguistique Générale 1*, Gallimard, 1966.

limits the interpretation of a sign within a sealed framework valid only for simple linguistic units assorted to the specificities of the printed word which proves incompatible with the dynamical aspect of the electronic sign, whose nature is more fluid. Seen from the Saussurean perspective, the sign is given meaning when a stable relationship is established between a signifier and a signified. This relationship is closed, since it is definitely established (like both sides of a page: comme le recto et le verso d'une feuille). In effect, Saussure's major concern is to identify the fundamental relational structure which is at the basis of the formation of meaning with little attention paid to how the structure becomes meaningful.

According to structural linguistics, the model of this relational structure is to be sought in language. This linguistic theory is built upon the belief that all meaning starts when a relationship is established between something which signifies and something which is signified. In order to be communicated, other people's intentions or experiences of the world are packed into linguistic units as Habermas puts it: "i*n order to receive a clear form, intentions should always bear a symbolic form and must always be liable to enunciation."*[43] The binary relationship is built in language through arbitrary social conventions. It is this fundamental relational structure that reveals the meaning supposed to be enclosed within a text.

According to the same frame of thought, the discovery of these relational structures through reading, fuels the unveiling of texts. Meaning is thus immanent. It bears a static aspect as the reader/hearer can understand only what the author has deliberately coded in the text, leaving no freedom for the interpreter to add, subtract, or alter the initial meaning. Besides, as Cervoni [44]states,

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[43] pour prendre une forme claire, les intentions doivent toujours revêtir une forme symbolique et doivent être susceptibles d'énonciation, J. Habermas, *Sociologie et Théorie du Langage*, Armand Colin Editeur, Traduit de l'Allemand par Rainer Rochlitz, Paris, 1995, p 6.

[44]Ce qui était exclu (par Saussure), c'étaient notamment les composantes de la communication autres que ce code lui-même. C'était la prise en compte du fait que chaque utilisation dudit code, est une succession d'opérations :
- prenant place dans un cadre spatio-temporel précis ;
- concernant un référent (entités, événements, états de choses du monde extra-linguistique) chaque fois particulier ;
- mettant en jeu un locuteur et un allocutaire avec toute leur subjectivité, au sens le plus large du terme ;
- et constituant le lieu d'une interaction incessante de l'un sur l'autre, .J. Cervoni, *L'énonciation*, Presses Universitaires de France, 1992, p. 10.

What was excluded (by Saussure), was notably the components of communication other than the code itself. It was the consideration of the fact that each use of the so-called code is a succession of operations:
- taking place in precise spatio-temporal framework;
- involving a referent (entities, events, states of being into the extra-linguistic world) which is particular at each of its occurrences;
- bringing into play a producer and a receiver of discourse assuming the totality of their subjectivity in its wider sense;
- and constituting the locus for an unremitting interaction on one upon the other.

These reasons amply justify our preference for the triadic theory, which as has already been mentioned, consists of a dynamic triadic cooperation between the three entities of the sign. This dynamical cooperation always remains subject to evolution if the conditions in which the sign is perceived are altered. R. Marty insists on the network aspect of the process of semiosis. In '*l'Obsolescence des Formes*' he writes:

... Conversely, the meaning of a form, that is, according to our model, its place within the network of the other forms to which it is connected and of which it constitutes a node, is singularly changing, as it is determined, in the last analysis, by social and economical change. In addition, new forms chiefly fostered by technological progress, appear; these new forms are connected to the network thanks to new social practices required by their incorporation to the social life. So, what vary, moving within the dynamics of meanings, are, on the one hand, the connections to the network which constitute those meanings, and, on the other hand, the number of nodes of a network in constant expansion.[45]

The last sentence is particularly interesting as it justifies the parallel between Peirce's theory of the sign, and the electronic sign, also labelled hyperword, hypertext or hyperlink, seen as a singular knot among a network of other signs that compose the digital universe. As shall be shown at the end of chapter four, several attempts have already been made to overcome the linearity of the text, and one such example of an unsuccessful endeavour was Vannevar

[45] *...En revanche, la signification d'une forme, c'est-à-dire, selon notre modèle, sa place dans le réseau des autres formes auxquelles elle est connectée et dont elle constitue un noeud est singulièrement changeante puisqu'elle est déterminée, en dernière analyse, par le changement économique et social. De plus, de nouvelles formes apparaissent, principalement à cause des progrès technologiques ; ces nouvelles formes sont raccordées au réseau par les nouvelles pratiques sociales que nécessite leur incorporation dans la vie sociale. Donc ce qui est variable, mouvant dans la dynamique des significations ce sont d'une part les connexions du réseau qui les constituent, d'autre part le nombre de noeuds d'un réseau en expansion continuelle,* R. Marty, *Sémiotique de l'Obsolescence des Formes*, In Design-Recherche N°6, 1994, Université Technologique de Compiègne, pp 31-45.

Bush's memex[46]. Bush's proposition, as it shall be widely detailed in due time, consists in proposing the notion of blocks of text joined by links, thus implementing the notion of network thinking, writing and reading. Half a century later, the operational World Wide Web and its valuable predecessors in computer network communities made the dream come real.

The communities dwelling in this virtual world invent its particular language aside from the language of the computer, which is itself very different from natural languages (HTML, VRML, etc). The refined variety of English used by virtual communities has been labelled by some authors Internet language, Cyber-English, Netspeak, or Netglish. We personally coined the term *Spwriting,* because despite its manifest ugliness, the coinage consists itself of a blend of speech and writing, a lexicogenic process which is a perfect iconic illustration of this new way of threading meaning into layers of other meanings by resorting to the most economic procedures like acronyms, blends and compounds as will be represented by the Jargon Dictionary of the hackers. However, the term cyber-English will be used as a generic index to stand for the other terms of equal value.

[46]V. Bush, *As We May Think*, in The Atlantic Monthly, July 1945.

1.5 CONCLUSION

The most significant aspects of our research have been exposed together with what appears to us as the key differences between the two major semiotic theories currently available. Our methodological choices have been justified by arguments which in our eyes validate such an approach of cyber-English, notably as concerns its most recent linguistic creations labelled MICUs, which the Saussurean framework does not satisfactorily account for.

The discovery of the MICUs in today's English compels one to adopt the most appropriate methodological tools to account for the new extra-linguistic realities they represent. As a matter of course, this novel way of zipping large chunks of language into linguistic units other than the ordinary 'word' should be viewed as the result of thousands of years of intellectual effort to improve the functionality and economy of human thought in general and of human communication in particular. It has paved its way out of secular linguistic practices and innovations fostered by social change where technology played a decisive role, and someday they will be found "ordinary", "normal", "natural".

Without communication technologies, amongst which writing has played a major role since it involved a great diversity of writing tools and writing surfaces constraining a diversity of editorial devices, this language would not have appeared, and would not have grown to the extent it overtly displays today. The invention of the printing press was another important milestone which highlights the direction taken by linguistic innovation as will be argued later. Therefore, we will provide in what follows an account for the most important phases of this evolution.

CHAPTER TWO

Language and Computer Mediated Communication

2.1. INTRODUCTION

In this Chapter, the continuous evolution of human communication will be succinctly reviewed to expose the unprecedented development it has reached over time. Starting with the two major assumptions about the origins of language, the focus will be put on what appears to us as the most salient technological milestones bringing to light the route covered by the extraordinary blossoming of human communication over time to attain the dimension it presently bears with Computer Mediated Communication. In effect, linguistic communication which started with speech and grew with writing after the invention of the alphabet, offered humans wide open spaces for the expression of their genius.

The first chapter underlines that the evolution of communication was considerably influenced by the development of written literacy, which simultaneously brought about two major effects: on the one hand, the imposition of new thinking models that led to the distancing of the observed from the observer, and on the other hand, the development of new storing devices capable of keeping safe the resulting information. As these two major developments were the result of unprecedented technologies, the focus will be particularly put on the power of technology and its incomparable capacity to force change upon language.

It should be recalled that one of the first significant technologies which gave a decisive impetus to the development of communication was the printing press in the mid-fifteenth century. Its effects at that time were as important as those of the ones which the Internet is causing today. It will be progressively shown that this unique human noetic adventure is taking a novel hybrid shape offering humanity encryption and storing devices that could not even be dreamed of before. The best expression of this hybridity comes under the guise of the Internet hypertext built out of hypermedia involving speech, writing, a combination of both, as well as sounds, picture, video or an amalgamation of all these media together, in unprecedented manners. The hyperword as we shall argue

tends to become the logical heir to the hypertext docuverse from which it borrows its non-linear multimedia aspect.

2.2. Origins of Language

> *Since far antiquity, progress in knowledge has never ceased replacing man in its suitable place. Were we used to think of ourselves as being the centre of the world? Galileo, Copernicus and others came to disabuse us; in fact, we live in a trite planet, situated in the periphery of a modest galaxy. Were we used to think of ourselves as original creations, distant from the other living species? Alas, Darwin has perched us on the common tree of animal evolution.*[47]

The history of human beings cannot be imagined without the image of our ancestors communicating amongst themselves with whatever means at their disposal. Mythical explanations elaborated by numerous communities around the planet consider the appearance of language as a sudden event. These are built on the belief that either a god or any godlike creature offered men this divine present for reasons as diverse as could be imagined.

Scientists favour the continuous evolutionary hypothesis which considers that *Homo sapiens* has combined regular sets of sounds that have progressively evolved into oral languages thanks to the standing position he inherited a long time ago from *Homo erectus.* This upright position which has resulted amongst other important changes (like the increase of the volumes of his skull and rib cage) in the lowering of his larynx, enabled *Homo sapiens* to utter a larger range of subtle sounds, some of which have later evolved into alphabetic, syllabic or pictographic systems[48] (Dumbar, Lieberman).

Yet, the absence of a satisfactory consensus about the origins of language should not hide the fact that without language, that is, without a communication system, man would never have been able to reflect and organize his life as he has done so far, nor reach the status he has gained over the rest of all living beings.

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[47] Depuis l'antiquité, les progrès de la connaissance n'ont cessé de remettre l'homme à sa juste place. Nous nous croyions au centre du monde ? Galilée, Copernic et les autres sont venus nous détromper : nous habitons en réalité une planète banale, située dans la banlieue d'une modeste galaxie. Nous pensions être des créations originales, à l'écart des autres espèces vivantes ? Las ! Darwin nous a perché sur l'arbre commun de l'évolution animale. Prologue to 'La plus belle histoire du monde : le secret de nos origines', Editions. Marinoor, 1996, p 10.

[48] R.I.M. Dumbar, *Grooming, Gossip, and the Evolution of Language*, London, Faber & Faber 1996.

P. Lieberman, *On the Evolution of Human Language,* In The Evolution of Human Languages. J. A. Hawkins and M. Gell-Mann (Eds.), Addison-Wesley**,** 1992 pp 21-47.

Language has permitted man to use specific combinations of sounds as substitutes for other signs, thus continuously experimenting their effects on his group and then on other human aggregates.

The elaboration of semiotic systems which aim both to explain local cosmogonies and disseminate human thought has certainly been among the first expressions of human intelligence, as they have organized the relationship between humans as intelligent creatures and their social environments. These semiotic systems have permitted men to organize more or less coherently their physical, social, cultural, religious and metaphysical environments. Thus it is their aptitude to use symbolic language to communicate among themselves which has brought human beings to differ progressively but also ineluctably from other living species with which they have shared the same environment.

Another important milestone in the laborious development of human communication relates to the invention of another medium for the communication of thought, that of writing. When the Sumerians invented writing, one can be led to believe that their intention was to translate the transient system of oral discourse into another system of signs which would be more visible and whose track would be more permanent, considering that the physical graphs on clay tablets perfectly fill this purpose.

2.2.1. The invention of writing as technology

Little is known of human oral communication before the invention of writing, and speculation from palaeontological observations remains the only resource to infer information from pre-historic oral interaction. The focus then will be put on the major communication technologies from the invention of the first Sumerian symbols, voluntarily ignoring cave paintings and other artistic pre-historic artefacts for not being relevant to our issue.

Outstanding scholars like Jack Goody, and Walter J. Ong have shed light on huge areas in the history of human communication providing us with a better understanding of the origins of Western literacy. Their contribution is of chief importance to any researcher interested in the development of the two major media through which human communication has reached its present status. Our interest for the works of the mentioned authors lies primarily in the clarifications

they provide concerning the transformations which the writing technology has brought to speech and to the ways in which humans have used this new technology for elaborating a new literacy. Moreover, the new visible language has enabled man to exploit space in a way very close to art, which has certainly helped develop his sense of the economy of space. As a matter of course, with a limited number of sounds, man has learnt to produce an infinite number of utterances, and similarly, with a limited number of graphs, an unlimited number of sentences could be encrypted for eternity in the reduced space of clay tablets or papyrus leaves.

Reflecting on the effects of the projection of sounds into graphs, D. J. Bolter asserts that *"a text is a structure in space that implies a structure in time: writing turns time into space*."[49] In other words, the time-space relationship is invested by a new meaning. In fact, this process has allowed humanity to move to a further phase, less clearly perceived which has enabled man to improve his intellectual potential. As a matter of fact, oral language or speech is the translation of a sign (thoughts, feelings and emotions) into another system of signs (an intentional combination of oral speech sounds).

When they invented writing, the Sumerians devised an elaborate system to translate their familiar audible speech sounds into another visible system whose track is less transient. This process relates to the decisive transfer of meaning from sounds to graphs, for, as Goody argues

> *...Since it was the setting down of speech that enabled to separate words, to manipulate their order and to develop syllogistic forms of reasoning ; these latter were seen as specifically literate rather than oral, even making use of another purely graphic isolate, the letter, as means of indicating the relationship between the constituent elements*[50].

This transfer of meaning from sounds into graphs (the famous Sumerian symbols), has had a decisive impact on the ways in which man would compose poetry, speculate on human and superhuman mysteries and even in the way he would organize his world. Apart from art, it was the first technology which permitted to both disseminate and perpetuate human knowledge by giving it a physical external form. In other words, the challenge for the Sumerians was the discovery of other tools than the customary oral narratives for storing meaning,

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[49] D. J.Bolter, *The New Dialogue* http://www.acs.ucalgari.ca/~dabrent/coms623.htm
[50] J. Goody, *The Domestication of the Savage Mind*, CUP, 1977, p. 11.

memories of events or other more mundane accounts like keeping track of their multiple goods exchanges, or the settling of quarrels about the amounts of collected crops, etc. In this respect, writing has had a determinant role in the replacement of oral memory by the written one, once appropriate carving instruments had been developed. The relevant tools had been the quill, the clay tablets, the papyrus, the parchment, and many other instruments and surfaces on which written signs could be drawn.

2.3. **Speech and Writing:** Orality versus Literacy

The invention of writing as technology about five thousand years ago was of paramount importance not only in the evolution of human communication but also in the growth of human capacity for using symbolic signs (as opposed to speech sounds generally but wrongly perceived as natural) in order to encode meaning. Indeed, this intellectual achievement eventually led to the later development of literacy, as opposed to oral narrative. The idea of the separation of the knower from the known, which is central in the process of human cognitive evolution, is also abundantly defended by Walter J. Ong, who identifies fourteen effects of writing, of which the following selection appears as most significant

> *Writing separates the known from the knower. It promotes 'objectivity'. ... Of course, language in its original oral state already begins the separation of known from knower. Simple naming is the most archaic and still the basic operation in this separation*[51].

We might bring a measure of moderation to this pronouncement by mentioning that writing has only accelerated the process which had already started with the invention of speech as a technology when a selected number of sounds were uttered in such a way as to produce a particular effect on the ear of the hearer so as to get the latter to do something, or, as Austin would say, 'to use words to do something', or 'to get something done'. In both cases, organized utterances are fashioned by speaker and writer in order to produce a perlocutionary effect on the hearer/reader. This recurrent pragmatic aspect of communication will be discussed in greater detail in chapter five.

Indeed, like his elder Homo habilis and later, Homo sapiens ancestors who devised tools to reach more vital surviving purposes (fighting, fishing, hunting, or whatever), our closer Sumerian or Egyptian cousins devised linguistic tools to attain more cerebral purposes. D. Bolter is right to insist on the exceptional capacity of writing to stimulate consciousness, despite the equivalent capacity of speech to produce almost comparable effects, especially in communities that use only speech to cater for their daily business, as several oral cultures still testify. Goody points out that even the nature of language use is transformed by the

[51] W. Ong, *Writing is a Technology that Restructures Thought*. In "Writing Material: Readings from Plato to the Digital Age", published by Evelyn B. Tribble, and Anne Trubek, Addison Wesley Longman, Inc., 2003, p. 326.

invention of writing, notably by the devising of the form which permitted the elaboration of storing devices other than those stored in the human memory

> *We have seen that there are two functions of writing. One is the storage function, that permits communication over time and space, and provides man with a marking, mnemonic and recording device….However, the use of aural reproduction would not permit e second function of writing, which shifts language from the aural to the visual domain, and makes possible a different kind of inspection, the re-ordering and refining not only of sentences, but of individual words*[52].

This clear-sighted observation which situates the benefit brought by this ancillary memory leads Goody to mention another concept, that of permanence, which clarifies the notion of distance brought by writing. Goody contends that *"the specific proposition is that writing, and more specifically alphabetic literacy, made it possible to scrutinise discourse in a different way by giving oral communication a semi-permanent form."*[53]

With the invention of writing, language has conquered a new cognitive and communicative space. In other words, for the first time in their history, human beings can contemplate their speech from a distance. They can store it on a device such as clay, papyrus or whatsoever, that gives it an unfamiliar durability which renders it available for others to learn about it. In this way, the others can read and comment on texts even if their authors are absent from sight. Besides, once a piece of discourse is written on some support, it can be looked at critically from a distance, and from different standpoints. As Goody objectively puts it

> *It increased the potentialities of criticism because writing laid out discourse before one's eyes in a different kind of way ; at the same time it increased the potentiality for cumulative knowledge, especially, knowledge of an abstract kind, because it changed the nature of communication beyond that of face to face contact as well as the system for the storage of information…. By making it possible to scan the communications of mankind over a much wider time span, literacy encouraged, at the very same time, criticism and commentary on the one hand, and the orthodoxy of the book on the other*[54].

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[52] J. Goody, *The Domestication of the Savage Mind*, CUP, 1977, p. 78.
[53] Ibid, p. 37.
[54] Ibid.

2.3.1. The search for storing devices

Since the invention of language, and later of writing, a long distance had been crossed by the human mind in its quest for storing inherited knowledge. Different historical periods witnessed the invention of different storing devices intended to make up for memory deficiencies. Their main function had been and still is to mediate between the producers of knowledge and its potential encounters.

The Sumerians used clay tablets, the Egyptians, papyrus leaves, the Hebrews used Pergame parchments and the Chinese invented techniques for making paper long before inventing an archaic printer for their pictograms. Wood paper which is still in use in our daily writing activities was the last to be manufactured. In fact today's paper differs substantially in both quality and price from the type of paper which the Geeks, and later their Muslim translators, used for the dissemination across Western Europe of the major works achieved by the classical Hellenic civilization. Today, the computer screen and other projection surfaces like overhead projectors and data-shows tend to replace wood paper.

From a historical viewpoint, the question of the relationship between the realities of the external world and our apprehension of them through the mediation of language has always been of great concern in philosophical and epistemological enquiry, and of course has always been a crucial issue in linguistic and semiotic studies. The Greek thinkers were among the first to reflect upon the status of the mediation between the world outside and the language used to represent it, by questioning the nature of this relationship.

Mention should perhaps be made of Socrates' resentment for writing which prevented him from producing any piece of writing. Much later, Rousseau adopted the same standpoint by considering writing only as a supplement for speech, but he did not adopt the same attitude since, contrary to Socrates, Rousseau packed his thoughts for posterity in a number of book formats.

Indeed, the relationship between the realities of the external world and the capacity of language to account for them was the central theme of Plato's *Cratylus*[55] where two different views are exposed: that of the 'Naturalists' and that of the 'Conventionalists'. The Naturalists' view holds that language came into

[55] The text in English translated by Benjamin Jowett is available at http://classics.mit.edu/Plato/cratylus.html

being naturally. This position entails that the relationship between words and things is intrinsic and natural. Conversely, the conventionalists consider that the relationship between words and things is arbitrary. As can be inferred, the former standpoint contests people's ability to alter the natural rules of language acquired from birth, while the latter position assumes that language is a matter of social convention established by usage and custom, hence the possibility to change the rules of language.

Plato left moot the question, contrary to Aristotle who categorically adopted the conventionalist view. He clearly considered that the reality of a name lies only in its formal properties, while its relationship to the real world is secondary and indirect. To him, the mediation of language is wholly a matter for convention since *no name exists by nature but only by becoming a symbol*[56]. This view will be the central concern for linguistics in the beginning of the twentieth century. In effect, modern linguistics, which inherited the conventionalist view, notably via Ferdinand De Saussure's *Cours de Linguistique Générale*,[57] but also via the imposing investigations of the Stoic philosophers, resolutely considers that the relationship between that which signifies and that which is signified is a matter of arbitrariness and convention between users of a common language, and not a matter of nature.

Notwithstanding the differences in appreciation about the capacities of language to faithfully account for the realities of the external world, one should reckon that the problematic issue for humans has always been the discovery of the appropriate technologies to devise necessary physical tools likely to fit their storing purposes. This incessant quest eventually led them to the invention of the "kalam", the quill, the pencil, etc., and much later, of the computer network. However, before that, writers had to expend boundless ingenuity to imagine means to write dynamically on a flat paper page, probably to try to overcome the illusion of the fixity of meaning.

The gradual standardization of writing and much later, the invention of the printing press, prompted the duplication and the wide dissemination of information over large geographical and linguistic areas. For that reason, for

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[56] Quoted in D. Crystal's *The Cambridge Encyclopedia of the Language* Cambridge University Press, 1987, p 404.
[57] F. De Saussure, *Cours de Linguistique Générale*, ENAG, 1994.

example religious practice underwent a thorough transformation as more people accessed the contents of the Bible. The ultimate clash between the central religious hierarchy and the rising figures of Protestantism best represented by Calvin and Luther, led to the religious schism in Christian Faith, and later to the advent of the Enlightenment, thanks to the incessant activity of the printing presses in various parts of Europe where the dissemination of knowledge led eventually to what was to become Mass Communication.

The concept of a manuscript book was born and would gradually replace several other writing supports like the clay tablets, papyrus, etc. Although much different from the present day standard book, the first manuscript book formats shared the essential properties of modern books: they were composed of attached book leaves, whose two surfaces could serve as support for writing, and could contain a considerable amount of information disposed in a particular format. The next further decisive step would come with the invention of a non physical surface to store information in the course of the twentieth century: digital memory.

2.4. **The Invention of the Printing Press and its Impact on Literature and Society:** The printing press and the idea of universal truth

The painstaking prestigious manuscript ultimately came across the new technological book shaped by one of the most important technologies for the development of human communication: the printing press. The new book was physically and ontologically different from the manuscript book because the conditions and the devices used for its production were utterly different. The specific mechanical and typographic constraints and the particular features of the printing press in which texts were given a physical form, brought about at least two new standards: they shaped the final design of the new memory container and contributed to impose in the long run what was to become the standard languages.

This standardization which first concerned spelling also constrained text organization and book format, soon to become the model to be imitated, and by the same token even thinking became modelled on the new patterns imposed by standard spelling, text organization and book format. The printed text allowed humans to store information outside themselves in a physically hierarchised support separate from the mind. In other words, the new print standard altered the way people think by creating a 'second nature', that is an arbitrarily shared way of reading, writing and interpreting. In other words, it created a new 'habitus'.

This habitus was soon to become the "only" official habitus, shaped by editorial committees who imposed what was to be published and the norms in which content was to be published. By extension, what was not accepted for publication by the committees was doomed non-standard, unworthy or untrue. Conversely, because a given content was selected for publication, it was endowed with authority, truthfulness and prestige. It can be affirmed then, that the more a book satisfies the prevailing rules for publication, the more "truthful" it appears to the readers who are not necessarily aware of the rules. The association between "truth" and conformity to editorial decisions was perhaps due to the fact that one of the most published books at that time was the Bible. Considering that the Holy Book, printed in a particular book format, was the paragon of truth-telling artefacts, any other book published in the same format was by some iconic connection likely to convey part of the "universal" truth carried by the Bible.

2.4.1. The constraints upon reading

The new media added a considerable dimension to man's cognitive capabilities. A new literary adventure had started, leading to another which started with the invention of new printing devices. As will now be shown, these devices have abundantly increased the dissemination of knowledge through writing.

By looking into history retrospectively, one can affirm in unison with W. Ong that most probably "*writing was an intrusion, though an invaluable intrusion, into the early human life world, much as computers are today.*"[58] This intrusion was salutary as it enabled man to 'de-localize' or 'de-spatialize' discourse, and by the same token, 'de-spatialize' also meaning. Compared to speech, writing maintains a distance between the 'producer' of the text and its intended 'consumer(s)'. This distance contributes to de-localize the activity of writing. P. Levy notes that

> *Virtualizing, writing de-synchronizes and de-localizes. It springs up a communication mechanism in which messages are often separated in both time and space from their emitting sources, and are thus received out of context. On the editorial side, systems of self-sufficient utterances had to be imagined. Because they were designed to be independent from their context of production, these systems favoured a type of messages responding to a criterion of universality, whether scientific or religious.*[59] (emphasis added)

The 'communication mechanism' in question relates mainly to the physical support of the text which was to be greatly improved since Guttenberg's invention. For it is this new dimension, offered to speech to bear a printed form, in supports other than the human voice, which allows such a distance between the knower and the known. As it forces the knower 'hors contexte' it also compels the reader to adopt new 'listening strategies' along the way.

It is the function of an editorial board to implement the necessary graphic devices whose role is to shape and then condition the reader's cognitive processes by orienting them accordingly towards a series of predetermined typographic and

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[58] W. Ong, *Writing is a Technology that Restructures Thought*. In "Writing Material: Readings from Plato to the Digital Age", published by Evelyn B. Tribble, and Anne Trubek, Addison Wesley Longman, Inc., 2003, p 318.

[59] Virtualisante, l'écriture désynchronyse et délocalise. Elle fait surgir un dispositif de communication dans lequel les messages sont bien souvent séparés dans le temps et dans l'espace de leur source d'émission, et donc reçus hors contexte. Du côté de la rédaction, on a dû imaginer des systèmes d'énoncés autosuffisants, indépendants du contexte, qui ont favorisé les messages répondant à un critère d'universalité, scientifique ou religieuse P. Levy, *La Virtualisation du Texte* http://hypermedia.univ-paris8.fr/pierre/virtuel/virto.htm

textual lattices of signs. The function of these devices is then prescriptive since it seeks essentially to impose interpreting rules upon the reader. These devices, once adopted by both writer and reader, ensure and perpetuate the interpreting habits, thus participating in the instituting of predictable 'reading pathways'. It is therefore, at least partly, the editorial devices which shape, through pedagogical conditioning, the 'reading habitus' of the learner/reader. They train her/him to assimilate the suitable rules for a correct interpretation of a given part of a given text and reject any other that does not fit. Once they are internalized, these reading habits become a kind of 'second nature'. By internalizing this second nature, the reader is allowed to move further from the listener he used to be, turning into a 'critical' reader, albeit a critical reader informed by the reading devices shaped by the editorial board.

Before the invention of writing, orality made use of a technology: the combination and articulation of phonemes into larger meaningful units where prosody and intonation played major roles. Oral languages catered for all aspects of norms comprising pronunciation, grammatical, lexical and pragmatic rules which provided their users with complete and coherent communication systems. Writing invented alphabets which, in their turn, combined graphs to form words, phrases, sentences, paragraphs, etc. Yet both media have a common feature: they are linear, and unfold over the traditional space-time dimension. However, the characteristics of writing, and later of the printing press, accelerated man's power to critically observe the product of his reflection from a distance, discuss it with others, and thus share more easily the notion of a common truth with others. P. Levy rightly reminds us that "w*ith writing, and even more, with the advent of the alphabet and the printing press, the modes of theoretical and hermeneutical knowledge overran the types of narrative and ritual knowledge of the oral communities*."[60]

This new type of hermeneutic knowledge paved the way to a major transformation in the human semiotic adventure: the belief in a universal objective truth. The possibility of the existence of a universal truth could not have had such impetus without the printing press, which promoted it in two ways: first, by

[60] Avec l'écriture, et plus encore avec l'alphabet et l'imprimerie, les modes de connaissance théoriques et herméneutiques ont donc pris le pas sur les savoirs narratifs et rituels des sociétés orales., P. Levy, *La Virtualisation du Texte* http://hypermedia.univ-paris8.fr/pierre/virtuel/virto.htm

intensively disseminating the written text, and notably the translated Bible, the printing press offered its rapidly growing readership the possibility to enjoy a closer relationship with God's word by allowing each one to possess a personal copy of the Good Book. Second, by seeking a universal human commonsense which they thought to have discovered in Greek philosophy, they were brought to institute thinking standards based on inferences which they deemed to be universal.

2.4.2. The imposition of the book as the new information storage device

By adopting a particular format, text organization and physical support, the standardized book progressively became, if not the unique, at least the most important symbol of knowledge where the totality of existing truths (godly and human) could be enclosed. This explains the success of the Enlightenment era and later, the unrivalled credit of Encyclopaedias. In the XVth century, Johannes Guttenberg's invention of the movable printing press led to a proliferation of books that changed the world by changing the ways in which education could take place. We should like to mention that an important outcome has accompanied the dissemination of the printed book, which can retrospectively be considered as the first mass medium. This relates to the extraordinary freedom of thought and speech that were fostered by the incessant diffusion of the Bible. The different interpretations which resulted from the unprecedented diffusion of the sacred texts ultimately led to the Reformation movement, and later to the abundant philosophical and scientific literature which followed the Enlightenment.

2.4.3. The electronic text

The printed sign has reigned for over five hundred years and will probably survive for many others before resigning. However, thanks to the considerable changes that take place at global level and following the tremendous development of the information sciences, the electronic text appears ready to take over. Given the fact that Internet signs are electronic signs used for communication purposes, they consequently fall under the concern of the Information and Communication Sciences (ICS henceforth). Since the twentieth century, ICS studies have been

boosted by the extraordinary development of the electronic sign in everyday usage. The electronic sign has now become part and parcel of our daily existence, and we seldom notice its difference from non-electronic ones. We may take any newspaper, book, television programme, etc. and notice that their whole existence depends upon electronic devices. They may still bear an analog support for their final shape and package, but their production processes are either partly or entirely dependent upon electronics.

The electronic word, therefore, differs significantly in a number of ways from an analogous sign, even if it seductively looks like the latter, and even if the analogous sign is produced under electronic processes.

1 – The electronic sign is the result of a series of binary operations in a computer involving 0 and 1, while the analogous sign is a combination of dots on paper or other writing surface bearing the form of graphs arranged to resemble manuscript writing at the beginning of the printing press adventure. Only later came the different fonts, and one would be wise to notice that the same process is under way concerning electronic sign standards, since the Times New Roman font tends to become standard for Microsoft Word users, while Acrobat imposes a single standard format on all its documents.

2 – The electronic word having a different nature from that of its analogous equivalent is not submitted to the same constraints in its production, transmission and reception. In effect, for the production of the electronic sign, neither dexterity nor handiness is required from its writer. The task of the digital writer is simply to strike a keyboard appropriately to produce the desired letters, numbers, or special characters needed.

In case an error is made, another sheet of paper, or any other writing surface, is not needed to correct it. All it requires is to electronically delete the error and correct it as many times as necessary, thus augmenting the economy of writing production and greatly facilitating the tasks of proof reading and text manipulation. The latter point leads us to mention the issue of editorial considerations which are much constraining for the analogous text. These considerations might have been of crucial importance for the gradual shaping of thought. In this connection, E. Eisenstein recalls that "*editorial decisions made by early printers with regard to layout and presentation probably helped to*

reorganize the thinking of readers….. basic changes in book format might well lead to changes in thought patterns."[61]

This is especially true if note is taken of the necessary period of adaptation and accommodation to both writing and reading transformations. According to Kernan, not until about 1700 did print technology "*transform the more advanced countries of Europe from oral into print societies, reordering the entire social world, and restructuring rather than merely modifying letters.*" How long, then, will it take computing, and more specifically computer hypertext to effect similar changes? How long, one wonders, will the change brought to electronic language take until it becomes culturally pervasive?

Another significant difference between the two types of texts relates to the hypertextual dimension of the electronic word whose digital aspect greatly facilitates its connection to other words, pictures, graphs, sounds or even videos. As Lipovetsky rightly observes, "w*e moved from the reign of the finite to that of the infinite."*[62] In effect, the electronic word can easily be fragmented to blend other items such as other words, numbers, graphs or emoticons and the like without losing its coherence and without confusing the reader who seems much more tolerant about the distortions of the electronic sign than s/he is towards the analogous sign. Is it because of the absence of an acknowledged authority whose role, like that of a teacher, is to scrupulously take care of language correctness? As D. Crystal notes, "*almost all the written language we read (informal letters aside) has been interfered with in some way before it reaches us – by editors, subeditors, revisers, censors, expurgators, copy-enhancers, and others."*[63] There is no such authority in cyberspace, at least for the time being, but there are other constraints mainly linked to format.

2.5. Hypermodern Communication

[61] E. Eiseinstein, *Some features of Print Culture*, In "Writing Material: Readings from Plato to the Digital Age", published by Evelyn B. Tribble, and Anne Trubek, Addison Wesley Longman, Inc., 2003, p 133.
[62] On est passé du règne du fini à l'infini.G. Lipovetsky, *Les Temps Hypermodernes*, Le livre de poche, 2004, p 84.
[63] D. Crystal, *Language and the Internet*, Cambridge University Press, 2001, p 170.

> *We are accessing a conscience of ourselves which is becoming collective. We are inventing a new form of life: an evolving planetary micro organism, which comprises the living world and the human productions, and of which we are the cells. It possesses its nervous system of which the Internet is an embryo, and a metabolism which recycles materials. This global brain made of independent systems, connects people at electron speed and disrupts our exchanges. It is a matter of cultural selection.*[64]

This section will summarize what can be considered as the three most important landmarks concerning the recent history of human intellectual adventure. As can be noted, the pre-modern period is voluntarily overlooked to concentrate on the period ranging from modernity to present-day hypermodernity.

2.5.1. Modernity

We shall first elaborate on the notion of modernity which to a large extent encompasses the values propounded during the Renaissance and the Enlightenment period. In spite of regular misunderstandings between researchers concerning the classification of modernity as a period, style or a combination of both, as we are personally inclined to think, its ideals mainly consist of a strong belief in human reason as the ultimate guiding principle, a belief in man's experimentation of new methods for the acquisition of new knowledge that will yield new truths, and most commonly a strong rejection of tradition, deemed to be the feeder of ignorance and superstition. Among the advocates of time-bound modernity, we find Peter Childs, who, quoting Marshall Berman to whom modernity can be divided into three phases, illustrates them as follows:

> *1500 to 1800 (when people struggled to find a vocabulary to describe modern life); the 1800s (from the American and French Revolutions through the upheavals across Europe in the nineteenth*

[64] Nous accédons à une conscience de nous-même qui devient collective. Nous sommes en train d'inventer une nouvelle forme de vie : un macro organisme planétaire, qui englobe le monde vivant et les productions humaines, qui évolue aussi, et dont nous serions les cellules. Il possède son système nerveux dont Internet est un embryon, et un métabolisme qui recycle les matériaux. Ce cerveau global fait de systèmes indépendants, relie les hommes à la vitesse de l'électron et bouleverse nos échanges. Il s'agit d'une sélection culturelle. J.D. Rosnay In *La Plus Belle Histoire du Monde,* Interviews collected by Dominique Simonnet Editions Marinoor, 1996, p 154.

century); and the 1900s (in which almost the whole world became involved in the process of modernisation)[65].

Others, to whom modernity is mainly an artistic and literary genre, see its roots in the works of "*the French poet and essayist Charles Baudelaire and the novelist Gustave Flaubert, in the Romantics, or in the 1890's fin de siècle writers.*"[66] The movement found its full expression in artistic movements (chiefly in painting and poetry) and later in architecture (mainly with Le Corbusier), and which started with the quarrels between the Ancients and the Moderns.)

Finally, there are authors who tend to emphasize the intellectual aspect of modernity, and who tend to privilege the scientific, philosophic and religious aspects mostly characterized by the application of scientific principles and reason. Their purpose is to discover the natural laws governing the world, and also contribute to the resolution of human problems by other means than the simplistic explanations furnished by the omnipotent religious authorities. Ultimately, this rational activity was intended to result in a better human society as was dreamt of by Sir Thomas Moore, but also by Descartes, Hobbes, Locke, J.J. Rousseau and many other followers.

The basic principle linking all these views which, as a whole, characterize modernity, is a considerable faith in man's positive capacity to evolve by freeing himself from the enslaving bonds imposed by tradition on free thought. This view of modernity can be perfectly illustrated by the laconic expression *this will kill that*, formulated by the archdeacon, Dom Claude, in Victor Hugo's *Notre Dame de Paris*[67]. The scene depicts priest Dom Claude who, showing a book with one hand said that it would kill the cathedral he was pointing to with the other hand. He feared the bad influence which the book was supposed to exert on the coming generations. Several authors, following Dom Claude's frame of mind, believe that a new technology always destroys the preceding one. In this respect, photography was expected to end painting, television cinema, and now the electronic text to kill the printed book.

However, as often happens with revolutionary thoughts and inventions, the breadth which once used to be a freeing inspiration eventually became an

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[65] P. Childs, *Modernism*, Routledge, 2000, p 12.
[66] P. Childs, *Modernism*, Routledge, 2000 p 14.
[67] V. Hugo, *The Hunchback of Notre Dame*, Penguin Popular Classics, 1964, p 173.

enslaving one. By the mid-century, the modern stance having lent itself to institutionalizing forces became an obstacle for the freedom of non-European peoples largely considered as degenerate, ignorant and savage. Even within the European sphere, there remained great masses of uncivilized people scattered notably among the poorest and less able who had no education, no land and no particular qualification and which fed the capitalist labour. The white Christian educated rich man had the means of production and controlled most of the economic market in Europe, but also in the rest of the world which he conquered and to which he imposed his "law" and "vision of the world" supposed to be superior to those of the "barbarians" he was attempting to "civilize".

If the most parts of America, Asia and Africa spoke European languages, recited the Bible and learnt how to read and write, using European alphabets, it is also due to the white man's spirit of expansion and domination. In effect, one has to acknowledge that ultimately, modernity as P. Childs clearly puts it, *has predominantly been represented in white, male, heterosexist, Euro American middle-class terms, and any of the recent challenges to each of these aspects introduces another one of a plurality of Modernisms*[68]. As shall be argued, postmodernity came to undermine the modernist ideal.

2.5.2. Postmodernity

Despite the risk of appearing as "unpostmodern" to some people who argue that postmodernism as a movement rejects all encompassing truths or definitions, we shall attempt to offer a substantial comprehension of this important concept by appealing to a number of eminent postmodern writers who have in their own ways provided some enlightening clarifications about this concept.

To start with, we note in a remarkable docuverse, entitled *Introducing Postmodernism*, and co-authored by Richard Appignanesi and Chris Garratt[69], a valuable precision concerning the origin of the term postmodernity. The authors mention one of Charles Jencks's letters, where the latter indicates that the first use of the term dates as far back as 1870 when it was used by the British artist John Watkins Chapman. The letter also mentions that

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[68] P. Childs, *Modernism*, Routledge, 2000, p 12.
[69] R. Appignanesi, and C. Garratt *Introducing Postmodernism*, Totem Books, 1995.

"Posteriority", the negative feeling of coming after a creative age or, conversely, the positive feeling of transcending a negative ideology, really develops in the 1970's, in architecture and literature, two centres of the post-modern debate. "Deconstructive postmodernism" comes to the fore after the French post-structuralists (Lyotard, Derrida, Baudrillard) became accepted in the United States in the 1970's, and now half the academic world believes postmodernism is confined to negative dialectics and deconstruction[70].

However, some other writers hold more nuanced views about its definition. For example, in his introductory note to *La Condition Postmoderne* Jean F. Lyotard defines postmodernity as "*the state of culture, after the transformations which have affected the rules of the games in science, in literature, and in the arts since the XIXth century,"*[71] that is, as the condition of Western society *after* modernity. To Lyotard, these transformations concern mainly the crisis of the narrative which induces a thorough transformation in the knowledge we have about ourselves and the world around us. He saw, earlier than others that knowledge changes its status at the moment *"societies enter into the so-called post-industrial age, and cultures into the so-called postmodern age. This passage has started at least, since the late fifties which, to Europe, signal the end of its reconstruction."*[72]

This passage, which should be seen as a definite step forward into history, has an incidence on the quest, production and transmission of knowledge, notably after the invention of the computer, which has, in the meantime, become the privileged medium of postmodernity. One perceptible offshoot of the transformations brought by the new knowledge is "network thinking", a concept which will be given extended explanation by the end of the research work.

If we consider the fluidity of present Internet connections, which was made possible by the incessant improvements in the nanotechnologies, which themselves result in instantaneous connections between scientists, decision makers, researchers at large or simply concerned individuals, one can measure the

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[70] Ibid.

[71] l'état de la culture après les transformations qui ont affecté les règles des jeux et de la science, de la littérature et des arts à partir du XIX siècle. J. F. Lyotard , in his introductory note to *La Condition Postmoderne* : Rapport sur le savoir, les Editions de Minuit, 1979.

[72] les sociétés entrent dans l'âge dit post-industriel et les cultures dans l'âge dit postmoderne. Ce passage est commencé depuis au moins la fin des années cinquante, qui, pour l'Europe marque la fin de sa reconstruction. J. F. Lyotard , *La Condition Postmoderne* : Rapport sur le savoir, les Editions de Minuit, 1979 p 11.

impact of the "putting together" of information for the pursuit of a particular project, or goal, on human aggregates, as well as on individuals. Some authors consider these transformations at least as important as those which the printing press had on the organization and dissemination of knowledge. In this respect, Lyotard already anticipates that *"tomorrow's encyclopedia consists of data banks. They exceed the capacity of every user. They are postmodern man's 'nature'."*[73] Maybe one can already claim that Lyotard's 'demain' is taking place today, since the Internet appears as the incarnation of such a vision, and digital databanks, like Wikipedia and many other Internet data, are becoming the most widely used resources for the common reader as well as for advanced students. Likewise, this very research would never have been possible, without the Internet from which several resources have been drawn.

In his preface to "The Illusions of Postmodernism[74]", Terry Eagleton, mentions a distinction between postmodernism which, as a movement of thought *refers to a form of contemporary culture*, and postmodernity which *alludes to a specific historical period,* thus drawing a clear dividing line between the two concepts. Postmodernity, he adds, "*is a style of thought which is suspicious of classical notions of truth, reason, identity and objectivity, of the idea of universal progress or emancipation, of single frameworks, grand narratives or ultimate grounds of explanation."* As can be noticed, these are the essential values of the Enlightenment agenda, to which the postmoderns oppose another, in which the world is envisioned rather as

> *contingent, ungrounded, diverse, unstable, indeterminate, a set of disunified cultures or interpretations, which breed a degree of scepticism about the objectivity of truth, history and norms, the givenness of natures and the coherence of identities*[75].

This argument is of course met with full delight within the numerous virtual communities that fill the Internet. It is precisely some of the truths deemed eternal and universal by the modernist project which are questioned by the postmodern project. For instance, J.L. Lemke, reclaiming *the intellectual freedom of art for science and philosophy,* writes

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[73] L'encyclopédie de demain, ce sont les banques de données. Elles excèdent la capacité de chaque utilisateur. Elles sont la « nature» pour l'homme postmoderne J. F. Lyotard , *La Condition Postmoderne* : Rapport sur le savoir, les Editions de Minuit, 1979, p 84

[74] T. Eagleton, *The Illusions of Postmodernity*, Blackwell, 1996, p vii.

[75] Ibid.

> *The postmodern, semiotic, constructivist view talks about meaning, not about truth. It talks about how discourses define phenomena, not about how phenomena are described by discourses. It always wants to know what people do that makes sense of what we ordinarily call an object or phenomenon. It situates meaning-making practices and the systems of semiotic resources deployed in those practices in the domain of the social, the cultural*[76].

Finally, to put an end to this brief compendium on postmodernity, we should like to include two other writers' views which bear a singular importance for our understanding of this concept. Robert J.C. Young argues that "*postmodernism itself could be said to mark not just the cultural effects of a new stage of 'late' capitalism, but the sense of the loss of European history and culture as History and Culture, the loss of their unquestioned place at the centre of the world.*"[77] Indeed, as is shown by the current painstaking attempts to unify Europe, it is the position of the Old Europe which is at stake, now that other dominating forces emerge. Also reflecting on the same issue, the South-African author Johan Degenaar brilliantly sums up the three periods in an article entitled *Myth and the Collision of Cultures* where he argues that

> *Post modernity claims for a critical hermeneutics to discriminate between a liberating and an incarcerating use of images, between those that disclose and those that close off our relation to the other, those that democratise culture, and those that mystify it, those that communicate and those that manipulate…In both pre-modernity and modernity, a form of closure prevails. In the one case culture is a self-enclosed particularist whole, in the other a self-centered universalist whole. In both cases it leads to a closure with regard to the understanding of other cultures in their own right. Postmodernity introduces a new perspective. It highlights tension between cultures as creative and states that, if other cultures are not respected in their otherness, it leads to collision which is destructive.*[78]

A brief synthesis of these thoughts would retain the postmoderns' will to disengage themselves from the modern norms and values inherited from the Enlightenment, and to replace them in a perspective which accounts for today's ambivalent, unstable and decentred state of affairs at all levels, ranging from the

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[76] J. Lemke, *What is postmodernism and Why is it Saying All These Terrible Things?* http://www-personal.umich.edu/~jaylemke/papers/jsalt.htm

[77] J.C.Young, *White Mythologies,* Routledge, 1990, third Edition, 2004, p. 51

[78] Johan Degenaar, Myth and the Collision of Cultures http://www.unisa.ac.za/default.asp?Cmd=ViewContent&ContentID=11500

individual condition, to the local, and then to national and international, or rather global, scales. As major decisions are progressively being taken at global level, at least regarding trade, transport, communication, health matters, such as pollution, pandemics or transgenic products, the individual feels personally concerned regardless of the tiny physical territory s/he inhabits. To communicate with her/his fellow earthmen and women, the descendants of Homo sapiens need an updated global tool: the Internet, which draws the dividing line between postmodernity and hypermodernity, because, if we follow Lipovetsky, f*rom post- to hyper: postmodernity would only have been a transition phase, a short-lived moment*[79].

2.5.3. Hypermodernity

Before engaging in the appropriateness of the Internet to incarnate the hypermodern values, we shall first attempt to elucidate the concept of hypermodernity (also labelled supermodernity), by drawing upon the explanation provided by authors like Gilles Lipovetsky[80] and François Ascher[81]. One can note that this new notion is forcing its way through the already encumbered philosophical terminology of the twenty first century. This rather recent term was coined in reaction to what an author like Gilles Lipovetsky thinks pertains to outdated postmodernity. To him, humanity has entered into a new phase inherited from postmodernity seen as

> *An expansion of consumption and of mass consumption, a fading away of authoritative and disciplinary norms, an increase of individualism, a consecration of hedonism and psychologism, a loss of faith in a revolutionary future, a loss of affection for political passion and militancy*[82]..

The new era, labelled hypermodernity, is characterized by the explosion of new structures such as *hypercapitalism, hyperclass, hyperpower, hyperconsumption, hypermarkets, hypertextuality, hypermedia, hyperreality,*

[79] Du post- à l'hyper: la postmodernité n'aura été qu'un stade de transition, un moment de courte durée. G. Lipovetsky, *Les Temps Hypermodernes*, Le livre de poche, 2004, p 56

[80] un essor de la consommation et de la communication de masse, dépérissement des normes autoritaires et disciplinaires, poussée de l'individualisation, consécration de l'hédonisme et du psychologisme, perte de la foi dans l'avenir révolutionnaire, désaffection des passions politiques et des militantismes, etc. Ibid.

[81] F. Ascher, *La Société Hypermoderne : Ces événements nous dépassent, feignons d'en être les auteurs,* L'Aube Nouvelle éd 2005.

[82] Ibid.

hypernarcissism, etc. It can therefore be presumed that the hype about hypermodernity has just started in view of the various de-structurations and deconstructions one is called to experience in every field of our biological and intellectual lives in the future, notably concerning the reliability and capacity of the new technology to overcome the natural limitations of man (environmental, anatomic, intellectual, etc.).

Besides, hypermodern man has to adapt his individual relation to fundamental disrupted notions, such as time, space and dimension. Just like the inhabitants of the North Pole had to adapt to the long days and nights that constitute their objective reality, the inhabitants of the desert too have to adopt new agendas and revise their time/space notion, now that they ride Tuareg cars and Toyotas Buggies, instead of the traditional camel, to cover wide areas. These constantly changing contexts play a major role in helping people build their own 'self-narratives' by being confronted to a multiple range of different contexts which compel them to permanently reconsider the organization of their personal lives. In fact, they become very soon aware that their identities are in constant flux. Lipovetsky explains that,

> *Hypermodernity is inseparable from the détraditionnalisation-désinstitutionnalisation-individualisation of the relation to space, which is a phenomenon of the whole, and which, transcending group or class differences, far exceeds the world of the winners. The new feeling of enslavement to accelerated time spreads only in parallel to a greater individual power of organization*[83].

Apart from the mentioned adaptations required by hypermodern times, two major ones wait to be catered for. One relates to man's capacity to reflect:

- <u>deeply,</u> by appropriating all previous knowledge about a particular issue,
- <u>diversely,</u> by integrating the multidisciplinary aspects, the complexity and diversity of the new challenging problems to be solved,
- <u>rapidly</u>, that is, by inventing new mnemonic strategies to keep up with the necessities of constantly evolving contexts,
- <u>effectively</u>, by working out the most appropriate responses to complex situations, notably by also resorting to hybrid resources and data-banks,

[83] l'hypermodernité est inséparable de la détraditionnalisation-désinstitutionnalisation-individualisation du rapport au temps, phénomène d'ensemble qui, transcendant les différences de classes ou de groupes, dépasse de beaucoup le monde des gagnants. Le nouveau sentiment d'asservissement au temps accéléré ne se déploie que parallèlement à une plus grande puissance d'organisation individuelle de la vie. Ibid, p. 77

- economically, for the sake of saving both one's precious time and that of the addressee.

The other adaptation, logically following from the first, concerns man's capacity to respond to the new requirements in a communicative way, notably by devising the appropriate linguistic and technological tools to answer them. These tools concern both the media in which hypermodern communication takes place, and the particular refinements which they have to undergo at both levels of speech and writing.

A suitable response for such hypermodern requirements appears in the form of the particular aggregations which blossom through the Internet under the guise of virtual communities. Concerning the linguistic tools able to account for the hypermodern thought, one can presume that, given the specific characteristics of these virtual communities, the language used for the satisfaction of the linguistic and social communication purposes of its members will most certainly display parts of these specificities. This issue will be the kernel of our discussion in chapters four and five, when the peculiarities of cyber-English, as ideally represented by the Jargon Dictionary, will be examined in relation to the specificities of the virtual community of the hackers. For the moment, let us examine one of the most significant hypermodern inventions as represented by the Internet.

2.6. The Internet as an Artefact of Hypermodernity

The invention of the Internet is rather recent despite its extraordinary growth and its unequal implementation everywhere around the world. Its impact

on communication is so great that its importance is reflected even in its spelling, which, as noted by D. Crystal, *is "the first technology to be conventionally identified with an initial capital*."[84] Its military origin, under the patronage of ARPANET in the late sixties, has not hindered its later development by the National Science Foundation, the American scientific community which gave it its first significant impetus in the early eighties. One important early distributed conferencing system was USENET. This system is considered as the ancestor of what was later to become Computer Mediated Communication systems, such as BITNET, Fidonet, and of course the later World Wide Web or the Internet.

What appears as a point of interest in this progression is the evolution from rudimentary conferencing systems into a highly efficient network which encompasses all previously existing networks under the guise of the Internet. By subsuming its predecessors, the web offered humanity a global communication system that can be perceived as an extension of human memory as a whole, and of the individual memory in particular, in much greater terms than did the invention of printing, at least in the two major areas which concern miniature storage capacities and devices and greater opportunities for individuals to possess them owing to their relatively low cost.

Perhaps one of the most salient features of this planetary exchange system is its capacity to connect people from different ethnic, linguistic, social, political, religious, and national origins, and to permit them to interact according to their specific interests, thus implementing what is now commonly referred to as 'cyberception'. This new concept, "a blend from cybernetics and perception" clearly highlights the overall purpose of the web builders who dream of a system capable of adding another sense, albeit artificial, to the five human senses.

Roy Ascott writes, in an article presented at The 5th International Symposium on Electronic Art, Finland, in 1994, that

> "*cyberception involves a convergence of conceptual and perceptual processes in which the connectivity of telematic networks plays a formative role. Perception is the awareness of the elements of environment through physical Sensation.*"[85]

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[84] D. Crystal, *Language and the Internet*, Cambridge University Press, 2002, p. 3.

[85] R. Ascott, (1994) ISEA'94, The 5th International Symposium on Electronic Art ,Helsinki,Finland: http://www.clas.ufl.edu/anthro/Seeker1_s_CyberAnthro_Page.html

This sixth sense (which finds full attention in research areas trading with traumatic concerns or with video games for example) would be an extension of man's power to acquire information through information, where the web would play a central role by linking any type of information to an almost unlimited number of other information through the process of hypertext.

In the opening chapter of his book, Tim Berners-Lee, the inventor of the web protocol at the origin of the web, straightforwardly asserts his conception of the global Internet: "*The vision I have for the web is about anything being potentially connected with anything?*"[86] That is, the possibility for every connected person to access any type of information which others have purposefully made available to them through the medium of the web. Such an ambition positively finds its enthusiastic proponents within the Internet, where numerous virtual communities are implemented to exchange data of common interest. In doing so, each participant contributes one brick or more to the construction of the huge brain, also labelled the vortex, and which, although it does not resemble the human brain, shares its characteristics and ways of reasoning.

Again, R. Ascott anticipates the effects of cyberception on humans once enough applications have been developed. The author points that by definitely stepping beyond linear thinking which divides the world into categories and classes of things seen as "*objects, with impermeable boundaries, surfaces with impenetrable interiors, superficial simplicities of vision which ignored the infinite complexities,*"[87] man will reach a higher level of consciousness fostered by cyberception which means:

> *getting a sense of a whole, acquiring a bird's eye view of events, the astronaut's view of the earth, the cybernaut's view of systems. It's a matter of high speed feedback, access to massive databases, interaction with a multiplicity of minds, seeing with a thousand eyes, hearing the*

[86] T. Berneers Lee, *Weaving the Web*, Texere, 2001, p.1.
[87] R. Ascott, (1994) ISEA'94, The 5th International Symposium on Electronic Art, Helsinki,Finland: http://www.clas.ufl.edu/anthro/Seeker1_s_CyberAnthro_Page.html

earth's most silent whispers, reaching into the enormity of space, even to the edge of time.[88]

Such a vision entails a significant change in the ways in which people use language and construct the world, and it requires a substitute to the categories whereby we represent the world and even to the ways in which meaning is built and stored. As will be developed in the final chapter, the construction of meaning by means of MICUs already appears as a stepping stone in this direction for, to quote Lipovetsky, if "m*odernity from which we are coming out was negative, super modernity is integrative."*[89]

This vision also requires the development of other communicating tools and applications that make the best of this exceptional invention. Among the most signifying Internet applications which feed the advent of cyberception are Emails, BBS's, IRChats, Newsgroups, MUDs and more recently blogs which have gained increasing popularity. Although it appears useless of being reminded, Email (electronic mail), which is the exchange of computer-stored messages by dint of telecommunication, has become such a daily routine that it needs no more clarification, except to mention that people do not write traditional letters in the manner in which they email them. This interesting connection between the requirements of a particular format, provided and constrained by an Internet application instead of the traditional letter-format also requires a distinctive use of language which certainly deserves close attention from scholars who are equally interested in the relationships between technology and language.

We shall now provide a number of definitions drawn from various Internet sources which explain the difference between the different applications mentioned above and which serve the purpose of virtual communication within the Internet.

A Bulletin Board System is a computer system which hosts software that allows users to dial into the system and perform functions such as downloading or uploading data, or exchanging messages with others. The BBSs are seldom used today, notably because of the development of Internet Relay Chats.

IRCs are very popular, notably among youngsters who spend several hours chatting with fellows sharing common interests from various parts of the world. IRC is the net's equivalent of CB radio as both are chatting spaces which can be

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[88] R. Ascott, (1994) ISEA'94, The 5th International Symposium on Electronic Art, Helsinki http://www.clas.ufl.edu/anthro/Seeker1_s_CyberAnthro_Page.html

[89] la modernité dont nous sortons était négative, la super modernité est intégrative. G. Lipovetsky, *Les Temps Hypermodernes*, Le livre de poche, 2004, p 56.

either public or private. On IRC, many people can simultaneously participate in discussions over a channel and in other ones on multiple channels. There are no limits to the number of people who can join a discussion and there is no limit to the number of channels that can be opened.

A newsgroup is a repository for messages posted by many users at different locations. They need newsreader software and are also called discussion forums. Newsgroups are very popular among the scientific communities as they allow for permanent connections between scientists who can update their knowledge without the inopportune interferences of undesirable intruders.

MUDs or Multi User Dungeons is a software program that offers connections to a great number of users across the Internet and which provides each user access to a shared database. This database consists of 'rooms', and other 'objects'. Each user can browse and manipulate this database from 'inside' one of those rooms, seeing only the objects that are in the same room.

Blogs are the newcomers to the Internet. They consist of personal spaces where anyone can speak their minds about anything. Most blogs are like diaries, reflecting their owners' daily mood, comments and vision of the world. They provide a personal voice and a personal response to a particular issue, but contrary to diaries, blogs are publicly edited everyday. Notice should be made of the growing number of politicians and famous celebrities who resort to blogs for improving their public image, because by personally answering the ordinary person's questions, they enlarge their sense of proximity communication.

These applications and the World Wide Web have played a major role in the amazing development of virtual communities, which certainly have a great impact on the way in which humans communicate. As artefacts of hypermodernity, they are closely bound to the notions of 'de-territorialization' and fragmentation of time and space. Their effects are wide-ranging as they concern several fields, such as global economy, with the development of E-business, 'edutainment' and E-learning, and of course they are totally involved in interpersonal communication, etc. A common but absolutely essential tool to ensure communication and information interchange between all these communities is language. Their impact on language will be studied in the fourth chapter.

2.7 The Globalization of Communication and the Emergence of Virtual Communities

Considering the community of hackers and their language as hypermodern phenomena finds its full explanation within the globalization which rendered the appearance of Computer Mediated Communication possible. It might be argued, however, that despite its dominant virtual aspect, the community of hackers remains a social community which shares most of all ordinary human concerns. As will be shown, their social practices reveal the extent to which the hackers, both as individuals and as a group, fall within the overall mould of ordinary social aggregations, albeit of a new type. The issue to be raised then finds itself at the heart of the globalization of exchanges between the inhabitants of the planet seen from the standpoint of communication. Other aspects of globalization linked to the economy, politics, ecology and so forth are not of primary concern in our research, but the strong connection between globalization and virtual communities will be highlighted thanks to the support of some elder scholars who have been working in this field, clearing the ground for us.

2.7.1. Definition of globalization

We start with the definition of globalization. Like some previous problematic terms such as 'word', 'modernity', 'postmodernity', 'hypermodernity', etc. the term 'globalization' lends itself to equivocation and different interpretations arise depending on the particular field in which it is perceived. Tightly linked to the notion of hypermodernity, and politically related to the notion of the modern nation-state, this concept was brought into the limelight only during the last two decades after the fall of the soviet empire, although in its extension the concept had practical bearings all along the history of Homo sapiens. In a remarkable article entitled '*Globalization, the nation states and the question of "culture*": *The Unnatural History of Nations and Cultures,'* Bradd Shore, who clearly perceives the links between the diverse local claims for more autonomy inside national states and the erosion of the concept of national sovereignty, notes that:

> R*ecent political upheavals ranging from Indonesia to the Balkan states to the political patchwork that was once the Soviet Union testify to the fragility and often to the illusory stability of the modern nation state. Many states, it turns out* were *originally cobbled together and maintained more by the sheer force of state-managed terror and by autocratic leaders than by popular will or common interest.*[90]

Although this assertion may sound too radical notably in view of the loose boundary that separates the territory of the 'tribal entity' from the wider aggregations where other 'tribal entities' merge into the often wider geographic territory known as the 'nation state', the statement bears a notable measure of clear lucidity, at least as far as the notion of 'social contract' as defined by Rousseau[91] is concerned and as the recent events in Kosovo and other parts of the world have brought into the foreground. Theorizing on the difficulty to define 'what is shared', 'who shares in', and 'how is this shared', B. Shore links human gatherings to the reasons that hold the aggregations together and acknowledges that one solid motive for building communities together is common interest and common culture. However, again the concept of culture appears as problematic even to anthropologists, and Shore confesses that '*Though our discipline has long been defined in relation to the study of culture, anthropologists have been notoriously unable to agree on what the term "culture" means'*. Another human aggregation born from the marriage of globalization and computer mediated communication would give anthropologists some additional trouble to define virtual communities.

2.7.2. Computer Mediated Communication and virtual communities

In his contribution to the colloquium entitled "*La Communication Médiatisée par Ordinateur: un carrefour de problématiques*[92] », Jean François Marcotte notes that, since the appearance of the computer and thanks to electronic networks, some technical devices have permitted distant communication between individuals. This allowed for the expression of socio-cultural practices in these virtual environments generated by the interconnection of computers. As Marcotte observes,

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[90] B. Shore, *Globalization, the nation states and the question of "culture"*, at http://www.semioticon.com/frontline/bradd_shore.htm

[91] J.J. Rousseau, *Du Contrat Social*, SNED, 1980.

[92] J.F. Marcotte, in *La Communication Médiatisée par Ordinateur: un carrefour de problématiques*, organisé dans le cadre du 69e Congrès de l'Association canadienne-française pour l'avancement des sciences (Acfas), Université de Sherbrooke, 15 et 16 mai 2001.

> *Since the advent of the computer, some technical devices have permitted distant communication between individuals thanks to electronic networks. In this respect, socio-cultural practices have spread within the virtual environments engendered by interconnected computers. Millions of individuals have already appropriated these environments today, to develop interpersonal exchange practices*[93].

Another researcher, James Simpson evokes (Herring, 1996:1), to whom CMC is "*communication that takes place between human beings* via *the instrumentality of computers.*"[94] It remains clear that such a wide definition embraces the whole range of CMC types which, as the author reminds us, includes emails, postings to BBSs, SMS, IRC and MUDs. In other words, this definition encompasses both the synchronous and the asynchronous types of communication.

Of course, by synchronous is meant the type of interaction which takes place in real time, while asynchronous means that the exchanges between participants do not take place simultaneously. Differences in world time between geographically distant locations added to differences of participants' free time explain the fact that participants do not log on to the Internet at the same time.

2.7.3. Definition of a virtual community

Before attempting to supply a manageable definition of what virtual communities are, several definitions will be examined and despite their respective differences, they will nonetheless provide some firm grounding to a notion which would otherwise have remained obscure. A few noteworthy clarifications will be borrowed from eminent authors whom, we hope, will help discriminate their views from the subtleties which surround the notion of community. In this respect, a clear separation ought to be made between the traditional 'social community' as depicted for instance by the authors of the "Dictionnaire de Linguistique", and that of

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[93] Depuis l'avènement de l'ordinateur, certains dispositifs techniques ont permis la communication à distance avec d'autres individus par l'intermédiaire de réseaux informatiques. Dans ce courant, des pratiques socioculturelles se sont déployées au sein des environnements virtuels générés par l'interconnexion des ordinateurs. Aujourd'hui, des millions d'individus se sont appropriés ces environnements pour y développer une pratique d'échanges interpersonnels. J.F. Marcotte, Interactions en réseaux et communautés virtuelles, in Actes du colloque « *La Communication Médiatisée par Ordinateur : un carrefour de problématiques* », organisé dans le cadre du 69e Congrès de l'Association canadienne-française pour l'avancement des sciences (Acfas), Université de Sherbrooke, 15 et 16 mai 2001 http://aqc.uqam.ca/.

[94] J. Simpson, *Language Learning in a Virtual World: Lessons from an Online Language Learning Community*, in Actes du Colloque International "Langues et Modernité", Dar El Gharb, 2004.

committed defenders of virtual expression. Therefore, the lines that follow are meant to guide the reader from a rather 'classic' definition of a rather 'traditional' aggregation of people, usually labelled 'socio-cultural' community, to other emerging types of aggregations considered as 'virtual' communities.

As a reminder, let us recall that classic definitions like that of The Dictionnaire de Linguistique view a socio-cultural community as

> *A group of individuals, who, on the basis of social facts (historical, racial, national, geographical) share some human behaviour which oppose them to other individuals hence considered as belonging to other socio-cultural communities*[95]

An important deficiency lies in this definition. It is the fact that its scope is basically limited to the traditional type of society which Barry Wellman and Milena Gulia pejoratively portray as *"The standard pastoralist ideal of in- person, village-like community"*[96] where all references to hypermodernity or present day social life conditions are voluntarily omitted. This flaw in the perception of a wider entity distinct but in many ways similar to the "traditional" type of society we have been raised in, is due to our transitory inability to integrate the relatively new hypermodern condition. Nevertheless, our personal view of socio-cultural communities subsumes the one expressed in P. Trudgill's definition of a socio-cultural community seen as

> *A community of speakers who share the same verbal repertoire, and who also share the same norms for linguistic behavior, including both general norms for language use of the type studied in the ethnography of speaking, and more detailed norms for activities such as style shifting of the type studied by secular linguistics*[97],

by including all aspects of social, cultural, psychological, and interpersonal relationships that participate more or less, in one way or another, to the act of communication. Dependence on computer networks shapes the global configuration of the community of hackers, and by global configuration is meant the embedment of

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[95] une collection d'individus qui, à partir de facteurs sociaux (historiques, raciaux, nationaux, géographiques) ont en commun certains comportements humains qui les opposent à d'autres individus considérés de ce fait comme appartenant à d'autres communautés socio-culturelles. *Dictionnaire de Linguistique Générale*, Larousse, 1973.

[96] M.Gulia and B. Wellman, "*Virtual Communities: When Social Networks are Computer Networks* ". http://www.sscnet.ucla.edu/soc/csoc/cinc/wellman.htm

[97] P. Trudgill, *Introducing Language and Society*, Penguin Books, 1992, p 69.

Internet communities within the wider Internet of which it is considered as part and parcel.

An interesting connection between the Internet as technology and language as mediation is drawn by Anna Cicognani. She reminds us that cyberspace cannot do without language and argues that

> *a linguistic construction, for any 'object' found in cyberspace is a result of some sort of languages (HTML, Compiled sources, MUD/MOO languages, clients, servers, and content). We may say that not only programming languages establish links between cyberspace and the world, but they produce cyberspace themselves. The programmer has the capacity to change cause and effect of cyberspace. S/He is at the same time builder and citizen*[98].

Therefore, since language is the matter of cyberspace, then, cyberspace is liable to be an object of study for linguistics, at least from the formal point of view, since artificial languages are formal logical linguistic constructions resting on language. Their similarity with natural languages is their irreplaceable function as mediators: a) - natural languages as mediators between the natural physical world and man's perception of it, b) - artificial languages as mediators between cyberspace and man's perception of it. It is this common function that had probably prevailed in the naming of both tools (natural and artificial) languages.

2.7.4. Digital information and the new organization of knowledge

Once the various aspects of CMC clarified and the particular context of CMC illuminated, we should emphasize the link between technology and the particular social sphere whereby it operates. We shall now attempt to shed some light on the impact of the emergence of this new type of communication and the current trend in the organization of knowledge for which language is of paramount importance. This step will lead us to further account for the final output of this new information and communication age: network thinking, born within the various virtual communities which, like the hackers', invent new ways of organizing and interacting with the new environment, or better, with the new 'vision du monde', which as Bourdieu would say, is also a new division of the world.

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[98] A. Cicognani, *On the Linguistic Nature of Cyberspace and virtual communities*, http://www.people.a2000.nl/fschaap/index.html

In a book entitled *Designing Information Technology in the Postmodern Age*, Richard Coyne[99] identifies four trends, which according to him summarize the attitudes towards information in general and information technology in particular: the conservative, the pragmatic, the critical and the radical. Without fully sharing the details of this classification, one can still regard it as inspiring and original. Concerning the first attitude, R. Coyne argues that what he labels the 'conservative' trend, considers information technology as "*a medium for the transmission, the conservation and the increase of data, information and knowledge*. It seeks to *reinstate education as a means of conserving culture*. Its method, for reaching this goal, is to set itself the task to "*uncover original meanings placed in the text by the author*, noting alongside that the text mainly serves to *conserve meaning.*"[100]

Although Coyne does not explicitly link this trend to the structuralist mindset, one can infer that the trend which considers that original meaning lies in a text awaiting its extraction by a gifted reader, also believes in the linguistic closure imposed by the structures of the text proper. As to the 'pragmatist' trend, the author notes that it considers information technology as "a *tool in the hand of the man who uses it as an extension of himself*," thus, offering man the possibility to appropriate the tool and *learn by doing*. It considers learning as *a social activity*. From this perspective, texts are seen "*as a matter of entering into the interpretive norms of a community, making judgments from within a historical context.*"[101] The pragmatists therefore, reject the idea that there exists an original meaning to a text. Gadamer and Wittgenstein, who are presented as proponents of this trend which "*emphasizes the communal situation of any historical interpretive act*," support this liberal view which dates *as far back as Jean-Jacques Rousseau and John Dewey*. We should like to observe that we do not understand why Coyne excludes Peirce who is widely held to be the father of pragmatism and whose work definitely influenced that of J. Dewey, William James and their successive followers!

The third attitude labelled 'the critical', views information technology as a *political and social web of control that promotes or resists ways of thinking*. It can thus be apprehended as *a means of liberation from oppression*, and consequently its proponents put the emphasis on *instilling skill in thinking critically* to avoid the

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[99] R..D Coyne,. *Designing Information Technology in the Postmodern Age: from Method to Metaphor.* The MIT Press, Cambridge, Massachusetts, 1995.
[100] Ibid .
[101] Ibid.

passive consumption of information. This goal leads them to *expose the power of the exploitative structures the text conceals*. Karl Marx and Paolo Freire are mentioned as proponents of this trend to which one can fairly add the Palestinian-American thinker, Edward Said.

The fourth and last trend, which Coyne labels 'the radical' trend, "*takes what purports to be a progressive position and demonstrates the orthodoxy in such a position ...It demonstrates what is radical, in what we generally take for granted*." The Deconstructionist attitude which lies behind this trend "*involves a complex play between convention and the undermining of content.*"[102] The French philosopher Jacques Derrida appears as one of the most outstanding figures of this trend, which also comprises Claude Levi-Strauss, Sigmund Freud and Jaques Lacan to a certain extent. We find this classification interesting for it provides structure to a rather confusing philosophical area, and it clarifies the distinct views of several authors whose works are connected despite important differences and despite some important exclusions as mentioned above, such as that of Charles Sanders Peirce, and the lessening of the role of some others, like J. F. Lyotard or J. Baudrillard.

[102] R..D Coyne,. *Designing Information Technology in the Postmodern Age: from Method to Metaphor.* The MIT Press, Cambridge, Massachusetts, 1995.

2.8. The Hackers' Community as a Virtual Community

Time has come now to illustrate with a concrete example the particular characteristics of the virtual communities which single them out from ordinary communities. The community of hackers differs from the traditional type of community in a major aspect: it is virtual and network dependent and thus involves other characteristics than those descried by the first anthropologists and sociologists. The main reason that makes the community of hackers a community so distinct from the types of communities described by the above mentioned scientists is the fact that it is virtual *per se*. This huge difference in 'nature' entails many others. One of its basic characteristics is its total dependence on computer networks. It exists only within computers, despite some remote more or less regular meetings between community members, on some yearly events. This dependence on computer networks shapes the global configuration of the community of hackers.

The typical configuration of virtual communities has a direct effect on the notion of space, for example, since the communication system here fills the de-territorialized space ordinarily occupied by physical space in face-to-face conversations. In this connection, Barry Wellman and Milena Gulia pertinently observe that

> *Recently, sociologists have discovered that neighborhood and kinship ties are only a portion of people's overall community networks, because cars, planes, and phones can maintain relationships over long distances. They realized that communities do not have to be solidarity groups of densely-knit neighbors but could also exist as 'social' networks of kin, friends, and workmates who do not necessarily live in the same neighborhoods*[103].

The fact that the virtual communities are not bound by territorial boundaries like in ordinary geographically and politically based communities plays an important part in the shaping of their culture and its expression. Peter Kollock and Marc Smith note that "*On-line communities are characterized by open boundaries, relative anonymity and great social and ethnic diversity.*"[104] Another difference relates to

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[103] M. Gulia and B. Wellman, "*Virtual communities: When Social Networks are Computer Networks* ". http://www.sscnet.ucla.edu/soc/csoc/cinc/wellman.htm

[104] P. Kolloch, & M. Smith, *Communities in Cyberspace,* 1998. http://www.sscnet.ucla.edu/soc/csoc/vcommons.htm

time: in cyberspace, where the virtual communities exist, an asynchronous type of conversation for example between some newsgroup members can take several hours non-stop, just as it can last several weeks or even months, being interrupted, now and then, for an irregular period of time. The participation to discussions of such length (where participants can take the necessary time to document appropriately) has obvious positive effects on the quality of the discussions and displays distinctive properties from the ordinary face-to-face type of conversations.

The practice of interpersonal exchanges may take different forms depending on which type of CMC application is involved. However, whether one interacts with others via chats, group discussions, BBSs, or more broadly by using any other web application, one needs first to be connected, to have the ability to use the computer software, and very often display a more or less basic English. Basing his research on a study case, Marcotte recalls of the double constraints a logger is confronted with, both from the standpoint of technology and that of language. The author writes that in a CMC context, the user faces a double mediation. To establish a relationship with others, he should first master the technical mediation which is imposed to him. This mediation places him in relation with a computer whose software needs to be appropriated in order to ensure his communication practices. The user should also master the social mediation together with the language, the values and the culture of the other users of this environment. It is only then that he can establish viable interactions with others and start a new social experience.

Marcotte appeals to another scholar accustomed to the treatment of communication issues, where any information regarding participants, whether inferred from proxemics or other, possesses a valuable significance. Marcotte quotes Erving Goffman, who insists that

> *Social interaction requires « information on the other », that is, the type of data which one possesses on their interlocutor, such as physical appearance, common experience and shared culture. This information proves essential for the understanding of the involved people's intentions and also of the unfolding of the interaction. Within the chatting graphical environments, information about the other proceeds from an avatar and other textual messages. In this type of anonymous context, façade presentation is thus a constructed image liable to permit the manipulation of information related to oneself. This context requires a supplementary effort from the part of the user to appropriate information on the other, on the unfolding of the interaction, and on the culture of the other users*[105]

[105] l'interaction sociale nécessite l'«information sur l'autre», c'est-à-dire les données que l'on possède sur son interlocuteur, comme l'apparence physique, les expériences communes et la culture partagée. Cette information est essentielle pour comprendre les intentions des personnes impliquées et le déroulement de l'interaction. Dans les environnements graphiques de discussion,

In other words, even if the ordinary social schemata prevail within the virtual communities, the variables are so different that the perception of the whole interaction is blurred by the frequent unreliable data the encounters provide about themselves. Yet when members interact sufficiently, they develop links that transcend the initial hesitations about being true and honest with the other members. The groups become stable and their ties expand in proportion to the willingness of each to maintain the links. Again, we mention Marcotte who explains that

> *The « social group » is a system of action shared by individuals, and which permits to stabilize the norms, the values and the practices of its members with a view to reach common purposes. A "virtual community" is thus a social group which exists in the consciousness of its members, but which has come to existence thanks to network interactions. Social interaction is at the basis of the formation of links between individuals*[106].

J.B. Thompson[107] has distinguished three types of interaction: 'face-to-face', 'mediated interaction', and 'mediated quasi-interaction'. Face-to-face interaction takes place in a *context of co-presence*. Face-to-face interaction is also *dialogical* in character in the sense that it generally involves a two-way flow of information and communication. A further characteristic of face-to-face interaction is that the participants commonly employ a *multiplicity of symbolic cues* in order to convey messages and to interpret messages conveyed by others. ...Mediated interaction involves the use of a technical medium (paper, electric wires, electronic waves, etc.) which enables information or symbolic content to be transmitted to individuals who are remote in space, time, or both. Mediated quasi-interaction refers to the kinds of social relations established by the media of mass communication (books, newspapers, radio, television, etc.). Like mediated interaction, this third form of

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l'information sur l'autre vient d'un avatar et des messages textuels. Dans ce contexte d'anonymat, la présentation de façade est donc une image construite, ce qui permet de manipuler les informations sur soi. Ce contexte exige un effort de l'usager pour s'approprier l'information sur l'autre, sur le déroulement de l'interaction et sur la culture des usagers. Actes du colloque La Communication Médiatisée par Ordinateur : un carrefour de problématiques organisé dans le cadre du 69e Congrès de l'Association canadienne-française pour l'avancement des sciences (Acfas), Université de Sherbrooke, 15 et 16 mai 2001. Interactions en réseaux et communautés virtuelles Jean-François Marcotte Université du Québec à Montréal http://aqc.uqam.ca/

[106] *Le «groupe social» est un système d'action partagé par des individus qui permet de stabiliser les normes, les valeurs et les pratiques de ses membres en vue d'atteindre des objectifs communs. Une «communauté virtuelle» est donc un groupe social qui existe dans la conscience de ses membres mais qui a été formé grâce à des interactions en réseaux. L'interaction sociale est la base de la formation de liens entre les individus.* Idem

[107] J. B. Thompson, t*he Media and Modernity*: A Social Theory of the Media, Stanford University Press, 1995.

interaction involves the extended availability of information and symbolic content in space, and/or time.

Comparing the three types of communication, Thompson observes that while "*the participants in face-to-face interaction and mediated interaction are oriented toward specific others for whom they produce actions, utterances, etc*., in the last type of interaction*, the symbolic forms are produced for an indefinite range of potential recipients*."[108] Concerning the dialogical aspect of the interactions, the writer notes that whereas

> *face-to-face interaction and mediated interaction are dialogical, mediated quasi-interaction is monological in character, in the sense that the flow of communication is predominantly one-way.... the latter type creates a situation in which individuals are linked together in a process of communication and symbolic exchange. It is a structured situation in which some individuals are engaged primarily in producing symbolic forms for others who are not physically present, while others are involved primarily in receiving symbolic forms produced by others to whom they cannot respond, but with whom they can form bonds of friendship, affection or loyalty*[109].

Another difference between the traditional type of communities and the virtual community relates to its members. Virtual communities are not built on such notions as kinship or proxemics. This feature which has a direct consequence on some attitudes such as racism or sexism and status is generally a result of personal involvement and contribution to the community rather than social prestige inherited from parents or acquired from social abilities. In fact, individuals gain authority from their skills and knowledge and their abilities to solve problems related to the virtual world.

To complete this overview about the definitions of virtual communities, one cannot avoid reference to one of the most famous historians of cyberspace: Howard Rheingold who depicts virtual communities as "*social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace,"*[110] thus adding the growing desire of participants for frequent interactions, involving the participants' emotional investment in these relationships.

These differences are central to ensure a correct understanding of the situation of communication in virtual environments. For example, the absence of physical

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[108] J. B. Thompson, T*he Media and Modernity*: A Social Theory of the Media, Stanford University Press, 1995, p 82.
[109] Ibid.
[110] H. T. Rheingold, T*he Virtual Communities* http://www.rheingold.com/vc/book/

boundaries in this type of communities entails that the traditional strategies people develop in face-to-face conversation do not always operate in digital conversation. This wide-context situation is meant to serve as a useful background for the examination of the mutual relationships between the signs used in cyberspace (the jargon used by the hackers) and their objects (the properties of cyberspace imbedded in the jargon) through the mediation of a third (the essential background information one needs to possess about virtual communication) and the consideration of the community of the hackers both as a speech and as a socio-cultural dynamic community, where the dynamical objects of the Jargon Dictionary are to be sought.

2.9. The Hackers as a Socio-Cultural Community

Along with A. J. Greimas and J. Courtès, we consider that, from the semiotic point of view, "t*he concept of culture can be considered as coextensive to that of a semantic universe, related to a given socio-semiotic community."*[111] It is, therefore, within the community of hackers that the semantic foundations which the language is in charge to reflect and assume will be sought and accounted for. One can also but only share G.N. Fisher's view concerning the individual attempts to integrate a social group: "*Culture, has among its roles to activate the integration of the individual into the social milieu. The modalities of this insertion, and through it, the construction of social links take place in the course of the incorporation of cultural models.3*[112] Among these cultural models, one can include linguistic models and, more particularly, pronunciation models.

To explain the links between the language used by hackers on the one hand, and related data, such as the hackers' identification to their community, their differing attitudes towards community members, seen as insiders, and outsiders on the other hand, we are tempted to establish an analogy between them and a now famous social group studied by William Labov[113.] Martha's Vineyard's islanders and the hackers have something in common: their behaviour towards the people they consider as outsiders or tourists, whether in the literal or the figurative sense. As J. Aichison reports,

> *In his surveys about linguistic change, Labov considered a population of 6000 permanent islanders living in Martha's Vineyard, Massachusetts. He noticed that in the summer, over 40000 visitors flood in regularly to the disgust of the local islanders. The fact that these 'summer people' have bought up almost the entire northeast shore, is a fact deeply resented by some of the old inhabitants of the isle, particularly the old fishermen*[114].

Labov's survey showed that the rise in popularity of the island as a tourist resort, and the disapproval of the 'summer people' by the old inhabitants led to a

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[111] le concept de culture peut être considéré comme coextensif à celui d'univers sémantique, relatif à une communauté sociosémiotique donnée. A.J. Greimas et J. Courtès, *Semiotique: Dictionnaire raisonné de la théorie du langage*, Hachette, 1993, p 77.

[112] La culture a entre autres comme rôle d'opérer l'intégration de l'individu dans le milieu social. Les modalités de cette insertion et, à travers elle, la construction de liens sociaux se font par l'incorporation de modèles culturels. G.N. Fischer, L*a psychologie sociale,* Editions du Seuil, 1997, p 71

[113] W. Labov, *Sociolinguistique,* les éditions de Minuit, 1976.

[114]J. Aichison, *Language Change: Progress or Decay*? (2nd edition) Cambridge University Press, 1991, p 58.

linguistic change which can be perceived in the shift of two diphthongs: the passage from [au] to [u], in words such as, out, trout, house, and the shift from [ai] to [I], in words such as white, pie, night, etc… First, the new pronunciation was first an innovation. Then as more and more people came to speak in the same way, the innovation gradually became the norm for those living on the island. Labov interpreted this fact as an unconscious reaction of the young generation from English descent, and aged between thirty and forty five towards the 'summer people' seen as 'outsiders' to the island. To Labov, the linguistic behavior of the young generation who admired the old fishermen who exemplified the virtues traditional to Martha's Vineyard (independency, skill, physical strength, and courage) can be interpreted as the explanation of this linguistic change illustrated by the vowel shift in the speech of both the young generation and the group of old fishermen.

A striking analogy can be noticed between the sense of ownership developed by the fishermen towards Martha's Vineyard in Labov's study, and the feeling of ownership developed by several hackers towards the Internet. Even D. Crystal notes that because *"hackers built the Internet and gave physical presence to its various situations, they have naturally developed a sense of ownership of Netspeak which is reflected in the attitudes of the current generation of dictionaries and style guides."*[115] The similarity we see with the hackers' attitude towards outsiders, concerns both pronunciation and lexis. To make this analogy plain, one should consider how conscious hackers feel about their language. In the Jargon File (4.2.0 version), Eric Steven Raymond points out that "as *for any human culture using a code, hackers use theirs in a threefold way. As a tool of Communication – inclusion – exclusion."* In this connection, an expression, such as *September that never ended* is highly illustrative of the attitudes of the elder hackers since, as E.S. Raymond explains, it refers to

> *All time since 1993. One of the seasonal rhythms of the Usenet used to be the annual September influx of clueless newbies who, lacking any sense of netiquette made a general nuisance of themselves. This coincided with people starting college, getting their first Internet accounts, and plunging in without bothering to learn what was acceptable. These relatively small drafts of newbies could be assimilated within a few months. But in September 1993, AOL users became able to post to Usenet, nearly overwhelming the old-timers' capacity to acculturate them; to those who nostalgically recall the period before hand, this triggered an inexorable decline in the quality of discussions on newsgroups*[116].

[115] D. Crystal, *Language and the Internet*, Cambridge University Press, 2001, p 170
[116] E.S. Raymond, *The Jargon File* http://www.netmeg.net/jargon/

It is of course unnecessary to recall that the mastery of the vocabulary relating to computer science in general, and to the community's life (history, mythology, folklore etc), is absolutely essential for any newbie seeking a complete integration as an insider to the community of hackers. However, as Dell Hymes says, *"the fundamental problem is that belonging to a community can never be restricted to linguistic properties."*[117] This clearly means that we have to look for the other constituents that make up the global social community of which the speech community is only an emerging component. The belief that it is impossible to understand the progress of change in a language outside the social life of the community where it occurs has permitted us to hook, in the preceding chapters, linguistic phenomena to the correlating sociological data on which they are so dependent.

One should therefore always bear in mind the connection (not necessarily made clear) between the language used by a community and the particular sociological environment from which it proceeds. This constitutes the privileged area of sociolinguistics. However, one may also choose to expose the tight links between language and society by resorting to other operating tools which are also liable to produce convincing results. One of the theoretical tools likely to operate this linkage is the triadic theory.

As was mentioned in the first chapter, we appeal to the American semiotician C.S. Peirce to help us clarify the links between the items of *secondness* bearing the form of practical exchanges between the hackers, and the objects that determined these items to appear as they actually are on the one hand, and to perform a certain number of effects on the listener/ reader, on the other hand. In other words, one is compelled to resort to *Thirdness* which here concerns the linguistic and non-linguistic norms established by the virtual community of hackers which shape the hackers' jargon. Knowledge of these norms is necessary but not sufficient to ensure the logical connection between the items of *Secondness* and the qualities of *Firstness*.

It is not sufficient, because the signs look so obvious that the link with its two other elements are not necessarily perceived as belonging to different strata.

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[117] le problème fondamental, c'est que l'appartenance à une communauté ne se ramène jamais seulement à des propriétés linguistiques. D. Hymes, *Vers la Compétence de Communication,* Hatier-Credif, 1984, p 149.

Peirce has considerably helped refine the nuance between three distinct ways of looking at a sign, and in his endeavour to contribute to a better understanding of the ways in which we think, Peirce has distinguished three grades of separability of one idea from another:

> *…. In the first place, two ideas may be so little allied that one of them may be present to the consciousness in an image which does not contain the other at all; in this way we can imagine red without imagining blue, and vice versa; we can also imagine sound without melody, but not melody without sound. I call this kind of separation* ***dissociation****. In the second place, even in cases where two conceptions cannot be separated in the imagination, we can often suppose one without the other, that is, we can imagine data from which we should be led to believe in a state of things where one was separated from the other. Thus, we can suppose uncolored space, though we cannot dissociate space from color. I call this mode of separation* ***prescission****. In the third place, even when one element cannot even be supposed without another, they may ofttimes be distinguished from one another. Thus we can neither imagine nor suppose a taller without a shorter, yet we can distinguish the taller from the shorter. I call this mode of separation* ***distinction****. Now, the categories cannot be dissociated in imagination from each other, nor from other ideas. The category of first can be prescinded from second and third, and second can be prescinded from third. But second cannot be prescinded from first, nor third from second. The categories may, I believe, be prescinded from any other one conception, but they cannot be prescinded from some one and indeed many elements. You cannot suppose a first unless that first be something definite and more or less definitely supposed. Finally, though it is easy to distinguish the three categories from one another, it is extremely difficult accurately and sharply to distinguish each from other conceptions so as to hold it in its purity and yet in its full meaning*[118].

Inspiring our methodology from the above, we consider that prescission is an operation of the mind which permits us to prescind, i.e. to suppose, for example, hypermodernity without cyber-English, or cyber-English without virtual communities. However, one can neither prescind cyber-English from hypermodernity, nor prescind cyber-English from virtual communities. In this respect, our triad consists of the following elements prescinded one from the other in the following manner:

a)- hypermodernity as a complex of qualities conveys also qualities of newness, immediacy, hybridity, amalgamation, compactness, etc.

[118] C.S. Peirce, *Collected Papers*, 3. 353

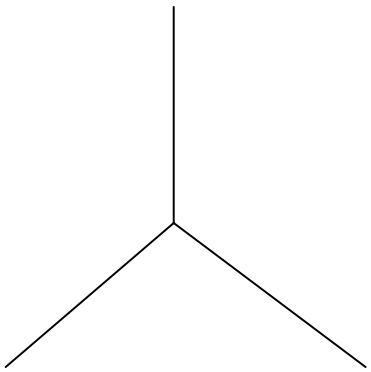
b)- cyber-English as one of the linguistic manifestations of some qualities of hypermodernity. Considered in its pragmatic dimension in practical assertions during the exchanges between the hackers, it displays features such as those attached to hypermodernity. As dictionary entries, the components of cyber-English are general types which instantly become tokens of types when they are used in actual dialogues between hackers. It is this perspective which allows us to consider the different coinages as instances of legisigns, and which permits us their apprehension as signs pointing towards objects.

c)- the virtual communities as a codifying and legitimizing entity explain and validate the presence, the shape and the prestige of cyber-English as the language of technology, and particularly as the language of the Internet "par excellence". Indeed, the Internet is the locus where the numerous virtual communities which populate the Internet dwell. In this respect, the virtual community of hackers use the Internet as a new territory where they elaborate the rules of conduct (the netiquette), the rules of the appropriate language (the lexicogenic rules) to be used as mediation between them (the Jargon Dictionary), and the culture of the groups (the history, legends and heroes that embody the values of cyberspace that developed both the Internet and the first virtual communities). Among these values, one can identify those of hypermodernity.

It seems important however, to recall that considered in its formal aspect, the J.D. appears as a reservoir of legisigns. This metaphor reminds us of Saussure's description of "langue" as a storehouse in that as soon as its different instances are asserted in the exchanges between the hackers, they become instances of "parole" which point to their different dynamical objects thanks to the pragmatic rules elaborated by the hackers. Therefore, used as sinsigns in assertions, that is, as instances of *Secondness*, the neologies which incarnate the qualities determined by hypermodernity, and the link between the two can be realized only by specialists, that is, by the hackers themselves, or by other people who are familiar with this way of using the English language. This can be illustrated by the diagram below

Diagram 5: Implementation of Peirce's theory

(**O**) Hypermodernity



(**R)** Cyber-English

(**I**) The culture of the virtual communities

O => **R** => **I**

As the diagram shows, the Object (the hypermodern condition) determines the sign (the technological and linguistic devices) in such a way that the Internet determines the Interpretant (the implications of the culture within virtual communities entailing technological expertise, netiquette and the new ways of being into the hypermodern world within the Internet).

CONCLUSION

The whole contents of this chapter have served to underline the progressive, though long-term evolution of human communication from speech communication characterized by face to face interaction to writing and the new type of interaction it supposes by permitting communication over long distances and over a long period of time. The particular attention given to the invention of printing is justified by the major impact it exerted on the conception, expression and dissemination of knowledge, notably due to the specific editorial constraints imposed upon writing.

It should be mentioned however, that an important side effect of the invention of writing and print literature was the false impression that language was stable and static. Before language was written, it evolved at its own pace depending on sociological parameters such as geographic distance, time and context. Writing faded this slow but permanent change by instituting writing norms involving both grammar, vocabulary, and pronunciation models considered as permanent standards of correctness. Gradually, while speech kept its dynamical creativity and flexibility, writing bore a more or less static and sacred status. This attitude ultimately resulted in what John Lyons labels 'the classical fallacy'[119].

A parallel is established with the transformations at a wider or macro-level since the development of the printing press corresponded to the proper development of what is known as modernity. Through the strong criticism brought by the postmoderns to modernity also filters an aspiration to write differently by bringing a text to reveal more than it actually does, notably through the practice of deconstruction. However, never has humanity witnessed a thirst towards a different expression as the one manifested by the hypermoderns.

What has been at stake all over the mentioned periods has been the manner and the means used to construct meaning, how to express it, and how to transmit it as fast as can be, to the most remote spots on the planet and at the cheapest cost. The network computer and its jewel, the electronic text, ideally serves this

[119] John Lyons uses this expression to explain the false assumption towards language in classical Greece which considers writing as 'more correct' than speech for, it was then believed that the purity of language is 'maintained' by the usage of the educated, while it was 'corrupted' by the illiterate.

multidimensional purpose by changing both form and constraints on the written text which at the same time is bearing a hybrid shape between speech and writing. As hypermodern expression expresses the preoccupations of hypermodern people, we have chosen to focus on one particular group of hypermoderns: the community of hackers who were among the first virtual communities to dwell in the constantly changing world of hypermodernity. Their values and counter-values will be dealt with in the last part of our research after full account is given for the way in which they use language to express their vision of the world.

However, before accounting for the necessary adaptation of language to the new requirements of hypermodernity in terms of constraints, writing surfaces and economy of space, we shall offer a concrete example of how a language, here English progressively accommodates to a constantly changing environment. English has been chosen as the symbol of a successful accommodation of a language to hypermodern life for two major reasons: its history is rather recent, and it is widely considered as the language of the Internet and of the globalization. For this purpose, the next chapter will be devoted to the rather rapid evolution of this language to acquire about fifteen centuries the enviable status it presently enjoys.

CHAPTER THREE On the evolution of the English language

3.1 INTRODUCTION

It remains a truism to write that languages evolve over time, changing from an era to another, following the important changes which occur in the societies where they are used. Any diachronic linguistic study will amply attest for such commonalities. Similar works from dialectologists show that languages also change spatially, as the same language spoken in separate remote areas undergoes differences which are sometimes so important that mutual intelligibility is hardly ensured, thus favouring the appearance of daughter languages, which in their turn, and under particular circumstances give way to other varieties, some of which eventually evolve into national languages.

The spatiotemporal evolution was experienced for example by the Latin language which, before its decay, evolved into several romance languages. Some of these languages like French, Spanish, Portuguese, etc. which due to certain historical, political and economical events have been disseminated around the world, have given birth to many varieties, especially to a number of pidgins which later evolved into creoles, and have become the 'natural' mother tongues of many islanders as can be observed in the Polynesian islands that have experienced slavery.

In addition to the transformations which time and space exert on the shape of languages, sociolinguistic studies inform us that languages also evolve according to the social environment in which they are used. Thus, in a highly hierarchised society the variety of language used by the dominant classes always differs in some measure from the one used by the lower classes, fostering along the way the formation of sociolects. Other aspects of social change relate to the formation of jargons within particular groups, such as those developed in professional fields like the medical or the technological field, thus drawing a parallel between the continuous changes that take place in a society and their consequences in language change as will be abundantly developed in the fourth and fifth chapters. It should be underlined that the homology between social and linguistic change can be seen in language at both synchronic and diachronic levels, and that the

changes that take place in a particular language may concern any one or all of its components:

Pronunciation, or what some linguists label the phonetico-phonological component. Here, the changes concern the phonological rules at play in a given language.

Grammar, or the morpho-syntactic component, where the changes relate to the syntactic rules, inflection or word order, and finally

vocabulary, or the lexico-semantic component where the changes concern the evolution of the lexical rules which permit a language to adapt to new contexts and incorporate fresh coinages that represent new extra-linguistic realities, by losing some archaic items and by integrating some new ones. Many illustrations for the different types of changes involved in each component will be provided in chapter four with a particular focus on lexical change.

For the moment, the attention will be centred on the singular history of the English language to show its exceptional evolution over a relatively short period of time (about fifteen centuries) from a fledgling status at the time of the Anglo-Saxon conquest, to that of a global language spoken by different peoples, living in each and every part of the planet. We doubt that any other language has ever experienced such an overriding position.

3.2. The Invasion of the Celtic Islands

The history of the language known today as English will be reviewed in the light of the profusion of data provided by eminent historians of the language. Three major issues will be particularly insisted upon: the particular facility of English to integrate a considerable amount of loans into its lexis, the specific lexicogenic procedures through which it creates new words, and the inner constraints which it imposes upon any neology before it is admitted into the English lexicon.

The common point developed by several authors concerning the historical invasions of Britain, is that English was brought to the British Isles by the Anglo-Saxons invaders who began to settle at latest by the middle of the fifth century. According to the venerable *Beade's Ecclesiastical History*[120] "*they comprised Angles, Saxons, and Jutes*." All of them belonged to pagan Germanic and Scandinavian tribes who had previously been dominated by the Romans in the Northern part of Belgium, Scandinavia and present-day Germany, i.e. the region stretching roughly from the estuary of the Rhine to the southern end of the Jutland peninsula in eastern Denmark. Quoting Bead, David Crystal describes the first raids in these terms:

> T*he first groups to arrive came from Jutland, in the northern part of modern Denmark, and were led, according to the chronicles, by two Jutish brothers, Hengist and Horsa… The Angles came from the south of the Danish peninsula, and entered Britain much later…The Saxons came from an area further south and west, along the coast of the North Sea, and from 477 settled in various parts of southern and south-eastern Britain*[121].

As is common in these types of human settlements where groups of people attempt to colonize a distant area, the military incursions into the Island were constant, cruel and lasted for about a hundred years,

> *As further bands of immigrants continued to arrive and Anglo-Saxon settlements spread to all areas apart from the Highlands of the west and north. By the end of the fifth century, the foundation was established for the emergence of the English language*[122].

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[120] D. Crystal, *The Cambridge Encyclopedia of the English Language* Cambridge University Press, 1995, P. 6.
[121] Ibid.
[122] Ibid.

Even the name of the language A*ngli* seems to have been used as early as the end of the sixth century according to D. Crystal who claims that

> *During the seventh century Angli or Anglia (for the country) became the usual Latin name. Old English Engle derives from this usage, and the name of the language found in old English texts is from the outset referred to as English. References to the name of the country as Englaland ('land of the Angles'), from which came England do not appear until c.1000.*[123] D.Crystal

A millenary later, the country is still called England, and the language spoken by its inhabitants English. However, later scientific, political, economical and technological events have gradually enlarged the boundaries of its linguistic territory making it, as will be mentioned further, the language of the third millenary.

[123] D. Crystal, *The Cambridge Encyclopedia of the English Language* Cambridge University Press, 1995, p. 6.

3.3. The Emergence of English as the Language of the Island

As a result of the contact between the Germanic tribes and the Roman Empire on the continent before their conquest of the isle, the Anglo-Saxons brought a few Latin words with them to Britain. These include such essential words as *butter, cheese, church, kitchen, mile, mill, Saturday, street, wall and wine*, and so forth. Additional Latin words were acquired through the contacts of the Anglo-Saxon settlers with the Romanized Celts who remained in England after the withdrawal of the Roman legions from the British Isles by the beginning of the fifth century. Examples are: *anchor, chest, cup, fork, pail, pot* etc.

The Latin contribution to English continued with the arrival of the Roman missionaries in 596 and the Celtic ones a little later. They brought to bear the influence of Latin learning and civilization on English. Latin loan words belonging to various fields such as religion, medicine, law, and learning like: *admit, discuss, alphabet, extravagant, skeleton, moderate, picture, or polite* attest the impact of Latin on English as the speakers of the two languages came into contact.

According to André Crépin[124] very few ordinary Celtic words were borrowed from Celt because of the hate that the two populations, the Celts and the English felt towards each other, as a result of their brutal encounters which often ended in the assassination of the former, their enslaving, or their displacement to the northern and western regions of what is today called Britain. Among some of the handful Celtic words that established themselves in the English language, one can cite: *bannock, brock, and ass*, alongside toponyms: *Wales, London,* and hydronyms: *Avon, Thames*. The Celtic revival of the eighteenth and nineteenth centuries in Wales and Scotland represented among others by Walter Scott made some other Celtic words such as: *bard, galore, and whiskey* to emerge in English. In contrast to the small number of English words of Celtic origin, English absorbed a relatively large number of loan words of Scandinavian origin as a result of the Viking plundering raids that began around 787. The following samples of English words are from a Scandinavian stock: *law, outlaw, root, wrong, knife, seat, leg, skin, skirt, and sky*.

[124] A. Crépin, *Deux Mille Ans de Langue Anglaise,* Nathan, 1994, p 162.

However, French remains by far the most influential on the English vocabulary. The tremendous influence of the French language on the English vocabulary was due to the fact that the Norman Conquest by William the Conqueror in 1066 was total and enduring in its effects. Besides, England had not known any other conquest since then. Yet, in the limited space available here it is not possible to explain how the Anglo-Norman linguistic variety and culture which resulted from these contacts, affected most aspects of the language and society of the English living then. It will be enough to illustrate our point by giving a list of French words integrated into English, as reported by J. Tournier[125].

Administration: *crown, parliament, reign, royal, state, city, council, count*

Dressing: *apron, bonnet, boot, collar, jacket, petticoat*

Family: *aunt, cousin, nephew, niece, uncle*

Food:*, fruit, beef, mutton, partridge, pigeon, pork, veal*

Home:*, furniture, chamber, coverlet, cushion, wardrobe*

Military ranks, religion: *army, battle, peace, clerk, abbey, convent, vicar*

It should be mentioned however that the rate of absorption of French words into English has decreased since the end of the Hundred Years War in 1453, which saw the defeat of England and the birth of English nationalism. But even then, English has continued borrowing French words related to fashion and arts such as *rouge, couture, avant-garde* and so on. Words from other languages than Latin as for example, Greek, French and Scandinavian languages have also filtered into English; from among them, we shall cite: *madrigal, stanza, traffic* borrowed from Italian; *banana, booby, cannibal, cigar, potato*, from Spanish, and of course many other words were borrowed from many other languages that English people were brought in contact with such as *alcohol, alcove, alkali, elixir* etc., which are borrowed from Arabic.

Considering this common linguistic phenomenon John Lyons, points out:

> *It is a well-known fact that languages in geographical or cultural contact ' borrow ' words from one another quite freely; for words tend to travel across geographical and linguistic boundaries together with the object or custom to which they refer.*[126]

[125] J. Tournier, *Précis de Lexicologie Anglaise*, Nathan, 1989, p 146.
[126] J. Lyons, *Introduction to Theoretical Linguistics,* Cambridge University Press, 1968, p 25.

Nevertheless, no person could ever imagine the extent to which the English language after borrowing so much from other languages would in its turn lend items to all the languages with which for one reason or another it had come into contact. A substantial assistance to set historical landmarks is furnished to us by Michel Taillé [127] who periodized the history of English into six major phases: Old English (before 1066), Middle English (1066-1453), Renaissance English (1453-1660), Classical English (1660-1815), Modern English (1815-1945), and Contemporary English (since 1945). In his discussion, of each linguistic period, Taillé singles out the most dominant foreign influences on English, especially in its lexical aspect.

Other linguists such as R.H. Robins have set different classifications. For example, to Robins, there is "*…the English of King Alfred's time (Old English), the English of Chaucer's time (Middle English), the English of Shakespeare's time and the English of the present day*."[128] M. Taillé operates a retrospective compilation of linguistic data that highlights on the one hand, the influence that socio-political events have had on the evolution of the language, and on the other, the reversal of the tendency of the English language to borrow new words to meet the demands for new concepts imposed by a changing reality characterized by an unprecedented explosion in the field of technology. Speaking precisely about the enrichment of contemporary English lexis, M. Taillé writes:

> *This period has not only known the development of science and technique, but also the birth of new sciences and techniques, which requested the creation of new terms or the semantic transformation of pre-existing terms. Scientific vocabulary is henceforth accessible to everyone thanks to instruction and also because the new lexis has become commonplace in the media.*[129]

Although the focus on the strong connection between the lexis of a language and technical development will be of central concern in the development of our subject in the following chapters, we should like to deepen the changes

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127 M. Taillé, *Histoire de la langue Anglaise*, Armand Colin, 1995, pp 15 to 24.

128 R.H. Robins, *General Linguistics,* (3rd edition) Longman,,1971, p 310.

129 Cette période a connu non seulement le développement de la science et de la technique, mais encore la naissance de nouvelles sciences et techniques, lesquelles ont nécessité la création de nouveaux termes ou la transformation sémantique de termes pré-existants. Le vocabulaire scientifique est désormais accessible à chacun par le développement de l'instruction et parce qu'il est devenu d'emploi courant dans les médias. M. Taillé, *Histoire de la langue Anglaise,* Armand Colin, 1995, p 25.

introduced into languages by social, economic, political and technological transformations by quoting M. Taillé who, observing that like any other language English still borrows words from other languages points out that:

> *Some languages furnish terms in some specialized fields more often than they do in the general domain. This is the case with German, where word formation is so easy that several scientific terms, notably in philosophy and psychology are provided in German.*[130]

Following M. Taillé's argumentation, one can notice that there is a field where English has come to be specialized over time: it is in the field of the new information and communication technologies which it regularly feeds with new vocabulary and other innovative linguistic constructions. It is our intention then to analyze now the internal lexical processes that have made it possible for English to meet the general linguistic needs of its users on the one hand, and the specific needs of virtual communities, like the community of the hackers on the other. However, before proceeding to the study itself, and since our greatest concern relates mainly to the lexical component of the English language, an attempt will be made to disengage the minimum unit of study and define it accordingly for a better illustration of our argumentation.

[130] Certaines langues fournissent des termes dans certains domaines spécialisés plus fréquemment que dans le domaine général. C'est le cas de l'allemand, où la composition des termes est si aisée qu'il fournit bon nombre de termes scientifiques, en particulier en philosophie et en psychologie. M. Taillé, *Histoire de la langue Anglaise*, Armand Colin, 1995, p 27.

3.4. The Word as the Minimal Unit of Study

Scientific interest in the processes of word-formation in languages has a long history. Between the fifth and the seventh century BC, Panini's grammar of Sanskrit was already of precious interest to researchers involved in the rules of word-formation as Laurie Bauer pertinently observes

> *Interest in word-formation has probably always gone hand-in-hand with interest in language in general, and there are scattered comments and works on the subject of word-formation from the time of Panini, who provided a detailed description of Sanskrit word-formation, right up to the present day…Part of the reason for this is that studies in word-formation did not get the boost that linguistics as a whole received in the early years of the twentieth century*[131].

However, the definition of the minimum lexical unit of study ordinarily known as the 'word' remains illusive and rather marginal despite the profusion of data furnished by the Indian and Greek traditions, and the later European studies which followed notably since the Eighteenth century as a result of the massive linguistic activities of individual researchers as well as that of the well-known circles such as Port-Royal. Even the "Course in General Linguistics" was not resourceful since it remains rather ambiguous as to what is exactly meant by "word". In this connection, Valerie Adams goes far in writing that "*the distinction between synchrony and diachrony drawn by Ferdinand De Saussure, which had dominated linguistic studies since 1916 hindered the study of word-formation*."[132] The major reason behind the lack of definition seems to be the inadequacy of the various approaches applied to lexical issues.

These approaches fall into two types: they are undertaken either from a totally synchronic or diachronic point of view. The former emphasizes the identification and classification of parts of speech mostly on the basis of their function in the sentence[133], whereas the latter is concerned fundamentally with the origin of lexis and its historical evolution. In both cases the issue of the definition of a unit of study for lexicology is skipped, and replaced by other considerations relating more to grammar and etymology than to lexicology as such. Even

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[131] L. Bauer, *English word-formation,* Cambridge University Press, 1983, p 2.
[132] V. Adams, *An Introduction to Modern English Word-Formation*, Longman, 1973, p 3.
[133] E.Hatch, & Brown, *Vocabulary, Semantics, and Language Education* Cambridge University Press, 1995.

Transformational Generative Grammar has not changed the profile of lexicological studies so much, since its interest in word-formation remains only secondary. It is well-known that TGG's major concern is not lexical but syntactical since it puts the focus on the morpheme mainly as an integrative element of the sentence. In other words, its interest lies in a syntactic structure analyzed at the level of study called morphology.[134]

The French linguist J. Tournier is certainly one of the most prominent figures in contemporary English lexicology. Some of his works[135] provide an exhaustive account for English lexical structures and the lexicogenic rules which generate them. The author has meant to rehabilitate the linguistic science of lexicology that has been largely ignored in the Anglo-Saxon world for the profit of other linguistic branches. In *Structures lexicales de l'Anglais*, he provides a valuable definition of lexicology and complains about its neglect by the Anglo-Saxon linguists.

> *Lexicology is that branch of linguistics concerned with the description and analysis of a language. One is entitled to ask whether a unilingual English dictionary can be trustworthy – whatever its qualities – if its authors eliminate the term lexicology from their nomenclature… One may fear that this exclusion may reveal an underestimation of this science and of its fundamental importance for the lexicographer*[136]

One can only share Tournier's apprehension and his work will serve as the major source of inspiration for the remaining part of this chapter. In this respect, some of the concepts developed by the author will frame our examination of the Internet jargon used by the community of hackers. The inspiration of our lexicological approach from the French linguist can find justification on other grounds than the drawbacks of the Anglo-Saxon school of lexicology. For example, to study word-formation processes requires a minimum unit of study of which linguists have not agreed upon so far. And since the problematic notion of

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[134] N. Chomsky, *Syntactic Structures*, Mouton, 1957.

[135] J. Tournier, *Introduction descriptive à la lexicogénétique de l'Anglais contemporain*, 1985, *Précis de Lexicologie Anglaise*, 1988, *and Structures lexicales de l'Anglais*, 1991.

[136] La lexicologie est la branche de la linguistique qui concerne la description et l'analyse d'une langue. On est en droit de se demander si un dictionnaire unilingue Anglais est digne de confiance – quelles que soient par ailleurs ses qualités – si ses auteurs excluent le mot lexicologie de leur nomenclature….On peut craindre que cette exclusion ne soit révélatrice d'une certaine méconnaissance de cette science et de son importance fondamentale pour le lexicographe. J. Tournier, *Structures lexicales de l'Anglais, Nathan,* 1991, p 107.

the term *word* in word-formation is at the heart of the matter, several efforts to define it more or less satisfactorily have been attempted as shall be reviewed now.

Bloomfield defines the word as '*minimum free form*'[137]. As Tournier argues, this definition is rather functional but does not hold for expressions such as *kith and kin* where *kith* does not stand for a free form since it cannot be on its own without *kin*. The same remark holds for other expressions like *to and fro*, whose meaning exceeds the sum of its parts. Here, Bloomfield's definition does not consider the fact that an idiomatic expression bears a meaning of its own, different from the sum of its parts and can thus be considered as a unit of study as a whole. This point will bear significant importance in our discussion of some expressions of the Jargon File in the light of Peirce's semiotic concept of *Thirdness* in the sixth chapter.

The problematic nature of the definition is even more visible in the French language where the phenomenon of "liaison" in speech makes it hard to parcel out graphically separate words linked together by a liaison in speech e.g.: *Tout homme* / *tutom* / is phonetically perceived as one word though spelt as two words. Sometimes, the concept word is collapsed to that of a morpheme defined as *the smallest meaningful unit* by structuralist linguistics as for example the inflexion *erons* in *parlerons*. As Tournier comments, "*this definition, which can be quite satisfactory for the grammarian, is not for the lexicologist who deals with individual lexical and physical entities as wholes, rather than with functional abstract units.*"[138] It is very unlikely to imagine dictionary entries where the inflections of some English verbs will be integrated as separate items for example *ren* in child*ren* or *en* in oxen.

These are some of the tentative definitions of the concept word. All of them have some operative functionality, but they also suffer from specific drawbacks when they are applied to lexicology. Besides, all of them overlook an important remark made by Kastovsky relating to the 'crosswords' nature of the concept of word-formation which can be adequately defined in an eclectic approach that blends *synchrony and diachrony, morphology and phonology, syntax and semantics*, as quoted in Laurie Bauer[139].

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[137] L. Bloomfield, *Language* New-York , Holt, Rinehart & Winston, 1933.
[138] J. Tournier, *Structures lexicales de l'Anglais, Nathan,* 1991, p 110.
[139] L. Bauer, *English word-formation,* Cambridge University Press, 1983, p 6.

The unit of study according to J. Tournier is the '*the memorized lexical unit*' which people acquire while learning a language. This memorized lexical unit can range from a single sound to a very long idiomatic expression, including proverbs, idiomatic expressions and of course single words learnt and memorized at one go, as a single unit. e.g.: *grandson, great grandson, a has been, to catch a cold*. In fact this definition of the minimum lexical unit partly meets that of Pottier[140], where the latter distinguishes three types of 'lexixal units' corresponding to Tournier's notion of the memorized lexical unit.

a) - Lexies simples formed of « lexèmes et lexèmes affixés », tels que « *cheval », « anti-constitutionnel* »

b) - Lexies composées telles que « *cheval-vapeur », « pousse-café* »

c) - Lexies complexes telles que « *pommes de terre », « rendre compte »*.

Semioticians using the triadic theory draw attention on the legislative aspect of the word seen as a general type. Following Peirce, they consider it as a legisign. The word is then seen as a whole, considered as a meaningful unit thanks to our recognition of its initial meaning on any of its previous occurrences.

R. Marty for instance insists on the evolutionary nature of the word (on both form and content) and on the importance of its renewed conventional aspect which either ensures or prevents communication between its users

> *As a general type, the legisign results from a social convention within a given culture. Its meaning evolves, which means that the social consensus concerning the meaning of each word is being questioned in each of its occurrences. The meaning acquired by the word in each new context may give rise to a slight discrepancy as to the social rules and habitus*[141].

Therefore, the word is seen as a unit of meaning since it is considered as a legisign. The emphasis is put on its strong dependence upon the evolving conventions commonly established by its users across over time, space, and changing environments. The word, regardless of its grammatical category, is

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[140] B. Pottier, *Sémantique Générale*, Presses Universitaires de France, 1992.

[141] En tant que type général, légisigne, le mot résulte d'une convention sociale dans une culture donnée. Son sens évolue, ce qui signifie que le consensus social autour du sens de chaque mot est remis en cause à chacune de ses utilisations. La signification acquise par le mot dans un nouveau contexte peut introduire un écart par rapport aux règles et aux habitus. http://robert.marty.perso.cegetel.net/semiotique/s074.htm

primarily perceived as a sign, and the sign itself, is seen in its function of "Representamen" for as Peirce defines it,

> *A sign stands for something to the idea which it produces, or modifies. Or, it is a vehicle conveying into the mind something from without. That for which it stands is called its object; that which it conveys, its meaning; and the idea to which it gives rise, its interpretant. The object of representation can be nothing but a representation of which the first representation is the Interpretant.*[142]

These clarifications are necessary to progressively familiarize the reader with Peirce's terminology and conceptualization before engaging in the minute details of our investigation of the Jargon File in the next chapter. To resume the presentation of Tournier's theory of lexicology, one needs to account wholly for the different types of lexical units currently in use in the English language. These units are presented as follows:

a) - Primary lexical units: they are composed of a single autonomous lexical element with no affixes. e.g. *boy, kitchen, boom,* etc.

b)- Derivative lexical units (with or without affixes): these are also composed of a single autonomous lexical element and one or more than one affix (prefixation and suffixation). e.g.: social –socialist- antisocialist

c)- Compound lexical units: the lexical units are composed of at least two autonomous lexical elements and they act as one unit from the point of view of the word class. e.g.: *grandfather* and *great grandfather* are compound nouns; *navy blue* and *half seas over* are compound adjectives; *get up* and *bill and coo* are compound verbs. Moreover, it must also be noted that a lexical unit can be both affixed and compounded. e.g.: *baby sitter; old maidish; stage manager*.

d)- Prepositional lexical units: they are composed of a lexicalized prepositional syntagm, i.e., introduced by a preposition. For example, the following expressions can be mentioned: *with all due respect; round the clock;* or *within hailing distance*.

e)- Complex lexical units: all the other types of lexical units can be grouped as complex lexical units. They can comprise proverbs as well as quotations established by usage. e.g.: *to turn one's coat*; *once upon a time*; *spare the rod and spoil the child.*

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[142] C.S. Peirce, *Collected Papers*, 2.239.

Prepositional and complex lexical units will constitute what J. Tournier calls the 'phraseology of a language', while the other types of lexical units, whether simple, derivative or compounded, will be referred to as 'words' accordingly. Each time we use the term 'word' with no brackets in the following research, it will be used to express a simple lexical unit whether primary, derivative, or compounded and we shall consider it as the memorized lexical unit.

Now that the minimal unit of study has been circumscribed, we shall move to the discussion of English word-formation processes in order to mark off the area composing the object of our research. In a *Grammar of Contemporary English*, S.Greenbaum, G.Leech, R.Quirk and J.Svartvik, [143] suggest studying word formation according to processes they distinguish into broad categories called major and minor categories. According to them, major processes include affixation, conversion and compounding, and minor processes include blending, clipping and acronyms. As can be noted, the lexicogenic processes of back formation, onomatopoeia, metaphor and metonymy have been excluded from the classification suggested by S.Greenbaum, G.Leech, R.Quirk and J.Svartvik.

Reflecting on the same field of study, another typology of the English word-formation processes is suggested by Laurie Bauer[144]. The diagram below is meant to illustrate it

Morphology { Inflexional morphemes

Lexical morphemes [Derivation [Affixation - Compounding

Here again, it can be easily observed that Laurie Bauer does not dissociate a grammatical perspective from a merely lexical perspective regarding word-formation. In the collectively realized work mentioned above as well as in Bauer's, it is difficult to distinguish the word-formation processes dealing solely with the lexis of a language from the other processes, which involve the grammatical rules of the language (morphology and syntax). It can then be inferred that the authors' perception of word-formation, like that of many others

[143] S.Greenbaum, G.Leech, R.Quirk and J.Svartvik, *Grammar of Contemporary English*, Longman, 1972, p 978.
[144] L. Bauer, *English word-formation,* Cambridge University Press, 1983, p.33.

(R. Hudson, R.M. Kempson, etc.) is one of morpho-syntax rather than one of lexical dynamics proper.

Semioticians following the European Saussurean tradition like A.J. Greimas and J. Courtès offer another valuable clarification to the comprehension of the concept at stake. In their *Dictionnaire raisonné de la théorie du langage*,[145] A.J. Greimas and J. Courtès bring to light another dimension of the term lexis which they define as

> *...The exhaustive list of all the lexical units of a given natural language state. The value of this concept, which pertains to an operative order, ought to be appreciated in relation to that of a lexical unit, notably to its capacity to be used as a basic unit for a semantic analysis*[146].

However, though this definition reinforces the idea of the memorized lexical unit as the minimum unit of study, it cannot serve as a reliable guideline for a thorough exploration of the lexis of a language because the inner dynamic processes that permit the formation and the development of lexis such as the lexicogenic processes are totally neglected in the definition.

These methodological drawbacks stimulate one to turn to other classifications like the one suggested by J. Tournier. Indeed, unlike the previously mentioned typologies, the French linguist plays down the importance of syntax to emphasize the lexicological processes. In his approach, lexicology is simply defined as "*... the branch of linguistics which concerns the description and the analysis of the lexis of a language.*"[147] This perspective brings him to identify and accurately define the four types of lexis that make up a language. In his view, the lexis of a language is the whole made up of the lexical units of a language and the word-formation processes they imply. Therefore, the lexis is to be seen as a dynamic whole of productive devices, inseparable from their production.' Thus, attention is drawn to the fact that :

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[145] A. J. Greimas et J. Courtès *SEMIOTIQUE Dictionnaire raisonné de la théorie du langage,* Hachette, 1993.

[146] …la liste exhaustive de toutes les lexies d'un état de langue naturelle. La valeur de ce concept, d'ordre opératoire, doit être appréciée en fonction de celui de lexie, de sa capacité notamment d'être prise comme unité de base pour l'analyse sémantique. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 107.

[147] la branche de la linguistique qui concerne la description et l'analyse du lexique d'une langue. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 107.

> *The lexis of a language is the whole of the lexical units of a language together with the construction mechanisms which they imply. It remains important not to consider the lexis of a language as a mere list of lexical units, a catalogue of manufactured products. Lexis ought to be considered as a dynamic set of productive devices inseparable from the conditions of their production*[148]

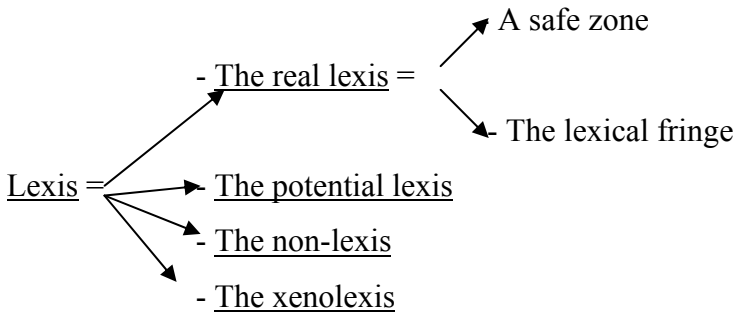
It should also be reminded that a word enters a language and becomes fully part of its lexis, only when it is widely accepted by usage and is eventually listed in a dictionary as part of the code. That is, when it is more or less tacitly convened by a speech community to confer to a given word particular meaning. By that time it would have already accomplished its mission which consists in updating and constantly renewing its potential.

[148] Le lexique d'une langue est l'ensemble des lexies d'une langue et des mécanismes de formation qu'elles impliquent. Il est important de ne pas considérer le lexique comme étant seulement une liste de lexies, un catalogue de produits finis. Le lexique doit être conçu comme un ensemble dynamique de mécanismes productifs inséparables de leur production. Ibid , p 111.

3.5. The Types of Lexis

Every language consists of a certain number of words which make up the whole of its lexicon. This lexicon changes over time as new words enter the language and other ones are dropped as a result of lack of use. To shed some light on the ambiguous norms which permit the integration of neologies into a language and the elimination of archaisms from it, the following suggestion made by the French lexicologist is worth attentive consideration. In the linguist's conception, the lexis of a language is composed of four sets constituting what is named the lexicogenic processes. They are presented as follows[149]: the real lexis, the potential lexis, the non-lexis, the xenolexis, and they are synthesized in the following diagram

Diagram 6: Tournier's different types of lexis



– *The real lexis*: it consists of the whole set of realized lexical units, from which the lexicogenic rules in use can be inferred. It comprises two subsets. The first subset is called a *safe zone.* It is composed of all the realized and listed lexical units, i.e. the lexicalized ones which are admitted and accepted as part of the code or system. All dictionary entries belong to this zone. The second subset is named a *vague zone* (or *lexical fringe*). It also consists of realized lexical units, but these ones are not, or have not been listed in the dictionaries, mainly because of their newness.

– *The potential lexis*: in a given state of language, the potential lexis is composed of all the possible but not yet realized lexical units of a language. A lexical unit is possible as soon as its formation conforms to the lexicogenic rules in use in that

[149] J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 60.

given state of language, rules which may be induced from the safe zone of the real lexis. For example, '*dehose',* which is a derivative form of '*hose',* is used to refer to the action of improving the performance of a channel through which data flow under pressure. This item is still in the potential lexis and will remain there until it becomes eventually accepted by common usage. i.e. until it becomes adopted and internalized as if it has always been there.

- *The non-lexis*: it consists of all the lexical units which are impossible to realize in a given state of language. For example, now English would not accept an item such as *ptrbsigh* since it does not conform to the constraints of the language as it is used today.

– *The xenolexis*: it consists of all the real lexis belonging to all the other languages, and from which English may borrow some elements. The loan words present in English used to belong to this category of lexis.

As mentioned above, these four sets make up the lexical boundaries of a language. All the lexical units of a language at a given time belong to one of these sets from which a language draws its vitality. Tournier explains that

> *Potential lexis, xenolexis, and non-lexis « furnish » lexical elements to the real lexis, each one at a given pace, fast for the potential lexis, relatively slow for the xenolexis and extremely slow concerning the non-lexis. In its turn, real lexis, in application of the laws that may be induced, "supplies" the potential lexis with not yet realized elements, but still realizable since they conform to the norms of the given state of the language concerned. On the other hand, real lexis implicitly "supplies" the non-lexis with elements which are neither realized, nor realizable, since they do not conform to the norms of the language concerned, despite the fact that it remains possible that they might be realized in a further given state of language*[150].

Taking note of these precious clarifications furnished by the French lexicologist, the discussion will now be steered towards the definition of the processes which permit or forbid the construction of lexical units. As a matter of fact, it is known that the elaboration of new lexical units of a language is always

[150] Lexique potentiel, xénolexique et non-lexique "fournissent" des elements lexicaux au lexique réel, chacun à son rythme, rapide pour le lexique potentiel, relativement lent pour le xénolexique et extrêmement lent pour le non-lexique. A son tour, le lexique réel, en application des règles que l'on peut en induire," fournit" au lexique potentiel des éléments non réalisés, mais réalisables parce qu'ils sont conformes aux règles de l'état de langue considéré. Par ailleurs, le lexique réel "fournit" implicitement au non-lexique des éléments ni réalisés, ni réalisables, parce qu'ils ne sont pas conformes aux règles de l'état de langue considéré, mais susceptibles de devenir possibles, donc d'être réalisés dans un état de langue ultérieur. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 61.

done according to the lexicogenic rules in use in that given state of language. In all cases, the coinage should conform to three major criteria. a) – The correct application of the lexicogenic processes which permit to generate the coinage b) – the conformity to the constraints imposed on all the items constituting the lexis of the language in question, c) - an adequate motivation for lexical creation which will facilitate its admission into the lexis of the language in question. The lexicogenic rules which govern the creation of lexis will be examined in detail in the following section.

3.6. The Lexicogenic Rules

Three general types of lexicogenic processes corresponding to three types of neology are identified by Tournier.

> *Under the name of macro mechanism, are grouped the lexicogenic matrices that share a common characteristic. Except for the external process concerning loan words, we way consider three internal processes corresponding to three types of neologies*[151].

The three macro-mechanisms are described as follows:

The first macro-mechanism is called **morpho-semantic**. It forms lexical units whose novelty concerns both the signifier and the signified. The lexicogenic processes involved are: prefixation, suffixation, back derivation, compounding, blending and onomatopoeia. The second macro-mechanism called **semantic neology** groups lexical units whose novelty involves only the signified. It includes conversion, metaphor and metonymy. The last macro mechanism relating to **morphological neology** permits the formation of lexical units whose novelty concerns only the signifier. This macro mechanism involves clipping and acronymy, as our synoptic diagram shows.

Table 2: Types of neology

Morpho-semantic neology	Signifier + signified	Affixation+Backderivation +Compounding+ Blending + Onomatopoeia
Semantic neology	Signified only	Conversion+Metaphor +Metonymy
Morphological neology	Signifier	Clipping+Initialism + Acronymy

[151] On groupe sous le nom de macro mécanisme des matrices lexicogéniques ayant une caractéristique commune. Mis à part le processus externe de l'emprunt, on peut considérer qu'il y' a trois macro mécanismes internes, correspondant aux trois types de néologie. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 115.

3.6.1. Morpho semantic neology

It comprises: derivation, back formation, compounding, blending and onomatopoeia

Derivation through affixation:

By affixation is meant the process of word-formation through prefixation, suffixation, or both prefixation and suffixation, as well as infixation.

a - Prefixation: According to J. Tournier [152], there are between 80 to 90 common prefixes in English.

b – Suffixation: Tournier mentions about 250 common suffixes in English

c – Prefixation and suffixation

d – Infixation

Back formation/back derivation:

Contrary to derivation which implies the addition of an affixed element, back derivation implies the subtraction, or the removal of an affixed or associated element, thus forming a pseudo-base, out of a pseudo-derivation. The direction of the derivation is then inverted. Back-formation is described by the OED as "*the formation of what looks like a root-word from an already existing word which might be (but is not) a derivative of the former. e.g. burgle from burglar, to lase from laser.*"[153] The Concise Oxford Dictionary gives the following definition: "*a word that is formed from its seeming derivative, typically by removal of a suffix (e.g. edit from editor*)." This process involves the removal of an element either from the left, or from the right of the base. For example, in the case of *committal* the removal of *non,* from *non- committal* produces *committal*. The same goes for *couth*, coined from *uncouth* or *flammable*, built from *inflammable*. It may also involve the removal of an element from the right such as: *accreditate*, Verb, made from *accreditation*, Noun. The same goes for *brainwash*, Verb, built from *brainwashing*, Noun, or *escalate* Verb, built from escalator, Noun.

Compounding

The COED 2004 defines a compound as *a thing composed of two or more separate elements*, while Tournier insists that a distinction be made between the compound and the fortuitous sequence. For example, he observes that if *easy*

[152] J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 142.
[153] *The Oxford English Dictionary*, Oxford University Press, 1989.

chair is compared to *comfortable chair*, it can be noted that the first example is listed in the dictionary (either at *easy* or at *chair*), while the second is neither at *comfortable*, nor at *chair*. This lexicographic choice indicates that the first sequence is lexicalized and constitutes a compound while the second is simply a fortuitous sequence. The compound is a matter of 'langue', while the fortuitous sequence is a matter of 'parole' according to the Saussurean dichotomy.

Blending/portmanteau words

We note that both French linguists André Crépin and J. Tournier are no less vague in their definitions of the concepts of blends than their Anglo-Saxon counterparts. According to the authors of *A Grammar of Contemporary English* a blend is "*a word in which at least one of the elements is fragmentary when compared with its corresponding non-compounded word form.*"[154] For example: *brunch* is a blend formed from *breakfast* and *lunch*, *motel* is formed from *motor and hotel*, *bit* from *binary* and *digit*, and *smog* from *smoke* and *fog*, while the *Concise Oxford English Dictionary* does not really make explicit the difference between blends and portmanteau words which it defines as follows: "*a word blending the sounds and combining the meanings of two others. e.g. brunch from breakfast and lunch."* André Crépin[155] who does not supply any further clarification also translates blends as portmanteau words and writes that: *Blending (portmanteau words) is a variety of compounding. It does not juxtapose, but fits the elements together. It is a modern procedure, which reflects the ludic aspect and the accelerated rhythm of our civilization*[156].

As far as we are concerned, we shall use the term 'blend' to refer to the process of composition that combines the various definitions since the function of the process is simply representational as it seeks to permit the cognition of a new reality via a linguistic device, where humor is often perceived. A major characteristic of blending relates to the constraints imposed on them:

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[154] S.Greenbaum, G.Leech, R.Quirk and J.Svartvik, *A Grammar of Contemporary English*, Longman, 1972.

[155] A. Crépin, *Deux Mille Ans de Langue Anglaise*, Nathan 1994, p 152.

[156] L'amalgame (portmanteau words) est une varieté de la composition. Il ne juxtapose pas, mais il emboîte les éléments l'un dans l'autre. C'est un procédé moderne, qui reflète l'aspect ludique et le rythme accéléré de notre civilisation. A. Crépin, *Deux Mille Ans de Langue Anglaise*, Nathan 1994, p 152.

- Contrary to the other word-formation processes, the morpho-phonological constraint does not fall on each element separately, but on the whole blend, making it look like a primary lexical item rather than a compound. For example, it is not likely to form a blend of the type '*urbport*' from *urban* and *transport*, because the morpho-phonological constraint would not permit the formation of a coinage in an environment where two plosives (a voiced one /b/ followed by a voiceless one /p/) are so contiguous. However, we may perfectly imagine *urport* to be integrated to the potential lexis, especially if someday a formation such as *rurport* from (rural + *airport*) comes to be coined.

- The constraint of order as shall be seen imposes certain types of word building and forbids others. For instance, in the example given above, it is not likely to form a blend such as *perturb*, since in English, the adjective ought to precede the noun.

- As for the other types of compounds, the semantic relation between the elements should be coherent, and should facilitate the grasp of the coinage.

Concerning the typology of blends, the signifiers of the elements of the blend may have or not have a common part. For instance, concerning the blends that have no part in common, we can cite: *tele* from *tele*vision and *cast* from broad*cast* form *telecast*; tele + cast => telecast; while the blend *dopium* is made up of primary lexical unit *opium*, to which is added the first element of *dope* => *dopium*. The latter type is said to be of haplologic formation. A blend may be formed from several word classes as Tournier suggests and we present them in the form of a table:

Table 3: Word class of the constitutive elements of blends

Word class =======➔	**New blend class**	**Example**
Noun + Noun	Noun	*pope* + *automobile* > *popemobile* (the bullet-proof vehicle with a raised viewing area used by the Pope on official visits)
Adjective+ Noun	Noun	*simultaneous broadcast* > *simulcast* (A live transmission of a public celebration or sports event on several channels)
Adjective + Adjective	Adjective	*prim* + *sissy* > *prissy* (fussily respectable)
Verb + Noun	Noun	*happen* + *circumstance* > *happenstance* (coincidence)

Tournier labels the five processes described above (prefixation, suffixation, back formation, compounding and blending) as **construction processes** since the words they permit to build consist of new lexical units made up of various elements, which we put together, juxtapose or embed into one another.

Onomatopoeia: *The Concise Oxford English Dictionary* defines onomatopoeia as "*the formation of a word from a sound associated with what is named (e.g. cuckoo, sizzle). The use of such words for rhetorical effect*". Onomatopoeia is composed of phonemes belonging to the particular linguistic system where it occurs, and as such, it can reproduce the noise or the sound of the

extra linguistic universe only in an imperfect manner. This phenomenon explains why the same noises or sounds are differently reflected in different languages with different onomatopoeias e.g.: the bird *cuckoo* is designated *cuckoo* in English, *coucou* in French, *tikouk* in Berber, *waqwaq* in Arabic, *kuckuck* in German, *cuculo* in Italian and so on.

From the semantic point of view, onomatopoeia can be classified into three categories, depending on whether it is related to human noises, animal noises, or object noises.

Human noises: *burp, gulp, spit, blah-blah, whisper* etc

Animal noises: *buzz, cackle, coo, growl, grunt, moo, quack* etc

Object noises: *clang, jangle, jingle, tick-tick, oompah, pop, swish* etc

3.6.2. Semantic neology

Other lexicogenic processes involve semantic neology. These internal processes concern conversion, metaphor and metonymy.

Conversion: Tournier defines conversion as the process that allows a word to change its class without changing its form. By form is meant the infinitive for the verb, the singular for the noun and the form zero for the adjective. The conversion is said to be total when the word fully adopts the status of its new class. In this case, it adopts all its inflections. For example, *pocket, Noun* > *pocket, Verb* (hence he *pockets, pocketed, pocketing*).

The conversion is said to be partial, when the new lexical unit adopts only partly the status of its new class. For example, in the conversion of the Adjective *French*, to the Noun, *the French*, though the word adopts some functions of its new class, it does not assume the plural or the genitive forms, though a remarkable exception seems to be D. Crystal's coinage '*World Englishes*'[157]. He used this term to qualify the various types of English spoken in different parts of the world. In English, all the conversions from one class to another are either totally realized or theoretically possible to realize.

The most frequent conversion is the conversion from verb to noun, followed by the conversion from adjective to noun. Conversion from Noun to

[157] D. Crystal, *English as a Global Language,* Cambridge University Press, 1997, p130.

verb is rare as for e.g.: Noun > Verb: *to proposition* (make an offer, especially of sexual intercourse); *to flan* (throw a slapstick to someone's face). Here are some examples of conversion:

Verb	=> Noun: *commute* (the distance from home to the workplace).
Adjective.	=> Noun: *a classic, edibles, empties, genitals, nationals*.
Adjective.	=> Verb: *to remote* (to extend a device to distant places).
Adjective.	=> Adverb: *far, hard*
Adverb.	=>Verb: *to down, to forward*
Interjection.	=> Noun: *hush*
Interjection.	=> Verb: *shoo*
Adverb.	=> Noun: *the downhill of life*
Conjunction.	=> Noun: *there are too many ifs about it*.
Noun	=> Conjunction: *the moment he arrived…*
Pronoun.	=> Noun: *it's a he, not a she!*
Acronym	=> Verb: *who's going to deejay (DJ) the show?*

Metaphor: the *COED* (2004) gives the following definition of the concept of metaphor: *a figure of speech in which a word or phrase is applied to something to which it isn't literally applicable*. This phenomenon is based on the perception of a similarity. Only one resemblance point suffices to make a metaphor possible. For instance, the sentence: *this man is a lion* / *a shark* is metaphoric because of the transfer component common to both man and animal which is courage in the metaphor '*lion*' and ferocity in '*shark*'. George Lakoff who has profoundly investigated this productive lexicogenic process thinks that it has more to do with thought than with language and writes that the term metaphor *"has come to mean a cross-domain mapping in the conceptual system. The term metaphorical expression refers to a linguistic expression (a word, phrase, or sentence) that is the surface realization of such a cross-domain mapping*."[158]

Pursuing on other grounds, and contrasting metaphor and metonymy, David Lodge assumes that

[158] G. Lakoff, *The Contemporary Theory of Metaphor* In A. Ortony (Ed.), *Metaphor and Thought* CUP, (2nd ed), 1993, pp.202-251.

Metaphor works by analogously describing one thing in terms of another to which it is not literally related but has some resemblance ('window' for 'eye'). By contrast, metonymy works by contiguity and association, and replaces an object with its attributes ('greens' for 'vegetables'). Just as metaphor encompasses simile, metonymy is often considered also to include synecdoche, which replaces the part for the whole ('motor' for 'car') or the whole for the part ('England' played hockey yesterday[159]*).*

Metonymy: to the lexicographers of the *COED* (2004), "*a metonym is a word or expression used as a substitute for something with which it is closely associated.* e.g.: *Washington for the US government*". Another definition we selected is that of « *Le dictionnaire raisonné de la théorie du langage* » (1995) which defines metonymy as ... *The linguistic phenomenon, according to which, to a phrasal unit is substituted another unit, which is linked to it by a container to contents, cause to effect, and part to the whole relationship, etc.*[160] Concerning the three last processes, the change concerns only the signified. The signifier is not at all concerned and this is why this type is labelled semantic neology.

3.6.3. Morphological neology

The third category of internal lexicogenic processes used to coin new words is characterized by some form of abbreviation. In this respect a total agreement can be noticed between the two French linguists. A. Crépin considers that *"abbreviation is typical phenomenon of the colloquial spoken language…. There exist several abbreviation procedures: clipping, initialism and acronymy,"*[161] and J. Tournier claims that "i*n its wider sense, one can use the word abbreviation for any procedure involving a reduction of the signifier*[162]*"* i.e., clipping, initialism, and acronymy.

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[159] D. Lodge, *The Modes of Modern Writing :Metaphor, Metonymy, and the Typology of Modern Literature*, Routledge, 1981, pp 1-16.

[160] le phénomène linguistique selon lequel à une unité phrastique donnée est substituée une autre unité qui lui est liée dans un rapport de contenant à contenu, de cause à effet, de partie au tout etc. A.J. Greimas et J. Courtès, *Semiotique* Dictionnaire raisonné de la théorie du langage, Hachette, 1993.

[161] l' abbréviation est un phénomène typique de la langue parlée familière…Il existe plusieurs procédés d'abréviation : l'abrègement (clipping), l'emploi de sigles (initialism), et d'acronymes. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 7.

[162] Au sens large, on peut utiliser le mot abréviation pour tout processus impliquant une réduction du signifiant. J. Tournier, Ibid.

J. Tournier adds another clarification to the lexicogenic processes included in morphological neology. On the one hand, he groups clipping which falls into several types: fore clipping, back clipping and fore and back clipping at the same time, and, on the other hand, he assembles the two processes of initialism and acronymy. Before giving examples to illustrate this point, it should be reminded that once realized, the clipped form tends immediately towards autonomy regarding its full form. From the semantic standpoint, the clipped form has in most cases the same content as the full form. However, it may happen that the clipped form bears a meaning distinct from the one of the full form. For example, *van* and *caravan*. It also happens that the full form progressively disappears as in (*cabriolet* > cab).

A.Crépin defines clipping as the process that consists in suppressing part of the word, mainly the unstressed part, which semantically corresponds to the least important part of the word. Sometimes, the ending is modified as in *bike* from *bicycle*; *chap* from *chapman*; *gent* from *gentleman*; *bus* from *omnibus*; *pub* from *public house* etc.[163] The process then can be labeled fore clipping, back clipping and fore and back clipping as it will be now illustrated.

<u>Clipping</u>

a) - Back clipping: it is the most frequent device and consists in bringing the signifier of a word to the only part necessary and sufficient for its identification. For example, *nuke* is built from (< *nuclear*) where the back part is omitted.

b) - Fore clipping as in *varsity* < *university*; *gator* < *alligator*; *fess* (up) < confess, where the front part is removed.

c) - Fore and back clipping as in *tec* < *detective*; *comp* < *accompaniment*; *flu* < *influenza*, where both the front and the back parts are suppressed.

d) - Medial clipping: in this type of clipping, one or more elements, which are neither in the initial nor in the final position, disappear. E.g. *chancery* formed from < *chancellery*. Initially, the item chancellery consisted of four syllables /ʧænsələrı/, which required a high linguistic cost and was thus brought to only two syllables by the removal of its medial part, the unstressed syllable /l/. The first and the last elements are kept to form a two syllable new unit: *chancery* /ʧænsrı/.

[163] A. Crépin, *Deux Mille Ans de Langue Anglaise*, 1994, p 157.

Another example is *proxy* built from *procuracy*. Here, the item which was initially formed by four syllables, /prəkjʊərəsɪ/ loses both the second and the third but keeps the first and the last and becomes a two syllable unit *proxy* /prɒksi/. According to J. Tournier

> *Reduction of a sequence of words to its initial elements is a procedure which has considerably developed over the last fifty years: this significant productivity reflects certain characteristics of contemporary society where all sorts of organizations and institutions, together with scientific and technical discoveries rapidly grow.*[164]

Clipping is therefore also to be considered as an economic process for building new words.

Acronyms / initialisms:

The COED 2004 defines an acronym as *a word formed from the initial letters of other words (e.g. laser, Aids).* Tournier considers acronymy and initialism as the same process, the item is pronounced letter by letter when it does not respect the morpho-phonemic constraint imposed upon words. e.g. FLCM (Fellow of the London College of Music), but when it constitutes a whole that fits an existing morpho-phonological model, it becomes an acronym and can be pronounced exactly as an ordinary word (OPEC, UNESCO) etc. Bringing a further clarification, A. Crépin, adds that:

> *Initials constitute the extreme form of abbreviation. e.g. MP (Member of Parliament)… Initials can be grouped into acronyms. The letters are not read successively, one after the other, but they form a whole word. The Royal Air Force /*rɒjɒl ea fo:s/ *becomes the acronym [RAF]. Acronyms make it possible to play on two meanings: that of the words represented by the initials and that of the word carried by the new whole. e.g. the PEN club groups Poets, Essayists, Novelists.*[165]

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[164] La réduction d'une séquence de mots à ses éléments initiaux est un processus qui s'est développé considérablement au cours des cinquante dernières années: cette forte productivité reflète certaines caractéristiques de la société contemporaine, où se multiplient à la fois les découvertes scientifiques et techniques et les institutions et organismes de toute sorte. J. Tournier, *Précis de Lexicologie Anglaise*, Nathan, 1989, p 142.

[165] Les sigles sont la forme extrême de l'abréviation. e.g. MP (Member of Parliament)….Les initiales peuvent se grouper en acronymes. Les lettres ne sont plus lues successivement, l'une après l'autre, mais elles forment un mot. The RAF (Royal Air Force) /rɒjɒl ea fo:s/ devient l'acronyme R.A.F. Les acronymes permettent de jouer sur deux sens: celui des mots représentés par des initiales et celui de l'ensemble nouveau. e.g. Le PEN Club rassemble Poets, Essayists, Novelists- gens de plume. A. Crépin, *Deux Mille Ans de Langue Anglaise*, Nathan, 1994, p 157.

In his Cambridge Encyclopedia of English, David Crystal reports that "*Abbreviations: the fashion for abbreviations can be traced back over 150 years. In 1839 for example, a writer in the New York Evening Tattler notes: OK for (All Correct) or PDQ for (Pretty Damn Quickly).*"[166] The tendency has been both refined and intensified ever since. It should be noted that frequently used acronyms can sometimes end up being written in lower case characters, thus being totally assimilated to a word whose motivation is quickly lost. Here are some examples of types of acronyms:

a)- Reduction of a word to its initial: M (motorway, followed by a number)

b)- Reduction of a compound to the first two letters of each element: e.g.: SOWETO (South Western Townships)

C)- Reduction of each element of a compound to the equivalent of a syllable. E.g.: *Comsat* (Communication Satellite.)

d)- Reduction to the initial of one word of the group, e.g. *O level* (O < ordinary)

e)- Reduction of the group to the initial of the first element and to the first syllable of the second. E.g.: *M.Tech* (< Master of Technology)

f)- Phonetic transcription of the acronym: *emcee* (< M.C < Master of Ceremonies.)

g)- Use of conjunctions: e.g.: D and D (< drunk and disorderly)

h)- Borrowed acronym: *Gulag*

Because clipping, abbreviation and acronymy consist in trimming the signifier to its essentials, then neologies resulting there from would be placed among the processes seen likely to fulfill the criterion of linguistic economy in creating words that involve another linguistic principle, called the law of least effort. Alongside the internal lexicogenic processes that have been discussed above, another external process will be considered which consists in borrowing loan words and calques (also called loan translations), which the French linguist defines as:

[166] D. Crystal, *Cambridge Encyclopedia of the English Language*, Cambridge University Press, p 120.

> *A calque is a variety of semantic borrowing where the signifier of the foreign word is not borrowed as it is, but is literally translated. For example, daughter of joy is an English loan translation of French une fille de joie, just as Red Brigades is a calque of Italian Brigate Rosse.*[167]

To use an expression which has now also become commonplace, loan words are the result of language contacts. Word borrowing can be considered as a lexical development process shared by all languages. This process concerns also phonology and syntax, but to a lesser extent. In fact, contemporary English borrows most of its loan words from the French language as J. Tournier mentions:

> *Present day English has borrowed from more than 130 languages, but the language from which it has borrowed most words is French, from which it took the major part of its lexis after the Norman invasion in the tenth century. Today, though loans represent only around 4% of neologies, French remains the first lending language for English: about one out of two loans are borrowed from French.*[168]

It would be interesting to discover whether this tendency to borrow words from French is still the fashion today, when we consider the tremendous extension of contacts between peoples and languages that the development of modern means of communication and particularly internet have induced in today's global society. Before that however, we present an illustration of the general lexicogenic processes mentioned above in the following diagram.

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[167] Le calque est une variété d'emprunt sémantique où le signifiant du mot étranger n'est pas emprunté tel quel, mais où le mot étranger est traduit littéralement." For example, daughter of joy is an English loan translation of French une fille de joie, just as Red Brigades is a calque of Italian Brigate Rosse. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 29.

[168] L'anglais actuel a emprunté à plus de 130 langues, mais la langue d'emprunt qui est de loin la plus importante est le français, auquel l'anglais a emprunté la majeure partie de son lexique, après l'invasion normande du X siècle. De nos jours où les emprunts ne représentent guère qu'environ 4% des nouveautés lexicales, le français reste la première langue d'emprunt de l'anglais : environ un emprunt sur deux est fait au français. Ibid, p 65.

Table 4: The lexicogenic processes

LEXICOGENIC PROCESSES OF CONTEMPORARY ENGLISH AND THE TYPES OF NEOLOGY			
INTERNAL PROCESSES	**Morpho-Semantic Neology**	Affixation	1-prefixation: antinuclear 2-suffixation: graceful 3- back derivation: burgle<burglar
		Compound	4- juxtaposition: sheep-dog 5- blending: smoke + fog > smog
		Phonic imitation	6 - onomatopoeia: splash
	Semantic Neology	Change in function	7- conversion : tunnel, N > tunnel, V
		Change in meaning	8 – metaphor: (she is) a cat 9 – metonymy: the Crown
	Morphological Neology	Form reduction	10 – clipping : phone 11 –acronymy: VIP
EXTERNAL PROCESSES	LOAN WORDS		12 – borrowing : tutu

After having described the processes that permit to generate new words, mention will be made of the motives for lexical development. They are common to all natural languages and they fuel the development of a particular lexis. According to J. Tournier, lexical creation is motivated by three factors. These factors operate either on a single basis or in combination. They are labeled the communication need, the law of law of least effort, the playful impulse.

3.7. The Motives for Lexical Development and the Language Constraints

3.7.1. The Communication Need

The functions of language are varied but the one which dominates the others is its communicative function. The need for communication makes necessary the formation of new lexical units (new words, functions, use, or new meanings), corresponding to the new objects of experience man encounters across his existence, whether these objects belong to the tangible or to the mental worlds. This observation clearly highlights the tight relationship between sociological or technological change for instance, and linguistic change. By extension it amply justifies the elaboration of lexicons such as the Jargon Dictionary of hackers.

3.7.2. The Law of Law of Least Effort

As a general principle characterizing human behavior in general, the law of least effort is also applicable to human linguistic practices. Tournier explains that It is the general tendency of language users to reduce the necessary effort to the transmission of information. When the user of a language produces an utterance, and thus transmits a piece of information, he needs to make an effort. The effort it costs him is what is meant by – the linguistic cost-. it bears two aspects: 1- A physical aspect (articulatory for the oral utterance, and muscular for the written one, both requiring a certain length of time). 2- A memory aspect, corresponding to the memory effort.[169]

The author also cares to mention that any lexical element used by a speaker, has first to be stored and then memorized in order to be available on need. Therefore, any utterance implies both a transmission of information and a cost. We call linguistic economy the ratio of information to the cost of this information. i.e., for the same amount of information, the higher the cost, the lower the economy. As the cost is in direct relationship with the length of the lexical units, then it is considered that the shorter the lexical unit, the lesser the

[169] J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991.

effort, and the greater the economy. In this way, we pronounce, write and memorize more easily *vet* than *veterinary surgeon* for example.

On the other hand, the cost is in an inverted relationship to the frequency of use: the more frequently a word is used, the lesser the memory effort, independently of its length. As Tournier's example clearly illustrates "*the verb kiss is more easily memorized than osculate and the adjective funnel-shaped more easily memorized than unfundibular.*"[170] The last example visibly displays on other grounds that a motivated word such as *funnel-shaped* is much easier to remember than an unmotivated one like *unfundibular*. Any process that permits to reduce or to limit the cost participates in a better linguistic economy.

The five construction devices (prefixation suffixation, back formation, compounding and blending), imply a notable reduction of the effort, since starting from a given stock of elements a whole variety of new words can be formed. Even onomatopoeia participates in the reduction of the memory cost because of the direct motivation it implies. The same goes with the functional or semantic change processes (conversion, metaphor and metonymy), which permit the same unit to be used for different functions or with different meanings.

However the processes of clipping/abbreviation and acronymy / initialism, where the reduction of the efforts (physical and memory) is most strikingly observed remains morphological neology.

3.7.3. The playful impulse

The third motivation for the creation of new words is the playful impulse. It is J. Tournier's equivalent coinage for the French expression '*pulsion ludique*'. Though it is the least important means of formation from the point of view of word production, it remains, however, an important aspect of lexical creation. Its effects can be detected in at least twelve lexicogenic processes. As can be noticed in Tournier's examples, most frequently humor filters through coinages involving:
Prefixation: *de* + *beef* as for example in *debeef* (lose weight)
Suffixation: *nail* + *arium* e.g. *nailarium* (place where hands and nails may be treated)

[170] J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991.

Back formation: e.g. *explete* Verb, formed from *expletive,* Noun (to use expletives)

Composition: e.g. *Chiantishire* built from *Chianti* (dry Italian wine produced in Tuscany) + *shire* (county). This association produced *Chiantishire*: (Tuscany, where some British well-off have second homes)

Blending: e.g. *affluenza* built from *affluent* (wealthy) + *influenza* (contagious viral infection). The blending of these two notions produced *affluenza* (psychological trouble due to an excessive wealth)

Conversion: e.g. *a crumbly* (a crumbling person), formed from the adjective *crumbly*

Metaphor: e.g. *to graze* (to nibble continuously), in analogy with cows grazing grass.

Clipping/abbreviation: e.g. *Conchie,* clipped form of (conscientious objector)

Acronymy/initialism: e.g. *lombard* acronym of (Lots Of Money But A Right Dickhead)

Borrowing: e.g. *unijambist*, borrowed from French *unijambiste* (one-legged).

A growing number of amusing acronyms also show the impact of the playful impulse in word-formation. Some have already been incorporated in the *Concise Oxford Dictionary*. Among them, mention can be made of: *MOR* (middle of the road), *Dinky* (double income, no kids), *Nimby* (not in my back-yard), while it can be predicted that others such as *Nilky* (no income, lots of kids), *Raids* (recently acquired income deficiency syndrome) will sooner or later be incorporated too.

Before moving further, we should like to draw the reader's attention to the high degree of motivation which characterizes some of the above mentioned coinages. Such a motivation which in Peircean terms serves as an index pointing to its immediate object does, to some extent disqualify the arbitrariness of the linguistic sign.

3.8. The Constraints

It has also become commonplace to mention that language is rule-governed. This feature applies to all aspects of language and concerns also the lexicogenic processes. It has already been mentioned that in order to be accepted by usage, newly coined items must conform to a certain number of constraints that differ from one language to another. In English also some constraints are imposed on the formation of lexical units. They determine what is possible from what is not. These constraints, inform the user of the English language that all signs, whether already existing in the real lexis, or simply bearing a chance to be coined someday as part of the potential lexis of English should, in Tournier's terms, conform to three types of constraints: the morpho-phonological constraint, the constraint of order, and the semantic constraint.

The morpho-phonological constraint

The first of these constraints is the morpho-phonological constraint, and it is exerted at two levels.

- At the first level, it is exerted on the pattern of the phonological realization of the sign defined in terms of consonant (C) and vowels (V). For example building words on the following models /C/, /CC/, /CCC/ is impossible in English whatever the consonants. However, other models such as /V/ (*awe*: /o:/, /VC/ (*off*: /of /), /CVC/ (*rat*: /ræt /), /CVCV/ (*baker*: /beikə/) etc, are possible.
- At the second level, the constraint is exerted on the choice of consonants and vowels in a given pattern. For example, in a CCCVC pattern, only the following initial consonant clusters are possible: /spr/ as in *spread* /spred/, /str/ as in *strike* /straik/ or /spl/ as in *split* /splɪt/, or /skr/ as in *scream* /skri:m/. No other three consonant initial cluster is allowed.

The constraint of order

The second constraint that English lexical units have to conform to is the constraint of order. It applies to memorized lexical units larger than primary lexical units to which it imposes a certain order of construction. For example at the level of affixation, it forces the prefixes to be placed on the left and the suffixes on the right, thus modeling the construction of coinages. This constraint

appears more blatantly in syntax where the subtleties of word order bear a particular signification.

The semantic constraint

The semantic constraint either permits or prevents the formation of lexical units in the English language from the standpoint of their cognitive acceptability. It is closely linked to what the culture admits as possible or refutes as impossible. For example, the association of the prefix *un* + *verb* + *able* is permitted as in *unforgettable*, but the association of *un* + *verb* + *ful* or *less*, is not.

As can be noted, the conditions of the appearance and then of the different phases of the evolution of English as the language of the island where it first grew have all been detailed, and the various internal resources and constraints which both shape and mark out the singular development of the English lexis have been underlined.

CONCLUSION

We have tried to show along this chapter how socio-historical events such as a prolonged colonization of another people's land can give way to the establishment of a language in the long run. In effect, despite the initial resistance which accompanies its settlement, over time the language of the colonizer becomes the 'natural' language of the following generations following the same process as that of Pidgins becoming Creoles, after they become the mother-tongue of the following generations.

We have then moved to the progressive linguistic transformations which the nascent English was brought to bear. In this connection, we have tried to highlight how the lexicogenic processes specific to the English language have helped the language to gradually develop to become a national language long before reaching its fully-fledged status over the centuries. This long-term evolution has been centred exclusively on the notion of 'lexis' as it obviously satisfies our methodological option for a lexico-semiotic approach to what was to become the Twentieth Century Cyber-English.

Accordingly, the attention of the reader has been constantly drawn on the transformations that occur at word-formation level which has eventually steered the growth of the English language to the typical shape it presently displays, notably concerning linguistic economy of expression. It has also been underlined that the development of English, just like that of other languages, is largely dependent upon the motives of lexical development and the particular constraints which both limit and shape the final form the language bears.

In this respect, the phonological and semantic constraints have been largely expanded to underline the fact that it is the specificity of the English language constructions which singles it out from any other language which obeys and norms and conforms to other constraints. We then consider that the way is now paved to tackle the practical aspect of our present research, namely the analysis of the peculiar type of cyber-English used by the virtual community of hackers.

CHAPTER FOUR: The Impact of cyber-English on Language

4.1. INTRODUCTION

Regular interaction between the members of a community strengthens their links. On such occasions, the group may develop a strong feeling of belongingness to a common symbolic environment and the members may set boundaries for others to join in. For example, they may elaborate a jargon so particular that outsiders to the community find themselves excluded as a result of their linguistic incompetence. This seems to be the case with the language developed by the virtual community of hackers who use a particular jargon comprising even idiomatic expressions not easily manageable for an outsider to the community. The jargon of the hackers will be used as a reduced model representing cyber-English in general.

The Jargon File, whose history dates as far back as the first period of the computer industry, used to be regularly updated, and thus has lent itself to continuous evolution. The note below from the introduction to the Jargon File defines it as "*a collection of hacker jargon from technical cultures including the Massachusetts Institute of Technology (MIT) AI lab, the Stanford AI lab (SAIL), and others of the old ARPA Net AI / LISP / PDP –10 communities*. Several versions of it appeared since then, but the one our corpus is based upon is version 4.2.0 edited by Eric S. Raymond (esr@snark,thyrsus.com). It can be reached at the following address: http://www.netmeg.net/jargon/. The program is freeware as is mentioned in the introduction to the file, so it permits public access for any person interested in further information concerning the history, the evolution and the sources of the dictionary.

As a language cannot be studied in isolation from the community of its users, the corpus will be examined with a view to underline the singular relationships between the specificities of the community of hackers requested by its virtual aspect and the specificities of the variety of English they use. An attempt will be made to highlight the influence of one on the other. Several linguists have already stressed the interaction between a society and the language it uses. Among them, Michel Taillé who goes back as far as the French conquest of England, notes that

> *A language is indissolubly linked to a society, and that it partly varies according to the political, military, economical, cultural, and religious events. Thus, it is because the French Normans had landed in England on October, 14, in 1066, that English underwent a certain evolution during the three or four centuries that followed; it is also because, atomic energy was discovered, thus becoming the object of study of a new science around the 1940's, that the lexis benefited from innumerable terms.*[171]

However, and to the time being, one wonders if anything can ever compare with the effects which the computer revolution has exerted on current English, notably on its vocabulary. Indeed, computers and microchips have become part of our everyday lives: shops and offices are designed with the help of computers; books and magazines are conceived and produced by computers; cars are designed and are increasingly managed by computers; our cellular phones are entirely dependent on micro computer technology, and even the slightest bank transaction involves the integration of highly sophisticated computer systems. Computer-designed facilities using microchip technologies are everywhere indeed. Thus, it can be said without exaggeration that there is no historical precedence for the omnipresence of such a powerful technological tool in the social lives of the Homo-sapiens as that of the computer technology. Today, such ubiquity finds linguistic expression in the English language and particularly in the distinctive "Internet language" or cyber-English that has filtered into daily English via the Internet.

Cyber-English comprises new words like *LANs* (Local Area Networks), *WANs* (Wide Area Networks), and *emoticons* (blend of emotion and icon). It also includes words already in the English language stock whose initial meaning is widened. For example *download* (copy data from one computer system to another or to a disk) and *upload* (transfer data to a larger computer system), converted words like *to Google* and thousands of other neologies are kept in "the lexical fringe" waiting to be integrated under favorable socio-economic pressures in the English

[171] Une langue est indissolublement liée à une société et qu'elle varie en partie selon les événements politiques, militaires, économiques, culturels, religieux. Ainsi, c'est parce que les Normands francophones ont débarqué en Angleterre le 14 octobre 1066, que l'anglais a subi une certaine évolution pendant les trois ou quatre siècles qui ont suivi ; c'est parce que, vers les années 1940, on a découvert l'énergie atomique, qui est alors devenue l'objet d'une science, que le lexique s'est enrichi d'innombrables termes M. Taillé, *Histoire de la langue Anglaise,* Armand Colin, 1995, p 16.

language whose lexical dynamics (should it be recalled?) have never been regulated politically/ and or academically.

Our main concern in this chapter is to describe one type of cyber-English, namely the Internet jargon of hackers. The objective is to analyze the lexicogenic processes at work in this variety of English and to establish a typology of the neologies that characterize it. In order to attain this two-fold objective, a corpus of 10% of the whole document, that is about 230 items from the Jargon File and a certain number of expressions used by hackers has been randomly selected and presented in the next page.

4.2. THE CORPUS

As mentioned in the general introduction, our scientific endeavour consists in analysing a randomly selected corpus consisting of about 10 percent of the original dictionary also known as "the Jargon File", which displays over two thousand and three hundred neologies. The document we use is version 4.2.0, January 2000, edited by Eric S. Raymond. It can be accessed at: http://www.netmeg.net/jargon/. The lexicon comes together with additional relevant information relating to the history, variety, and scope of this lexicon. It is provided by hackers themselves, and encloses valuable data about the community of practice of the hackers, some personal information about outstanding individuals, as well as their geographic, social, cultural, and professional belongings. All this information can be accessed at the address above mentioned.

ABEND – Ack - AFAIK – AFJ - AIDS – alpha geek - ambimousetrous – angry fruit salad – asbestos - ASCIIbetical order - autobogotiphobia – Automagically – avatar – BAD - barfulous – BASIC – bit - bitbucket - bletch - bloatware – BLOB – boa – BOF – bogus - bogometer – bot – boxology – bug – catatonic - Chad – Chernobyl packet - CHOP - computer geek - content free – cookie - crapplet – cretin – cretinous - cross post – cruft – crufty - cup holder - cyberpunk - cyberspace - defenestratation – dehose – demigod - demo – depeditate – derf – despew – dickless workstation - dinosaur pen – disclaimer – Dissociated Press - doc – droid - drunk mouse syndrome - elegant – elite - email - emoticon – ENQ - eye candy – FAQ - FAQlist – featurectomy – feep – FIFO – FISH queue – flamage – Flame – flavour – fontology - foo – freeware - fried - frink – friode – frob – frobnitz - gedanken – gender mender – GIGO - glark – go flatline - gonk – gonzo - grep – gritch - gubbish – hacker – hakspek - hack mode - hairy – heatseeker - hired gun – home page - hot link – HTH – I.B.M. – ID10T error – ICE – IIRC - Internet - internet death penalty - internet exploiter – job security - jolix – kahuna - KIBO - kiboze – lamer - language lawyer - laser chicken – leech - lexer – lexiphage – like kicking dead whales down the beach - like nailing jelly to a tree - lithium lick – lost in the underflow - logic bomb - lossage – loser – lurker – luser – machoflops - mailing list – mail storm - meatspace - megapenny – memetics - memory leak - menuitis – microdroid - mouso - MUD –NAK

- nastygram – neophilia – net.god - netiquette – newbies - nyetwork - ogg – old fart – OTOH – page out - person of no account - phage – Plain ASCII – plug-and-pray - POD - rat belt – read-only user - return from the dead - rot 13 – rude - salescritter – samizdat – screwage – September that never ended - shambolic link – sharchive - shelfware - shitogram – signal to noise ratio - sigquote – sitename - smoke and mirrors - smurf – SNAFU principle - snail mail – snivitz – SO – source of all good bits - spam - spamvertize - spod – spungle – squirrelcide – state - superloser - sysape – sysop – TANSTAAFL - tee – teledidonics - tenured graduate student - terminal brain death - thinko – TMTOWDTI -throwaway account – tip of the ice cube - TLA – tree killer – treeware - troll-O-meter –true hacker – turist - Unix brain damage - user-friendly – vaporware - vaston - VAXectomy - vaxocentrism – virtual beer - VR – vulture capitalist - W2K bug - wannabie - weasel - webify – weenie – wetware – whalesong – winnage – wirehead - wizard - WOMBAT – womble – wonky - wugga wugga – wumpus – WYSIWYG – xref - YAFIYGI – yow – zen - zipperhead - @party –

Other additional expressions used by the hackers are of the type:

"If that program crashes again, I'm going to BLOB the core dump to you."

“I'd like to go to lunch with you but I've got to go to the weekly staff bogon".

"I don't have any disk space left." "Well, why don't you defenestrate that 100 megs worth of old core dumps?"

"Can you repeat that? I paged out for a minute."

"This is Bill, a person of no account, but he used to be bill@random.com",etc.

4.3. The Hackers as a Speech Community

Our research pays particular attention to the relationship between the actual use of a language both as a cultural resource and as a social practice by a community of discourse, whose linguistic productions reflect the symbolic environment from which the group draws its cultural values and representations. However, before indulging into the intricate relationships between language use and cultural values, another key concept of which both anthropologists and sociolinguists make an extensive use needs to be clarified. It is the concept of 'speech community'. The concept of 'speech community' is essential for any anthropological or sociolinguistic discussion related to the correlations between language and society. Indeed it is so fundamental that a great number of scholars have tried to bring their personal contributions to its definition. Their perspectives are varied and sometimes contradictory, and in what follows will be examined a number of those that appear of a certain interest for our research. They range from positions considered as traditionalist to the most up to date in the field.

For instance, Leonard Bloomfield's definition "*linguistic distribution within a social or geographical space is usually described in terms of speech community,"*[172] can be labeled as typically traditionalist, as it limits the speech community only to linguistic distribution. We can easily observe the exaggerated importance of geographic space in this perspective, while the semanticist John Lyons, defines a speech community simply as "*all the people who use a language,"*[173] without including any other requirement than language proper.

Another researcher in the ethnography of communication, John Gumperz portrays it as "*any human aggregate characterized by regular and frequent interaction by means of a shared body of verbal signs and set off from similar aggregates by significant differences in language usage."*[174] This definition stresses the importance of physical groupings of people and confines communication mainly to verbal interaction, whereas Charles Hockett, sees the speech community as "*the whole set of people who communicate with each other, either directly or indirectly via a common language*,"[175] without explicit specification as to the type of language, whether oral or written or both, thus opening scope for other media than oral language for socializing.

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[172] L. Bloomfield, *Language New-York*, Holt, Rinehart & Winston, 1933, p 42.
[173] J. Lyons, *New Horizons in Linguistics,* Harmondsworth, Middx Penguin, 1970, p 326.
[174] J. Gumperz, *.Language in social groups,* Stanford University Press, 1971, p 114.
[175] C. Hockett, *A Course in Modern Linguistics* Macmillan, 1958, p 8.

Our standpoint for the analysis of the Internet jargon in connection with the community of hackers as we have tried to show above is that of lexico-sociolinguistics. Among the definitions of speech community that are made available to us by eminent scholars, we find that of Peter Trudgill as being the most relevant to us since it includes the sociolinguistic aspects we are personally concerned with. Thus, in P. Trudgill's view, one speech community is:

> *A community of speakers who share the same verbal repertoire, and who also share the same norms for linguistic behavior, including both general norms for language use of the type studied in the ethnography of speaking, and more detailed norms for activities such as style shifting of the type studied by secular linguistics*[176].

However, one can only agree with Claire Kramsch, who prefers the notion of discourse community to that of a speech community, because the idea of a discourse community entails also the idea of a common way of using and analyzing discourse by a given community. As Kramsch clarifies, in addition to the notion of speech community, composed of people who use the same linguistic code*, "we can speak of discourse communities to refer to the common ways in which members of a social group use language to meet their social needs*,"[177] thus bringing to the foreground the idea of purpose and action to the communication process. Thus perceived, the teleological act of communication stems from a need, bears a certain form, under particular conditions, and aims to achieve a particular end. In other words, it seeks to act on the user and get her/him to react in a certain way and not in another. When it reaches its end the act of communication is successful, when it does not, it remains vain.

It becomes clear then, that the act of communication is more than the simple utterance of a string of words into sentences. It involves a coherent group of users whose norms of language use and cultural references are also coherent and stable. In effect, the discourse of a trade unionist will provoke different effects on the audience, depending on whether the latter is composed of workers or of industrials. Similarly, the discourse of a political leader in the opposition will enact different reactions on his/her troops, who tend to focus on what is actually uttered, than those it will produce on the members of the government, who will seek more information on what

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[176] P. Trudgill, *Introducing Language and Society,* Penguin Books, 1992, p 69.
[177] C. Kramsch , *Language and Culture* Oxford University Press, 1998, p 6.

is not uttered. This pragmatic way of using language as a sort of arrow indicating more than is actually uttered is what appears to us a the most interesting way of communicating. Alessandro Duranti seems to share the same vision when he declares that

> *Communication is not only the use of symbols that "stand for" beliefs, feelings, identities, events, it is also a way of pointing to, presupposing or bringing into the present context beliefs, feelings, identities, events. This is what is sometimes called the indexical meaning of signs. In this type of meaning, a word does not "stand for" an object or concept. It rather "points to" or "connects" to something "in the context". What it points to is either "presupposed" or entailed (that is, "created")* [178]

We fully share this pragmatic analysis of language in relation to culture and this viewpoint will be brought into light in the following lines.

4.3.1. The hackers and their jargon

In the previous chapter of our research work, the focus was chiefly put on the speech data relating to the lexicogenic norms at play within English over time. Now, the emphasis will be rather on the hackers' actual use of language. Accordingly, the attempt will be to show how the hackers cut cyberspace up, organize it into concepts and ascribe it significance, for it is this 'ontological' activity of forging electronic experience that distinguishes the hackers and marks them off both as a distinctive speech community as well as a socio-cultural one. Along the way, it will be shown whether the hackers respect thoroughly the ordinary language constraints that shape the English language, or rather partly cultivate some specific norms and rules to accentuate their differences from the other speech communities using English.

Indeed, the Jargon File purveys a whole set of rules intended to single out the hackers' identity from the others. Among the most outstanding linguistic constructions and though it tends to be considered rather archaic by the hackers, is the device called '*soundalike slang*' which consists in making rhymes or puns in order to convert an ordinary word or name, or phrase into humoristic ones. For example, *the New York Times* is light-heartedly turned into the *New York Slime*, in the same way as *the Wall Street Journal* is turned into the *Wall Street Urinal* or *Microsoft* into *Microsloth*.

[178] A. Duranti, *Linguistic Anthropology,* Cambridge University Press, 1997, p 37.

Another device called '*Overgeneralization'* consists of the systematic conversion of word classes. In this respect, to hackers, any noun can be 'verbed' in the same way as any verb can be 'nouned'. Therefore, examples such as *to clipboard, to mouse, a download* and so on can be widely noted. Another device consists in 'exaggerating 'the application of the lexicogenic rules such as the derivation process of affixation by the suffix '*ity*' for example. Since the derivative lexical unit like *porosity* (from porous + ity) is lexicalized in the English language, then the hackers proceed to the generalization of the derivational process to build other words like *obviosity* (from obvious + ity), or *dubiosity* from (dubious + ity) etc.

Just as some adjectives are built by the addition of the suffix 'ful' to words like 'wonder' or 'beauty' as in *wonderful* or *beautiful* hackers use the same resource to coin neologies like *screenfull or bufferfull*. As for inflexion, some non standard plural forms are generalized. Therefore, anything (verb or noun) ending in 'x' or even in phonetic [k] form their plural in '*xen*' e.g.: box => *boxen*, VAX => *VAXen*, socks => *soxen.* It goes without saying that hackers consider distorting language as an enjoyable and ludic grammatical creativity. *"It is done not to impress, but to amuse, and never at the expense of clarity.*"(E.S. Raymond: The Jargon File*).* For instance, intentional Spoonerisms are often made of phrases relating to confusion or things that are confusing. For example, *dain bramage* for *brain damage*, or, *excuse me, I'm cixelsyd today*, rather than *I'm dyslexic today*, are common and enjoyed by all concerned.

Another type of general fondness for 'form versus content' jokes is smartly illustrated by intentional misspellings such as: *worng* for *wrong*, *bad speling* for *bad spelling*, *too repetetitive* for *repetitive* or *incorrectspa cing* for *incorrect spacing*. Besides the above quoted clues, the Jargon Dictionary provides a pronunciation guide that helps pronouncing the vowels and some troublesome consonants like / gh / in a manner closer to that of hackers to facilitate integration into the community.

In addition to these clues, our observations of hackers' language reveal that because most coinages originate from American hackers, their pronunciation is inevitably closer to American Pronunciation than to Received Pronunciation. However, even so, it remains different from it. As a matter of fact, hackers change the function of a certain number of graphs notably those that represent the vowels. In this respect, while in English, the graph " y " is commonly used as a visual symbol representing either the short vowel /ɪ/ as in city, /sɪtɪ/or the diphthong /ai/ as in

hyphen /haɪfn/, hackers, on their part use the graph "y" to represent the long vowel [i:] in cases where it is the nucleus of a syllable, thus lengthening it to give it an excessive primary stress as in *cyberspace* /si:bəspaɪs/, for instance, or *hyperspace* /hi:pəspaɪs/.

Another graph whose function is changed by hackers is the graph "a" in cases where it represents the vowel that constitutes the nucleus of a syllable. This graph that commonly represents sounds like /ei/ as in *same*, /a:/ as in *father*, /i/ as in *village*, /e/ as in *many*, /æ/ as in *cat*, /o:/ as in *war*, /ɒ/ as in *what* , or /ə/ as in *again*, is pronounced /ai/ by hackers, in "ordinary" words like *name* /naim/, or *space* /spais/. It may be useful to recall here that the convention to pronounce for example the verb *take* as / teik / but not / taik / is simply arbitrary. However, hackers who are by nature non-conformists question these types of linguistic conventions and sometimes bring them to exhibit their irregularities.

Another tendency of the hackers is the systematic transformation of the diphthong / ai/ into the long vowel /i:/ in cases where it constitutes a syllable with no onset and no termination as in *eye candy* /i:kəndı/, as well as in cases where it forms the nucleus of such syllables as : C + V + C as in; *bytesexual* /bi:tsekʃʊəl/, *cyberspace* /si:bəspais/ ; *hyperspace* /hi:pəspais/ , *email* /i:mail/ ; *sharkive* /ʃarki:v/.

It goes without saying that the point raised here by the hackers relates to the conventional norms that permit the passage from a spoken form to a written one. By providing a pronunciation model together with their dictionary, they impose new conventions for pronunciation. This allows the hackers to deliberately bring the users of the language to think about the fragility of the pronunciation conventions that can be safely broken with a certain amount of linguistic knowledge, exactly as they bring computer programmers and users to think differently about the programming language conventions which they themselves sometimes change to perform a certain number of activities, some of which are prohibited however. But more, by doing so, two objectives are targeted:

a) – Bring language or computer users to be more aware and at the same time more involved in their way of using the language and / or the computer.

b) - Participate in the continuous updating of the knowledge relating to both the lexis of a language and to computer science in general.

Another observation reinforces this idea. It has been noted that as far as the pronunciation of the English language is concerned, a certain renewal of some of its conventions is being standardized. Examples of this are the disappearance of certain symbols representing some English phonemes and their replacement by other symbols. Hence, for example the disappearance of the symbol /ı/ and the appearance of the symbol /i/ for words ending in "y" as in lady /leidi / instead of /leidı/, or of city /sıti/ instead of /sıtı/. This change in General Standard English which has recently been adopted by dictionaries such as the *Concise Oxford Dictionary* (1999) is immediately integrated by hackers, exactly as is integrated the replacement of the diphthong /eə/, by the long vowel /e:/ as in hair /he:/, or fair/fe:/.

It should be perhaps useful to recall that the novelty of this pronunciation exceeds by far the regular differences between Received Pronuncisation (RP) and General American (GA). In this connection, one can mention the equivalence diagram provided by J.P. Watbleb[179] and which outlines the differences as follows

Table 5: Received Pronunciation and General American

RP	ɜ:	ıə	eə	ʊə	e	ɛ	ɒ
GA	ə + r	ı + r	e + r	ʊ + r	ə + ʊ	o + ʊ	a: / o:

At this point, it may be worth recalling a major linguistic event that has completely changed the structure of the English pronunciation: we mean the Great Vowel Shift. This extremely important event probably caused by the Black Death lasted about two centuries, (during the fifteenth and the sixteenth century). It saw the transformation of all the long vowels and part of the short vowels, and thus affected the pronunciation of English in general. Roger Lass sums up this phenomenon in a lapidary formula: "*non-low long vowels raise one height; high vowels diphthongize.*"[180] However to illustrate this shift, we have borrowed the following examples from M. Taillé.

[179] J. Watleb, *Prononciation de l'Anglais,* Nathan, 1996, p 110.
[180] R. Lass, P*honology: An introduction to basic concepts* Cambridge University Press, 1984 p 126.

Table 6: The Great Vowel Shift[181]

Vowels	**Old English**	**After the great vowel shift**
[e:]	Fet [fe:t]	*Feet [fi:t]*
[o:]	Fot [fo:t]	*Foot [fʊt]*
[æ:]	Nama [næ:ma]	*Name [neɪm]*
[ɑ]	Gat [gɑ:t]	*Goat [gəʊt]*
[i:]	Fif [fi:f]	*Five [faɪv]*
[u:]	Dun [du:n]	*Down [daʊn]*

What requires most attention is the phenomenon of diphthongization of some long vowels. In this way, /i:/ became /ai/ as in *fif* /fi:f/ which became *five* /faiv/, /a:/ became /əʊ/ as in *gat* /gɑ:t/ which became *goat* /gəʊt /, and /u:/ became /au/ as in *dun* /du:n/ which became *down* /daʊn/. This phenomenon has attracted our attention because in the hackers' jargon the exact inverted transformation from that operated during the Great Vowel Shift has been observed.

In effect, the examination of the Jargon File, has revealed the transformation of the diphthong /ai/ into the long vowel /i:/ as for example : *cyber* /saibə/, which became /si:bə/, *bagbiter* /bagbaitə/ , which in the file has muted to /bagbi:tə/, or *eye candy* /aikəndı/, which is pronounced /i:kəndı/, while an item like *wirehead* reads simply /wi:hed/. Another phenomenon worth signaling, relates to the transformation of the diphthong /ei/ into another diphthong /ai/. In the Jargon Dictionary, the item *space* /speis/, is pronounced /spais/, *email* /i:meil/ is pronounced /i:mail/ and *lase* /leiz/, is turned to /laiz/. However, the most surprising phenomenon is the substitution of the sound /e/ to the schwa /ə/, as in *smurf* , actually pronounced /smerf/, or the economization of *TMRCie*, pronounced /tmerki:/ by hackers.

[181] M. Taillé, *Histoire de la Langue Anglaise,* Armand Colin, 1995, pp 50-51.

The following table borrowed from Otto Jespersen's work will serve to better illustrate the shift from Middle-English to Modern English, and the change which the hackers are bringing to the pronunciation of English:

Table 7: The shift from Middle to Modern English

Middle English	Modern English	Hackers' pronunciation
/*ā/ make*	/ei/ make	/ai/ space, email, lase
/ɛː/ feet	/i:/ feet	
/i:/ mice	/ai/ mice	/i:/ cyber, bagbiter, eye
/ɔː/ boot	/u:/ boot	
/u:/ mouse	/aʊ/ mouse	
	/ə/ about	/e/ smurf

One may rightly wonder whether the above mentioned phonological transformations are reliable indications as to what is happening in present day English which will entail considerable future changes in the way we pronounce and write English, or if they will remain marginal innovations confined to the jargon of a community which despite its extraordinary resources and ingenuity, will prove incapable of deeply influencing the English language.

As a matter of fact, one can only believe that such a care for linguistic innovations is far from being trivial. One can affirm that the purpose of the Jargon File pioneers and maintainers exceeds that of the simple satisfaction of the communication needs in the field of computer science. The hackers' manner of using language as technology for the expression of knowledge far extends this role to assume other objectives, some of which have been reported by Duranti quoting Foucault

> *...Finally, this emphasis on discourse as technologies of knowledge makes us aware of the role of language in institutional efforts (in schools, hospitals, prisons) to organize and hence control the private lives of members of society, including their conceptualizations of self, ethnic identity and gender relations*[182]

[182]A. Duranti, *Linguistic Anthropology* Cambridge University Press, 1997, p 12.

Our assumption is that there are other important reasons that justify the existence of this jargon. In fact, these concern cultural and philosophical values filtering through an attitude towards sciences in general, computer science in particular and more globally, towards life in general, different from that of the mainstream people. This issue constitutes the core of the next chapter. However, before that, we should like to account first for hackers' attitudes towards the constraints that the English language imposes on the construction of new words, and also account for hackers' attitudes towards the motives of lexical creation.

4.3.2. The hackers and the language constraints

It has been noted that though hackers enjoy word play and linguistic innovations, they generally remain scrupulously faithful to the constraints that English imposes upon its users. The respect that hackers show towards the language constraints can be explained as follows: They perfectly know that their coinages will bear no chance of being integrated some day by the English speaking community in general if they do not respect the following requirements:

1) - The morpho-phonic constraint which shapes the coinage into a phonetic and phonological mould actually realizable without a particular effort, by the language users.

2) – The constraint of order, because the change in the structure of the coinage would be so drastic and sudden and would require so much attention and effort at the same time that it has very little chance to be accepted by the community of English users. In fact it will not be accepted even by the hackers themselves, since they will be brought to coin ambiguous items in total contradiction to one of their basic priorities which is clarity through transparency.

3) – The semantic constraint, for the obvious reason that so far languages have been formed to respond to the demands of their users who seek to design new phenomena or new concepts supposed to be unknown, or differently designated before a coinage is built. Therefore, no person would make the effort of learning words that bear no particular meaning, or that add no shade of meaning to already existing items in the language. The activity would be assimilated to a useless waste of time and energy and would therefore be regarded as *wombat*.

4.3.3. The hackers and the motives of lexical development

In addition to a special spelling of words and a particular pronunciation, it has been observed that the hackers' linguistic accommodation to the new context of the Internet shows through their high degree of involvement in lexical development. It also proves evident that all the lexical units making up the corpus serve the purpose of communication. Still, it can be safely affirmed that most coinages respect also the law of least effort and the playful impulse motives. For instance, the formation of a new primary lexical unit remains by far the satisfaction of the communication need, since it primarily serves to designate a new extra linguistic reality, for example, *derf, and cruft*.

However, aside its function to designate an extra linguistic reality, the formation of a complex lexical unit such as *nyetwork* displays an obvious touch of humor which underlines the playful impulse linked to the coinage. Nevertheless, the main purpose of a coinage remains either to designate something new or to change the meaning of an existing lexical unit. Therefore, one can generalize by stating clearly that the new primary lexical units serve essentially the communication need, while all the others serve a combination of motives.

4.3.4. The communication need

Through the analysis of our corpus, we have noted that among the lexical units used most exclusively for communication needs can be found all the primary lexical units: *chad, choad, cruft, feep, flarp, derf, frink, friode, frob, gib, glark, gonk, gorets, grep, kiboze, menuitis, pr0n, snivitz, vaston, womble*. As it was argued above, these simple primary lexical units are coined to indicate new extra linguistic realities for which there was no preceding designation. This semasiological activity appears as the hackers' favorite creative game where their 'world vision' shows through the corresponding linguistic economic means at work in the invention of such units. As a matter of fact, it is observed that concerning primary lexical units, out of 20 coinages, 13 are built with only one syllable – 6 are built with two syllables and only one coinage is built with three syllables. This continuous care for concision and linguistic economy is observed all along our survey of the hackers' jargon.

When the hackers do not build an economic coinage of their own, they naturally borrow words from the xeno-lexis. However, the resort to loanwords is far from being pervasive. This may be due to the fact that as was mentioned above, in the technological field English is the leading language. Nonetheless, examples such as: *avatar, bletch, cretin, defenestration, elite, gedanken, glitschen, samizdat, samurai* are commonly used by the hackers, especially when the referents of these loan words are not primarily concerned with technology. A certain number of interjections are also purposely included as primary lexical units for two reasons: a) – they are formed of one syllable, - b) -they are widely used in Usenet discussions. Examples of such interjections are: *ack, bletch, foo, nack, yow*.

4.3.5. The law of law of least effort

Linguistic economy seems to be among the first priorities of the hackers in the construction of the Jargon File. This permanent preoccupation for concision and brevity shows through the coinages themselves on the one side and through the hackers' favorite word formation processes on the other side. Concerning the coinages themselves, it was observed that when a primary lexical unit had to be coined, one or two syllable items are preferred. Otherwise, the hackers appeal to the most economic procedures, but always bearing in mind the necessary transparency and clarity that should help readers grasp the meaning of the coinage easily. For this purpose, the hackers preferably use derivation, compounding, blends, metaphors, and of course acronymy. It goes without saying that such procedures remarkably favor linguistic economy since in the case of derivation for example, the base serves as the main core from which the coinage to form will bear its future meaning.

Compounding eases the comprehension of a coinage, since, in a compound, one of the components is always an autonomous lexical unit that permits the formation of some new units and at the same time forbids others. Blends are also favoured since the structure of the coinage forces its meaning to sparkle out. The two components are telescoped in such a way that all of a sudden the result of this device enlightens the new meaning induced by the blend. Building words through metaphors is also highly appreciated by both the coiners and the readers. It is a very pleasant way to assemble, in an appropriate context, lexical units of different fields or categories, which normally do not fit together. By doing so, the resulting meaning,

which would have required a whole sentence, is thus reduced to a single lexical unit. A notable example of such blends is *netiquette* standing for Internet etiquette.

Of course acronymy is by far the most used word formation process. It involves words, phrases and whole sentences, with the notable particularity that here, not only words, but also phrases and even whole sentences are reduced to initials. The latest innovation concerns of course the reduction of idiomatic expressions into a clipped acronym such as *BOF*. This amply testifies the great preoccupation about linguistic economy so characteristic of the Jargon Dictionary.

But there is more to that, since it has become a habit for the hackers to often combine two or more than two word formation processes in conformity with the three motives of lexical creation just to coin one lexical unit. This is the case with *FAQList*, (built out of an acronym FAQ, compounded with the primary lexical unit List) or *AOLers* (formed also of an acronym AOL, to which an affix is added, here the plural suffix "ers" to form the derivative *AOLers*). This intense linguistic activity shows the extent of the hackers' interest in linguistic economy which is part of their philosophy of life in general and which consists in making the best of any available tool at hand to explore the unknown and bring to light as much as can be.

It ought to be mentioned however, that this economic way of using language does not concern the community of hackers exclusively. In a survey conducted by D. Crystal, the linguist noticed that

> *In A sample of 100 direct-speech contributions taken from published log data showed an average of 4.23 words per contribution, with 80% of the utterances being 5 words or less. The words themselves are short: nearly 80% of 300 word-samples of direct-speech taken from logs (excluding proper names) were monosyllabic; indeed, only 4% were words longer than 2 syllables.*[183]

As can be seen, linguistic economy and playfulness seem to be the law within the Internet rather than the exception.

4.3.6. <u>The playful impulse</u>

Hackers adore puns and word play and compete to make the best use of the playful impulse. This feature is totally assumed by hackers like E .S. Raymond who declares in the *Jargon File* that "*dry humor, irony, puns, and a mildly flippant attitude are highly valued but an underlying seriousness and intelligence are essential*."[184] In fact, the hackers' biggest priority seems to be freedom in general.

[183] D. Crystal, *Language and the Internet*, Cambridge University Press, 2001, p 156.
[184] E. S. Raymond, *The Jargon File* , http://www.netmeg.net/jargon/

Freedom, in their way of life, of speech, in language use, but mainly freedom in their favourite pastime: Programming. Therefore, contrary to business companies, which seek to protect their software so as to sell it better and make more profit, some hackers reject the notion of proprietary software whether it relates to programming languages, to operating systems, or to simple applications. In this respect, the hackers evolve in a computing environment distinct from that of the business companies, and thus, from the mainstream computer users.

To catch up with the developments of the computing industry, the hackers promote software tools they themselves create collectively and which prove sometimes to be superior to the expensive software developed by some business firms. In these conditions, it is not surprising that one of the hackers' favourite targets appears to be some business companies in the field of technology. Eloquent examples are: *AOLusers; IBM* (Inferior But Marketable); *Macintoy / Macintrash* (the Apple Macintosh, considered as a toy); *MessDos/Mess Loss*; Marketroids (a member of a company's marketing department, especially one who promises users that the next version of a product will have features that are not actually scheduled for inclusion); *Microserf* (a programmer at Microsoft); *Microsloth Windows; Windoze; Sunstools* (unflattering hackerism for Sun Tools, (a pre- x windowing environment notorious in its day for size, slowness, and misfeatures) ; *Internet Exploiter/Exploder; W2K bug*. Other examples of wordplay comprise: *Ambimouseterous* (able to use a mouse with either hand); *braino; code grinder; cup holder; fontology; memory leak; machoflops* (a coinage for millions of Floating-point Operations Per Second); *progasm*; *squirrelcide*; *teledildonics*; VAXectomy. The humour that lies behind each coinage makes it pleasant to read and easy to remember.

4.4. The Corpus through the Lexicogenic Rules

4.4.1. Morpho-semantic neology

After the preliminary general observations provided in the previous section, we shall now proceed to the linguistic analysis of the corpus under the theoretical framework furnished by J. Tournier. The items which belong to morpho-semantic neology will be listed first before moving to those belonging to semantic neology. Our investigation will be closed by itemizing the neologies which concern morphological neology.

1. - Primary lexical units:

They are of the type:

- Consonant + Vowel. For example: *tee* /ti:/ (a carbon copy of an electronic transmission).

- Vowel + Consonant (VC). For example: *ogg* /ɒg/ (in the multi-player space combat game Netrek, to execute kamikaze attacks against enemy ships which are carrying armies or occupying strategic positions).

- Consonant + Vowel + Consonant (CVC). For example: *chad* /ʧæd/ (the perforated edge strips on printer paper, after they have been separated from the printed portion). Other examples of this type are: *choad* (synonym for 'male genital organ'); *derf* (the act of exploiting a terminal which someone else has absentmindedly left logged on, to use that person's account); *feep* (the soft electronic 'bell' sound of a display terminal); *gib* (to destroy utterly).

- CVCV. For example: *weenie* (a contemptible person. The typical weenie is a teenage boy with poor social skills travelling under a grandiose handle derivative from fantasy or heavy-metal rock lyrics)

- CCVC. For example: *friode* (a reversible diode); *Frob* (a protruding arm or trunnion); *Glark* (to figure something out from context); *Grep* (to rapidly scan a file or set of files looking for a particular string or pattern)

- CVCC. For example *gonk* (to prevaricate or to embellish the truth beyond any reasonable recognition)

- CVCCC. As in *womble* (a user who has great difficulty in communicating requirements and / or in using the resulting software. Extreme case of a luser)

- CVCVC: *kiboze* (to grep the Usenet news for a string, especially with the intention of posting a follow-up)
- CVCVCC: *gorets* (the unknown ur-noun, fill in your own meaning)
- CCVCC: *cruft* (an unpleasant substance); *Frink* (the unknown ur-verb, fill in your own meaning)
- CVCCVC: *Wumpus* (the central monster of a famous family of very early computer games called‘ Hunt the Wumpus’)
- CCVCVCC: *snivitz* (a hiccup in hardware or software)
- CVCCVCVC: *menuitis* (notional disease suffered by software with an obsessively simple minded menu interface and no escape)

It may be worthy to recall that to coin a simple word requires a certain number of principles mentioned in chapter three. Therefore, as can be logically expected, it has been noticed that all the above mentioned coinages fully conform to the phonological constraints currently imposed on the English lexis.

2. Derivative lexical units

Notice should be made that the underlined items are already part of the real lexis. The explanations of the items between brackets are provided by the Jargon File itself.

A) - Simple derivation:

1) – By prefixation: A certain number of recurring prefixes that express either the notion of removal, novelty, recurrence or factorization can be observed.

de: (prefix denoting removal or reversal) e.g.: de + hose (a narrow channel through which data flows under pressure sometimes provoking bottlenecks) => *dehose* (to clear a hosed condition); de + peditate (in analogy with decapitate) => *depeditate* (humorously to cut off the feet of); de + spew (vomit) => *despew* (to automatically generate a large amount of garbage to the net, especially from an automated posting gone wrong).

Mega: (denoting a factor of one million) e.g.: mega + penny $10.000 (1 cent 10^6) => *megapenny* (used humorously as a unit in comparing computer cost and performance figures)

Neo: (new) e.g.: neo + philia (denoting fondness) = > *neophilia* (the treat of being excited and pleased by novelty)

re: (once more) e.g.: re + hi (hello) => *rehi* (hello again)

2) - By Suffixation: What can be noted is that the use of some suffixes such as *ectomy* that used to be specific to the medical jargon; the use of other suffixes such as *ish*, to form derivatives which would have never been accepted in academic standard English; the formation of words with new suffixes such as ware; and finally an increasing use of the suffix {o}.

age: (denoting an action, a function, a condition or a state) e.g.: coin (invent) + age => *coinage* (a newly invented word or phrase); *flame* (an abusive message distributed electronically through a computer network) + age => *flamage* (a high noise, low-signal postings to Usenet or other electronic fora); loss (something- not a person- that loses) + age => *lossage* (the result of a bug or malfunction); screw (a loss, usually in software) + age => *screwage* (like lossage, but connotes that the failure is due to a designed-in misfeature rather than a simple inadequacy or a mere bug) ; win (to succeed) + age => *winnage* (the situation when a lossage is corrected).

cide: (denoting an act of killing) e.g.: squirrel (an agile tree-dwelling rodent with a bushy tail, typically feeding on nuts and seeds) + cide => *squirrelcide* (what happens when a squirrel shorts out power lines with their little furry bodies. The result is a dead squirrel and one down computer installation. In this situation, the computer system is said to have been squirrelcided).

ectomy: (denoting surgical removal of a specified part of the body) e.g.: feature (a distinctive attribute or aspect of something) + ectomy => *featurectomy* (the act of removing a feature from a program); VAX (a very successful computer design) + ectomy => *VAXectomy* (a VAX removal, by analogy with vasectomy).

er: (denoting a person, animal or thing that performs a specified action or activity) e.g.: lame (naïve or socially inept person) + er => *lamer* (a person who downloads much, but who never uploads); hack (cut with rough or heavy blows) + er => *hacker* (a person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary).

gram: (denoting something written or recorded) e.g. nasty (highly unpleasant) + gram => *nastygram* (disapproving mail).

ics: (denoting a subject of study or branch of knowledge, or a field of activity) e.g.: meme (an idea considered as a replicator, especially with the connotation that memes parasitize people into propagating them much as viruses do) + ics => *memetics* (the study of memes. Memetics is a popular topic for speculation among hackers who like

to see themselves as the architects of the new information ecologies in which memes live and replicate).

ie(s): (forming diminutive nouns) e.g.: new (not existing before) + ie => *newbie* (a Usenet neophyte).

fy: (forming verbs denoting transformation or the process of making into) e.g.: web (the World Wide Web) + ify => *webify* (to put a piece of material into the WWW).

ish: (having the qualities or characteristics of) e.g.: hack + ish => *hackish*

meter: (unit of length in the metric system) e.g.: bogon (the elementary particle of bogosity) + o + meter =>*bogometer* (a notional instrument for measuring bogosity); troll (to utter a posting on Usenet designed to attract predictable responses or flames, or the post itself) + meter => *Troll-O-meter* (notional instrument used to measure the quality of a Usenet troll); vaston (the unit of load average) + o + meter => *vastometer* (a meter displaying how much work a computer is doing).

ology: (denoting a subject of study or interest) e.g.: box (computer) + o + logy => *boxology* (this term implies a more restricted domain, that of box-arrow drawings); font (a set of type of a particular face and size) + o + logy => *fontology* (the body of knowledge dealing with the construction and use of new fonts).

o: (forming informal variants or derivatives) e.g. mouse (a small hand-held device having buttons which are pressed to control computer functions) + o => *mouso* (an error in mouse usage resulting in an appropriate selection or graphic garbage on the screen); think + o => *thinko* (a momentary, correctable glitch in mental processing, especially one involving recall of information learned by rote) .

ware: (denoting manufactured articles of a specified type e.g.: bloat (cause to swell with fluid or gas) + ware => *bloatware* (software that provides minimum functionality while requiring a disproportionate amount of diskspace and memory); cripple (a person who is unable to walk or move properly through disability or injury + ware => *crippleware* (software that has some important functionality deliberately removed, so as to entice potential users to pay for a working version); tree + ware => *treeware* (printouts, books, and other information media made from pulped dead trees) ; wet + ware => *wetware* (the human nervous system, as opposed to computer hardware or software).

y: (denoting state or quality) e.g.: cruft (an unpleasant substance) +y => *crufty* (poorly built, possibly over-complex); soft (software) + y => *softy* (hardware hackers' term for a software expert who is largely ignorant of the mysteries of

hardware); wonk (incompetent) + y => *wonky* (specifically connotes a malfunction that produces behaviour seen as crazy, humorous or amusingly perverse).

3) – By prefixation + suffixation:

Table 8: Formation of neologisms through affixation

Prefix	**Base**	**Suffix**	==>	**New lexical unit**
Auto	*Magic*	*Ally*		Automagically
Ambi	*Mouse*	*terous*		Ambimouseterous

prefix *auto* (self) + base *magic* (very exciting) + suffix *al* (relating to) => *automagically*; *ambi* (used as a suffix meaning double) + *mouse* (hand-held device used to move the cursor on a computer screen) + *terous* (used as a suffix meaning user) => *ambimouseterous* (meaning a person able to use a mouse with either hand and built on the model ambidextrous)

What can be observed here is the creation of a suffix 'terous' in *ambimouseterous* which, in our opinion, has never been recorded before, since boisterous is considered as a simple unit.

4 – Complex derivation

Lack of appropriate terminology has compelled us to label this process complex derivation, because a new sort of prefix is being used more and more regularly. It consists of the addition of the initial '***e***' of electronics to a root to form a derivative lexical unit. The output of this process is the formation of a unit that may be used either as a noun or as a verb. e.g. an email, Noun, or to email, Verb. Sometimes a hyphen or space is left between e and mail e-mail or e mail, but sometimes e is attached to mail as in email.

Derivation by epenthesis 'o'

It consists of the addition of the epenthetic vowel /ɒ/ between a base and a suffix to form a possible coinage, which would not have been possible otherwise

because of the morpho-phonological constraint. Examples of this device are: /ʃæmbɒlɪk lɪŋk/ s*hambolic link* (chaotic link) thus formed, because shambleslike link /ʃæmblzlaiklɪŋk/ would perhaps never be accepted for the unusual contiguity of the phonemes in presence (here 4 consecutive consonants / b/ /l/ /z/ /l/). The same holds for *shitogram*, *trollOmeter*, *bogometer* where the epenthetic vowel / o / permits the fluid pronunciation of the coinages.

The second device consists of the addition of the epenthetic /ɪ/ to a coinage to adapt it to the morpho-phonological constraint as for example in *autobogotiphobia* /ɔʊtəʊbəʊgətɪfəʊbɪə/ where the three successive consonants [gtf] are not common in the English language. The insertion of the vowel /ɪ/ makes the coinage possible.

The third device consists in adding aspirated infix '***h***' to distinguish proper nouns from common ones and thus avoid ambiguity, at least in the written form. E.S. Raymond, on his part maintains that *infix 'h' which in fact originated in science fiction fandom is specifically used for the formation of proper nouns that have an *ironic* relationship to the base common noun*. For example, *Ghod* is distinguished from god; *dhrystone* from drystone ; and *Rhealstone* from realstone.

<u>Compounds</u>

A) – Simple compounds:

These coinages are formed of two independent lexical units:

1- Compound Nouns formed by the combination of two nouns:

Noun + Noun => Noun

eye + candy => eye candy (a display of some sort that's presented to lusers to keep them distracted while the program performs necessary background tasks); a *computer geek* (one who fulfils all the dreariest negative stereotypes about hackers); the *bit bucket* (the place where all lost mail and news messages eventually go); logic bomb (code surreptitiously inserted into an application or OS that causes it to perform some destructive or security-compromising activity whenever specified conditions are met) ; *salesdroid* : from sales + droid (program which automatically collects information from remote systems) .

Table 9: Formation of neologisms through compound nouns type 1

Noun	**Noun**	==>	**Noun**
Bit	Bucket		*Bit bucket*
Computer	Geek		*computer geek*
Eye	Candy		*eye candy*
Sales	Droid		*Salesdroid*

2 –Compound Nouns formed by the combination of:

Noun + Verb + er => Noun

For example, *tree killer* (a printer); *cup holder* (the tray of a CD-ROM Compact Disk-Read Only Memory drive, or by extension the CD drive itself. So called because of a common legend about the customer who called to complain that the cup holder on his computer broke); *gender mender* (a cable connector shell with either two male or two female connectors on it, used to correct mismatches).

Table 10: Formation of neologisms through compound nouns type 2

Noun	**Verb**	**Er**	==>	**Noun**
Cup	Hold	Er		*Cup holder*
Gender	Mend	Er		*Gender mender*
Tree	Kill	Er		*Tree killer*

3 –Compound Nouns formed by the combination of:

Adjective + Noun => Noun

hired gun (a contract programmer, as opposed to a full-time staff member); *hot link* (a hot spot on a World Wide Web page; an area, which, when clicked or selected, chases an URL- Uniform Resource Locator-, i.e. a WEB address) ; *larval stage* (describes a period of monomaniacal concentration on coding apparently passed through by all fledgling hackers) ; *old fart* (a tribal elder for Usenetters who have been programming for more than 25 years); *true hacker* (one who exemplifies the primary values of hacker culture, especially competence and helpfulness to other hackers); *virtual reality* (computer simulations that use 3-D graphics and devices such as the dataglove to allow the user to interact with the simulation).

4 -Compound Nouns formed by the combination of:

Noun + Verb => Noun

brain fart (the actual result of a braino, as opposed to the mental glitch that is the braino itself) ; *lithium lick* (employees showing signs of jobsian fervor and repeat the most recent catch phrases in normal conversation) ; *mail storm* (a flood of incoming mail that brings a machine to its knees) ; *memory leak* (an error in a program's dynamic–store allocation logic that causes it to fail to reclaim discarded memory, leading to eventual collapse due to memory exhaustion)

5 – Compound Adjectives formed by the combination of:

Noun + Adjective => Adjective

brain dead (brain-damage in the extreme). It tends to imply terminal design failure rather than malfunction or simple stupidity); *content free* (used of a message that adds nothing to the recipient's knowledge).

6 –Compound Adjectives formed by the combination of:

Adjective + Adjective =>Adjective: *copious free time* (Time reserved for bogus or otherwise idiotic tasks);

7 – Compound Verbs formed by the combination of :

Noun + Verb => Verb

cross post (to post a single article simultaneously to several newsgroups)

B) –Complex compounds: First level

This new word formation process consists in forming a compound by the combination of:

1. Clipped form + lexical unit = > complex compound

(cyber) back clipping of cybernetics + lexical unit space =>form *cyberspace* (the internet); (emot) back clipping of emotion + lexical unit icon => *emoticon* (an ASCII glyph used to indicate an emotional state in email or news); sig (from signature) + lexical unit quote = > *sigquote* (a maxim, quote, proverb, joke, or slogan embedded in one's sigblock and intended to convey something of one's philosophical stance, pet peeves, or sense of humor).

2. lexical unit + acronym => Complex compound

lexical unit Plain + acronym ASCII => *plain ASCII*

3. Acronym + lexical unit => complex compound

FISH (First In, Still Here) + (lexical unit queue) => *FISH queue* (a joking way of pointing out that processing of a particular sequence of events or requests has stopped dead); *FAQ* (acronym or Frequently Asked Questions) + lexical unit list => *FAQList* (a compendium of accumulated lore, posted periodically to high-volume newsgroups in an attempt to forestall such questions) .

4. Loan word + lexical unit => complex compound

Russian nyet + lexical unit work => The *nyetwork* (a network when it is acting flaky)

This process is different from clipping because it involves the combination of two lexical units, one of which is clipped while the other is not.

C) –complex compounds: Second level

This process is labelled second level complex compounds because both elements of the compound are themselves the result of a word formation process. However, they behave in this particular process as if they were simple primary lexical units, which combine to form one new lexical unit that indicates a new extra linguistic reality. Perhaps the following analogy will make this point clearer: it is as if one presses an orange to get its juice, then dries up the juice to use the obtained product in combination with another fruit juice which had itself undergone the same process, in order to constitute together a sort of superior nectar cocktail.

The possible combinations of processes concerning second level complex-compounds run as follow:

1- The acronym SIG, written in upper case characters stands for Special Interest Group, and it can be combined with a clipped word form to build a new word e.g.: *SIGARCH*, (SIG + back clipped form of architecture, ARCH) = > SIGARCH for computer architecture; *SIGGRAPH*, for computer graphics where SIG + back clipped form of graphics); *SIGPLAN*, for programming languages.

2- Derivative lexical unit + compound e.g.: { dick + less } + { work + station } => *dickless workstation* (extremely pejorative hackerism for ‘ diskless workstation’, a class of botches including the Sun 3/50 and other machines designed exclusively to network with an expensive central disk server).

3- Blend + derivative lexical unit e.g.: *Internet exploiter / exploder*.

4- Acronym + suffix e.g.: *GNUbie* from (Gnu’s Not Unix); *AOLers* from (America On Line); *CUSPy* from (Commonly Used System Program).

5- (Acronym + suffix) + lexical unit e.g.: *ASCIIbetical order* (used to indicate that data is sorted in ASCII collated order rather than alphabetical order).

6- Alphanumeric combination + lexical unit e.g.: *W2K bug* (Windows Two thousand bug).

These highly economical linguistic devices are an illustration of hackers’ habitual tendency to turn everything to account i.e., to say the most with the least, as long as comprehension is guaranteed. The evident gain in time, space, articulation

and memory effort coupled with a certain touch of humour makes these ingenious devices both productive and pleasant.

Blends

Blends are built when two lexical units are made to telescope one another, for the purpose of generating a new lexical unit. This process significantly reflects what results of the interaction between two strangers or between two different languages brought into contact with one another. Three types of situations may result from these interactions:

1- the first elements of the first component dominate the second eg: *buglix, crapplet, rasterbation, Usenet, sysop*

2- the elements of the second component dominate the first eg: *gubbish, netiquette, sharchive, sysape*

3- the elements of the two components equally cooperate to shape a balanced neology eg: *internet, microdroid, kibozo, progasm*

To be threaded, either one phoneme, a whole syllable or more than one syllable from one element and sometimes the whole word, plus part of the second element are telescoped.

Table 11 : Formation of Blends

Noun	+	**Noun**	==>	**Noun**
Bug		ULTRIX		*buglix*
Crap		Applet		*crapplet*
Garbage		Rubbish		*gubbish*
International		Network		*internet*
Kibo		Bozo		*Kibozo*
Microsoft		Android		*microdroid*
Network		Etiquette		*netiquette*

Program	Orgasm	*progasm*
Raster	Masturbation	*rasterbation*
Shell	Archive	*sharchive*
System	ape	*sysape*
System	Operator	*Sysop*
Users	Network	*Usenet*

The following definitions are intended to familiarize the reader with the meanings of the coinages taken from the Jargon File:
(*buglix* : pejorative term to refer to ULTRIX operating system) ; (*crapplet* : a worthless applet) ; *gubbish* : (nonsense); *Internet* (the network of networks); (*microdoid* : a Microsoft employee) ; (*netiquette* : the conventions of politeness recognized on Usenet, such as avoidance of cross-posting to inappropriate groups and refraining from commercial pluggery outside the biz groups.); (*progasm* : the euphoria experienced upon the completion of a program or other computer-related project.) ; (*rasterbation* : the gratuitous use of computer generated images and effects in movies and graphic art which would have been better without them.) ; (*sharchive* : a flattened representation of a set of one or more files, with the unique property that it can be unflattened by feeding it through a standard Unix shell; thus, a sharchive can be distributed to anyone running Unix, and no special unpacking software is required) ; (*sysape* : a rather derogatory term for a computer operator) ; (*Sysop* : the operator and usually the owner of a bulletin-board system.) ; (*Usenet* : a distributed bulletin board system supported mainly by Unix machines.) .

It should be noticed that blends of the type Noun + Noun => Noun is the most productive probably because it requires less memory effort to be understood and remembered than the following ones.

Verb	+	Noun	=>	Verb
gripe	+	bitch	=>	*gritch*
spam	+	advertise	=>	*spamvertize*

Verb	+	Verb	= >	Verb
spangle	+	bungle	=>	*spungle*

Adjective	+	Noun	= >	Noun
lexical	+	analyzer	=>	*lexer*
technical	+	reference).	=>	*techref*

The exceptional power of blends to add 'meaning' to meaning has made of it one of the hackers' favourite way to form new lexical units. It is at the same time economical, transparent, hybrid and fragmentary. It is not surprising then to notice that blends remain among the hackers' favourite processes to coin new words.

- Onomatopoeia

Because of the written aspect of Computer Mediated Communication, onomatopoeia remains more an exception rather than the rule. However, some coinages are formed on the basis that they reflect more or less the supposed sonority of the objects they represent. Examples of these are: *feep* (the soft electronic 'bell' sound of a display terminal); *neep neep* (one who is fascinated by computers); *wugga wugga* (imaginary sound that a computer program makes as it labours with a tedious or difficult task). Nevertheless and without any surprise, the extreme scarcity of this type of coinages can be easily noted.

4.4.2. Semantic neology

- Conversion

As mentioned previously, the processes of conversion, together with back formation, are labelled overgeneralization by the hackers.

a)- The conversion can be total (also called zero affix) e.g.: a mouse, N => *to mouse*, V ; a toad, N = > *to toad*; V (notionally, to change a MUD player into a toad) ; a mailstorm (a flood of incoming mail that brings the machine to saturation point) Compound Noun => *to mail storm*, Compound Verb .

b) - An affix can be added.

Conversion from noun to verb e.g.: the web, Noun => *to webify*, Verb;

Conversion from adjective to verb e.g.: bogus, adjective => *to bogotify*, Verb;

Conversion from verb to noun e.g.: to win (to succeed) => *a winnage*; to lose (a program loses when it encounters an exceptional condition or fails to work in the expected manner) => *lossage*. As it was mentioned in the third chapter, once the converted lexical unit enters its new class, it fully integrates the latter class and behaves exactly as any other item of the class. That is the reason why it is sometimes difficult to identify the item's initial class.

- Metaphors

Metaphors seem to be one of the hackers' favourite playgrounds wherein they give free vein to their playful impulse and their amazing imagination. This lexicogenic process, aside from the great freedom of expression it permits, makes the coinages more easily understood by analogy, and participates implicitly in the reduction of the linguistic cost of communication. The metaphoric process of which D. Hymes says that *it is basic in rendering experience intelligible* [185] involves all types of lexical units: nouns, verbs, adjectives, etc.

Elaborating on the power of metaphors to provide shortcuts to improve and facilitate communication, Medina writes that

> *Thanks to the systematicity of metaphor, we are capable of travelling from one semantic domain to another with ease. Metaphors are sometimes selected because they connect previously unrelated semantic domains and this new metaphorical connection has* ***cognitive and explanatory powe****r: it enables us to structure (or restructure) one of the semantic domains in terms of the other, to understand in a new way and to do things with it that we couldn't do before.*[186]

Accordingly, an extensive metaphoric use of animals and insects nouns can be observed in the Jargon File as the following examples show: *boa* (any of the flat cables that lurk under the floor in a dinosaur pen); *bug* (an unwanted and unintended property of a program or piece of hardware, especially one that causes malfunction); *dinosaur pen* (a traditional mainframe computer room complete with raised flooring, special power, its own ultra-heavy-duty air conditioning, and a side of Halon fire extinguishers); *gopher* (a type of Internet service first floated around 1991 and obsolesced by the World Wide Web) ; *hamster* (a tailless mouse; that is, one with an

[185]D. Hymes, *Language and social context* Penguin Books, 1972, p 29.
[186] J. Medina, *Language: Key Concepts in Philosophy* Continuum, London, 2005, p 130.

infrared link to a receiver on the machine, as opposed to the conventional cable) ; *leapfrog attack* (use of user id and information obtained illicitly from one host, to compromise another host) ; *leech* (one who consumes knowledge without generating new software, cracks or techniques).

BBS culture defines a leech as someone who downloads files with few or no uploads in return, and who does not contribute to the message section); *memory fart* (the flatulent sounds that some DOS box BIOSes make when checking memory on boot up) ; *rat belt* (a cable tie, especially the saw toothed, self-locking plastic kind that you can remove only by cutting) ; *snail mail* (paper mail, as opposed to electronic) ; *virus* (a cracker program that searches out other programs and 'infects' them by embedding a copy of itself in them, so that they become Trojan horses) ; *weasel* (a naïve user, one who deliberately or accidentally does things that are stupid or ill-advised) ; *whalesong* (the peculiar clicking and whooshing sounds made by a PEP modem) ; *worm* (a program that propagates itself over a network, reproducing itself as it goes) .

Another field of inspiration seems to be the nouns related to food as the following examples attest: *cookie* (a handle, transaction ID, or other token of agreement between cooperating programs); *dogfood* (interim software used internally for testing) ; *flavour* (variety, type or kind); *meatspace* (the physical world, where people live, as opposed to cyberspace); *phage* (a program that modifies other programs or databases in unauthorized ways; especially one that propagates a virus or a Trojan horse).

Hackers also build metaphors using adjectives such as: *asbestos* (used as a modifier to anything intended to protect one from flames); *catatonic* (describes a condition of suspended animation in which something is so wedged or hung that it makes no response); *fried* (non-working due to failure; burn out); *hairy* (extremely complicated); *rude* (badly written); *wombat* (applied to problems which are both profoundly uninteresting in themselves and unlikely to benefit anyone even if solved). However, though verbs are seldom used in this process, the following ones can be noted: *despew* (to automatically generate a large amount of garbage to the net; die (to crash); *dehose* (to clear a hosed situation);

Aside these primary lexical units, some other metaphoric expressions have also been noted. They are mostly used as nouns. For example: *angry fruit salad* (a bad visual-interface design that uses too many colors); *Chernobyl packet* (a network

packet that induces a broadcast storm and/or network meltdown, in memory of the April 1986 nuclear accident at Chernobyl in Ukraine); *cook book* (a book of small code segments that the reader can use to do various magic things in programs); *eye candy; laser chicken*. Sometimes, these lexical units are used as adjectives as for example, *user-friendly* (generally used by hackers in a critical tone, to describe systems that hold the user's hand obsessively).

Metonymy

What should be noted concerning this process is that the use of metonymy by hackers is extremely rare despite some examples relating more to synecdoche than to metonymy. Examples from the File are items like the *web*, to refer to the Internet in general, *bug* to refer to any type of technological problem, or *mail* to generalize any sort of message sent or received by an individual. A plausible explanation for this scarcity could be the hackers' awareness that the use of metonymy requires a strong familiarity to their culture, lack of which may result in a sort of discouragement for outsiders.

4.4.3. Morphological Neology

Clipping

By clipping, is meant the reduction of an item into: either its first element(s), its last element, or exceptionally to its medial element. It should be mentioned however that no example of medial clipping has been noticed in the corpus. This is probably due to the same reason as for metonymy. It presupposes too much closeness to the culture. However, though rare in number, both processes of back and fore clipping are used to coin neologies.

a- Back clipping

Net (network); *cyber* (cybernetics); *sync* (synchronize); *Dec* (decrement); *demo* (demonstration); *doc* (documentation)

b- Fore clipping

bot (robot); *droid* (android) ;

INITIALISM and ACRONYMY

a. Initialism

As mentioned above, by initialism is meant the process of abbreviation that consists of the reduction of a sequence of words into its initial elements. (The initials of articles and prepositions are omitted). It should also be noted that this process is not subject to the morpho-phonological constraint since it is pronounced letter by letter. However, when it conforms to the morpho-phonological constraint, it is pronounced as an ordinary lexical unit and thus becomes an acronym. Examples of initials are provided below.

TWO LETTER INITIALISM

AI: (Artificial Intelligence); *SO*: (Significant Other, used to refer to one's primary relationship, especially a live-in to whom one is not married); *VR*: (Virtual Reality)

THREE LETTER INITIALISM

AFJ: (April Fool's Joke); AFK: (Away From Keyboard); *BTW*: (By The Way); *BBL*: (Be Back Later); *BBS*: (Bulletin Board System); *TLA*: (Three Letter Acronym); *HTH* : (Hope This Helps) .

FOUR LETTER INITIALISM

SFLA : (Stupid Four Letter Acronym); *IIRC* : (If I Recall Correctly)

ALPHANUMERIC INITIALISM

Y2K bug: (Year two thousand problem) , where Y stands for Year; 2 stands for two; K stands for Kilo; and bug refers to the problem that operating systems like windows were supposed to encounter on the passage from the 31,December 2000 to the first January 2001. This expression has an equivalent, which is : W2K bug: (Windows two thousand year bug); *ID10T error* (tech-support people passing a problem report to someone higher up the food chain may ask the user to convey that there seems to be an I-D-Ten-T error)

b- ACRONYMY

By acronymy is meant a variety of abbreviation. It is distinguished from initialism because it is pronounced as an ordinary lexical unit and it conforms to the morpho-phonological constraint. Besides, some acronyms like bit, radar, sonar, laser are written in lower-case characters, behaving thus exactly like any simple lexical unit. By all standards, this process is highly productive since it combines the three motives of lexical development in the most economic manner. Finally, attention

should be drawn on the fact that the classification adopted here is purely arbitrary, since it is based only on the number of letters used to coin acronyms.

THREE LETTER ACRONYMS

BAD: (Broken As Designed); *FYA*: (For Your Amusement); *FYI*: (For Your Information); *JAM*: (Just A Minute); *LOL*: (Laughing Out Loud); *MUD*: (Multi User Dungeon)

FOUR LETTER ACRONYMS

BOFH: (Bastard Operator From Hell); *BLOB*: (Binary Large OBject); *FIFO*: (First In, First Out) ; *FISH*: (First In, Still Here) ; *FOAF*: (Friend Of A Friend) ; *FWIW*: (For What It's Worth) ; *GIGO*: (Garbage In , Garbage Out) ; *HAND*: (Have A Nice Day); *KIBO*: (Knowledge In, Bullshit Out); *LART*: (Luser Attitude Readjustment Tool); *OTOH* : (On The Other Hand); *SPOD*: (Sole Purpose, Obtain a Degree).

FIVE LETTER ACRONYMS

AFAIK: (As Far As I Know) ; ASCII: (American Standard Code for Information Interchange); *LASER*: (Light Amplification by Stimulated Emulsion of Radiation) ; *ROTFL*: Rolling On The Floor Laughing); *WIBNI*: (Wouldn't It Be Nice If) .

SIX LETTER ACRONYMS

WOMBAT: (Waste Of Money, Brains And Time)

SEVEN LETTER ACRONYMS

WYSIWYG: (What You See Is What You Get); *WYSIAYG*: (What You See Is All You Get); *YAFIYGI* : (You Asked For It You Got It)

EIGHT LETTER ACRONYMS

TMTOWTDI: (There's More Than One Way To Do It)

NINE LETTER ACRONYMS

TANSTAAFL : (There Ain't No Such Thing As A Free Lunch) .

A further difficulty is brought by acronyms which either resemble similar acronyms, or which resemble already existing simple lexical units. They are followed by two types of acronyms which to our present knowledge have not been identified before. One type consists of the combination of an acronym with a number, or with a non-alphanumerical graph like @, or like $, the other consists of the abbreviation of book titles or of proverbs. All these cases will be examined below.

a)- Acronyms that are close in meaning to similar acronyms

AIDS (An Infected Disk Syndrome / Acquired Immune Deficiency Syndrome); *ICE* (Intrusion Countermeasure Electronics / Institution of Civil Engineers)

b)- Acronyms that are similar to existing lexical units

BAD (Broken As Designed) / (the Adjective bad); *BLOB* (Binary Large OBject) / (a blob , Noun) ; *DAEMON* (Disk And Execution MONitor) / (the mythic daemon); *S.P.O.D*. (Sole Purpose Obtain a Degree) / a spod (an inept person); *W.O.M.B.A.T.* (Waste of Money, Brain and Time) and a wombat (the Australian marsupial that burrows holes in the ground)

c)- Acronym + number

ROT 13 [ROTate alphabet 13 places], the simple Caesar-cypher encryption that replaces each English letter with the one 13 places forward or backward along the alphabet, so that "T*he butler did it*!" becomes "G*ur ohgyre qvq vg*!"

d)- Acronym + graph

This device is mainly used to coin puns for fun purposes, notably to mock some companies trading in the electronic sphere. For instance: *CI$* (CompuServe Information Service); *M$* (Microsoft).

Something which also deserves to be noted is the fact that the gliph @ tends to be more and more used in place of (at) in Computer Mediated Communication related contexts. Then we increasingly encounter an expression such as: *Meet you @ 5*, or *The file can be accessed @ http:/*www... As a matter of fact, the use of the glyph @, in place of the preposition 'at' is growing significantly, notably in electronic literature, but also in advertisements, shop neons, and even book titles like B. Gates' "*Business @ the speed of thought.* Even Emoticons tend to acquire increasing space in electronic writings, although it is the use of sounds, pictures, or videos which tend to become the standard in docuverse.

e)- Abbreviated acronyms

What can be obviously noticed here is the extreme economy of these processes, which in the hackers' jargon bears aspects that have never reported before. For example, one can observe the appearance of a new type of abbreviations within

On-line literature which consists of the abbreviation of an idiomatic expression; e.g.: *BOF*: (Birds Of a Feather), flock together. This procedure is by far one of the most economic ones ever invented to coin a new lexical unit, (except perhaps for the verb to "X" something, referring to the action of drawing and X in administrative forms like applications or in questionnaires). The device consists in reducing a whole idiomatic expression involving several units into a fragmented three letter acronym, the rest being implied, thus, augmenting the participative aspect on the part of the listener who is supposed to make the necessary memory effort to complete the expression, and a considerable economy from the part of the speaker/writer, who may in the meantime concentrate on something else.

e)- Abbreviation of book titles

[*CatB*], for ' The Cathedral and the Bazaar' by Eric.S.Raymond

[*HtN*], for 'Homesteading the Noosphere' by Eric.S.Raymond

[*HTM & TOW*], for 'How To Mutate and Take Over the World' by R.U Sirius

Some other cyber-English devices used by other On-line communities are worth signalling though they are absent from the Jargon File: they mostly consist of rebuses combining alphanumeric characters on pronunciation grounds. *ICQ*: whose pronunciation [ai si: k ju :] induces a subtle ambiguity as to its meaning, whether pronounced with the primary stress falling either on the first or the second syllable. For in normal use, both I, C, and Q are supposed to be the initials of three abbreviated words, as for *IRC* (Internet Relay Chat) for example where (I) represents Internet, (R), relay and (C) chat. In fact they represent here three syllables of a sentence with a subject, (I) a verb (Seek) and an object (You). I seek you. The same device is used to combine numbers with letters. For example, For = is spelt 4 ; two, too , to = are spelt 2 ; see = is spelt c ; you = is spelt u; and this process permits coinages such as : before = *B4*; See You Later = *CUL8er*; *CuSeeMe*, etc.

Loan words

Today, the English language is the major source from which other languages borrow lexis related to technology and it appears therefore logical that being the leader in the technological field it borrows very few items. However, the fact that there are hackers in several parts of the world, who in addition to their respective

mother tongues speak other foreign languages amongst which we find the English language, and considering the multiracial type of the community to which the hackers belong, and the frequent and long-lasting interactions between the community members and their high cultural levels, a certain number of loan words have been noted in the Jargon Dictionary.

Nonetheless, one can curiously observe that most of the loan words borrowed from other languages, convey negative connotations, examples of which are: *Avatar*: (Sanskrit 'avatàra': descent); *bletch*: (Yiddish/German 'brechen': to vomit); *cretin*: (French); *defenestration*: (the act of exiting a window system in order to get better response time from a full-screen program); *elite* (one of the cognoscenti); *gedanken* (German ' gedanken': thought/idea; *Glitschen* (German: slip); *samizdat* (Russian: self publishing house); *samurai* (Japanese : member of a powerful military caste in feudal Japan).

Generic words

A certain number of coinages serve as a base to the formation of more neologies as is the case with the following examples:

Barf (vomit): from which was coined: *barfmail, barfulation, barfulous*

Bogon (the elementary particle of bogosity): permitted to coin *bogosity, bogometer, bogon filter, bogotify, bogue out, bogus*

Cyber (clipped form of cybernetics) gave birth to: *cyborg, cybercrud, cyberpunk, cyberspace*

Flame (to post an email message intended to insult and provoke) permitted to form: *flamage, flamer, flaming death, flame war*

frob (a protruding arm or trugnon) gave: *frobnitz, frobnicate, frobule, frobozz*

Hack (a quick job that produces what is needed but not well) inspired several coinages: *hack attack, hack mode, hack on/together/up/off/value, hacker, hacker ethic/humor, run, hackish, haque, hackerdom* and so on. These self-expressive examples largely account for the hackers' tendency to make the best of any tool, whether relating to natural or programming languages.

4.4.4. **Observations**

From the analysis of the lexicogenic processes at work in the sample selected from the Internet jargon of the hackers, the following observations can be drawn.

- the lexicogenic processes can be placed in a hierarchy going from the most to the least productive ones. The most productive ones being involved in morpho-semantic neology, followed by morphological neology and the least productive ones are those that are involved in semantic neology.
- Among the most productive types of neology, we notice that the most productive lexicogenic processes are affixation and compounding. This observation seems logical as it corresponds to the habitual way of building words. In fact, according to J. Tournier,[187] a lexicostatistic study of a corpus including more than 85000 lexical units has shown that modern English has "*80 à 90 préfixes courants et 240 à 250 suffixes courants*" and more than fifty types of compounding.
- In the examples given to illustrate our arguments, the most productive affixes are underlined. For example, it was found that four derivative lexical units with the suffix "age" dominate: *flamage, lossage, screwage, winnage*; created after linkage, shrinkage, postage, etc. Such a lexical production may at first sight appear unimportant, but it is so only if we overlook the small number of words that have been coined in English with this suffix. It is likely that the words thus coined, especially *lossage* and *winnage*, will not linger in the lexical fringe for a long time, because as the literature of the internet spreads quickly, the language will feel the necessity to discriminate between derivative lexical units like a loss (human) and *lossage* (machine), between a win and *winnage*. It is also likely that the number of lexical units thus formed will increase in response to the need for specialization of the lexical items of the English language stock.
- The most productive suffix is "ware". In addition to the now commonplace derivative lexical units like software, and hardware are *bloatware, crippleware, freeware, shelfware, treeware wetware*, to which can be added *liveware*, referring to people who operate computers, which entered the Longman Dictionary of Contemporary English in 1995.

[187] J. Tournier, *Structures Lexicales de l'Anglais*, Nathan, 1991, p 108.

What can be observed in the mentioned examples, and which makes for both the productivity and production of this suffix is that traditionally, it is added only to the category of the noun as in derivative lexical units like *earthware, glassware, tableware, silverware, ovenware*, whereas in the Jargon File, it is increasingly linked to the category of the adjective. This new type of derivative lexical item from 'ware' is likely to increase due to the rapid growth of the computer industry. In *Histoire de la Langue Anglaise*, Michel Taillé writes, *"the specialists who create terms to satisfy their needs often start by using Greek or Latin roots which, because they come from dead languages, offer the advantage of not varying in their meaning over time and space."*[188]

Taillé's remark is pertinent because our analysis has shown that the Jargon Dictionary uses a lot of affixes, mostly Greek ones, related to multiples e.g.: 'mega' as in *megapenny*, 'meter', as in *bogometer*, or to other areas of study such as 'logy' as in *fontology*, 'ectomy' as in *featurectomy* , 'gram' as in *nastygram*. This can be seen as a subtle manner to combine refined remote knowledge to hypermodernity.

Another remark which deserves being mentioned in relation to the affixes coming either from Greek or Latin is that most of them are "nativised" by other scientific disciplines like medicine before being used in the internet jargon of hackers. Hence, *ectomy* is pre-eminently a suffix used in the medical field. It is borrowed through an analogical process with *vasectomy*, or *appendectomy* to build the new lexical units *vaxectomy* or *featurectomy*. What is worth being mentioned also is the productiveness of the suffix {o}'as we find in *mouso, thinko, braino* and the like.

- Morpho-semantic neology in the form of primary lexical units is less productive in comparison with that created through affixation or compounding, but it remains highly productive in terms of proportion to the sum total of neologies in the file. All the types that have been encountered conform to the morpho-phonological constraints in use in the English language. Compounding is less important than affixation but it is more prominent than the creation of primary lexical units in morpho-semantic neology. No less than seven types are distinguished. The list goes as follows:

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[188] Les spécialistes qui créent des termes correspondant à leurs besoins le font souvent à partir des racines latines ou grecques lesquelles, parce qu'elles proviennent de langues mortes ont l'avantage de ne pas varier dans leur signification selon le lieu ou le temps. M. Taillé, *Histoire de la langue Anglaise,* Armand Colin, 1995, p 25.

1) Noun + Noun => Noun ; 2) Noun + Noun + er => Noun ; 3) Adjective + Noun => Noun ; 4) Noun + Verb => Noun; 5) Noun + Adjective => Adjective ; 6) Adjective + Adjective => Adjective ; 7) Noun + Verb => Verb.

In addition to simple compounds, we find other types of 'over compounding' or 'surcomposition' as labelled by J. Tournier's, whose productivity is tightly sustained by an obvious linguistic low cost of production. Among them, six types permit the coining of lexical units built by the combination of :

1) - An acronym + the clipped form of a lexical unit ; 2) - A derivative lexical unit + a compound; 3) – A blend + a derivative lexical unit ; 4) – An acronym + a suffix ; 5) – An (acronym + suffix) + a lexical unit ; 6) – an alphanumeric combination + a lexical unit.

- The last but in no way least compounding device extensively used by hackers to coin new lexical units is blending. Five types seem particularly productive and they are as follow:

1) Noun	+	Clipped Noun	=>	Noun	eg. Buglix
2) Clipped Noun	+	Clipped Noun	=>	Noun	eg. gubbish
3) Verb	+	Noun	= >	Verb	e.g. spamvertize
4) Verb	+	Verb	=>	Verb	e.g. spungle
5)Adjective	+	Noun	=>	Noun	e.g. lexer

The reason behind the scarcity of onomatopoeia for example, despite its transparent motivation for English users seems to be both cultural and strategic. It is cultural, since it is known that each language seems to be faithful to its own terms concerning onomatopoeias. It is also strategic, because onomatopoeia tends more to augment language divergence rather than favour convergence. Besides, as this process supposes a great proximity with the natural world, it appears to be less productive than others in a virtual one.

- The second most important type of neology in the Jargon File is morphological neology, expressed through abbreviation. It consists in clipping, initialism and acronymy. As regards clipping, two types have been distinguished: back clipping as in *net*, and *cyber*, and fore clipping as in *bot* and *droid*. If clipping is prominent, abbreviation by initialism and acronymy are by far most productive, due to their larger range of application and the great linguistic economy they confer. As concerns initialism, our conclusion meets that of J. Tournier who considers that

This procedure (initialling) is more favourable to linguistic economy than clipping, since it considerably reduces both the articulatory and the memory costs…. It is of a particularly high productivity in the XX th century, where all sorts of multiplying organizations and institutions are preferably designated by initials.[189]

The Jargon File shows the extensive use of this lexicogenic process even in the most mundane events: the noted examples range from two letter initials to four letter initials, including a combination of alphanumeric characters as in the example or Y2K bug or ID10T error. However, acronymy remains by far the most productive lexicogenic process in morphological neology. This view also meets with that of J. Tournier to whom "t*he productivity of this process is ever growing, since it can easily combine the three resources of lexical creation, that is, the communication need, the law of least effort and the playful impulse."*[190] Therefore, it becomes logical to expect this lexicogenic process to be extensively used by hackers, whose basic philosophy in language as in programming languages is to do/say the most with the least, in the smartest and funniest possible ways.

- The types of acronyms that have been sorted out from our study spread from three to seven letter acronyms, to which we can add the device consisting of the addition of a graph to an acronym to form a new lexical unit such as CI$, and of course the acronyms formed by the abbreviation of some famous book titles such as CatB or the combination of alphanumeric characters as in ROT 13, or B1FF. However, despite its incomparable linguistic economy, this lexicogenic process poses a certain number of real linguistic problems:

a) – From the terminological viewpoint, it appears difficult to name and to classify these coinages. They cannot be considered as primary lexical units since they are not formed of phonemes. At the same time they are more than simple acronyms since they are composed of the successive initials of words that make up a sentence. As a consequence, the resulting sentence is not formed by a combination of what can be termed (words, lexical units, morphemes or whatsoever), but it is formed out of a

[189]Ce processus (siglaison) est encore plus favorable à l'économie linguistique que la troncation (clipping), puisqu'il réduit considérablement le coût articulatoire et le coût mémoriel….. Il est particulièrement productif au xx° siècle, où se multiplient les organismes et institutions de toutes sortes, qui sont de préférence désignés par des sigles. J. Tournier, *Structures Lexicales de l'Anglais*, Nathan , 1991, p 166.

[190] La productivité de ce processus va croissant, du fait qu'il peut combiner aisément les trois ressorts de la création lexicale, à savoir, le besoin de communication, la loi du moindre effort, et la pulsion ludique. Ibid, p 9.

combination of initials read globally as one lexical unit. These units are the MICUs which will be largely discussed in the last part of the fifth chapter of our research. The example of *GREP* (Globally search for the Regular Expression and Print the lines containing matches to it.), written lower case character can be used as any other regular verb subject to the same grammatical rules (greps, grepping, grepped). It is a good example of this new type of lexical units, formed on the same pattern as *laser*. Needless to recall here that by the combination of two lexicogenic processes (for example, acronymy, conversion or back derivation) the coinages thus formed may change their class. In this way we may obtain a grep Noun, in the same way as we obtain to lase Verb.

b) - Another type of coinages that we find difficult to label accurately concerns coinages with homonyms, despite their graphical differences. When written with lower-case characters, *SPOD*. Used in an expression such as 'don't bother too much, he's just a spod!' can be taken for another lexical unit already in the dictionary (spod), referring to an inept person. The difficulty here is that without an inference from the context, it appears unlikely to distinguish between a *spod* (simple primary lexical unit referring to an inept person), and a *SPOD*, (acronym, meaning: Simple Purpose, Obtain a Degree). Actually, although the two items are very close in meaning, they are not identical, since a difference in their componential analysis shows a distinction in the seme related to Human / Non Human. Besides, no language in the world would coin two words that would be at the same time: homophones, homographs and homonyms. This makes up another argument in favour of a pragmatic analysis of discourse.

One can argue of course that this phenomenon increases the polysemy of the items, but the argument of polysemy cannot hold for good, since the two lexical units are not built in the same manner. We mean that at the level of the sign, both signifiers (one is formed out of phonemes, the other out of initials) and the referent (one refers to socially non-adapted people, the other to people whose only purpose in life is to be graduated) are different, though their meanings are very close, and the question of the signified remains problematic. As this new linguistic phenomenon has not been named yet, we suggest labelling it *complex hypermodern acronyms, or MICUs*. A whole section will be devoted to them in the fifth chapter.

Semantic neology comes third in importance in relation to the morpho-semantic and morphological neology. Two reasons can explain this position: A)-

Semantic neology involves only three lexicogenic processes: conversion, metaphor and metonymy. B)- Among the three only the first two are really productive in comparison with the lexicogenic processes involved in the morpho-semantic and morphological neologies.

In semantic neology, conversion is an important lexicogenic process. However, when hackers coin idiomatic expressions they mostly use metaphors and humorous comparisons because of the rapid shortcut they provide to reach meaning. Example of such are: *A pain in the Net* (a flamer); *a throwaway account* (an inexpensive Internet account purchased on a legitimate ISP for the sole purpose of spewing spam); *like kicking dead whales down the beach* (describes a slow, difficult and disgusting process); *like nailing jelly to a tree* (used to describe a task thought to be impossible); *read only user* (describes a luser who uses computers almost exclusively for reading Usenet, bulletin boards and email, rather than writing code or purveying useful information); *to return from the dead* (to regain access to the net after a long absence); *the tip of the ice cube* (the visible part of something small and insignificant); *drunk mouse syndrome* (a malady exhibited by the mouse pointing device of some computers); *go flatline* (to die, terminate or fail); *language lawyer* (a person, usually an experienced or senior software engineer, who is intimately familiar with many or most of the numerous restrictions and features applicable to one or more computer programming languages); *terminal brain death* (the extreme form of terminal illness); a person of no account (used when referring to a person with no network address); *vulture capitalist* (pejorative hackerism ' venture capitalist')

The extensive use of metaphors by the hackers gives their language its 'visual aspect'. It is meant to reflect what hackers feel about themselves. The Jargon Dictionary maintainer E.S.Raymond plainly describes hacking as:

> *An appropriate application of ingenuity. Whether the result is a quick and dirty patchwork job, or a careful work of art, you have to admire the cleverness that went into it…An important secondary meaning of hack is ' a creative practical joke', bearing in mind that some hacks bear both meanings*[191].

Playing with words involves using words humorously and cleverly, in a manner which undermines their authority, by mocking their assumptions, or by

[191] *The Jargon File* : The Meaning of Hack http://www.netmeg.net/jargon/

misleading the non-informed reader who is requested to de-construct the word/text in order to understand it. Therefore, another favourite resort for linguistic neology seems the coinage of oxymorons. Hackers seem very fond of oxymorons as the following list demonstrates: *angry fruit salad – bit bucket- content free - cyberpunk - cyberspace - dinosaur pen – drunk mouse syndrome - eye candy - FISH queue – gender mender - go flatline - hired gun – home page - internet death penalty- language lawyer - laser chicken – like kicking dead whales down the beach - like nailing jelly to a tree - logic bomb - rat belt - return from the dead - snail mail - virtual beer.* As the list shows, these coinages give a humorous touch to the Jargon File. This inclination to nurture paradoxes for the hypermodern society is, as Lipovetsky observes, an essential trait of the hypermodern man since "*hypermodern age makes up in the same movement, order and disorder, independence and subjective dependence, moderation and immoderation*."[192]

[192]L'âge hypermoderne fabrique dans le même mouvement de l'ordre et du désordre, de l'indépendance et de la dépendance subjective, de la mesure et de la démesure. G. Lipovetsky, *Les Temps Hypermodernes*, Le Livre de Poche, 2004, p 54.

4.6. CONCLUSION

As a matter of fact and contrary to the Old English period, one can affirm that the power of modern contemporary English to create new words signals perhaps one of the biggest wings in the pendulum of the social life of English in its interaction with other world languages. This conclusion seems to be corroborated by M. Taillé who mentions the recording of 450 to 500 new words every year which attest to this permanent enrichment of the language vitality, while D. Crystal mentions that

> *The two biggest dictionaries suggest - around half a million lexemes – in a total approached by the unabridged Webster's Third New International (which claimed over 450,000 entries in 1961) and by the integrated edition of the Oxford English Dictionary (which claims over 500,000 entries in 1992). The true figure is undoubtedly a great deal higher*[193].

English has even come to threaten linguistic identities as can be noticed for example at national levels, in the vain attempts of academicians and politicians to impose awkward prescriptions against the penetration of Americanisms into their national language (The 'loi Toubon' in France for example). At upper macro institutional levels, this influence can be easily observed during international meetings such as the NATO, UNO, OAU, FIFA, the EEC and many other supra-national meetings, where deputes and representatives of states resort to English as a common language when no interpreter is available. Besides, English has been the first language to enter cyberspace, the new frontier of the twenty-first century, waiting for the occupation of the outer space which is the ultimate phase of the Homo sapiens adventure for the conquest of the terrestrial as well as the extra-terrestrial space thanks to their mastery of time and velocity.

Nonetheless, we would like to point that the English language has not become the leader in this field by chance. The new status of English as the most ubiquitous language across the planet is mainly due to a limited number of facts that converged over time to make of English the 'language of the new technologies'. The first of these reasons is historical and the other is pragmatic.

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[193]D. Crystal, *The Cambridge Encyclopedia of the English Language,* Cambridge University Press, 1995, p 119.

Concerning the historical dimension, we share David Crystal's contention that English was in the right place at the right time. The author explains that it holds this position, because

> *In the seventeenth and eighteenth centuries, English was the language of the leading colonial nation-Britain. In the eighteenth and nineteenth centuries, it was the language of the leader of the industrial revolution. In the late nineteenth and the early twentieth, it was the language of the leading economic power- the USA. As a result, when new technologies brought new linguistic opportunities, English emerged as a first-rank language in industries which affected all aspects of society- the press, advertising, broadcasting, motion pictures, sound recording, transport and communications*[194]

It is this historical position as the 'language of technology' which urged the English language to respond to the call of the information age, and to make the necessary linguistic accommodations to fit the needs of this worldwide socio-economic change. It is then up to the others to learn English in order to keep pace with the important transformations which the communication field is provoking in the most remote and closed communities all over the world.

This view is supported by David Graddol who concludes a final report (ordered by the British council about the future of English in the information age) by stating that *Technology is clearly one of the most important drivers of both social and linguistic change and this has long been so*[195]. This vantage ground logically offers English another enviable position: that of being the common language of a great number of the numerous virtual communities which blossom within the Internet, thus comforting its perception as the language of hypermodernity.

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[194] D. Crystal, *English as a Global Language*, Cambridge University Press, 1997, p 110.
[195] D. Graddol, IATEFL Newsletter August/September 1997. the file can be accessed at http://www.britishcouncil.org/files/documents/learning-research-english-next.pdf

CHAPTER FIVE: The Impact of cyber-English on culture

5.1. INTRODUCTION

After having drawn attention to the particularly effective accommodations undertaken by the English language to fit the requirements of the hypermodern media, time has come to attempt another clarification: show the relationship between cyber-English and its cultural correlates. It appears doubtless that the hackers' remarkable creativity in lexical production is to be regarded as a sign of a rich and exciting cultural virtual life. As can be expected, the specific virtual environment which serves as a locus for the hackers' interactions plays a fundamental role in the shaping of hacker culture. Its technical properties and constraints impose a linguistic mould to which the previous chapter was entirely devoted.

In the present one, the focus will be put on the manifestation of the cultural peculiarities of hackers, their vision of life and their attitudes towards other netizens whether fellow insiders, outsiders to the community or more specifically towards the media with which the relationships have never been at their best. These cultural insights are to be sought of course in the neologies of the Jargon dictionary, because as is now common knowledge, the Sapir-Whorf hypothesis, even in its softest version insists on a close dependence between language and culture.

The endeavour will then consist in attempting to enlighten the links between the parts of *Secondness* represented by cyber-English in use and the less visible parts of *Firstness* which filter through the coinages of the Jargon Dictionary. However, before embarking upon the development of this important issue, we shall proceed to the examination of the Jargon File by using Jakobson's diagram. This digression will permit us to elaborate on the hackers' outlooks and turns of mind with more depth in the following sections.

5.2. **The Examination of the Corpus in the Light of Jakobson's Diagram of the Communication Process**

Communicating means transmitting some content as well as it means instituting a social relationship. Therefore, before indulging in a pragmatic analysis of the corpus which will be conducted in the next chapter, we shall proceed with the help of R. Jakobson's diagram to the examination of the Jargon Dictionary under the frame of the functions of language. Noting that the author has inspired his conceptualization of communication from the mathematical theory of communication and from Bühler's more psychologically focussed diagram, we believe that such a perspective may offer some interesting guidelines for a better understanding of the communicative stance at play within C.M.C. The analysis which follows is to be understood as an attempt to facilitate the semiotic study that follows it in the following section.

In a remarkable summary of the history of communication studies, Medina notes that

> *Karl Bühler (1933, 1934) gave a precise formulation to the traditional model of communication as containing three distinct elements: the speaker, addresser or sender of the message; the listener addressee, audience or recipient of the message; and the world or object domain that is the topic of communication*[196].

To these three important elements, Roman Jakobson adds three other ones which he connects to six corresponding functions of language. The six factors of an act of communication are according to Jakobson: the addresser, the message, the context, the contact, the code and the addressee. The functions involved accordingly are: the emotive function which corresponds to the addresser, the poetic function which relates to the message, the referential function which defines the context, the phatic function which corresponds to the contact, the metalingual function which refers to the code and the conative function which corresponds to the addressee.

All, some, or only one of these functions can prevail at a time in an act of communication to varying degrees. The most dominant function(s) imprint(s) a particular aspect to the communication act. For example, a text where the dominant

[196] J. Medina, *Language : Key Concepts in Philosophy*, Continuum, 2005, p 2.

element is a description will have a referential focus, while another where the dominant factor is an instruction will bear a more conative aspect.

To be exhaustive, a semiotic analysis of the Jargon File under Jakobson's diagram should involve the following elements:

1 = the hackers' community at large involving each individual contribution to the Jargon Dictionary

2 = the Jargon File maintainers since Mark Crispin 1976, through Guy Steel, up to E. S. Raymond, the last known maintainer of the file.

3 = the Jargon Dictionary, Version 4.2.0, 31 Jan 2000.

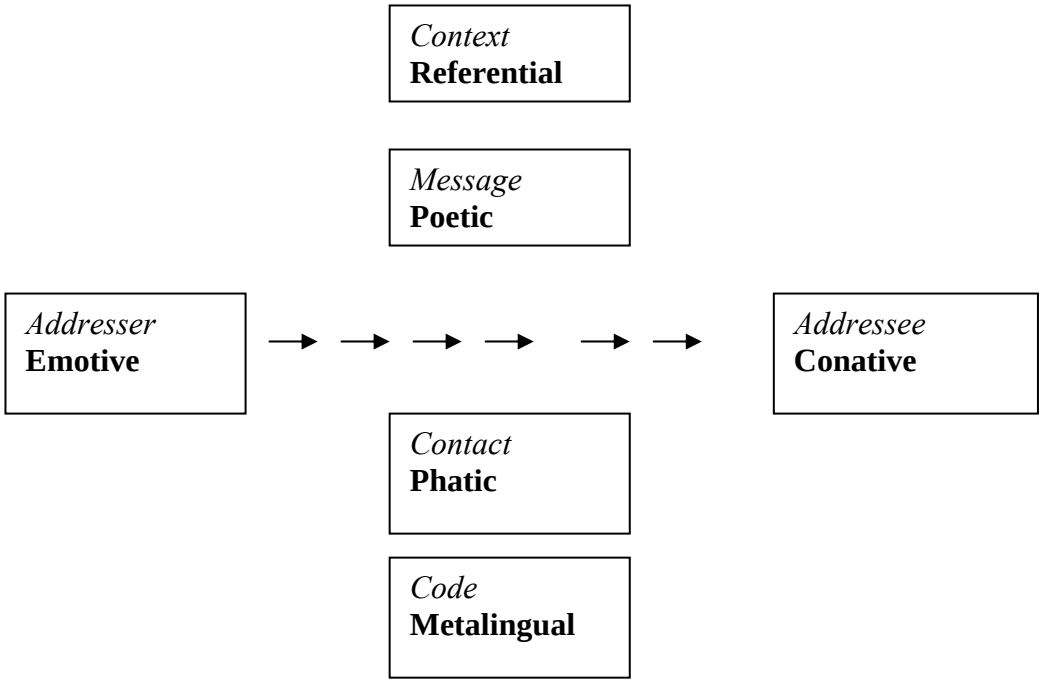
4 = the hackers + newbies

5 = the explanations of the terms of the Jargon File as supplied by the file itself.

6 = the readers of the Jargon Dictionary

7 = the cultural codes of the readers

Diagram 7: Jakobson's model of communication



The Jargon Dictionary seen from this perspective displays the following characteristics:

Seen from the standpoint of the hackers who coined the terms of the corpus, that is, the addressers, the Jargon File is to be understood as an attempt on the part of the hackers to implement and impose their presence online. In other words, the Dictionary attests of their existence as an online virtual community through the use of its entries in assertions. It serves as an index which focuses the attention of the reader on the special characteristics of the community whose virtual reality is now confirmed by their genuine jargon. To rephrase Descartes' cogito, the hackers' motto would be: "I speak the hackers' jargon therefore I exist as a hacker". Here the emotive function serves as a binder between the actual existence of hackers within cyberspace, and the would be encounters who surf the web, trying to give sense to the manifold data made available by others but which does not make meaning until it is explained by resources like the Jargon File. It forces one to acknowledge the

usefulness of the community which is valued through the numerous lexical entries devoted to the unusual skills of which hackers are particularly gifted.

Seen from the standpoint of the context, the corpus outlays the general framework within which the Jargon Dictionary takes significance. It displays the referential power of its entries to structure the new technological experiences of the reader, or to consolidate them. Indeed the referential value of the Jargon File lies in its renewed ability to clarify the obscure, to simplify the complicated, to make commonplace what in other circumstances would appear sophisticated. It turns the strange into familiar and invites to participation in this new exciting human adventure. Besides, it confers coherence and materiality to the virtual environment where communication takes place.

From the point of view of the contact, the Jargon File whose written aspect clearly overrides its spoken one possesses entries that serve mainly to entertain the phatic function, like *Ack!,* thus ensuring a durable communication between hackers. However, the boundary between 'written' and 'spoken' language tends to fade to give rise to a new hybrid form known as Cyber-English. This point is corroborated by D. Crystal who rightly observes that *Netspeak is identical to neither speech nor writing, but selectively and adaptively displays properties of both*[197]

The problem to be raised concerning the assumptions of Jakobson's diagram is the unreliability of the presupposition that when two or more interlocutors share a common code, their communication interaction succeeds. Advocates of the enunciation theory have already observed that the paralinguistic competences of both interlocutors are missing in the diagram. We posit that since semiosis is an ever-growing process, the interlocutors need more than common linguistic competences to reach a high level of communicative efficiency. The constantly changing context of network interactions requires a constant adaptation of these linguistic competences to the evolving subtleties of online linguistic creativity.

In network interaction, the link between the performers of the communication act is the computer keyboard and screen which play the role of the interface formerly played by the book, the letter, or more simply of the physical space in face to face conversation (with the appearance of E-books, the interface is ensured by the human voice). It should be borne in mind here that because of its double featured type of

[197]D. Crystal, *Language and the Internet*, Cambridge University Press, 2001, p 47.

interaction, the effects on communication of synchronous interaction differ significantly from those of the asynchronous type in a certain number of ways as noted by J. Simpson "*synchronous CMC includes various types of text-based online chat, computer audio and video conferencing; asynchronous CMC encompasses email, discussion forums and mailing lists.*"[198]

This difference in context of Internet communication entails another differentiation at the level of the message itself, which has to be structured in such a way as to meet the expectations of the community to which it is intended. This means that the message should tend towards clarity, brevity, compactness, usefulness, and preferably, take on a spoken-like type of language. John Coate, one of Usenet founders clarifies this aspect: "*On-line conversation is a new hybrid that is both talking and writing yet isn't completely either one. It's talking by writing.*"[199] Motteram quoted by Simpson talks of written conversation to qualify the result of these differences between synchronous and asynchronous interactions. Similarly, the code experiences the variations brought into the English language by On-line communities, notably by the hackers' community. This consists of an extensive use of abbreviations, compounds, blends, acronyms, and of course metaphors

As can be inferred from this succinct analysis, the metalingual and the poetic functions of the Jargon Dictionary overtly epitomize the hackers' fondness of playing with language. The emphasis on the message allows them to let their poetic imagination flow freely and playfully, notably through anthropomorphic devices. The beauty and smartness of the coinages amplify this facet of the Dictionary.

As concerns the metalingual function, it provides the useful indications necessary to understand the linguistic mechanisms involved in the hackers' linguistic practises. Because it also displays the rules of its own linguistic elaboration, the Jargon Dictionary provides access to *Thirdness* in blatantly assuming the specificities of the metalingual function.

To situate the selected corpus within Tournier's classification of the constituent of a given lexis, the Jargon Dictionary can be considered from one of its aspects as corresponding to real lexis because some of its elements are already part

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[198] J. Simpson, *Language Learning in a Virtual World: Lessons from an Online Language Learning Community*, in Actes du Colloque International "Langues et Modernité", Dar El Gharb, 2004, p 52.

[199] J. Coate. *Cyberspace Inn keeping : Building on-line Community*, November 1993, at http://gopher.well.sf.ca.us:70/0/Community/innkeeping

of dictionaries like The Concise English Oxford Dictionary, or The Oxford English Dictionary. The major part of the corpus finds expression in the potential lexis as it has not yet, but may someday under favourable conditions be integrated into the English standard and become in its turn part of the real lexis.

5.3. A Pragmatic Analysis of the Hackers' Attitudes

It should be borne in mind that the Jargon File must not be viewed as a static lexical depository encumbered with dead entries. Rather, it ought to be considered as a privileged vehicle for the potential manifestation of an efficient linguistic and technological knowledge in the form of lexical entries. These lexical coinages (either words or idiomatic expressions) are pragmatically used as assertions to express a certain number of values, beliefs, and attitudes able to account for the culture of a unique and outstandingly gifted and active community, that of hackers.

The discourse of hackers ought to be envisioned as that semiotic process whereby "*what might happen is becoming what happens*"[200] to borrow an expression from Floyd Merell who also contends that "*Semiosis is the sign process, the process of signs becoming signs in the most general sense. Semiotics, in contrast, alludes to our making and taking signs as we make our way through life.*"[201] In other words, the file as part of *Secondness* exhibits a certain number of qualities incorporated in the various uses made of the Dictionary among the members of the community. Knowledge of the lexical value of the items and of their pragmatic usage in conversation allows the semiotic process to take place for an attentive observer. It connects what might happen (the potential meanings of *Firstness*) to what actually happens (the whole of speech acts embodied in the language realizations of *Secondness*) thanks to the linguistic and non-linguistic rules that govern these uses (the domain of *Thirdness*) which at the same time fashion and constrain the final shape of Jargon Dictionary within the community of hackers.

The Jargon File takes its source from the exceptional characteristics of both its environment (CMC) and the peculiarities of its members. Mention has already been made concerning the electronic virtual space, but also of the unbounded geographical locations whereby the community evolves. As to the particular characteristics of the personalities of the members, they are manifold and varied even if the specificities of their professional competences tend to rank first. It should be borne in mind that hackers are also ordinary human beings, descendent from the same Homo-sapiens ancestors, and who therefore share most of any ordinarily human emotion, feeling, passion, dream or anguish. Some of them are married and

[200] F. Merell, *This is Semiotics ?* http://flmc.fll.purdue.edu/Semiotics/page2.html
[201] Ibid.

raise children, some live with significant others, and some prefer to live alone. Like ordinary people, they aggregate in public places, commute to work, meet people and worry about the inconvenience of ordinary daily lives, but unlike the common layman, the Jargon File presents hackers as exceptionally intelligent people whose QI ranks high above the average.

As a matter of course, this background information has been secured in order to replace the corpus in its technological and sociological setting and to recall that it is the regular interactions between the members of the community among them and with other encounters alien to the community which contribute to update, validate and authenticate the Jargon Dictionary. Therefore, in total accordance with Peirce, one ought to consider from a pragmatic perspective that "*an affirmation is an act of an utterer of a proposition to an interpreter, and consists, in the first place, in the deliberate exercise, in uttering the proposition, of a force tending to determine a belief in it in the mind of the interpreter*." In other words, one ought to consider that the purpose of the existence of the Jargon File on the Internet is to affirm a certain number of values meant to provoke some intended beliefs in the mind of the readers, represented by the various users of the file.

In this section will be provided the necessary tools meant to ensure the logical connection between the potentialities inhabiting the nebulous world of *Firstness. S*ome of them have already been incarnated in the *Secondness* represented by the Jargon Dictionary in use, and the tools of *Thirdness*. We shall attempt to connect the second to the first. This elucidation will be conducted through the explanation of some coinages that highlight the setting into motion of the semiotic process. Indeed, semiosis is ensured when the reader is provided with the cognitive tools that link the linguistic phenomena, with the potential meaning which is concealed to the non-initiated, but revealed to the members of the community or to the experienced user.

In fact, we also resort to Grice's concept of a speaker's meaning which we believe is an ingenious refinement of the simple idea that communication is a matter of intentionally affecting another person's psychological state. In particular, we borrow from him the idea that the distinctive, rational means by which the effect is exerted on others is by way of getting one's audience to recognize one's intention to achieve it. The intention includes, as part of its content, that the audience recognizes this very intention by having it positively responding to it. In the context of the

hackers' community, when an individual makes use of the J.D. to communicate with other insiders, what s/he does actually mean is:

"I" use this language, because I consider that what "I" say corresponds very closely to what "you", as members of the same semiotic community as mine, you deem it to be. Consequently, "I" use these symbols (the J.D. graphs, and occasionally their phonic equivalents) as a medium to:

- confirm and renew my loyalty to "our" linguistic community, and thus, also to "our" semiotically shared universe of meaning. This act involves, even when it is not necessarily acknowledged, a total obedience to the rules/habits (*Thirdness*) of interpretation of the Jargon by the community.
- confirm and renew my loyalty to "our" social aggregate and thus deepen my sense of mutual belonging to this exceptional community. Such an attitude constitutes in fact an act of allegiance to the community. The "I", becomes a living Index (a singular member from the real meatware) who temporarily renounces his mundane status to become temporarily a full member of the virtual community of hackers.
- assume 'my iconicity' with 'that' of the community. This means that 'I' accept to incarnate (for an outsider), the same principles as any member would.

In other words, by making use of the Jargon Dictionary, the user wears a suit that matches that of the other hackers and tends to be perceived as such by outsiders, because, in this universe of discourse where words are sovereign, the J.D. user displays the necessary indexical linguistic signs of hackers. Seen from the standpoint of insiders, the use of linguistic signs may be necessary, but are by no means sufficient to insiders. The user needs to exhibit the other prerequisite qualifications to make her/himself fit for such a pretension. These relate to the actual software knowledge which effectively entitles one to fully integrate the community and legitimately claim membership. Items such as newbie, wannabee, weenie, warez etc. serve to remind of that purpose.

Hackers' attitudes towards 'newbies' seem to be rather ambivalent. On the one hand, newbies are a true nuisance, because they lurk more than they participate, they download more documents than they upload and they ask more questions than they answer, in addition to their numerous online misbehavior due to their negligence of netiquette. But on the other hand, each and every hacker knows that s/he her/himself used to be a newbie once, and that newbies despite the more or less momentary nuisance they might cause, are necessary for a permanent renewal of

Hackerdom, exactly in the same way as neologies and new structural units are necessary for the development of language. John Coate is plain about that when he declares that

> *It must be remembered by all that newcomers are essential to the survival of the group, because they refresh the place, strengthen its vitality and replace the people who move on. Without new viewpoints, and personalities the place becomes stagnant*[202].

Therefore, these mixed feelings appear through some items that betray the hackers' feelings towards both insiders and outsiders to their community. Indeed, some valuable works in pragmatics (Austin, Grice, Ducrot, Yule, etc.) pay close attention to the intricate relationships between language use and culture. They particularly insist on the effects of language forms on people in particular contexts, as language embodies cultural realities which tie communities together, and this can be seen at both cognitive and communicative levels. The various coinages and expressions used incarnate the attitudes of hackers towards the inclusion or exclusion of outsiders from the community.

5.3.1. The hackers' attitudes towards other insiders

Hackers, just like many other members of any community, especially one that includes a great number of people from various social, geographic and ethnic backgrounds, feel that communication would not be possible without a minimum of etiquette, aside a convenient mastery of Internet language. In On-line conversation, this is named *netiquette* and includes the conventions of politeness recognized on *Usenet*, such as avoidance of *cross-posting* to inappropriate groups. It consists of a set of rules for behaving properly within Computer Mediated Communication.

People, especially newbies are encouraged to respect the *netiquette*, and avoid *flames, cross-posting, spam* and more generally *noise* making as the coinage *Signal to noise ratio* is meant to recall. In fact, *netiquette* is very close in concept with Grice's Conversational Maxims. Moreover, a series of *emoticons* (ASCII glyphs used to indicate an emotional state in email or news), also called smileys, are proposed to soften the minds and cool down the mood of users in the heat of

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[202] J. Coate, *Cyberspace In keeping: Building on-line Community*, November 1993, http://www.sfgate.com/~tex/innkeeping

conversation besides the touch of humor they add to On-line communication. *Emoticon*, which is a blend of *emotion* + *icons,* can be obtained by the combination of some keyboard keys. Examples of which are: ;-) :-(;=) etc

Also, as any other community members, hackers believe in a certain number of fundamental values such as freedom, knowledge sharing, loyalty, ethics, and programming expertise. It follows that they display a deserved consideration towards their elders deemed as smart users, respecting the *netiquette* and posting regularly to newsgroups to perpetuate the culture. Therefore, as G. Fischer notes, *les individus imitent ceux qui ont à leurs yeux du pouvoir, du prestige, un statut supérieur, c'est-à- dire qui leur servent de modèle*[203].

The coinages that hackers use to name the people they admire reflect their positive feelings. In this respect, we learn that *"those who spend a lot of time helping others solve problems or maintain an FAQ, and those having been around long enough regularly answering or posting to mailing lists become more respected as time goes"*[204] writes E.S. Raymond. This view is widely rendered by items expressing the positive values such as: The term *hacker* itself is filled with positive connotation among hackers since this lexical unit is intended to reflect their know-how in the programming field. The definition of the term *hacker* in the Jargon Dictionary confirms it:

> *A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary.* ***2.*** *One who programs enthusiastically (even obsessively) or who enjoys programming rather than just theorizing about programming.* ***3.*** *A person capable of appreciating* ***hack value****.* ***4.*** *A person who is good at programming quickly.* ***5.*** *An expert at a particular program, or one who frequently does work using it or on it; as in `a Unix hacker'.* ***6.*** *An expert or enthusiast of any kind. One might be an astronomy hacker, for example.* ***7.*** *One who enjoys the intellectual challenge of creatively overcoming or circumventing limitations*[205].

The coinage *alpha geek* refers to the most technically accomplished or skillful person in some implied context. *A demigod* is a hacker with years of experience, a worldwide reputation, and a major role in the development of at least one design, tool, or game used by or known to more than half of the hacker community. The coinage *net.god*, is meant as an accolade to anyone who satisfies some combination

[203] G.N. Fischer, *la psychologie sociale,* Editions du Seuil, 1997, p 21.
[204] E. S. Raymond, *The Jargon File* , http://www.netmeg.net/jargon/
[205] Ibid.

of the following conditions: has been visible on *Usenet* for more than five years, ran one of the original backbone sites, moderated an important newsgroup, wrote news software, or personally knows other *net.gods*. Another term, *a source of all good bits* is used for a person from whom -or a place from which- useful information may be obtained.

The lexical unit *hacker ethic* is a self-referring item since it concerns the belief that information-sharing is a powerful positive good, and that it is an ethical duty of hackers to share their expertise by writing open-source programs and facilitating access to information and to computing resources wherever possible. In this respect, a *neat hack* clearly means a clever technique, while a *true hacker* indicates one who exemplifies the primary values of hacker culture, especially competence, Netiquette and helpfulness towards other hackers.

Hackers sometimes borrow items from foreign languages. These loan words are used either positively to emphasize hackers' qualities or negatively to stress non-hackers' inadequacies. Thus, the Sanskrit loan word *guru* is positively claimed to designate an expert. It implies not only *wizard skill*, but also a history of being a knowledge resource for others. Another loan word, *Kahuna*, Hawaiian this time, is used as a synonym for guru and *wizard*. The latter item is preferably used to qualify a hacker with a high-level hacking or problem-solving ability. Last but not least, the French term *elegant* clearly indicates a program combining simplicity, power, and a certain ineffable grace of design.

Finally the term *wannabie* is one of the ambiguous terms coined towards both insiders and outsiders since it refers to a person who is or might be entering *larval stage*. That means that the person is supposed to be an outsider since s/he has not yet been through the larval stage; a phase which when accomplished will perhaps lead him (her) to join in the community. All the mentioned coinages confirm the hackers' gratitude towards the pioneers as the following quote from Michael Hauben attests,

> *The Net has only developed because of the hard work and voluntary dedication of many people. It has grown because the Net is in the control and power of the people at the grassroots level, because these people developed it. People's posts and contributions to the Net have been the developing forces*[206].

[206] M. & R. Hauben, *The Net and Netizens: On the History and Impact of the Net*, Chapter one at http://www.columbia.edu/~rh120/ch106.x01

Besides, as a community, its members share common rituals and expressions sometimes understood only by insiders. These rituals are very important to maintain the identity of the group and to tighten the relationships between the group members. Reflecting on the importance of keeping one's identity, G.N.Fischer observes that "i*dentity thus, appears as a cognitive structure which organizes individuals' representations towards themselves, and those relative to other people,"*[207] thus emphasizing both the psychological and social impact of one's projections and investment in the community one belongs to or would like to belong to, probably to feel safer.

In support of this view, and with the purpose to emphasize the singular links that culturally bind individuals sharing the same culture, or to requote Rheinghold, *sharing the same ecosystem of sub-cultures,* Geneviève-Dominique de Salins reminds us that "e*ndogenous rituals are powerful marks of bolongingness, since they establish opaque borders, hardly overstepped by outsiders. A significant knowledge of the patrimony is required*."[208]

Within the hackers' community a certain number of expressions and interjections fulfill this conative function: For example, on the one hand, *ENQ* serves as an on-line convention for querying someone's availability while *ACK* is used to register one's presence. On the other hand, *NAK!* is an On-line answer to a request for a chat. It is in fact a joke answer to ACK? Literally meaning: 'I'm not here.' H*ello world* in one of its meaning serves as a greeting uttered by a hacker making an entrance or requesting information from anyone present, while *to return from the dead* means in hackers' jargon to regain access to the net after a long absence.

An important clarification should be brought here, concerning the confusion kept between the hackers and a category of other computer experts which people in general, and particularly the media, present as insiders to the community, but to which 'white hat hackers' deny any membership. In fact hackers in general deeply resent the confusion between themselves and crackers as shall be illustrated.

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[207] l'identité apparaît ainsi comme une structure cognitive qui organise les représentations des individus vis à vis d'eux-mêmes et celles relatives à autrui G.N. Fischer, la psychologie sociale, Editions du Seuil, 1997, p 83.

[208] les rituels endogènes sont de puissants emblèmes d'appartenance puisqu'ils établissent des frontières opaques, difficilement pénétrables par les outsiders. Une bonne connaissance du patrimoine est exigée. G.D. Salins, *Sociolinguistique : territoire et objet*, Hatier-Credif, 1988, p.260.

5.3.2. The hackers versus the crackers

The confusion between hackers and crackers is regularly maintained by the media and has caused, in the hackers' view, an incommensurable prejudice to their community. To "white-collar" hackers, "*a cracker* is: *One who breaks security on a system.* The hackers recall that the term was coined *in defense against journalistic misuse of the term hacker.*"[209] The distinction between the two terms (hacker versus cracker) reflects the strong revulsion felt by the authentic hackers against the theft and vandalism perpetrated and claimed by crackers and other *script kiddies*. No person sums up the scornful attitude hackers show towards other internet users who are felt to be inferior in both skill and ethics, better than E.S. Raymond

> *Hackers built the Internet. They made the Unix operating system what it is today. Hackers run Usenet, and make the World Wide Web work" before the appearance of a new kind of programmers who showing the least interest to the Netiquette and to the prestige of the community, started its downfall*[210].

The threat proved to be real nuisance, since for example, where a *hacker* - both for proving his superiority over the business or government security engineers, and for gaining prestige and fame among the other hackers considered as equals, - would just enter a remote system, (thus proving its vulnerability), and leave a message informing the security team that their system was *' nuked '*, while in fact it was simply broken, a *cracker*, - generally for malicious reasons - breaks into a system and tries to disappear without trace so as to come back later and control the system completely. This does not take long before the cracker comes back openly this time to blackmail the system owner.

One should not be surprised then to see the elders, whose sense of strong sense absolutely prevents such behavior which runs the risk of being excluded from the community, thus losing both fame and prestige. They react very negatively towards what they consider as a '*lower form of life*'. This attitude which filters through in the Jargon File through terms and expressions such as: *phreakers* used to qualify *crackers* who engage in the art of cracking the phone network. *warez* is a common term used in cracker subcultures to the denote cracked version of

[209] E. S. Raymond, *The Jargon File* , http://www.netmeg.net/jargon/
[210] Ibid.

commercial software, while *warez kiddies* is used by hackers as a derogatory term to refer to crackers called *warez dOOdz* .

Another item iconically illustrates hackers' feelings towards crackers: *dark side hacker* which designates a criminal or malicious hacker .This term clearly refers to one of the negative heroes of the film *Star Wars* by Georges Lucas, where the character *Dark Vader* was seduced by the dark side of the 'force', while the loan French word *elite* is ironically used by hackers targeting crackers. All these terms are pejoratively used to qualify those who share the same virtual environment, the same passion, but not the same ethics and most likely not the same competence. Besides, even among themselves, hackers sometimes tend to set borders as E.S. Raymond reports

> *For example, old time ITS partisans look down on the ever-growing hordes of Unix hackers; Unix aficionados despise VMS and MS-DOS; hackers who are used to conventional command-line user interfaces loudly loathe mouse-and-menu based systems such as Macintosh. Hackers who don't indulge in Usenet consider it a waste of time and bandwidth; fans of old adventure games such as ADVENT and Zork consider MUDs to be glorified chat systems devoid of atmosphere or interesting puzzles; hackers who are willing to devote endless hours to Usenet or MUDs consider IRC to be a real waste of time* etc[211].

This shows how much rivalry fosters representations, which the language in its turn reflects. This realm of the Dynamical Object particularly shows through some puns directed to hackers' peers working with prestigious firms as the following examples show: The term *suit* is used to qualify a programmer who habitually wears suits, as distinct from a *techie or hacker*. *IBM* is turned to 'Inferior But Marketable'; *Macintoy / Macintrash* are used in place of *Mac Intosh*; *MessDos / Mess Loss*; replace (MicroSoft Disk Operating System); *Microdroids* is the term by which a Microsoft employee is designated, while a *salescritter* designates a computer salesperson, and the term *Microserf* qualifies a programmer with a low level working at *Microsoft* .

All these expressions help maintain the culture and the ambivalent attitude towards the coming up forces that may or may not entertain what hackers feel is their legacy. This feeling about heritage explains their benevolent attitude towards the promising new comers one the hand, and their harsh and severe attitude towards non-

[211] E. S. Raymond, *The Jargon File* , http://www.netmeg.net/jargon/

promising ‘clueless newbies bores’ on the other, as shall be shown in the following section.

5.3.3. The hackers’ attitudes towards outsiders

As often happens in various types of human aggregates, the most committed members or the most influent ones impose their values, norms of conduct and external identifiers which provide information about the intentions of the members more than is actually acknowledged sometimes. In this connection, the strong feeling of ownership developed by hackers towards the Internet betrays another feeling clearly manifested in their introductory guide meant to inform outsiders on how to become a ‘good’ Internet user. The pragmatic presupposition behind such an intention is that any policy promoting one variety of language at the expense of another is always prescriptive. It makes choices and seeks to impose its domination on other alternatives seen as inferior or as less adequate or as less able.

Needless to recall that any prescription consists of the expression of a certain number of assertions supposed to be legitimate, simply because their author expresses them. By asserting a prescription, its author makes use of an authority whose legitimacy is supposed to be taken for granted. Accordingly, we consider the contents of the file as a string of assertions having specific purposes, and whether this wins the hackers’ acknowledgement or not, the assertions aim at provoking a certain number of effects on people, some of which will be accounted for in the following lines.

Contrary to the early days of *Usenet*, and other pioneer networks, where great attention was paid to bandwidth restrictions, today anyone can, using satellite connection, log on to the Internet without ever worrying about bandwidth problems. Later, and despite the fact that bandwidth capacity has been tremendously improved, the number of internet users have also increased in the same proportions. Therefore, the net becomes regularly jammed at certain moments and the traffic becomes dreadfully slow.

Nonetheless, as the most part of the Jargon Dictionary was coined in these early days, some expressions reveal the importance of the bandwidth and the nuisance provoked by the people who use the net for trivial purposes. In this respect, we saw for example the negative connotations behind the expression *September that*

never ended. Another useful expression reflects this preoccupation *: signal to noise ratio* where 'Signal' refers to useful information conveyed by some communications medium, and 'noise' to anything else on that medium. Hence a low ratio implies that it is not worth paying attention to the medium in question.

Other expressions are also noteworthy. *AOL* is regularly used as a common synonym for "Me, too!" alluding to the legendary propensity of America On-line users to utter contentless "Me, too!" postings. The hackers' strong feelings about AOL users are so negative that they coined many other lexical units to qualify them. Hence, *AOLers, AsshOLes, AOLusers*. A net user called a *B1FF* is meant to be a *heatseeker* , that is, a customer who can be relied upon to buy, without fail, the latest version of an existing product. A *tourist* is a guest on the system, especially one who generally logs in from a remote location for trivial purposes. Hence hackers coined a *turist* which is a variant spelling of tourist. To be named *a pain in the Net* is to be considered as an obnoxious personality, while *zipperhead* seems to be a self-expressive term to qualify a person with a closed mind.

The expression *read only user* describes a *luser* who uses computers almost exclusively for reading Usenet, bulletin boards, and/or email, rather than writing code or purveying useful information. Needless to repeat how much information is vital to this community which cannot exist without the computer and whose existence is so tightly knit to the information age.

However, hackers are people, before being hackers. They all have a social life, a job, friends and other relations with whom they regularly interact. As such, they also need to be treated as respectfully as any other folks, and this is as important to them as to anyone else. Owing to this principle, hackers who regularly read the press to keep informed about 'real life' events, often see themselves confounded with crackers and are negatively pictured as wild evil raiders who destroy business and government companies systems for financial purposes, and feel thus thrown to the lions. An attitude they deeply resent as shall be discussed in the following section.

5.3.4. The hackers' attitudes towards the media

Hackers know more than any other community the dangers of "infopollution" as they suffered from a long lasting deception, despite their renewed efforts to present the best image of themselves as the modern free builders of the newest

media: the internet. Therefore, the fact that the media in general confuse and maintain the confusion between the terms *hacker*s and *crackers* has caused a considerable prejudice to the community.

Besides, governments and official authorities generally fear hackers who do not fit into the standards of the mainstream culture because they do not exert a complete control over hackers' works. This attitude towards a new 'form of life' can be either exciting or disastrous. The exciting feeling, relates to what a hacker can experiment when he discovers an unknown truth or a technical device that improves top-level technological knowledge. This feeling is certainly impressive if we bear in mind for instance, the excellent freeware applications that permitted countless newbies to reach a higher stage in n computing, or the setting up of challenging adventures like the *GNU project*, or the launching of *Linux* operating system. The disastrous feeling relates to the failures in security systems comprising personal individual computers but also those of the greatest electronics firms or those of the official authorities such as the FBI supposed to be the safest systems. Feeling that one's security system can be vulnerable automatically raises the issue of confidence and privacy.

Of course, the similarity of the methods used by hackers and crackers to penetrate remote systems feeds the confusion despite the dissimilarity of the purposes expressed by each group; a noteworthy difference which is not generally reported by the media, except by the Internet. This situation probably justifies, from the hackers' side, the construction of puns such as : *Dissociated Press; Boston Herald => Horrid or (Harried); Houston Chronicle => the Crocknicle or (the Comical) ; New York Times => New York Slime ; Wall Street Journal => Wall Street Urinal*[212].

At last, and to put an end to the question relating to attitudes, we would like to mention a final point. Considering the influence which the media exert on the formation of public opinion on the one hand, and the real threat the crackers represent to governments and business companies on the other, only few people (in fact only those involved in the culture or wish to be), are not actually scared by the term hacker, as it is 'internalized' today by the mainstream reader. Whether this

[212]E. S. Raymond, *The Jargon File*, http://www.netmeg.net/jargon/

feeling is or is not justified depends largely on the amount of information one has about the issue and on the interest involved in it.

However, from a strictly semiotic standpoint, one cannot ignore the ruinous effect that this confusion entailed. In effect, from a pragmatic perspective, what matters is what actually works, or, to conform to the pragmatic maxim, the effects of the conception people have about an object is their complete conception of it. In other words, the way people conceptualize (according to the information furnished by the media) the notion of "hacker", is closely linked to the effects that the "hackers", (which in fact are crackers) exert on the collective mind. In Peircean terms, we can say that the Dynamical Interpretant is forged by the media, and this issue may give way to a very interesting debate among specialists of communication studies. Only the Final Interpretant can dissociate what pertains to ignorance from what pertains to the private interests of computer companies.

Nonetheless, one cannot avoid being struck by the ambivalent personalities of hackers which is of course reflected in cyber-language. As was already illustrated, hackers cultivate oxymorons as a reflection of the paradoxical values of the hypermodern way of life. They are connected seven days a week, twenty four hours per day to the most remote parts of the world, while staying in their cocoon niche, with no physical contact with other people for several hours and for some of them during whole weeks. Hackers feel involved in world affairs but generally ignore those of the neighbourhood. They claim equality but establish hierarchies. They advocate multiculturalism and hybridity but deliberately participate in linguistic imperialism, acculturation and 'uniformism'. R. Phillipson suggests a working definition for what can be deemed as English linguistic imperialism: *the dominance of English is asserted and maintained by the establishment and continuous reconstruction of structural and cultural inequalities between English and other languages*[213]. The term *Anglocentricity* has been coined by analogy with ethnocentricity, which refers to the practice of judging other cultures by the standards of one's own. Can we talk about *Hackercentricity*, concerning cyber English then?

This situation should not hide the fact that non-English speakers are the greatest casualties of the information age adventure because, as an anonymous

[213] R. Phillipson, *Linguistic imperialism*, Oxford University Press, 1992, p 46.

internet user observes: *Non-English speakers have remained the permanent clueless newbies of the Internet, a global class of linguistic peasantry who cannot speak technological Latin*. Is English becoming another Berlin wall between the new CMC haves and the have-nots, thus increasing the digital divide which is already disastrous for humanity? The question is also worth being asked.

5.4. Towards the Triple Articulation of Language

5.4.1. The MICU as a node for the construction of networks

A noteworthy mention should be made concerning the operability of MICUs. Before its combination with other units, that is, before the idea of its connection to any part of *Secondness*, the MICU does not mean anything, but remains potentially 'loadable' with a possible meaning. The meaning becomes patent only when the MICU is combined with other units to form a componeme, which by the same token provides the MICUs with a coherent environment. It is then the idea of a connection which brings forth the idea of meaning and not the individual isolated MICU. Viewed from this perspective, one can say that the virtual MICU belongs to the universe of *Firstness* that is, of potentiality; its phonetic/graphical combination with other MICUs appertains to *Secondness*; and the linguistic rules that permit or forbid such combinations pertain to *Thirdness*.

This feature is due to its utter distinction from the 'classical word'. In effect, while the history of 'word' goes as far back as that of language itself, that of the MICU is rather recent. Like that of the simple acronym of which it constitutes only a complex development, the history of the MICU concerns the creation of a sign out of the creation of a new object. Here, the determination goes clearly from the Object to the Sign. O ➔ S. The other feature shared by both acronym and MICU, is that they both display information about their object, and are thus considered as 'Dicent signs', while the 'classical word' like any other noun, is considered as a 'rhematic symbol' offering no further indication about its object.

Likewise, the similarity of the cause-effect type of relationship between the appearance of the MICU at linguistic level, and that of its electronic hypertext counterpart mediated by technology should be underlined. In effect, before the invention of the computer and before the implementation of computer networks, linguists noticed the existence of initials used as a process for building neologies in the late nineteenth century, but the existence of acronyms (which can be pronounced as ordinary words) is dated only to the middle of the twentieth century. In fact, the OED records the first printed use of acronyms in 1947 with *Amvets* standing for *American Veteran's Association*. The complementarity

between the two hypermodern linguistic tools bears a noteworthy dimension when considered in relation to the endeavour consented by hackers to accommodate harmoniously language and technology.

Another characteristic of MICUs is the fact that they are used as a kind of syntagmatic deictics. Indeed, adding to the traditional three types of deictics comprising time, space, co-text and context (here meaning the physical environment whereby communication evolves), we should like to add what could be termed the syntagmatic deixis. By this term, is meant the linear combination of graphs playing the role of initials within a complex lexical unit, but instead of being recursive as is the case with tokens which refer every time to the same linguistic referents, the initials refer to different lexical units in each of their instances. For example, the article '**a**' occurring five times in a given text refers in each of its instances to a singular unit, even if the referred unit is each time different as in '**a** man offered **a** ring and **a** hat to **a** woman he met at **a** party', the article '**a**' remains recognizable in each of its instances as a token of the article 'a' representing the first letter of the alphabet. A MICU, on the contrary is not recognizable as such, because in every instance of its uses, it may refer to a different entity. Thus, it cannot function as a token but as a deictic intimately constrained by its paradigmatic and syntagmatic occurrences. For example, the '**A**' in laser, where 'a' refers to '**A**mplification' does not refer to 'Amplification' in **A**SCIIbetical order, where it refers to '**A**merican' while in F**A**Q, it stands for '**A**sked'. This feature explains our preference for the term deictic units. The understanding of each of their occurrences compels to the consideration of the specific context in which they are used in each of their instances.

As can be observed, this argumentation reveals that a new 'open field' lies before our genius to build coinages by fashioning viable associations between lexical entities that can be made to hold together. In this way, the creation of a coinage can combine a device based on the linear or syntagmatic level of language to another involving other devices, or even the use of media like sounds or pictures to better implement the concept of "network thinking".

One more feature of the electronic word that has been noted relates to the notion of hybridity. In effect, hybridity which is a common trait for compounds, blends and acronyms, confers to the electronic hyperword its peculiar multimediatic and polyphonic aspects, thus annihilating the concepts of linearity

and unity of voice within cyberspace. This characteristic remains one of the most salient features of the electronic word. It also explains the tendency of the users of English in general and of hackers in particular within cyberspace to 'say the most with the least', that is to be 'as economical as can be', even if this means sometimes to 'sound strange' towards non-specialists. The economy of time, graphs, and words and the semiotic shortcuts generously offered by the electronic word is worth all the trouble.

The particular flavour inherent to this new way of coining electronic words by using different but effective lexicogenic processes compels one to revisit the classical linear manner of writing phonemes from left to right, or uttering them, raising the pitch at particular syllables and lowering it at others, pausing regularly at the end of each portion of text to respect the rhythm induced by punctuation. Here the rhythm is not imposed by the movement of the lungs breathing air in and out, but by the ingenuity to optimize communication (that is loading *Secondness* with *Firstness*) by resorting to all devices made available by the mouse and keyboard, hence, the ever increasing use of abbreviations, acronyms and emoticons. These processes consist, as has been shown, of the association under particular circumstances of some linguistic forms (blends, compounds, acronyms, etc) to other forms, producing thereof a new lexical unit. These processes, as long as they consist of associations, do favour network thinking, since they force the mind to establish coherent links between entities that would not have been connected together otherwise. This feature clearly distinguishes the electronic text from an analogous one.

As has been underlined, the electronic lexicon does not rest on a stable structure shaped once and for good, like the idea of a word whose spelling is based on the one hand, on a given number of graphs themselves part of a definitely established orthographic alphabet, and, on the other hand on a phonemic structure formed from a given number of perfectly recognizable phonemes themselves part of another established phonemic alphabet. The basic unit here is not the meaningless, though distinctive unit known as the phoneme, but its hypermodern counterpart unit, the MICU. The MICU does not possess the stability, the linearity and the regularity of the phoneme. However, it functions in exactly the same terms, except that, while the phoneme bears no meaning in itself, the MICU not only does have a meaning, but can it also serve as a hypertext node

to refer to other units. In fact, the MICU functions as a 'free electron', a notion of great value to hypermoderns. Indeed, acronyms are ideal representatives of the 'free electrons' MICUs which do not belong to any phonological system in particular but which may occasionally be brought to play the role of any phoneme within a given language system.

In this connection, it should be recalled that the Jargon File exists entirely as a hypertext docuverse. As will be seen in what follows, the structure of an electronic word, especially of a complex acronym differs significantly from the structure of an analogous word.. The reason, is that the structure of the complex acronym is built on several layers, each participating to encapsulate a certain amount of meaning. Viewed from this perspective, electronic writing, especially in its hypertextual form, challenges the linearity and the sequentiality which characterize traditional writing. It is worthy of note, that both the electronic hypertext and the componeme involve basic elements which constitute their preliminary syntactic structures. Both are shaped in a hypertextual structure which is built on a network perspective.

One is therefore brought to deduce that the process of "conscious network thinking" is already under way, and may in time become people's "natural way of thinking", thus turning into a sort of "second nature". For example, concerning language, and particularly the use of its lexical resources for the production, transmission and interpretation of meaning, this process has started since the invention of language. Devices like hypallage, metaphors, or synecdoche are extensively used in poetry. Concerning the English language, and particularly cyber-English, it was shown that its lexicogenic processes like affixation, blending, compounding and acronymy are all clear illustrations of such "network thinking" at lexical level.

5.4.2. Network thinking

A network is a collection of independent elements or units or nodes, capable of interaction in a reticular manner within a more or less clearly defined system. An example of the types of elements to be detailed now is the type called hypertext. A hypertext may bear the form of a simple or of a complex lexical unit. The problematic issue with hypertexts, is of course the determination of the relations that

signs might hold amongst themselves and not the signs in themselves as such. Hypertext, which its inventor Ted Nelson defined as *Non-sequential writing with reader controlled links*[214], is not constrained by linearity and contains links to other texts. The basic principle underlying hypertext is as Derrick De Kerckhove notes that

> *Any part of any text stored in digital form can be associated automatically, instantly and permanently with any other text stored in the same way… Fully implemented, hypertext is actually more reliable than a human memory because it allows comprehensive scanning of all potential connections of all data present in the "search space".*[215]

One can easily observe that this standpoint meets perfectly with another: that of the inventor of the WWW, T. Berners-Lee who sums up the spirit of network thinking in his well-known 'Weaving the Web'. In effect, the latter explains that at the origin of the creation of the web, the philosophy of the web was centred upon the reliability and availability of connections

> *What matters is the connections. It isn't the letters, it's the way they're strung together into words. It isn't the words, it's the way they're strung together into phrases. It's not the phrases, it's the way they're strung together into a document*[216].

The electronic issue, then, is how things are or can be connected. The linguistic and semiotic challenges seem also to be the same. How to connect linguistic units in such a way as to offer other alternatives to construct several layers of meaning instead of the classical linear way of building words, sentences, etc. The English language, as we have seen, seems perfectly fit to adapt itself so as to embody the potential objects that the human genius might be led to concoct, as long as there are also other intelligences mastering this language, and capable of building the necessary pragmatic connections between the language signs at their disposal, and their cognitive equivalent objects represented by the signs. The World Wide Web on its part seems now entirely ready to serve as the privileged locus for such interactions between language and its correlative objects by means of hyperlinks. Its inventor reckons that

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[209] D. De Kerckhove in *Connected Intelligence: The Arrival of the Web Society*, Somerville House Publishing, 1997, p 77.
[215] Ibid.
[216] T. Berners-Lee, *Weaving the Web*, Texere, 2000, p. 14.

> *The fundamental principle behind the web, was that once someone somewhere made available a document, data-base, graphic, sound, video or screen at some stage in an interactive dialogue, it should be accessible (subject to authorization of course), by anyone with any type of computer in any country. And it should be possible to make a reference – a link – to that thing, so that others could find it…. By being able to reference anything with equal ease, the web could also represent associations between things that might seem unrelated but for some reason did actually share a relationship. This is something the brain can do easily, spontaneously.*[217]

In fact, the brain (which serves as the model for the computer) has always functioned in this manner: making connections between the known and the unknown by means of memory, recollections and physical stimulus. These can be pictures, words, odours, sounds, tastes, touches, etc. resulting in the form of nervous impulses which the nerves transmit to the brain. As can be noted, it is less the linear aspect of language, or what is commonly referred to by structuralist linguistics as the syntagmatic construction of sentences which matters, as much as the way in which the various elements are held together in an electronic document, where information can be inserted even between the elements of a word (if we admit the idea that a lexical unit may be composed of other elements than phonemes, as is the case with acronyms).

However, the idea of network thinking is not new. Indeed, it has preceded even the first computer, as it goes as far back as the mid-forties with Vannevar Bush's idea of the memex

> *The human mind...operates by association. With one item in its grasp, it snaps instantly to the next that is suggested by the association of thoughts, in accordance with some intricate web of trails carried by the cells of the brain… A memex is a device in which an individual stores his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory...*[218]

Mention should be made here of the link between Bush's preoccupation and that of the first searchers for storing spaces. In both cases the challenge is to elaborate an external (artificial as opposed to natural) memory that could cater for the deficiencies of the natural one. Such an important innovation as the memex cannot avoid bringing forth new attitudes towards both reading and writing. In 'Bush's

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[217] T. Berners-Lee, *Weaving the Web*, Texere, 2000, p. 40.
[218] V. Bush , *As We May Think* In The Atlantic Monthly, July 1945.

Memex as Poetic Machine'. G.P. Landow also elaborates on the concept of hypertext, by relating it to Vannevar Bush's memex as he writes:

> *Bush proposed the notion of blocks of text joined by links, and he also introduced the terms* ***links, linkages, trails*** *, and* ***web*** *to describe his new conception of textuality. Bush's description of the memex contains several other seminal, even radical, conceptions of textuality. It demands, first of all, a radical reconfiguration of the practice of reading and writing, in which both activities draw closer together than is possible with book technology. Second, despite the fact that he conceived of the memex before the advent of digital computing, Bush perceives that something like virtual textuality is essential for the changes he advocates. Third, his reconfiguration of text introduces three entirely new elements -- associative indexing (or links), trails of such links, and sets or webs of such trails*[219].

As can be noted, the memex had offered the basic conception of what has eventually become the World Wide Web. It had conceptualized the idea of a text bearing a form other than the linear form on which all previous texts had been based. The memex and the electronic word have become the hypermodern linguistic and stylistic implements which offer an alternative to the new literature. Bush's dream was fulfilled by the invention of the networked computer. As a matter of fact, signs on screen, although they look the same as signs on paper are indeed very different. The electronic sign is the result of a series of operations in a computer involving 0 and 1, while the analog sign is a combination of pieces of metal carved in the form of letters and numbers arranged to resemble manuscript writing at the beginning of the printing press adventure. Only later came the different fonts, and one would be wise to notice that the same process is under way concerning electronic signs standards, since the Times New Roman font tends to become standard for Microsoft Word users, while Acrobat imposes a single standard format on all its documents. The novelty is that most of the change comes from the capacity of the electronic 'text' to mix word, sound, and image in new ways, bringing forth the actuality of hypertext. The use of hypertext as a "natural" way of connecting the reader to sources that would eventually connect her/him to other documents in an unending way comes in close connection with the concept of "hypermodernity", as was argued in the previous chapter.

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[219] G.P. Landow, *Bush's Memex as Poetic Machine,* http://www.stanford.edu/dept/HPS/HistoryWired/Landow/LandowTwentyMinutes.html

Today, the spirit of the memex has become the model of electronic writing for any type of docuverse ranging from an Internet article, to On-line encyclopaedias, to web pages, to CDs, etc. The memex spirit operates at a basic level in any type of network thinking as it served as a model for the construction of the World Wide Web. Once implemented, network thinking in the form of hypertext enforces new ways of seeing, organizing and behaving with words, language and knowledge in general.

Indeed, in cyberspace, what matters are the links the writer inserts and those (which may be quite different) which the readers build according to their own experiences, purposes, mood and sometimes, serendipity. Again, De Kerckhove is right to remind that "*Hypertextuality creates the potential for new levels of acceleration in the circulation, elaboration, cross-checking and simulation of ideas for commercial and scientific, as well as more playful applications*."[220] This epistemological attitude which consists in connecting through associations is tantamount to that of constructing new knowledge by means of building from previous knowledge and adapting to changing reality. It opposes the idea of acquiring knowledge directly from supposed stable structures (like texts) by means of uncovering already existing truths. This idea is at the heart of Peirce's semiotic theory.

Another important innovation brought by the electronic text to the time-space dimension, concerns the disqualification of spacial and even temporal deictics. In effect, one can rapidly observe that cyber life brings significant changes to the manner in which people organize their relation to time and space which now have to be reconsidered in accordance with the planet-wide dimension of the web and to its non-stop 7 x 24hours working time and availability. To paraphrase N. Negroponte from the Wired magazine, "*Cyberspace is not geopolitical. Cyberspace is a topology, not a topography. There are no physical constructs like "beside", "above", "to the north of."*[221] This feature erases the common "real-life" references to the 'bi-dimensional' space.

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[220] D. De Kerckhove, D. *Connected Intelligence: The Arrival of the Web Societ* , Somerville House Publishing, 1997, p 80

[221] N. Negroponte http://www.media.mit.edu/

Fragmentation seems to be the common ground upon which our comparison between hypermodernity and hyperwordacy will be based. In effect, as was already argued, hypermodernity is characterized by a high degree of fragmentation at several levels (time-space dimension, social, familial, individual, political, economical, cultural, etc.), and hyperwordacy appears as the linguistic counterpart at both lexical and syntactic levels for the transformation of the ultimate condition of the Homo sapiens. Therefore an attempt will be made to detail the homologation between these two types of transformations which the hypermodern planet dweller is experiencing.

Indeed, there came a time when buses, trains, trams and other vehicles became necessary to cater for lack of means of transport. Planes were a salutary invention with their aptitude to fly over cars trapped in traffic jams and to link passengers faster between far places. All these means of transport have known an appreciable improvement in both velocity and comfort and the highways followed in quality, width and accommodation. Similarly, lack of space for parking cars in busy towns urged the design of multilevel parks which occupy also the vertical space in order to contain the growing number of cars. Likewise, the particular non-gravitational conditions in which cosmonauts live in space stations compelled the food industry to devise a new type of alimentation compacted in tiny tin cans which contain food in the form of fluids and tablets comprising all necessary proteins and vitamins found in 'ordinary' food. What can be observed today is that it equally appears necessary to 'add' more information into words to express the new complex realities which simple lexical units like 'ordinary' food seem less and less fit to assume.

Another analogy that seems of some interest in association with the development of transport means is that of architecture. In effect, there came a time for the moderns to vanquish the limitations imposed by their knowledge of civil engineering by the erection of new building structures like the Eiffel Tower which fundamentally changed the landscape of urban life. Other constraints of urbanity also compelled architects to design not individual houses over a wide area for a limited number of persons, but tall buildings occupying the vertical dimension of space, thus saving some horizontal space for the construction of skyscrapers which host a considerable number of people, preserving along the way wide areas of soil that can be used for other purposes. To keep the analogy with architecture,

one can say that the challenge required today by the dramatic shortage of time (as people have less and less time at their disposal), seems to be the necessity to invent new economical linguistic devices for language to carry more information than words or sentences, on the model of the mentioned skyscrapers, even if this must be done to the detriment of the beautiful traditional spacious individual house.

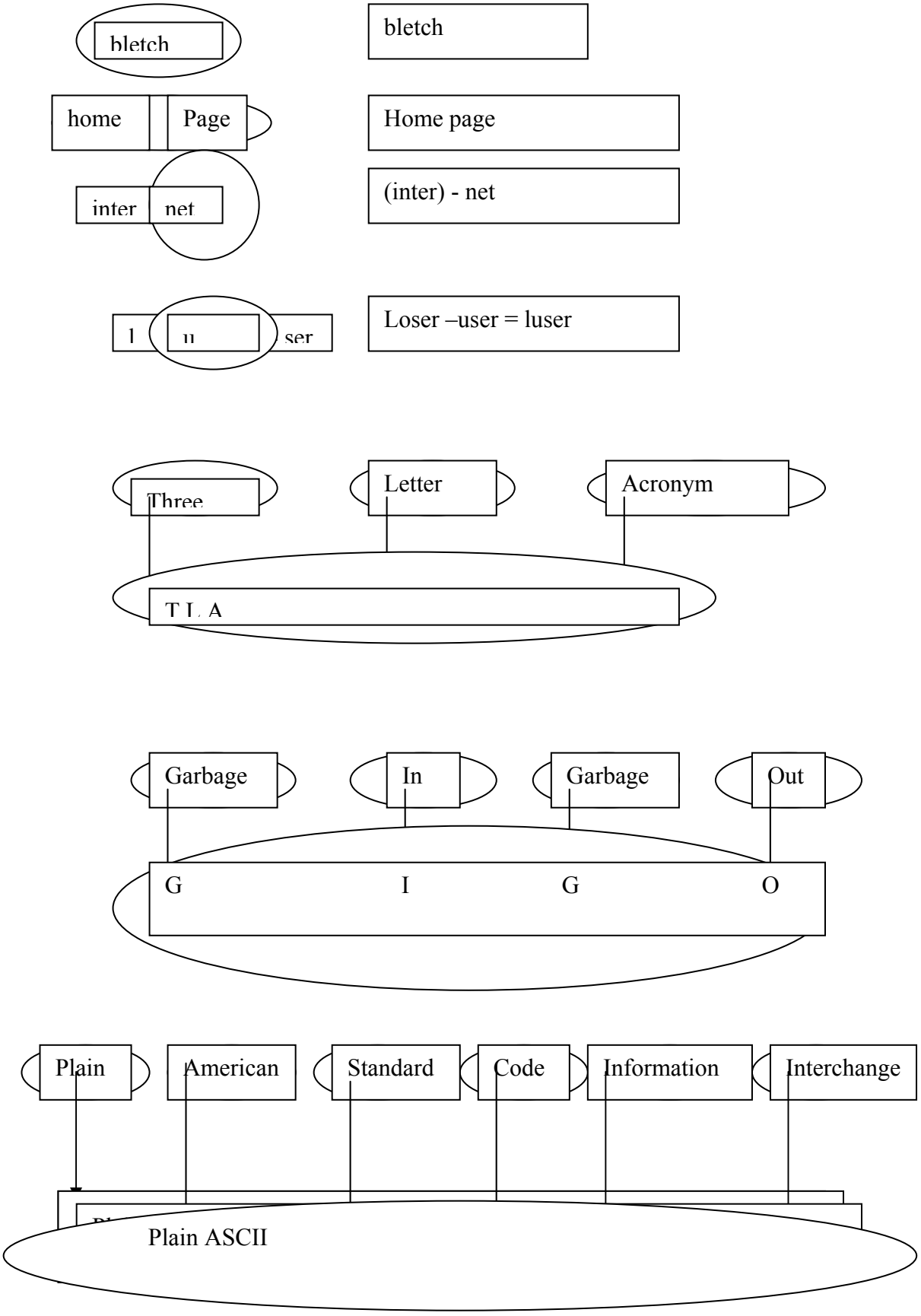
One of these devices is obviously the Triple articulation of Language. The new manner of building neologies is certainly the linguistic counterpart of the hypermodern evolution. As we have tried to show through our study of the J D, cyber-English promotes the formation of acronyms on the model of componemes and this change may result in profound transformation of the English lexicon in time. By breaking fresh ground in the linguistic field at its disposal, hackers participate in their own way to the general hypermodern movement towards compactness and hybridity which are two major features of the hypermodern world. By inventing *word-statements,* (Ordinarily expressed through whole sentences) which are in themselves whole cognitive programmes reduced to a single simple lexical unit, hackers contribute in their way to save time and effort, while requiring more intellectual effort and consent on the part of the user.

Actually, the history of human life has been characterized by constant growth and complexity in all fields, and human language is no exception. Concerning the evolution of human language and the different manners of building units of meaning out of sound structures, a graphical illustration of this evolution will be attempted. It aims at summarizing some of the most economical ways humans have invented to pack meanings in more and more economical processes and units which do not only conform to the second, but also to the triple articulation of language, at least as concerns the later processes.

Let us start with the formation of simple lexical units which conform to the double articulation:

1 – Simple lexical units (bletch) - 2 – Clipped units (net) - 3 – Compounds (home page) - 4 – Blends (luser) - 5 – Initials (TLA) - 6 – Acronyms (GIGO) - 7 – Acronym-Compounds (Plain ASCII) - 8 – Acronym-grafted simple lexical units (bit, laser)

Diagram 8: The evolution from simple to complex neologies



The analysis of cyber-English has revealed the existence of a category of 'free electrons' which are substituted to the classical phonemes in word-formation processes. The analogy with the hypermodern individual is striking. In effect, traditionally an individual person, as a member of a society, is perceived as a kind of hostage (inasmuch as one does not choose his parents, his place of birth, language, etc.) belonging to one and only one nation, one community, supposed to speak only one language, enjoying one 'closed' culture or system of beliefs, one religion, etc. Both notions of phoneme and the classical notion of an individual exist and evolve only within a closed system, while the hypermodern individual and the MICU are perceived as dynamic entities. They behave as 'free electrons' which can belong simultaneously to one coherent system as well as to many other systems. However, they cannot aggregate randomly. Like chemical molecules which need to assemble with other appropriate molecules to provoke chemical reactions, the MICUs need to combine with other contextually appropriate MICUs to compose contextually meaningful units.

Both the hypermodern man and the hyperword need appropriate necessary conditions within environments which they integrate to make meaning of themselves and in congruence with the particularities of the adopted environment. In this respect, to exist, an acronym needs first to be integrated into a conceptual whole to which its linguistic form will give a cognitive shape. For example, if there is no First amenable to some sort of verbalization, there would be no linguistic form, word or hyperword capable of embodying it. Then, if the First as a potentiality is already there, waiting to be incorporated into a linguistic form as a Second, and if the First is of a complex nature, then, it is likely that instead of being embodied in a simple lexical item, it will be materialized in a complex one like the componeme.

Similarly, to exist, the hypermodern man is like his previous predecessors born into a family. The family dwells in a geographic area which shares with neighbouring families a certain number of characteristics such as language, beliefs, interests, etc. Despite the regular unavoidable conflicts between generations occupying the same pieces of land over centuries, each generation presents more often than less a certain number of features which distinguish the community it belongs to from preceding ones. This appears more obviously in the context of exogamous marriages where a person is suddenly brought to live in a

foreign group whose language variety, habits, and sometimes even beliefs are different. The effort towards accommodation is harder when the person does not belong to the same group whose customs, language variety and even cooking techniques have to be learnt and adopted.

Indeed, the necessity of the accommodation process is best illustrated when a member of the group immigrates to a remote place, and is thus brought to either adapt to the new life or depress. World literature is blended with individual narratives evoking the hard life of strangers in foreign lands where homesickness dwells with a constant feeling of uprooting. In the example of immigrants, the new comer has to pay a painful price when s/he accepts to change a great part of his/her habits so as to be accepted by the new group s/he seeks to join at the expense of the habits s/he had before immigrating.

The hypermodern man does not even have to immigrate physically to encounter foreign and sometimes "strange" customs, beliefs, languages, etc., and is not requested to change his habits or customs. Networked computers and the Internet have brought the wide world to anyone who can afford a connection at home. The hypermodern man can freely travel virtually to remote places and learn about his 'planet men' by a simple stroke on a keyboard or by a simple move of the mouse. The difference is that without even leaving his chair, the hypermodern man has to accept the idea that he is not alone on the planet. Whether he likes it or not, and more than ever before, the world now enters into his home through communication channels (the radio, the TV set, the computer, and now the networked computer), but also through other means (canned and other kinds of conditioned and frozen food, home furniture made across the ocean, jewels and other goods imported from distant countries, etc.). The world has never been as close as it is to the hypermodern man and this closeness, despite some of its virtual aspects, compels him to develop new thinking manners so as not to lose his identity on the one hand, and to find his way through the immensity of the information society on the other hand.

As can be observed then, the basic foundation of the personality of the hypermodern man as well as that of his ancestors is the question of identity. In effect, the modern man was supposed to have a stable identity, resting on such a firm ground that no force in the world could ever change. As a matter of fact, the concept of identity was to the modern man founded on the principle that the

identity of a person consisted of a certain number of static and definite values. These values can be summed up in the feeling of belonging to a common nation, to a common land shared by a common ethnic group, to a common religion, to a common language which remains the same for the preceding and following generations, etc., i.e. nationalism, compatriotism, 'co-religionism', 'co-lingualism', etc. The problem with this narrow-minded conception of identity, curiously supposed to be universal, is the deep contradiction it involves for the modern man who considers his identity as something static, while he claims for a permanent evolution. This contradiction has always accompanied structuralist linguistics despite Bakhtin's warnings about the heteroglossia and polyphony of texts[222], and the necessity to account for the presence of multiple dialogues within the supposed closed unity of texts.

Let us now compare the ways in which in our view, the hypermodern type of English language differs from the modern one in the following table:

Table 12: Comparing the modern to the hypermodern text

MODERNITY	HYPERMODERNITY
Unity, uniformity and uniqueness. The language is composed of words. The word is a stable unit composed of phonemes which belong to a particular phonological system.	Fragmentation, variety and multiplicity. The language is composed of units of meaning of which the modern word is only a type. The word can also be built from MICUs which may belong to many systems (Numerical, graphical, alphabetical, mathematical, etc.)
Absoluteness and systematicity. The language and the word are standardized and the phonemes remain the same in each of their	Relativity and accommodation. The language is always on the process of modification. The individual MICUs which compose words do not point to the same referents in each instantiation.

[222] See the interesting analysis made available by Linda M. Park-Fuller at http://www.csun.edu/~vcspc00g/604/voices-lpf.html

instantiations. This feature confers stability to the word and to the language.	Therefore, the word is characterized by instability and indeterminacy.
Double articulation of language. The articulation of monemes brings forth the second articulation of the distinctive units called phonemes. It tells us what words mean.	Triple articulation of language. Notwithstanding the double articulation, the word here can be formed with MICUs which unlike phonemes are both meaningful and distinctive units. They point towards their immediate objects and thus it can be said that the triple articulation tells us how words mean.
Dichotomy. The word is seen as a linguistic sign composed of a signifier and a signified whose relationship is stable and definite. The sign is seen as a dyadic fixed relationship which unites a signifier to a signified despite its polysemic aspect.	Trichotomy. The word is a sign amongst other non-linguistic signs. It is the physical component which serves to embody two other components in an interactive unending process. The word polysemy is welcomed.
Exclusion of non-conformity. All users should conform to the same rules of language. The constructions which do not conform are deemed as incorrect and are rejected from the system.	Tolerance towards difference. The difference is welcomed as a new possibility for new objects to be incorporated in *Secondness*.
Superiority of the standard form. Only the standard form is accepted by the social authorities that control language use (schools,	Multiplicity of options. Innovation is celebrated and standards are considered as falsely perennial. The rules of the language are evolutive and thus can be changed by users.

academies, administrations, mass-media, etc.). The rules of the standard language are irrevocable.	
Linguistic closure. The language is seen as a closed system and all meaning is fixed within the text by its author. The author is unique and has a single voice supposed to be faithfully reflected by the written text.	Linguistic openness. Language evolves constantly and therefore the meanings of words are open to change according to the new contexts in which they appear. The author assumes his inspirations and the polyphony of his text. Hypertextuality is a tribute paid to multivocality and transience.
Purity (linguistic and non-linguistic); The standard language is considered as pure and incorrect use of the standard alters the purity of it.	Hybridity. Language is a composite formed by the contribution of the biggest number and therefore is constantly subject to change and innovation or decay.

This comparison could include other items than the word. It could for example involve the consideration of the Grand Narrative by the moderns as the Narrative, the printed book as the Book, the modern notion of identity as The Identity, and so on. To these values, the hypermoderns oppose a multiplicity of individual narratives as the tremendous development of personal blogs daily demonstrates. To the Book, they oppose the multiplicity of docuverse which gives substance to web pages. To the Identity which excludes the other from oneself, they oppose a multiplicity of evolving identities which recognize the other in oneself, etc.

A common feature can be noted which is shared by both entities (hyperword and hypermodern being). It singles them out for the moment, but for how long? As alien creatures they ostensibly exhibit an identity in constant flux, abiding a diversity of belongings and functions, contrary to the 'stable, static, fixed, frozen modern identity' of the modern phoneme and of the modern individual. But truly, has there ever been a person enjoying a static, stable and

definitely frozen identity at any given time in history? One is rather inclined to use the term illusion to qualify this type of discourse which claims more than it actually demonstrates.

5.4.3. Network thinking by using linguistic devices

Thinking in network manner has always been a feature of the human brain which is accustomed to consider several things simultaneously whenever we think. However, the organization of discourse (whether spoken or written) compels one to conform to the linear aspect of its expression. In this way, when we speak we breathe in rhythm and articulate the phonemes using different organs at different moments of the articulation phase. When we write, we also write in rhythm from left to right or from right to left drawing the consecutive graphs one after the other with respect to the spatial or syntagmatic divisions of the writing process.

A significant precision which should be added concerning the syntagmatic construction of language is the novelty brought by hypertext links. These links, which fragment the classical linear construction of syntagms, may concern either a complex syntagmatic construction or a simple coinage, as a link may be inserted even within a simple construction. In effect, as componemes are based on the coherent amalgamation of congruent units (the MICUs) which might not fit in other contexts, they become the root on which coherent networks can be constituted. In this respect, componemes resemble hypertexts from the standpoint of their constitutive elements. However, while componemes mainly operate at the level of the word, hypertexts (which can also be the result of a componeme operation) mostly operate at the level of the sentence. It is from this perspective that both componemes and hypertext links ought to be considered as one of the best implementations of network thinking, since both of them incite the mind to draw adequate relationships between disparate elements which do not fit together in other contexts. As an illustration for such an assertion, let us reconsider the example of ASCIIbetical order. On the syntagmatic axis, it is composed of a certain number of elements which can be described as follows on the first syntagmatic layer:

American + **S**tandard + **C**ode for + **I**nformation + **I**nterchange + betical + order.

1 – As a whole, the coinage is a highly complex lexical unit which we now can label a componeme.

2 – Its elements can be broken down into two distinct components: the first component is composed of a combination of an acronym with an unusual suffix, *ASCIIbetical* and the second component is composed of a simple lexical unit, *order*.

3 – The first component can now be divided into two distinct components: the acronym *ASCII* and the suffix *betical*.

4 – The acronym can itself be broken down into its constitutive MICUs: A, S, C, I, I.

5 – The suffix *betical* can in its turn be broken down into two parts: the clipped element *betic* from *alphabetic* and to the suffix *al*. In the last case, the suffix *al,* remains as a sign waiting for an object to be connected with, so as to embody it with an adjectival qualifier meaning 'relating to'.

Other neologies like F.I.S.H.Queue or FAQList are built on similar grounds, except that here the acronym represents a more complex proposition from the syntactic standpoint. Other items like Sysop, or WYSIWYG (What You See Is What You Get) is built according to the same process.

The second syntagmatic layer would comprise all the linear constructions like ASCIIbetical, which conform to the syntactic rules still at play within the Standard English variety. It could also involve the insertion of any multimedia type of document whose objects could be accessed and retrieved by a simple click on its hypertext or hypermedia links. These could be underlined in blue, and be highlighted by a pointer device like a mouse as in the example mentioned above. In this way, any click on any element on the syntagms (first or second layer) would thus function on a hypertextual mode, capable of bringing forth remote connections in unpredictable ways.

Each element on the syntagmatic axis on both layers can stand in a one to one term relationship with its correlate on the paradigmatic axis. At the same time, a syntagmatic combination of terms into larger units also finds its correlate within the paradigmatic axis. As an illustration, a sentence such as "*the R.& D. manager, suggests to laserize the I.B.M. piece of hardware before fixing it*" would

read as: the Ar an Di manager suggests … with a simple mouse click on the graph R, the reader is transported to the document linked to the graph which explains that R stands for Research. Another click on D would perform the same activity and would connect the reader to the document where the word Development is stored. But then, if the reader still finds it difficult to understand the link between research and development, another hypertext R&D would connect the reader to another document explaining the function of this service within a given firm. Etc. In order to better highlight this point, let us again reconsider the example of ASCIIbetical order:

First, a number of initials capable of fitting together in an appropriate pragmatic context are combined on the syntagmatic axis, for instance, ASCII. The result is the coinage formed from the aggregation of the disparate elements (A+S+C+I+I) which by now have become a coherent componeme. Each MICU of the lexical unit on the syntagmatic linear axis may be linked to its correlate on the semantic axis by a link (hypertext).

Considering the existence of the alphabetical order which indicates a certain manner of classifying objects by using the disposition of alphabetic letters from A to Z., and, taking advantage of the existence of a paradigm already associated with the mental activity of classifying objects of knowledge, hackers substitute ASCII, (which is also a form used by computers to organize knowledge), to *alpha* from alphabet, and add the suffix *betical* to form *ASCIIbetical*. Eventually, *order* is added to the new lexical unit to form a complex compound *ASCIIbetical order*.

A succinct analysis of the cognitive activity devoted to the formation of this coinage perfectly illustrates what is meant by network thinking, although it is restricted only to the lexis of a language. As can be noticed, this procedure does several actions at a time:

- It permits the formation of a new lexical item *ASCIIbetical* by borrowing a suffix from an established lexical unit. In so doing, it forces the mind to accept the newness of the coinage by pointing to its similarity with a familiar lexical unit (alphabetical) built upon a similar device. This new contiguity results in a new meaning (a digital manner of organizing knowledge).
- By drawing attention on its familiar counterpart (alphabet) whose paradigmatic contiguity is now brought to the foreground, it both justifies

and questions its proper status, because as a coinage it is brought to compete with alphabetical.

- By the same token, it deconstructs the process by which the sample lexical unit was built. In our example, the coinage is not built from the linear combination of alpha + beta, from which the last sound was dropped by the well known linguistic phenomenon of apocope, but from an acronym to which the suffix 'betical' is added to form a new lexical unit.
- It disrupts the classical way of building words from phonemes (alphabet is formed from phonemes, while ASCIIbetical is an acronym formed from MICUs). Because it builds connections on familiar grounds, the coinage acquires a legitimacy which, in time becomes equal to that of ordinary lexical units as the examples of *laser, bit* and *radar* or as the other admitted items like *dinky or nimby* show. The point to be raised is that when this actually happens, the etymology of the item becomes arcane with the passage of time and the alien coinage becomes so familiar that it is naturalized in the language as well as a transplanted organ becomes 'natural' in the receiver's body. As the coinage becomes well integrated, it appears as if had always been "there". It looks 'normal'.

The reader is now given the opportunity to link the term alphabet to the origin of writing, and not only to a form of classifying documents. A person who uses ASCIIbetical order connects several pieces of information together in a network of links incited by the reader's new knowledge. In fact, the discovery of such phenomena recalls of the distinction drawn by Chomsky's deep and surface structures, where a sentence may have one surface structure but two different deep structures, with the notable difference that our concern is strictly limited to lexical structures while Chomsky's involved the examination of full syntactic structures and language universals.

As was mentioned previously, a componeme containing MICUs is structurally distinct from an ordinary 'word' in that it is formed not from phonemes, but from a number of initials of words which are amalgamated to build a complex but single word. The result is the formation of *word-statements* which involve a third dimension finding their full expression in today's technological environment. In analogy with the notion of hypertext, these word-statements could be called "*hyperwords"*. Although the process remains at fledgling level, it

has already started exerting a visible influence on the English lexis as can be attested by the ever-increasing number of neologies involving MICUs on the Internet. The changes involved by the appearance of componemes could become determinant in time, for although they are still considered as marginal today, they might well initiate profound transformations in the way people think and communicate in the long run.

The particular flavour inherent to this new way of coining electronic words by using different but effective lexicogenic processes compels one to revisit the classical linear manner of writing classical words composed of phonemes written from left to right, or of uttering them, raising the pitch at particular syllables and lowering it at others, pausing regularly at the end of each portion of text to respect the rhythm induced by punctuation. Here the rhythm is not imposed by the movement of the lungs breathing air in and out, but by the ingenuity to optimize communication by resorting to all devices made available by the mouse and keyboard, hence, the ever increasing use of abbreviations, acronyms and emoticons.

These processes consist of the association under particular circumstances of some linguistic forms to other units whether linguistic or not, producing thereby a new lexical unit. For instance, B4 U come, CULater, or ASCIIbetical. Several coinages are built on a similar ground: ASCII Art, ASCII chart, @party, ROT13, etc. These are referenced by search engines such as Google. Another use made of these neologies helps envision the practical uses that can be made of them in web-pages. For example, a coinage like LOL@tags, has become the address of a web-page with hyperlinks to other pages which display contents based on humour. In this way, the user is led to consult several document related to funny docuverse in a network manner. These processes, as long as they consist of unusual associations rendered possible by the flexibility of the computer increase the number of paradigmatic associations and do favour network thinking, since they force the mind to establish links between entities that would not have been connected together otherwise. Besides, as was shown above, the adoption of these lexicogenic processes requires the third articulation of language.

As a matter of fact, the discovery of the MICUs reminds us of Michel Bernard's pronouncement about the third dimension of language. In an article entitled *Hypertexte: la Troisième Dimension du Langage*, where the author

compares orality to literacy, he observes that while the gist of oral discourse supposes a beginning and an end, a syntactic order of the detail and a logical order of the whole, the shift towards literacy offered humanity access to a tabular or paradigmatic<c perception of discourse. This purveys literacy with a second dimension whereby the 'before and after' of orality is enriched by an 'over and below'. In this way, the elements of discourse can be inscribed along a Cartesian axis on a two-dimensional plane. The codex, on its part offers the possibility of a transversal conception of reading. The common point between the MICUs and the organization of knowledge in the form of a codex lies in their capacity to encapsulate the third dimension of language which is not accounted for even by generative grammar since the inner organization of sentences comprising MICUs do not fall into the clear-cut division of a sentence into deep and surface structures.

5.5. **Conclusion**

The development of the English language has been shown through the particular lexicogenic processes and the specific constraints which fall upon the construction of the English lexical unit. Likewise, the trend taken by the hypermodern coinages allows for sustainable speculations about the future shape they would imprint on the language. Having shown the complexity of the hypermodern neology, and having brought to light the triple articulation of language through the MICUs which confer the hypermodern word its third dimensional aspect, one may suspect that future neology builders will embark on this new navigational linguistic craft to 'say the most with the least means' on the model of hackers.

An interesting analogy between the calculation systems (that determine quantity or extent) and alphabetical system is worth being drawn to measure the involvement of each in human complex systems of thinking, either in a one-dimensional linear way or in a network manner. As a matter of fact, when humans learnt to count, they first used simple decimal numbers. They devised a unit for the expression of singularity and other units expressing plurality (two, three, etc.). Notwithstanding the important addition of zero by the Muslim mathematicians for the expression of nothingness, an important further step in the expression of quantity as an illustration of a judicious manner of organizing and ordering the nascent hyperworld and its electronic environment, remains the elaboration of the binary[223] and the hexadecimal[224] systems for the structuring of machine languages.

Similarly, the complexities of the electronic world are imposing new ways for the expression and the organization of knowledge through the mediation of language. In this respect, it appears interesting to note that even respectable academic dictionaries like the online *Concise Oxford English Dictionary* have adopted the ASCIIbetical order. However, what appears to us as the most

[223] Using or denoting a systemof numerical notation with two at its base,employing only the digits 0 and 1, each of them having the value of a bit.

[224] Hexadecimal refers to the base-16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits.

significant innovation in the structuring of human experience in language remains the appearance of the MICUs which shape componemes. This novel manner of expressing new ideas and emotions is, in our opinion, opening fresh ground for the expression of human genius. Its impact on the way people think may equate in the field of linguistics, the impact which the invention of the hexadecimal system had on data-computing.

Besides, our assumption seems to be corroborated by a trend in some recent developments in linguistic studies which emphasize the network aspect of language. One of the proponents of this tendency is represented by R. Hudson[225] with his idea of Word Grammar. To the author, language is seen as a network depending on our knowledge of words and their properties, more than it depends on the structures of language as has been suggested by structuralist linguistics so far. If this new way of looking at language gains increasing validity from the scientific community, it will corroborate our exposition of the multi-level aspect of hypermodern neologies which could then serve as a useful index to the hypertextual aspect of language.

Whether this hypermodern trend will take root and grow rapidly to become the norm is not what we personally believe, but that this nascent way of coining words will induce new ways of thinking and expressing meaning is in our sense undeniable. Moreover, when other languages which borrow words from English, get accustomed to these novel ways of zipping words for generating compressed meanings, they will in their turn, take over and naturalize this lexicogenic process.

[225] R. Hudson, *Language Networks* : *The New Word Grammar*, Oxford University Press, 2007.

Chapter Six: A Semiotic analysis of the Jargon Dictionary

6.1. Introduction:

After having examined the J.D. from different standpoints (lexical, sociolinguistic, anthropological, communicative), time has come to look at it from a pragmatic perspective. This endeavour will be made with the invaluable help of the founding father of the semiotic discipline, Charles Sanders Peirce. His theoretical framework will help us deconstruct the highly complex and rigorous logic (both linguistic and semiotic) which permitted hackers to "semanticize" short, but complex forms, extracted from much longer units belonging to the common ordinary English language. The deconstructive enterprise will serve only as a means to help re-construct the multifaceted and economic coinages built by the hackers to express complex ideas in new ways. Two distinct perspectives should be clearly borne in mind in the following discussion.

On the one hand, the generality of the types which compose the Jargon Dictionary will be examined. This is where the meaning of the legisigns is to be sought. For, given its nature as a dictionary, the J.D. provides us with general information like the definitions one needs to negotiate the meaning of the types asserted in propositions and also provides us with the appropriate spelling and pronunciation, that is, the norms for correctly writing and pronouncing the words seen as general types composing the J.D. As part of Thirdness, it brings us the warranty which one needs to appeal to in case of possible disagreement concerning the comprehension of an item in the dictionary.

On the other hand, one needs to focus their attention on the practical use of this dictionary in actual discourse. In this respect, one can observe the occurrence of the types in concrete utterances, mainly observable in written dialogues between hackers across CMC based assertions. In this type of exchanges, the types (legisigns of the J.D.) are embodied in tokens (sinsigns used as replicas of legisigns) and exhibit tones (qualisigns) which serve to distinguish a token from another. It should also be mentioned that the notion of tone may involve syntax, spelling, pronunciation as well as the ever-changing context in which the tokens appear and bear significance. This is where semiosis is to be sought.

As a matter of course, Peirce's semiotic theory is fraught with definitions relating to the three aspects of the sign and the mutual relationships which they might

hold together according to the various contexts in which they are used. However, one of the definitions concerning the semiotic activity involving two objects and three Interpretants that seems most practical to us comes as follows:

> *I have already noted that a Sign has an Object and an Interpretant…. But it remains to point out that there are usually two Objects, and more than two Interpretants. Namely, we have to distinguish the Immediate Object, which is the Object as the Sign itself represents it, and whose Being is thus dependent upon the Representation of it in the Sign, from the Dynamical Object, which is the Reality which by some means contrives to determine the Sign to its Representation. In regard to the Interpretant we have equally to distinguish, in the first place, the Immediate Interpretant, which is the interpretant as it is revealed in the right understanding of the Sign itself, and is ordinarily called the meaning of the sign; while in the second place, we have to take note of the Dynamical Interpretant which is the actual effect which the Sign, as a Sign, really determines. Finally there is what I provisionally term the Final Interpretant, which refers to the manner in which the Sign tends to represent itself to be related to its Object*[226].

This long definition is quoted for the clarifications it brings to the analysis of a piece of a type of discourse whether speech, writing, or both as defined by J. Coate p. 202. Since our object of study purports to cyber-English and given the fact that the written aspect of the file overrides its spoken dimension (despite Coate's opposition), one may need a further theoretical tool before diving into the complexities of the semiotic analysis proper. In one of her enquiries about the relationship that might hold between Peirce's theory and literary criticism which could actually extend to any piece of writing including therefore the Jargon File, J. Réthoré reaches the conclusion that

> *If one asks the question of what is being read, we shall answer a <u>letter</u>, that is, a hypersign or a concatenation of signs, or a series of ordered graphic signs for instance. But what is meant by reading therefore? It is to relate this letter to its Object … this Object, we chose to call <u>pre-text</u> and <u>text</u>, in conformity with Peirce's posterior writings… this means the immediate Object (iO) or the Object as it is actually represented in the sign, and the dynamical Object (dO), or signified Object. It is this dO which determines the iO to its representation in the act of writing. Thought, the third element of the relation permits to connect the letter to the pre-text and to the text, under the guise of interpreting signs of this same relation.*[227]

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[226] C.S. Peirce, *Collected Papers* 2.536.

[227] Si l'on se pose la question de savoir ce qui est lu, nous répondrons une <u>lettre</u>, soit un hypersigne ou une concaténation de signes, soit encore une suite de signes graphiques ordonnée, par exemple. Mais qu'est-ce alors que lire ? C'est renvoyer cette lettre à son Objet … cet Objet, nous convenons de l'appeler <u>pré-texte</u> et <u>texte</u>, en conformité avec les écrits postérieurs de Peirce… il s'agit de l'Objet immédiat (Oi) ou Objet représenté dans le signe, et de l'Objet dynamique (Od) ou Objet signifié, cet Objet étant celui qui a déterminé Oi à sa représentation dans l'acte d'écriture. Le

Another noteworthy explanation should be provided at this point. It concerns the conceptualization of the Dynamical Object as the effect of the general situation which results in the production of a discourse, while the Dynamical Interpretant is seen as the effect (result) of this discourse on the situation. With these important clarifications in mind, let us return to our research and consider with J. Réthoré that the corpus might be conceived of as the 'letter', while reading the corpus would consist therefore in linking this 'letter' to its objects.

As was mentioned in the definition above, the object consists of the immediate object (Io), and of the dynamical object (Do). In our work, the Io is the object as represented in the sign (cyber-English as represented by the Jargon Dictionary regardless of the lexicogenic processes), while the Do is the effect of the general situation or context in which the Jargon File appeared which results in the production of the hackers' discourse whose units are defined in the Jargon Dictionary. The Immediate Interpretant (Ii) being the semantic meaning of the items, the Dynamical Interpretant (Di) is the effect of the discourse on the reader who links the items of the Jargon File to the wider context of the Computer Mediated Technology. The Final Interpretant (Fi) consists therefore of the establishment of a logical connection between the singular proprieties of the Jargon Dictionary, the correct interpretation of the coinages in context, and the general proprieties of CMC, themselves largely connected with the more general status of present day global communication. As can be observed, knowledge of the English language and of the Jargon Dictionary is only a part (albeit an essential part) of the necessary knowledge one has to possess about the community, the world vision and habitual practices of hackers. These refer to the existence of Objects which require a tangible experience of the technological vagaries to which the hackers are daily confronted (the general situation), and which partially result in the production of the Jargon Dictionary.

Linking *Secondness* to *Firstness* requires the selection among various possible signs of the salient pieces of data furnished by the items of *Secondness* in the form of actual assertions during the hackers' interactions. The data help identifying the fundamental constituents of the dynamical objects. In the previous chapter, we commented on the sundry lexicogenic devices used by the hackers to coin their dictionary. We shall, in what follows, spend some time binding the existence of the Jargon Dictionary to the socio-cultural reality from which it

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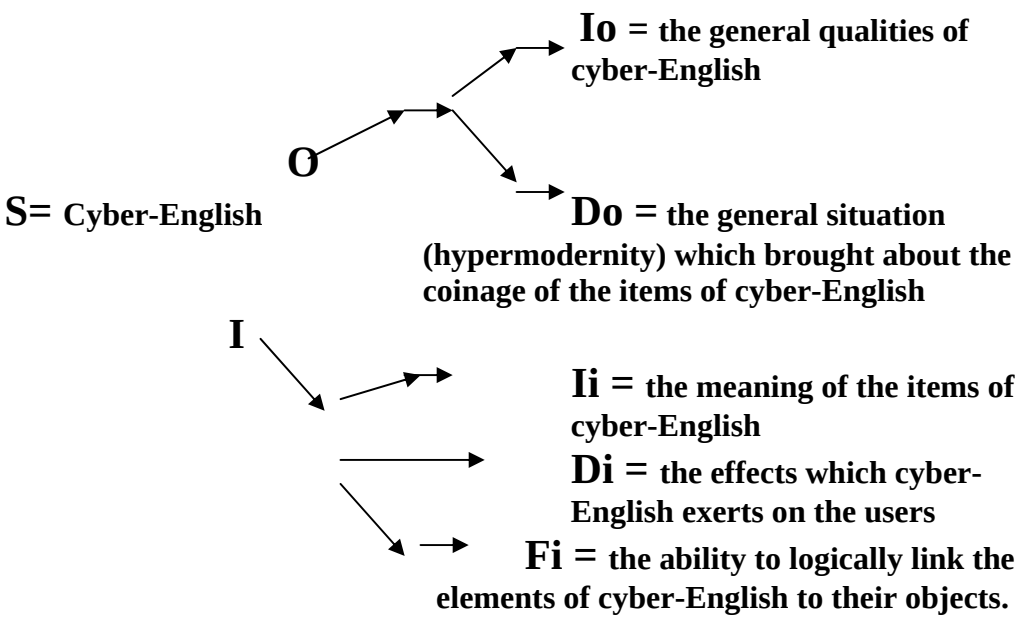
renvoi de la lettre au pré-texte et au texte se fait par la pensée, le troisième de la relation, sous la forme de signes interprétants de cette même relation. J. Réthoré, *Les conditions de l'approche d'un texte littéraire dans le contexte pédagogique : Lecture et Interprétation comme processus cognitifs* in Semiotic - Theory and Practice, Mouton de Gruyter, Berlin, 1988, pp 1002 – 1021.

emerged, so as to draw attention to the necessary connection between the signs and their dynamical objects. As the hackers mention in the Jargon File "t*he intensity and consciousness of hackish invention make a compilation of hacker slang a particularly effective window into the surrounding culture.*[228]" For this purpose, we shall examine some of the hackers' concrete assertions and link them to the particular context from which they draw their substance.

The literature about the hackers' community is plentiful and informs us about various details concerning the lives and individual opinions of its members. We learn who they are, where they live, how they dress, how they work, what they read, what their values are, their myths, their heroes and their dreams. In a word, their literature informs us about their singular culture which serves as the overall context in which their communicative encounters take place. This information will be used in connection with the items of the Jargon File to conduct our study. We start by showing how the concept of linguistic economy is central in the wording of the hackers' vision of the world and how this vision itself is dependent upon the virtual aspect of their interactions and we conclude the research with an actual implementation of Peirce's theory within the special context of the ICTs.

<u>Diagram 9:</u> Cyber-English in the light of the triadic theory



[228] E. S. Raymond, *The Jargon File* , http://www.netmeg.net/jargon/

6.2. Linguistic Economy and the Hypermodern Lexicogenic Processes: From Compounds to Acronyms

Instead of viewing the corpus as a lifeless file located in a remote and vague Internet site, we suggest to treat it as a dynamical albeit transient testimony of the language of the hackers both from the standpoint of its content and its hypertextual dimension, as well as from the viewpoint of its virtuality. With these contexts in mind, the major lexicogenic processes will now be inspected, notably compounds, blends and acronyms. According to us, this trend may incarnate the future evolution of lexical creativity within the English language. As was mentioned in Chapter three, several lexicogenic processes participate in the continuous evolution of the English language. However, the novelty that should be underlined concerns the particular progression that has been noted towards the compacting of remarkable amounts of information within smaller and smaller units of language.

As shall be argued, the creation of neologies in English, notably within CMC, tends to move progressively from the creation of a simple coinage on the model of simple lexical units like *skrog* or *tee,* to compound coinages like *eye-candy*, to more complex coinages like blends in *spamvertize*, to even more complex coinages like acronyms *VR,* and their second level counterparts such as *ASCIIbetical order*. The final output seems to be the intended integration of these complex acronyms into language under the category of simple lexical units like *bit, laser, grep*, etc. To illustrate this progression, we shall start with the examination of compounds, before moving to blends and finally to acronyms. This hierarchy is due to the observation of a procedural evolution in the fragmentation of the hyperword coinages, namely compounding, blending and acronymy.

6.2.1. Compounds

Morphologically, compounds consist of two or three simple independent lexical units brought into contact with one another to compose a new linguistic unit. For instance, *snail mail, wetware or job security,* are simple compounds. They are formed by bringing together two simple lexical units, which as a whole form a new dictionary entry. Semiotically however, the compound should not be considered as the addition of one element to another in an arithmetic manner, where one plus one

makes two, but rather as a new whole composed of integrated units. The compound should be treated as if it consists only of one whole, perceived as a unit, albeit a special unit, which, because of the close contiguity of two, (and sometimes more than two) elements, bears a fragmented appearance from the point of view of its typographic, or rather infographic aspect. Sometimes this aspect does not even appear as in *wetware, treeware or whalesong*.

The necessity to treat compounds in discourse as ordinary simple units, obeys the purpose to avoid its compartmentation. It permits to link the compound as sign to its dynamical object through the mediation of the Interpretant without lingering on the Immediate Object. Besides, as the whole weighs more than the sum of its parts, the semiotic output can only be perceived as more unitary. Moreover, what seems also worth being mentioned is the fact that the typographic shape of a graph may reveal information regarding the compounded unit. One can expect for instance that if internet usage now accepts the two spellings of e-mail and email, it will in time drop out the hyphenated e-mail for its block-form email, especially, since the latter graph is the one in which it appears in dictionaries such as the 1999 version of the Concise Oxford Dictionary, or the eleventh edition of the Concise Oxford English Dictionary.

6.2.2. Blends

What happens exactly with blends? A structural study may furnish the following framework:

Morphologically, two lexical units are telescoped so as to obtain a third element distinct from the first and the second. For example, ***net****work* + *e****tiquette*** => ***netiquette***.

Phonetically, the first element which is composed of two syllables, /net + wə:k/ and the second element which is composed of three syllables /ɛ + tik + ɛt/ merge into a third element composed of three syllables /nɛtikɛt/. The third element is thus formed by the combination of the first syllable from the first element and the second and third syllables from the second element. Mention should be made that the morpho-phonological constraint does not fall on each element separately, but on the whole blend, making it look like a primary lexical item rather than a compound. This goes in harmony with its semiotic aspect.

Pragmatically, or semiotically, one principle dominates: as with compounds, the whole is larger than the sum of its parts, and the context of use conjoined with the prevailing culture of a group offer the necessary hints for an appropriate interpretation of the blend. To better comprehend what a blend amounts to, let us borrow this analogy from David Crystal

> *If given a set of objects of different sizes, and asked to classify them into 'big' and 'small', we can do so, even though we may not feel too happy about where to draw the dividing line. Now given the same set of objects , and asked to classify them into 'big', 'medium' and 'small', we can also do so - but note what happens. Some of the smaller items classified under 'big' and some of the larger items classified under 'small' are put to fit the new category. The result is not one new category, but three new categories, as 'big' and 'small' have both been redefined in the process*[229]

In other words, it is the salient emerging structure incited by the perception of the item as a whole which informs us more than the linguistic structures from which the unit is built individually. This, because the effect produced by a blend such as *smog* or *internet* extends by far the simple addition of *smoke* and *fog*, or that of *network* and *international*. The effect produced by the word *smog* also involves the idea of a heavy, suffocating air, in addition to the ordinary effects separately produced by *smoke* and *fog*. Similarly, the effect produced by the word *internet* largely expands those produced separately by the words *international* and *network* which it subsumes, to involve the notion of a globally shared territory where the overwhelming power of individual nation-states is less visible. Therefore, it appears safe to treat blends as lexicogenic processes which, like other hypermodern 'all in one' artefacts (printer/photocopier/scanner, telephone/fax/answering machine, etc.), do exhibit their Immediate objects. Like the engineers and designers who invented these objects, hackers coin blends which incarnate the new hypermodern realities in the most economic linguistic manner.

6.3.3. Acronyms

A detailed account has already been provided for the morphological construction of acronyms. Let us remind the reader however that contrary to the

[229] D. Crystal, *Linguistics,* Penguin books, 1971, p 92.

simple lexical unit, an acronym is built not from phonemes but from the initials of words, or from MICUs. This clarification seems important as it draws a clear dividing line between the hyperword or componeme we are concerned with, and the classical notion of word discussed in chapter three, section 3.4. Therefore, in order to facilitate the comprehension of the pragmatic action performed by an acronym, let us consider it from the point of view of the effect it exerts on the reader.

For this purpose, let us first recall what the logicians have taught us: that an assertion, like a proposition comprises two distinct elements: what is talked about, filling the space of the subject or theme, and the predicate as is illustrated in the table below:

Table 13: The components of a proposition

Subject / Theme	**Predicate**
What is talked about or What we talk about	What is said about it or what we say about it
e.g. The weather The sea	Is fine, horrible, etc. Is rough, is seamless, etc.

In Peircean semiotics, the theme plays the role of an index (something that points to something else), while the predicate provides information about the qualities or actions of the theme. An index is an actual singular existent playing the role of the logical subject, while the predicate always remains general. In order to clarify the standpoint from which semiotics (which Peirce equates with logic) considers an assertion, let us examine the following example taken from the corpus: *BAD*. (Broken As Designed).

Once it is agreed that we are confronted here with a type of complex acronym involving MICUs, it becomes easier to consider it as the condensed manifestation of a whole semiotic programme. Indeed, the action which is actually performed by the coinage is an act of asserting a whole proposition in the form of an acronym. If we consent to consider that the concept of assertion is as J. Réthoré writes *an operation of the mind, speech organs, and other tools – such as the writing or typing hand –* (to which we can reasonably add the mouse or the keyboard) *thanks to which some indirectly approached object becomes represented and can be apprehended by some*

other mind[230], then the acronym becomes the equivalent of an assertion such as for instance: 'this tool is BAD'. Let us observe first that the acronym performs four different functions:

1 – It imposes itself as a new linguistic unit.

2 – It points to its correlate, in ordinary English the adjective (bad) which it iconically imitates in both form (phonic and graphic) and content by drawing attention to the similarity of the qualities incarnated by the adjective.

3 - It performs its role as a predicative unit in the unfolding of the proposition

Indeed, the pragmatic use of the acronym BAD, can be figured as follows:

--(a)-1—(b)-- | -2- BAD

Where --(a)-1—(b)-- | can mean something like (a) *this (b) tool*

And where | -2- can be replaced by an auxiliary like *is*

Logically, the predicate is *the tool that is bad, is bad because it was initially badly designed*, while the subject is *something*

The result or the effect of the proposition is:

(a) some (b) tool | is BAD

while in a contextual conversation the proposition becomes: *this tool is BAD*.

Here, we obtain a construction built on two distinct parts, each having a distinct function within language. The first part or the thematic segment or subject is materialized by the indexical function of the sign *this tool*, while the predicative fragment is ensured by the iconic adjective, thanks to the mediation of the copula to be. A great number of the items of the corpus can be submitted to the same linguistic process of verbalization which transforms their status from mere dictionary entries to that of parts of propositions which can be formulated like any ordinary assertion.

The novelty that should be emphasized here concerns the "bringing together" of lexical elements, which do not habitually work together. Their unexpected associations in such environments result in a new utterance where elements of the first component combine with the elements of the second component to produce a novel meaning. The new meaning encompasses the parts of each component, thus producing a new linguistic sign which both subsumes and accounts for the semiotic object it stands for. The status of the coinage changes from that of an ordinary

[230] J. Réthoré in a seminar lecture about semiotics, presented at Perpignan university in 2007.

rhematic symbol to that of a symbolic dicent sign or, sometimes to that of an argument as was shown with the examples of BAD, laser, etc. The hackers are well aware of their linguistic creativity and of the subtleties of lexical creation, and as can be read in the introduction to the file: *Hackish speech generally features extremely precise diction, careful word choice, a relatively large working vocabulary, and relatively little use of contractions or street slang.* This explains their appeal to any linguistic resource that may help in the creative process. Accordingly, knowing that a coinage like ASCIIcal order would lack both smartness and functionality, the hackers added the syllables 'beti' to form ASCIIbetical in analogy with alphabetical, obtaining accordingly a remarkably practical coinage to pronounce which points more straightforwardly towards its semiotic object.

At the same time, an evolution towards more compactness within these three processes from compounds to acronyms can also be noted. It should be kept in mind that the elements of a compound are both full independent lexical units which as a whole make up a unique lexical unit. Conversely, in blends, only a part of each of the two elements is brought together to build a new lexical unit. As to acronyms, they are of two types: those that are composed of a fraction of two or more lexical units: for instance, the acronym '*Bit*' formed from (**B**inary and dig**it**) illustrates the first type of construction, and those where the initials of two or more independent lexical units or MICUs are brought together so as to form a coinage. The acronym 'FAQ' (**F**requently **A**sked **Q**uestions) is an example of this second type.

One can easily notice that hackers do no content themselves with these two types of processes. Lack of time, reduction of effort, energy, and familiarity with economic word formation processes lead them to use the same resources but in optimal ways. For example, hackers still resort to compounding to coin new words. However, instead of bringing together two whole lexical units as is the case with ordinary compounds, they resort to compacted units which they amalgamate in complex acronyms. Consequently, to coin 'FAQlist', or 'FISH queue', they do not simply bring several independent elements together, (Frequently Asked Questions), they do it in the shortest possible way, by making use of only the minimal useful elements, which, in this case are the initials of the compound components. One can measure the linguistic economy which results from this particular use of language resources.

Thus perceived, the hackers' lexical constructions can be considered as syntactic constructions, or better, as simple syntagmatic constructions involving only alphabetic combinations which the ordinary lexicogenic rules of the English language permit. Complex syntagmatic constructions would include alphanumeric, graphic, diagrammatic, pictorial or sonorous items. In other words, complex constructions comprise multimedia as well as 'mono-media' structures. As can be observed, we are confronted here with a perfect example of amalgamation of resources which fosters a straightforward integration of economic linguistic devices to a new field named network thinking. In effect, by making the most with the least means, by inventing new integrative linguistic processes such as the ones mentioned above, the hackers contribute significantly to the promotion of network thinking as defined by Tim Berners Lee in Chapter five, section 4.2.

6.3. The Corpus in the Light of the Triadic Theory

The semiotic triadic theory considers that the main function of a sign consists in saying something (S) about something else (O), implementing along the way the semiotic process (I) owing to a convention which habitually links (S) to (O). This general framework borrowed from Peirce is to be seen as the basic plinth for the analysis of cyber-English. In this work, the sign (S) stands for the use of cyber-English during the interactions between the hackers, (O) represents the qualities of the hypermodern condition which determine the type of English used by the hackers and Internet users, and finally (I) which corresponds to the sophisticated culture of the virtual communities, and their ways of being to the world in our globalized society within the constantly evolving world of technologies represented by CMC.

Therefore, in agreement with the triadic theory and similarly to any other sort of sign, Cyber-English can be examined in its relation to itself, to its object or to its Interpretant. The consideration of cyber-English in its relation to itself as Sign means that we examine it in its suchness. The consideration of cyber-English in relation to its Object involves its examination in relation to the reality of its use, that is, as actual assertions in language. Finally the focus on the Interpretant involves the examination of cyber-English in its pragmatic dimension, that is, the establishment of the necessary links between the formal linguistic particularities of cyber-English as asserted in particular contexts and their object counterparts.

In order to be exhaustive, this theoretical conceptualization requires the study of cyber-English from the standpoints of the three trichotomies mentioned in the last part of the first chapter. The first perspective concerns cyber-English in its relation to itself (S =>S), the second, in its relation to its Object (S =>O), and the third perspective examines it in its relation to its Interpretant (S => I). We suggest the following diagram to recapitulate the three trichotomies:

The 1rst trichotomy: cyber-English in its relation to Itself or S => S. In this case, the sign is a qualisign, a sinsign, or a legisign

The 2nd trichotomy: cyber-English in its relation to its Object or S => O.

In this case, the sign is an icon, an index, or a symbol

The 3rd trichotomy: cyber-English in its relation to its Interpretant or S => I.
In this case, the sign is a rheme, a dicent sign (dicisign), or an argument.

The first trichotomy: Cyber-English in its relation to itself Qualisign - sinsign – legisign.

The examination of the first trichotomy involves the consideration of cyber-English in its suchness. Therefore, as a Representamen, cyber-English is to be regarded as a mere quality, an actual existent, or a general law. i.e. as a qualisign, or sign of quality; as a sinsign, or as an actual occurrence of a variety of English within cyberspace; or as a legisign, or as a particular way of expressing oneself in conformity to specific rules (those of netiquette for instance), within the virtual world of the Internet.

As long as Cyber-English is perceived as a qualisign, it remains a sign of quality with the characteristic vagueness proper to the world of Firstness. Being of the nature of a quality, it can be incorporated in singular assertions belonging to Secondness. It is through this type of actual incorporation in concrete occurrences that it can be apprehended in language.

a) - Considered as a qualisign then, cyber-English is potentially loaded with a certain number of general qualities that make up its formal properties. These qualities can be perceived only once they are incorporated in the particular linguistic units which distinguish cyber-English from all other varieties of English. These qualities may concern the particular tone, musicality, typography of words, or any other feature which, like the feeling of newness, singularity, compactness, hybridity, playfulness, humour, ingenuity, etc., participate in the singularization of Cyber-English from other varieties of English.

b) - As a sinsign, it represents through its occurrences an actual testimony of the existence of the variety known as cyber-English. Indeed, because this variety of English is actually used by the members of the virtual communities, cyber-English imposes itself into existence. It forces one to accept it as such, and it embodies a certain number of qualities which determine its final shape. For instance, the Jargon Dictionary of the hackers comprises the following examples: @party, FAQlist, machoflops, lithium lick, etc., whose structures are different from those of ordinary General English. Only because they exist, these items become the proof of the existence of cyber-English.

c) - As a legisign, cyber-English informs one about the necessary qualities of form which a variety of English should bear in order to deserve the label of cyber-English. e.g.: an item belonging to cyber-English should conform to the law of least effort, add new information that contributes to inform the virtual world, be pleasant to its users, display some sort of technical and / or linguistic ingenuity, etc.

The second trichotomy: Cyber-English in its relation to its Object Icon – index – symbol.

This relationship may be founded on the characteristics of the sign proper, on its existential relationship with its object, or on its relation to its Interpretant. In other words, the sign can be considered in its iconic Firstness, in its indexical Secondness or in its symbolic Thirdness.

Considered in its iconic Firstness, cyber-English produces a certain number of sensations on the reader. These effects involve mainly feelings of qualities such as the ones mentioned above and which are common to the world of hypermodernity. For example an emoticon such as ☺, resembles a person in a happy mood, while ☹ would rather express an opposite feeling. In the same way, coinages like AFAIK, IMHO, or BTW share with their *Firstness* counterparts a common worry for economy of expression, since five and four MICUs successively stand for whole sentences: (**A**s **F**ar **A**s **I** **K**now for the first componeme, **I**n **M**y **H**umble **O**pinion for the second, and **B**y **T**he **W**ay for the third).

Viewed from the angle of its Secondness, cyber-English displays through its linguistic formal shape a number of the qualities of Firstness. Accordingly, it manifests properties such as compactness, amalgamation, ingenuity, humour, singularity, etc. For instance, in a componeme, each MICU functions as an index of the word it stands for within the acronym. As an illustration, TLA is a Dicent sign whose object is equivalent to a proposition which says (I am a word which is composed of Three Letter Acronyms!).

This interpretation matches well that of Robert Marty who, translating Peirce, writes in his *76 définitions du signe*:

> *A sign necessarily possesses as its Object some fragment of history, that is, of the history of ideas. It ought to give rise to some idea. This idea may totally consist in directing a person's attention, like in the sign "man", "virtue", manner*".[231]

Apprehended from the standpoint of its symbolic aspect, and assuming that the Interpretant involves the possibility to decode each index, cyber-English builds an immediate connection between its existence as such on the one hand, and, on the other hand, on the particular electronic environment from which it stems and which it feeds in its turn. For example, the sign @ represents its object i.e. is the symbol of a virtual address, by virtue of some convention between its users. Another symbolic illustration concerns hypertexts. In effect, on a web-page, all hypertext links are underlined with blue ink. The blue link thus becomes a sign of hypertextuality to an informed reader. If a user follows a given link, the link turns to a red colour to inform the surfer that the page has already been visited. Another convention is to accept as correct such coinages like *gender mender, eye candy, microdroid or treeware* and admit them as pertinent in the universe of the virtual communities where they bear relevant significance.

<u>The third trichotomy: Cyber-English in its relation to its Interpretant</u> Rheme – dicisign – argument.

Here the Interpretant may represent cyber-English as a sign of mere possibility or rheme, of actual fact or dicisign, or as a sign of reason i.e., as an argument. The examination of cyber-English in the first case brings in a shade of haze since the observer is left with a vague feeling of qualitative possibility. For example, an Internet user who encounters cyber-English for the first time may feel something particular about this variety of English, and probably no more. Mixed feelings like strangeness, absurdity, humour and techno-hype are common in that case. However, no additional information can be inferred as to what is exactly

[231] Un Signe a nécessairement pour Objet quelque fragment d'histoire, c'est-à-dire de l'histoire des idées. I1 doit exciter quelque idée. Cette idée peut consister entièrement à diriger l'attention, comme dans un signe tel que "homme", "vertu", "manière". R. Marty, *76 définitions du signe,* 56 – 1911 - MS 849: ftp://ftp.univ-perp.fr/pub/semiotics/marty/76-fr.zip

meant by the items of this language as long as one does not have access to the clues secured by Thirdness.

The consideration of the items of cyber-English as signs of actuality or as a dicent signs (signs that tell the reader something) means that a potential of qualities is already incorporated in this variety of language. Several qualities can filter through the particular shape of the units of the Jargon Dictionary. The qualities mentioned above confer to the Jargon File its singularity, but graphically its items display at the same time their conformity to the principles of cyber-English in general. At this level, some items provide information about their objects through linguistic and/or typographic clues which steer the reader to their immediate objects. In this connection, one can write that all Dicent signs like hypertexts and hyperwords comprising MICUs ideally play this role.

Seen from the standpoint of its argumentative aspect, the mediation between Secondness and Firstness is the result of a law of a general type. For example, all users are expected to respect the netiquette, because failure to conform to the norms of the community may result in retaliation like being excluded from a discussion, and sometimes, even from the community. Another example of norms supposed to be taken for granted is the fact that all the lexical units of cyber-English must or do conform to the phonological constraints of general English. Besides, the coinage of a term is meant to" *convey overtones and undertones that illuminate the hackish psyche."*[232] Such norms are necessary for the viability of the group. They serve to recognize a person's behaviour and attitude as friendly and constructive or as threatening and destructive and to react accordingly. The hackers recognize in the introduction to their Jargon Dictionary that not *"knowing the slang (or using it inappropriately) defines one as an outsider, a mundane, or (worst of all in hackish vocabulary) possibly even a* suit*."*[233] The Hackers' consciousness of some shared experiences, roots and values that can be reflected and propagated by their jargon through frequent interactions greatly contributes to shape the form of their lexis.

Examined from a strictly grammatical standpoint, the Jargon File comprises all grammatical categories except articles and pronouns whose

[232] The Jargon Dictionary, Version 4.2.0, 31 Jan 2000, http://www.netmeg.net/jargon/
[233] Ibid.

functionality is less relevant. Therefore, and considering that Peirce's semiotics is of a general type, Joëlle Réthoré has established a homology between the traditional grammatical categorization and Peirce's classification of words which identifies three types of signs:[234]

a)- the signs which qualify, which J. Réthoré equates with **iconic legisigns**. They comprise adjectives and adverbs of manner.

b)- the signs which designate or which bring into relationships other signs within the sentence or the text. These are called **indices** and sub-indices, and concern the proper nouns, pronouns, (personal, demonstrative, relative, indefinite), the determiners, the adverbs of time and space, and, in general, all linking morphemes (conjunctions and prepositions).

c)- the signs which label the classes of being or the classes of things, like common nouns, and those which label the relations between classes like verbs and their verbal valences. These are called **symbols**.

However, Joëlle Réthoré[235] appropriately warns that this classification concerns only the phenomenology of the word, that is, the effect it produces on the mind of the reader. She signals that the grammatical categories account exclusively for the syntactic dimension of this phenomenology. In other words, only the relationships of the word with the other words on the syntagmatic axis are considered in this classification while Peirce's classification considers simultaneously both the semantic and pragmatic dimensions. That is to say that the relation of the word with its object (the semantic dimension), and the relationship of the word with its Interpretant (the pragmatic dimension) are taken as a whole. To say things differently, the theory accounts for what the word signifies, and also informs us about the means it uses to do so, or how the word signifies. According to Réthoré's homologation, the complex words (blends, compounds or acronyms) identified in the Jargon Dictionary will be classified in the category of symbols. The classification of the items of the Jargon Dictionary is presented in the following table.

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[235] J. Réthoré, *A Few Linguistic Concepts Revisited in the Light of Peirce's Semiotics*, Semiotica 1993, p 97

Table 14: Semiotic classes versus grammatical classes

Semiotic classes	Iconic legisigns	Indexical legisign	Symbols
Grammatical classes	Adjectives + Adverbs manner	Proper nouns pronouns determiners prepositions	Nouns + verbs
Examples	*Asbestos- ambimousetrou – ASCIIbetical order- BAD -Automagically barfulous -bogus catatonic - content free cretinous - crufty cyberpunk - elegant – eli -fried - gedanken – gonzo hairy –jolix – like kickin dead whales down t beach - like nailing jelly a tree - lost in t underflow - – plug-an pray- – rude- user-friend – WOMBAT- wonky WYSIWYG – YAFIYGI*	*Ack – bletch ENQ –foo - NAK*	*ABEND - AFAIK – AFJ - AIDS alpha geek - angry fruit salad autobogotiphobia – avatar - BASI – bit - bitbucket - bloatware BLOB – boa – BOF – bogometer bot – boxology – bug – catatonic CHOP - computer geek - cookie crapplet – cretin – cross post cruft – cup holder - cyberspace defenestratation – dehose demigod - demo – depeditate – de – despew – dickless workstation dinosaur pen – disclaimer- Dissociated Press - doc – droid drunk mouse syndrome - email emoticon – eye candy – FAQ FAQlist – featurectomy – feep FIFO – FISH queue – flamage Flame – flavour – fontolog freeware - frink – friode – frob frobnitz – gender mender – GIGO glark – go flatline – gonk- grep gritch – gubbish - – hacker – ha mode - heatseeker - hired gun home page - hot link- heatseeker hired gun – home page - hot link HTH – I.B.M.- ICE – ID10T err – IIRC - Internet - internet dea penalty - internet exploiter – j security - kahuna - KIBO - kiboze lamer - language lawyer - las chicken – leech - lexer – lexiphag lithium lick –logic bomb - lossage loser – lurker – luser – mailing li – mail storm - meatspace megapenny – memetics - memo leak – menuitis- microdroid mouso - MUD – nastygram*

			neophilia – net.god - netiquette newbie- - nyetwork- - ogg – o fart – OTOH- – person of r account - phage – Plain ASCII- POD - rat belt- – read-only user return from the dead - rot 1 salescritter – samizdat – screwag – September that never ended shambolic link – sharchive shelfware - shitogram – signal noise ratio - sigquote – sitename smoke and mirrors - smurf - sna mail – snivitz – SO- – source of a good bits - spam – spamvertiz spod – spungle- – squirrelcide superloser - sysape – sysop - tee teledidonics - tenured gradua student - terminal brain death thinko – throwaway account - TL – tree killer – treeware - troll-(meter – true hacker- – turist- Un brain damage - vaporware - vasta - VAXectomy - vaxocentrism virtual beer – VR – W2K bug wannabie - weasel - webify weenie – wetware – whalesong winnage – wirehead - wizard womble – wugga wugga – wumpu – xref- zen - zipperhead - @party -

A simple examination of the hackers' jargon under this classification reveals that most coinages belong to the semiotic category of symbols (195). A marginal part belongs to the Iconic legisigns (30) and only (5) coinages belong to the class of Indexical legisigns. This observation calls for a certain number of comments:

First, the items of the Jargon File should not be considered in isolation from the habitual context in which they are used, that is, in various assertions in electronic conversations between hackers. Second, considering the virtual nature of cyberspace, it appears logical that the category of indices ranks very low compared to the other two categories. An extensive use of deictics would have been inappropriate and non-pragmatic given the virtual aspect of the notions of time and space and proxemics in the Internet. Given these two arguments, one must not be surprised to observe the remarkable superiority of the symbols over the rest of signs in cyber-English.

This being assumed, a further indication must necessarily be furnished concerning the contextual environment in which the corpus ought to be considered. It relates to the presuppositions pertaining to the exchanges conveyed by the items of the Jargon Dictionary during the numerous interactions of the members of the virtual communities. For this purpose, we turn to the argument developed by Wittgenstein in *The Blue Book* and *the Brown Book*[236].

In one of the numerous language games described by the philosopher, mention is made of the activity which consists in trying for an observer B to try to discover a logical sequence to a series of numbers enumerated successively by A. Noting that the suite of numbers enumerated by A are: 1, 5, 11, 19, 29, etc. B will be able to take over only when s/he understands the rule at play which links 5 to 1, 11 to 5, 19 to 11, 29 to 19 etc. In other words, cognition will take place only if or when B is capable to work out the law which relates the observed signs (here the succession of numbers1, 5, 11, etc.) to their objects (here the value of the quantities represented by the numbers).

As can be observed, *Thirdness* is this part of semiotic activity which elucidates the particular necessity that 5 should come after 1 and 11 after 5 etc. In other words, when B establishes the compulsory link between an item of *Secondness*, for instance 19 and its semiotic object, s/he predicts that the following number must be 29. If the prediction is fulfilled, then the guess succeeds, and the mind is at rest since it has managed to solve a problem in conformity to a rule common to both participants in the act of speech. Any other logical enumeration will be met with the corresponding expected numbers. Therefore, as Peirce observes: "*to say that a prediction has a decided tendency to be fulfilled, is to say that the future events are in a measure really governed by a law.*"[237]

The law at play in this game is represented by the following algebraic formula: $n = n^2 + n - 1$. Logically, the mathematical formula is the equivalent of a proposition which can be formulated as follows: if P then Q. or if P => Q.

[236] L. Wittgenstein, *Le Cahier Bleu et le Cahier Brun* translation by Norman Malcom, 1951, Gallimard
[237] C.S. Peirce, *Collected Papers*, 1.25

Linguistically, this corresponds to an assertion of the type: If a certain phenomenon is perceived, then this gives rise to the following judgment.

In the example used by Wittgenstein, the first three numbers were successively 1, 5, and 11. Reflecting upon the logical succession of the numbers, and considering that the student has already integrated the rule of *Thirdness* represented by the algebraic formula mentioned above, the student is able to build a reasoning or an interpretation on the model: {If Q (the numbers 1, 5, 11), then P: the following numbers ought to be 19, 29, 41, etc. One can therefore consider with Peirce and Wittgenstein that drawing conclusions expressed in linguistic sentences corresponds to the drawing of conclusions by the elaboration of logical formulae that can be mathematically formulated. Also, in complete agreement with Wittgenstein, we consider that the signs which make up a sentence are words, and that a whole proposition can sometimes be composed of a single word.[238]

Let us now consider a more concrete linguistic example of a brief CMC interaction between two hackers, who make use of two items from the Jargon Dictionary and examine this interaction from a semiotic standpoint. We provide the reader with the following definitions before proceeding to the analysis of the short conversation.

ENQ /enkw/ or /enk/

[from the ASCII mnemonic ENQuire for 0000101] An on-line convention for querying someone's availability. After opening a talk mode connection to someone apparently in heavy hack mode, one might type `SYN SYN ENQ?` (the SYNs representing notional synchronization bytes), and expect a return of ACK or NAK depending on whether or not the person felt interruptible.

ACK /ak/ interj.

1. [common; from the ASCII mnemonic for 0000110] Acknowledge. Used to register one's presence (compare mainstream *Yo!*). An appropriate response to ping or ENQ. 2. [from the comic strip "Bloom County"] An exclamation of surprised disgust, esp. in "Ack pffft!" Semi-humorous. Generally this sense is not spelled in caps (ACK) and is distinguished by a following exclamation point. 3. Used to politely interrupt someone to tell them you understand their

[238] L. Wittgenstein, *Le Cahier Bleu et le Cahier Brun* translation by Norman Malcom, 1951, Gallimard, p.170.

point (see NAK). Thus, for example, you might cut off an overly long explanation with "Ack. Ack. Ack. I get it now".

There is also another usage of "ACK?" (from sense 1) meaning "Are you there?", often used in email when earlier mail has produced no reply, or during a lull in talk mode to see if the person has gone away (the standard humorous response is of course NAK (sense 2), i.e., "I'm not here").

NAK /nak/ interj.

[from the ASCII mnemonic for 0010101] 1. On-line joke answer to ACK?: "I'm not here." 2. On-line answer to a request for chat: "I'm not available." 3. Used to politely interrupt someone to tell them you don't understand their point or that they have suddenly stopped making sense. See ACK, sense 3. "And then, after we recode the project in COBOL....", "Nak, Nak, Nak! I thought I heard you say COBOL!"

One can imagine the beginning of a dialogue between two online hackers A and B.

A: ENQ?

B: NAK

And we ask the following questions:

1 – What happened exactly between the two hackers?

2 – Can we reasonably say that the two hackers communicated?

3 – If we consider that they did, then which acts of speech and which language functions are involved in the exchange? In other words, what was communicated (Do) and how was it communicated, that is, what effects does the discourse have on the reader/listener? (Di)?

The following explanation may be suggested

A feels the need to establish a contact with a person already connected to the site. S/he does not yet know whether there is someone online, but s/he presumes that there is actually someone. If this person B is another hacker, then s/he will understand the message and will answer it. This action resembles the 'empty bottle principle' which consists in throwing away into the sea a bottled message hoping that the potential finder both understands the code used to write the message and is willing to answer it. We then assume that the message is read by another hacker, B, who answers it by writing NAK.

What does this virtual interaction imply from a semiotic standpoint?

Bearing in mind that a semiotic analysis of a sign accounts for its examination in relation to: itself as Sign, to its Objects (both Immediate and Dynamical) and to its Interpretants (Immediate, Dynamical and Final), we suggest the following argumentation:

Bearing in mind that the **sign** to study is the short dialogue between the two hackers A and B writing successively: Ack? And Nack!, we consider that the **Immediate Object** of ENQ is the question (ENQ? Corresponding to the Immediate Interpretant: Is there somebody connected at the moment?). It is a suggestive sign which aims at provoking a reaction from a connected member of the community of hackers. The immediate object consists of a general recognition of a need to communicate with other hackers.

The **Dynamical Object** is the effect of the situation on the production of speech. Here, A knows through previous experience, or supposes that there should be some other hacker connected to the site at the moment s/he writes her/his message. A writes the message by strictly conforming to a particular code, that of hackers. Therefore, A's message is rigorously constrained by the stylistic conventions of the hackers' community of discourse. i.e. it displays the qualities of Firstness recognizable by any other member of the community.

The **Immediate Interpretant** is the actual meaning of the interjection in hackers' language, that is: is there somebody connected at the moment? Peirce says that the Immediate Interpretant *fulfils the office of an interpreter, who says that a foreigner says the same thing which he himself says*[239]. In other words, it is the shared meaning between two communicators who believe that they understand one another beyond the boundaries set by different languages.

The **Dynamical Interpretant** is the reply NAK from B. That is, the effect of discourse on the situation of communication. In effect, B's reading of A's message compelled the former to momentarily interrupt her/his work to answer A's message, using the same code as that of A and obeying the same constraints (linguistic, deontological, and technological). The conformity of B's linguistic and ethical behaviour to A's standards indicates B's recognition of A's request, B's availability and solidarity towards A.

The **Final Interpretant** is A's purpose in seeking a reply. It is the meaning of her/his question and the effect the answer, or absence of answer would have on A's agenda for the time coming. Is A going to chat for a while or change her/his plans and concentrate on some other business, leaving the

[239] C.S. Peirce, *Collected Papers,* 3. 553

interaction for a more suitable moment? If for instance, A's intention is to ask for help in order to solve a difficult hardware problem, and if B's answer satisfies A's query, the Final Interpretant would be the continuation of A's activity, while an absence of answer or an inappropriate one would compel A to delay the resolution of the problem and would result in his turning away to another activity for example.

When A receives an answer, it can be assumed, following Austin, that language is action since the mere formulation of an interjection produces an action, or exerts an effect on the reader B. In effect, B's attention is first attracted, which means it is diverted from its initial concern. Then, B is requested to perform another action, which is to answer A's invitation for a chat by typing on the keyboard the appropriate keys which result in the desired answer ACK, or less desired, NAK. As can be observed, the act is perlocutionary because the question provokes the interruption of the course of B's state of affairs to answer a message from a peer. In Peircean terms, this effect is the exact meaning of the sign, or of A's question since A's agenda depends partly on B's answer to her/his query; A will do what was initially intended, or will modify her/his agenda. From a strictly Jakobsonian standpoint, the dominating functions will be the phatic and conative, but other functions may take over if the dialogue develops further.

The whole of the Jargon Dictionary should be considered within the scope that has just been provided since the individual items bear meaning only within the on-going on-line interactions between hackers. As can be also noted, on-line conversation obeys the same pragmatic standards as those observed in face-to-face types of conversation with the notable difference that within CMC Mc Luhan's claim that 'The medium is the message' bears more consistency than elsewhere.

Indeed several emoticons and many coinages are meant to compensate for the absence of visual clues during on-line interactions. Among them, we can cite: g> grin - <gd&r>grinning, ducking, and running – ROTF: rolling on the floor – ROTFL: rolling on the floor laughing – AFK: away from keyboard, etc.

6.4. **CONCLUSION**

The two questions we are brought to answer now, are: a) - can hyperwords be considered as Dicent symbols? - b) - can a static structure embody a virtually dynamic one? To both questions the answer is yes.

The strongest argument against the consideration of hyperwords as Dicent symbols relates to the fact that in language, only assertions are considered as Dicent signs. However, in our view, highly complex acronyms can also be considered as Dicent symbols, because they fulfil the necessary conditions implied by the definition provided by Peirce concerning Dicent signs. They provide information about their objects exactly like a caption in a canvass does point to the object which it designates. The novelty with hyperwords consists in the unrolling of whole cognitive programs that are asserted without being uttered. The unfolding of this program takes place in the mind when the coinage is heard or read, and this leads us to the second question.

Indeed, like a hologram suddenly appears before the eye when it is attentively examined, the componeme unfolds its virtual program to reveal its components to the reader who (re)-cognizes it. Like some famous paintings (Marcel Duchamp's *Fillette courant sur un balcon,* or Giacomo Bella's *Nu descendant un escalier*) the componeme exhibits before the eye a new type of 'reality' that does not have consistency, but does have signification when the observer participates in its 'eventing'. The componeme also shares a common preoccupation with the paintings mentioned above: they stimulate reflection upon the act of 'reading/watching a work of art. One should not forget that hackers do claim the artistic dimension of their coinages, for, as is plainly written in the last part of the Jargon file entitled "The Meaning of 'Hack',

> *Hacking might be characterized as `an appropriate application of ingenuity'. Whether the result is a quick-and-dirty patchwork job or a carefully crafted work of art, you have to admire the cleverness that went into it…Their (*the hackers'*) inventions thus display an almost unique combination of the neotenous enjoyment of language-play with the discrimination of educated and powerful intelligence.*[240]

Viewed as a dynamic process, virtuality consists of the incessant widening of individual horizons and in making possible new ways of looking at language and at the world proper by making extensive use of available technology, whether software, hardware, or both.

[240] E. S. Raymond, *The Jargon File* , http://www.netmeg.net/jargon/

GENERAL CONCLUSION

The 'primary' intuition at the beginning of our research was that there might be a necessary connection between the New Information and Communication Technologies as implemented by the Computer Mediated type of Communication and the typical variety of language used within the Internet. Our assumption was based on the hypothesis that the particular context of online conversations involving regular users, electronic experts, online game fanatics, and Internet conversation enthusiasts might have some sort of connection with the presence of the frequent coinages that pepper this type of interactions.

The subsequent discovery of the Jargon File gave a significant impetus to our interest, as it provided us with the rudimentary insights relating to the archetypal environment wherein hypermodern culture grows. We have been progressively led to document not only the peculiar virtual environment where the hackers and their language evolve, but also the specificities of their daily lives, their professional problems, their dreams, their heroes, the hierarchic considerations inside and outside their communities, etc. in a word, we had to conduct a sociological enquiry capable of identifying the specific details of their belongings.

This investigation has permitted us to scrutinize their linguistic practices as well as the extra linguistic information conveyed by their appealing linguistic creativity. It has led us from the domain of *Secondness* to that of *Thirdness* when, equipped with Peirce's semiotic conceptual framework in mind, and linguistic operative tools as cognitive lanterns, we sought to relate the items of cyber-English to their object counterparts. The invaluable data furnished by the hackers themselves and a regular familiarization with their singular turn of mind have offered us the possibility to conceptualize what used to be confined only to intuition. A progressive familiarization with this variety of English has propelled us to the domain of *Thirdness* as we have been led to draw the necessary connection between the units of cyber-English and the particular requirements and constraints imposed on language by the typical virtual environment of hypermodernity.

The second stimulating facet of our research relates to the discovery of the MICUs. The difficulty to identify and recognize the componemes as having a different structure from ordinary lexical units in a previous research has been a real incentive for the resumption of this investigation. Their functional analysis in the course of the present research has eventually led us to put forward the notions of componeme and that of the triple articulation of certain units of cyber-English.

It must be emphasized, however, that the logical progression from our first observation of cyber-English coinages to the conceptualization of hackers' hypermodern componemes, based on the triple articulation of language, has been made possible only after the steady reading, and then the practical use of the theoretical tools developed by Charles Sanders Peirce. His triadic conceptualization has helped us move beyond the Saussurean framework and expose our problematic issue in relation to the three basic notions of *Object*, *Sign* or *Representamen* and *Interpretant.* The articulation of our research into three distinct but complementing areas:

- the world of qualities involving potentialities susceptible of being incorporated into actual signs, like the general feeling of hypermodernity.
- the world of singular technological artefacts seen as media for the transmission of information. These comprise signs as seemingly heterogeneous and varied as writing, the Internet, cyber-English, or more specifically linguistic objects like componemes.
- The world of rules and institutional norms which logically link the presence of these media to their physically absent but virtually present counterpart objects. This world involves linguistic rules such as the lexicogenic processes like the ones illustrated in the fourth chapter, as well as the sociological, political and ideological rules, as mentioned in the fifth chapter.

The necessity to establish a parallel between technological objects pertaining to Secondness, and their Object equivalents has been a constant preoccupation throughout our dissertation. The first parallel was illustrated by the invention of writing as technology (parting to Secondness) and its crucial effects (Interpretant) on culture and literature. The brief survey of the history of human modes of communication has enabled us to show that the invention of

writing as a non-natural technological tool was to be considered as the first extension of man's memory through a medium other than speech.

Regardless of other effects on the intellectual development of humans' cognitive activities, we have argued that the invention of writing has had a decisive impact (I) on the separation of known from knower, i.e. on the discrimination between a linguistic representation (Sign) of an object and the object (O) itself. This separation, which we do not object to qualifying as an 'epistemological break' has operated a total change in the paradigm of the continuous human quest for knowledge and its qualitative refinement. The separation also clarifies how the development of writing incited a progressive discrepancy between the two media used for communication, namely speech and writing. It has increased the gap between orality, as a legacy of the immemorial past, and literacy, as a new and promising delicacy whose sophisticated graphic style requires more dexterity and skill, thus loading the new medium with a noble prestige which has ensured its social triumph over the common simplicity of orality. This important intellectual development was made possible only by means of the mastery of the rules which writing as a law of a general type imposed on the readers. Access to the norms of writing (Thirdness) allowed the reader to enter into the intellectual world of literacy as surely as their ignorance kept others at a distance.

We have then exposed the fact that the development of literacy soon brought about the challenging question of storing devices liable to contain the auxiliary extended memories of the new literate writers. As a consequence, the physical limitations of the various writing surfaces employed to embrace the growing outputs of the new written productions constrained the writing activity to adapt to the peculiar specificities of the writing surfaces available at that time. These constraints had a great impact on the form and on the organization of the language used to express, in writing, the subtleties of oral literature, for which the writers were compelled to devise substitutes. The later development of the printing press induced a considerable growth in the discrepancy between oral and written literature as the physical and technical constrains of the printing industry imposed specific editorial conventions whose impact on language (from the standpoint of orthography, typography, and text organization and indentation) has been decisive. Again, mastery of these norms

conferred ease of use and access to the marvels of print, while their ignorance left one far behind. The same paradigm holds for the last human invention: the networked computer which is also imposing its proper norms for both writers and readers.

We have insisted on the manner in which the technical constraints of the print industry paved the way for an arbitrary form of writing and storing knowledge which has resulted in the triumph of the book model. The typical characteristics of the editorial constraints, which first found a suitable solution in the book format, gradually disappeared behind the imposition of the book model as The model of literacy. All forthcoming writers had to accommodate to the new rules and constraints (not perceived as such anymore), and adjust their writings, and consequently their readings, accordingly. These parameters and many others explain why the book has enjoyed a privileged position as the paragon of literacy until the appearance today of a serious competitor in the name of the electronic hypertext which prefers the locus furnished by present day WWW, CDs, DVDs, and other electronic storing devices.

We have also sought to replace the development of language in a historical perspective, by accounting for the conditions in which a relatively newly born language such as English has come into existence, and how by opening to many influent languages with which it came into contact, it has progressively developed not only its lexis but also its phonology and syntax, to become, over fifteen centuries, the most widely used language around the planet, though Chinese remains the first in terms of number of users. Direct contact with more powerful foreign languages compelled English to adopt new rules to survive.

This exceptional faculty of English to accommodate with constantly changing environments highlights three other essential aspects of its cyber English variety: immediacy, economy and playfulness. It is true that linguistic economy, clarity and concision are fundamental criteria in language production in general, but with cyber-English they have come to assume another dimension, because this variety of English is mediated through a technology whose basic philosophy is compactness, transparency and fun. Hackers, for example, evolve in a technological environment where they are reputed to do and say the most with the least means. After inventing tools to zip voluminous

software somewhat on the image of Russian dolls, they have come to invent linguistic tools to zip ideas. Compacting ideas and thoughts into suitable lexical units has grown to be a 'natural' attitude to them, and hybridity in word-building through compounding, affixation or acronyms ranks high in their scale of values.

This explains why the new status of English as the language of both the Internet and more generally of globalization is bringing about considerable transformations to the world languages in general and to the English language in particular. As we have tried to show, these transformations concern all aspects of the language from the phonetico-phonological level, the morpho-syntactic level to the lexico-semantic level, although the innovations at the phonological and lexical levels appear as most striking.

Aside these linguistic and cultural consequences, pedagogy may well become affected on its turn when students start using increasingly these forms at school. Many teachers already protest against the permeation of certain mild forms of cyber-English into what is generally considered as the domain of formal Standard English. However, dictionaries are already on the foreground since prestigious institutions like the COED, the COD, etc. have already started integrating some componemes as dictionary entries as shown in appendix one.

However, one of the most interesting offshoots of cyber-English remains the irruption of MICUs to form componemes. One can safely predict that their number will grow exponentially with the development of hypermodernity. Actually, and more than any other type of coinages, the hypermodern componemes foster the uncoupling of known from knower exactly in the same way as the first Sumerian writers made it possible for their contemporaries to discriminate the world of things, described by their written signs, from the symbolic world of the users of these signs, thanks to the alphabet, the rules of the language in use at that time, and the particular support of these signs: the clay tablet. In time, people started considering the written clay tablet as worth the objects it represented in the real world. This is a good illustration of Peirce's idea that a sign stands for something else than that it pretends to be. In other words, signs are just delegates of ideas they are meant to represent, but are not the objects themselves.

In this respect, it is worth noting that the term 'cyber-English' is a remarkable compound word which ideally illustrates the issue we are presently concluding: it is built on the idea of bringing together two independent and remote fields of experience, that of technology on the one hand, and that of the language belonging to a particular group of humans on the other. Presently, cyber-English can rightly praise itself as the sign of hypermodern technology, because of the enviable status of English throughout the planet, although mention should be made that a different historical, political and economic context could have favoured another language than English.

Today, due to the tremendous development of the ICTs and to the phenomenon of the globalization of exchanges, English (in both its spoken and written forms) has reached another dimension as it has become the most influential language from which other languages (like the once influential French) now borrow the necessary items to fulfill the communicative needs of their users, instead of resorting to their own resources to coin equivalent neologies. As a matter of fact, every loan word borrowed from English increases the symbolic influence of the latter on the target languages where it finds no local equal competitor. The rule in the linguistic market today seems to be: "Learn English or stay behind!"

Indeed, the consideration of English as the language of technology and of cyber- language as the linguistic representation of hypermodernity entails a re-consideration of in the paradigm of stylistic expression. The new values are fragmentation, hybridity, brevity, economy, playfulness and inventiveness. The Jargon Dictionary perfectly incarnates these values which are congenial to those of the virtual communities, but which sometimes conflict with those of the traditional type of communities.

The modern values of the Enlightenment period have legitimized scientific epistemology, freedom of thought and of expression and have paved the way for a serious grounding for industry, commerce and education in Europe. However, it has also legitimated colonization, racism, slavery and, indirectly, resulted in a twentieth century dominated by an unequal world order shaped by the communist and the capitalist blocks, rigid political, cultural and economic boundaries best illustrated by the Berlin wall, the Apartheid but also by the regular liberation movements of the Third-World countries and the

incessant misunderstandings between the nation-states leaders during their regular meetings at the United Nations Organization.

Will hypermodern values take over and improve or worsen the situation? We are not entitled to answer, but the question deserves to be asked. On other grounds, should it be reminded that the current world leading power is not Great-Britain anymore, as was the case in modern times, but the USA? What if this supremacy results in the Americans increasingly seeking to mark out their linguistic differences from standard British English, as well as their ancestors once detached themselves from the political seizure exerted on them by the 'Mother-land?'

Seen from a Peircean standpoint, this linguistic struggle can find its motivation in a real desire to incarnate, in due time, the political and economic leadership as reflected in novel linguistic practices, which are increasingly diverging from the standard ones. Indeed, the fate of Latin in the late seventeenth century might be reproduced in the case of the English language. The latter might evolve (in fact it has already started) into what D. Crystal – and other sociolinguists - rightly label Englishes. Among the new varieties of English, the most powerful has the greatest chances to impose its form and, therefore, its vision of the world. Will it be cyber-English? Who can tell today?

Still, and without indulging in making hasty predictions, one can without further hesitation, affirm that the time has come to face the exceptional noetic adventure which humanity will inevitably come to experience in the near future. In effect, we observe that the Internet is always being loaded, instantly, seven times twenty-four hours, with information. The quality, reliability, cost and worth of this information is beyond the scope of this work, but the exponential presence of elements of *Secondness* within the Internet is of major significance for our research.

The question we ask is what happens once the sum total of human knowledge is loaded into huge despatialized brains of which the present Internet will be a mere sample, and which could be downloadable into very tiny structures much smaller than the tiniest type of micro chips we presently use, but conversely displaying an extremely wider power? Access to a decisive epistemological break in the human intellectual and technological adventures requires, among other tools, something like a gigantic brain capable of

managing huge quantities of data. The linguistic manipulation of these data cannot be possible without reference to a language distinct from the ones we commonly use, because it requires multi-level structures other than the 'simple lexical units' we are accustomed to.

In other words, to reach the status of a supra terrestrial language, English needs to mutate, and this mutation, which has already started, can be fostered by the use of structuring units like the MICUs and componemes because they are able to express and store much greater amounts of semiotic contents than ordinary simple lexical units. Other researchers comprising the inventor of the web, Tim Berners-Lee suggest the development of the semantic web as a means to reach this new dimension of human thought, and we modestly believe that componemes may help in the implementation of such a stimulating project.

Obviously, with the on-going development of the nanotechnologies and nanosciences, humans will soon lack the necessary cognitive tools to cope with huge amounts of information. One of the solutions could then be to devise minimum linguistic structures able to hold great amounts of the most salient information needed to be expressed, and which themselves will play the role of Minimal Informational Cooperative Units in ordinary conversations. Like zipping software, they may hopefully serve as preliminary units for the actual implementation of the collective virtual memory which Pierre Levy refers to in his previously mentioned works. In due time, once these new ways of thinking and expressing content are developed sufficiently, people will probably find them 'natural' or 'second nature' despite their alien and even frightening aspects today.

Indeed, we consider that componemes might be convenient linguistic substitutes for hypermodern concepts suiting the "All in one" technological kits found at both hardware and software levels. At hardware level, for example, "All in one" kits like the telephone / fax kit, or the printer / scanner / photocopier kit, already offer the hypermodern user technological facilities of which even the most daring engineers could not dream at the end of the Twentieth century. Other compact "All in one" gadget kits comprising television, radio, tape-recorder, CD and DVD player and even GPS locators are displayed for sale.

Similarly, at software level, computers can host more than one operating system, for instance (Windows + Linux). These software offer a multiplicity of

applications (writing, calculations, multimedia presentations, web applications and browsers, drawing tools, photograph manager, film maker, book reader, music player and manager and daily newly designed software) that facilitates works which once used to be tiresome and done one after the other respecting both linearity and chronology.

At linguistic level, one can easily check that dozens of English componemes are being daily used by speakers of various languages, and that it does not even occur to a person to utter a sentence like *I bought a cheap "Liquid Crystal Display" screen*, instead of LCD, or to say *My High Density Lipoprotein rate is below the average, while the Low Density Lipoprotein is abnormally raised*, when using HDL and LDL seems so 'normal', because, actually, it is increasingly becoming the rule to use componemes instead of whole sentences, although people are not aware of them. Like Mr Jourdain writing prose, we are using componemes without knowing it. Therefore, what would have appeared strange twenty years ago, for example for non-chemical engineers to say (H2O) instead of water or NA instead of sodium, becomes almost 'ordinary' today.

It is the condition of human civilizations and cultures to appear at favourable moments, to grow over a given period of time, reach their acme, influence weaker cultures and languages, and then disappear after leaving more or less visible tracks of their radiance as a legacy to posterity. Today, with the availability at rather cheap prices of very large bandwidth, with the popularization of webcams equipped with headphones and microphones which allow surfers to connect easily and use voice within the Internet, one can safely come to the conclusion that the JD is doomed to become out dated like the earlier technology it has helped illustrate. Like any technological product it undergoes the law of the market which is to exist, evolve and then disappear. Hopefully, by leaving some stigmas as signs of their presence, they may be re-discovered and why not, celebrated by later generations.

Like a work of art, some would say like a masterpiece, the JD might be shown in virtual exhibitions as a testimony of human genius which, in its own way, would have significantly contributed to the emergence of cyber-English on the one hand, and to the conceptual shaping, and later to the actual implementation of the Internet and the innumerable applications that followed

its expansion. Failure to evolve and adapt to new standards will undoubtedly cause the disappearance of the community as such.

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Résumé

La langue et la technologie déjà caractérisées par une grande faculté d'adaptation sont soumises à une évolution complexe et permanente tout en se nourrissant l'une l'autre. La langue en fournissant à la technologie les signes linguistiques nécessaires à la désignation des concepts, objets et outils inlassablement inventés par l'homme ; la technologie, en offrant à la langue des possibilités toujours accrues pour la production, l'illustration, le stockage et la dissémination des produits langagiers.

Notre recherche traite de la variété de la langue anglaise connue sous le nom de *cyber-English*, et notre propos est de tenter de montrer certains de ses effets sur la langue et la culture anglo-saxonnes. Pour cela, nous mettons l'accent sur les efforts d'adaptation déployés par la langue anglaise surtout dans sa dimension lexicographique en nous basant sur un corpus représentant environ un dixième d'un dictionnaire inventé par la communauté virtuelle des hackers, et connue sous le nom de « The Jargon Dictionary », version 4.2.0., du mois de Janvier 2000. Nous nous attardons sur l'apparition du phénomène linguistique que nous avons nommé *componemes*, car contrairement aux mots ordinaires composés de phonèmes, ceux-ci sont construits à partir d'éléments que nous avons appelé *MICUs ou (Minimal Informational Cooperative Units)*. Ensuite, nous appliquons la théorie sémiotique triadique de C.S. Peirce pour tenter de comprendre et d'expliquer la présence de ces nouvelles structures composant certaines entrées du dictionnaire précité.

APPENDIXES

1- Integrated neologies

2 – Glossary

Neologies adopted by Wikipedia and by the COED 2004:
A-entry**:**
404 compliant – @-party – AFJ - AI koans – AIDS- asbestos- autobogotiphobia -

Neologies adopted by Wikipedia but not by the COED 2004
A-entry:
ABEND – Ack - AFAIK – alpha geek- angry fruit salad - ASCIIbetical order – automagically -

Neologisms integrated to the COED, Eleventh Edition 2004 :
@ ■ symbol 'at', used:
1 to indicate cost or rate per unit: thirty items @ £29.99 each.
2 in Internet addresses between the user's name and the domain name: jsmith@oup.com.
AI ■ abbreviation
1 Amnesty International.
2 artificial insemination.
3 artificial intelligence.
Aka ■ abbreviation also known as.
Asap ■ abbreviation as soon as possible.
ASCII ■ abbreviation Computing American Standard Code for Information Interchange.
Avatar ■ noun
1 chiefly Hinduism a manifestation of a deity or released soul in bodily form on earth.
2 an incarnation or embodiment of a person or idea.
3 Computing a movable icon representing a person in cyberspace or virtual reality graphics.
ORIGIN from Sanskrit avatara 'descent'.
barf informal, chiefly North American
■ verb vomit.
■ noun vomited food.
ORIGIN 1960s (originally US): of unknown origin.
BASIC ■ noun a simple high-level computer programming language, formerly widely used on microcomputers.
ORIGIN 1960s: acronym from Beginners' All-purpose Symbolic Instruction Code.

bit[4] ■ noun Computing a unit of information expressed as either a 0 or 1 in binary notation.
ORIGIN 1940s: blend of **binary** and **digit**.
bloatware■ noun Computing, informal software whose usefulness is reduced because of the excessive memory it requires.
bot[2] ■ noun Computing an autonomous program on a network which can interact with systems or users, especially in the manner of a player in some computer games.
ORIGIN 1980s: shortening of **robot**.
bug ■ noun
1 informal a harmful microorganism. ➢an illness caused by a microorganism.
2 Entomology an insect of a large order having piercing and sucking mouthparts, including aphids, leafhoppers, cicadas, and many other insects. [Order Hemiptera.] ➢chiefly North American any small insect.
3 informal an enthusiasm for something: they caught the sailing bug. ➢a concealed miniature microphone as used for secret recording.
4 an error in a computer program or system.
■ verb (**bugs**, **bugging**, **bugged**)
1 conceal a miniature microphone in.
2 informal annoy; bother.
3 (**bug off**) North American informal go away. ➢(**bug out**) leave quickly.
4 (**bug out**) North American informal bulge outwards.
ORIGIN C17: of unknown origin.
chad ■ noun a small piece of waste paper produced by punching a hole in punched card or tape.
ORIGIN 1950s: of unknown origin.
Cookie ■ noun (plural **cookies**)
1 North American a sweet biscuit.
2 informal a person of a specified kind: she's a tough cookie.
3 Scottish a plain bun.
4 Computing a packet of data sent by an Internet server to a browser and used to identify the user or track their access to the server.
PHRASES **that's the way the cookie crumbles** informal, chiefly North American that's the situation, and it must be accepted, however undesirable.
ORIGIN C18: from Dutch koekje 'little cake', diminutive of koek.
cross-post ■ verb send (a message) to more than one Internet newsgroup simultaneously.
■ noun a message that has been cross-posted.
cyber- ■ combining form relating to information technology, the Internet, and virtual reality: cyberspace.
ORIGIN back-formation from **cybernetics**.
cyberpunk ■ noun
1 a genre of science fiction set in a lawless subculture of an oppressive society dominated by computer technology.
2 a person who accesses computer networks illegally.
Cyberspace ■ noun the notional environment in which communication over computer networks occurs.
demo informal
■ noun (plural **demos**)
1 chiefly British a public demonstration.
2 a demonstration recording or piece of software.
■ verb (**demos**, **demoing**, **demoed**) give a demonstration of.
doc ■ abbreviation informal
1 doctor.
2 Computing document.
droid ■ noun
1 (in science fiction) a robot.
2 Computing a program which automatically collects information from remote systems.
ORIGIN 1970s: shortening of **android**.
email (also **e-mail**) ■ noun messages sent electronically from one computer user to one or more recipients via a network. ➢the system of sending email.
■ verb send an email to. ➢send by email.
DERIVATIVES **emailer** noun

ORIGIN 1980s: abbreviation of electronic mail.

emoticon ■ noun a representation of a facial expression such as a smile or frown, formed with keyboard characters and used in email and text messages to convey the writer's feelings.

ORIGIN 1990s: blend of **emotion** and **icon**.

eye candy ■ noun informal visual images that are superficially entertaining but intellectually undemanding.

FAQ ■ abbreviation Computing frequently asked questions.

FIFO ■ abbreviation first in, first out (chiefly with reference to methods of stock valuation and data storage).

flame ■noun

1 a hot glowing body of ignited gas that is generated by something on fire.
2 a thing compared to a flame's ability to burn fiercely or be extinguished: the flame of hope.
3 a brilliant orange-red colour.
4 informal a vitriolic or abusive email or newsgroup posting, typically one sent in quick response to another.

■ verb

1 give off flames. ➢set alight.
2 (of an intense emotion) appear suddenly and fiercely.
3 (of a person's face) become red with embarrassment or anger.
4 informal send an abusive email to.
5 (**flame out**) (of a jet engine) lose power through the extinction of the flame in the combustion chamber.
6 (**flame out**) informal, chiefly North American fail conspicuously.

PHRASES **old flame** informal a former lover.

DERIVATIVES **flameless** adjective

flamer noun (Computing, informal).

flamy (also **flamey**) adjective

ORIGIN Middle English: from Old French flame (noun), flamer (verb), from Latin flamma 'a flame'.

FOAF ■ abbreviation friend of a friend, denoting a story or rumour which has no definite source and cannot be authenticated.

freeware ■ noun Computing software that is available free of charge.

GIGO ■ abbreviation chiefly Computing garbage in, garbage out.

gonzo ■ adjective informal, chiefly North American

1 of or denoting journalism of an exaggerated, subjective, and fictionalized style.
2 bizarre or crazy.

ORIGIN 1970s: perhaps from Italian gonzo 'foolish' or Spanish ganso 'goose, fool'.

hack[1] ■ verb

1 cut with rough or heavy blows.
2 kick wildly or roughly.
3 use a computer to gain unauthorized access to data. ➢program quickly and roughly.
4 [usually with negative] (**hack it**) informal manage; cope.
5 (**hack someone off**) informal annoy someone.
6 (**hack around**) North American informal pass one's time idly.

■ noun

1 a rough cut or blow.
2 a tool for rough striking or cutting.
3 informal an act of computer hacking.

PHRASES **hacking cough** a dry, frequent cough.

DERIVATIVES **hacker** noun

ORIGIN Old English haccian 'cut in pieces', of West Germanic origin.

Internet ■ noun (**the Internet**) a global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols.

ORIGIN 1970s: from **inter-** + **network**.

kahuna ■ noun

1 (in Hawaii) a wise man or shaman.
2 North American informal an important person.

ORIGIN from Hawaiian.

laser ■ noun a device that generates an intense narrow beam of coherent monochromatic light by stimulating the emission of photons from excited atoms or molecules.
ORIGIN 1960s: acronym from light amplification by stimulated emission of radiation, based on the earlier **maser**.
logic bomb ■ noun Computing a set of instructions secretly incorporated into a program so that if a particular condition is satisfied they will be carried out, usually with harmful effects.
lurk ■ verb
1 be or remain hidden so as to wait in ambush.
2 be present in a latent or barely discernible state. ➢informal read the postings on an online forum without contributing any messages.
■ noun Australian/New Zealand informal a dodge or scheme.
DERIVATIVES **lurker** noun
ORIGIN Middle English: perhaps from **lour** + the frequentative suffix -k (as in talk).
menu ■ noun
1 a list of dishes available in a restaurant. ➢the food available or to be served in a restaurant or at a meal.
2 Computing a list of commands or facilities displayed on screen.
ORIGIN C19: from French, 'detailed list'.
MUD ■ noun a computer-based text or virtual reality game involving several players.
ORIGIN 1980s: from multi-user dungeon or dimension.
netiquette ■ noun the correct or acceptable way of using the Internet.
ORIGIN 1990s: blend of **net**[1] and **etiquette**.
netizen ■ noun a habitual user of the Internet.
ORIGIN 1990s: blend of **net**[1] and **citizen**.
newbie ■ noun (plural **newbies**) informal an inexperienced newcomer.
Plug and Play ■ noun a standard for the connection of peripherals to personal computers, whereby a device needs only to be connected to a computer in order to be configured to work perfectly.
samizdat ■ noun the clandestine copying and distribution of literature banned by the state, especially formerly in the communist countries of eastern Europe.
ORIGIN 1960s: Russian, literally 'self-publishing house'.
shambolic ■ adjective informal, chiefly British chaotic, disorganized, or mismanaged.
DERIVATIVES **shambolically** adverb
ORIGIN 1970s: from **shambles**, probably on the pattern of symbolic.
signal-to-noise ratio ■ noun the ratio of the strength of an electrical or other signal carrying information to that of unwanted interference, generally expressed in decibels.
snail mail ■ noun informal the ordinary post as opposed to email.
spam ■ noun
1 trademark a tinned meat product made mainly from ham.
2 irrelevant or inappropriate messages sent on the Internet to a large number of newsgroups or users.
■ verb send the same message indiscriminately to (large numbers of newsgroups or users) on the Internet.
DERIVATIVES **spammer** noun **spamming** noun
ORIGIN 1930s: apparently from sp(iced h)am; the Internet sense probably derives from a sketch by the British 'Monty Python' comedy group, set in a cafe in which every item on the menu includes spam.
sysadmin (also **sysop**) ■ noun Computing, informal a system administrator (or operator).
troll[2] ■ verb
1 (often **troll for**) fish by trailing a baited line behind a boat. ➢search for something.
2 chiefly British stroll.
3 sing in a happy and carefree way.
4 [usually as noun **trolling**] informal send (an email or newsgroup posting) with the intention of provoking an angry response.
■ noun an act of trolling. ➢a line or bait used in trolling for fish.
DERIVATIVES **troller** noun
ORIGIN Middle English (in the sense 'stroll, roll'): of uncertain origin; cf. Old French troller 'wander in search of game' and Middle High German trollen 'stroll'.
Unix ■ noun Computing, trademark a widely used multi-user operating system.
ORIGIN 1970s: from **uni-** + a respelling of **-ics**.

user-friendly ■ adjective (**user-friendlier**, **user-friendliest**) easy to use or understand.
DERIVATIVES **user-friendliness** noun
virtual reality ■ noun the computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by using special electronic equipment.
wannabe ■ noun informal, derogatory a person who tries to be like someone else or to fit in with a particular group of people.
web ■ noun
1 a network of fine threads constructed by a spider from fluid secreted by its spinnerets, used to catch its prey.
2 a complex system of interconnected elements. ➢(**the Web**) the World Wide Web.
3 a membrane between the toes of a swimming bird or other aquatic animal.
4 a thin flat part connecting thicker or more solid parts in machinery.
5 a roll of paper used in a continuous printing process. ➢the endless wire mesh in a machine on which such paper is made.
6 a piece of woven fabric.
■ verb (**webs**, **webbing**, **webbed**) cover with a web.
ORIGIN Old English web(b) 'woven fabric', of Germanic origin; related to **weave**[1].
wiener (also informal **weenie**, **wienie**) ■ noun North American
1 a frankfurter or similar sausage.
2 vulgar slang a man's penis.
3 informal a stupid or contemptible person.
ORIGIN early 20th cent.: abbreviation of German Wienerwurst 'Vienna sausage'.
wetware ■ noun human brain cells viewed as counterparts of computer systems.
wizard ■ noun
1 a man who has magical powers, especially in legends and fairy tales.
2 a person who is very skilled in a particular field or activity.
3 Computing a software tool that operates automatically to guide a user through a particular process.
■ adjective British informal, dated excellent.
DERIVATIVES **wizardly** adjective
ORIGIN Middle English (in the sense 'philosopher, sage'): from **wise**[1] + **-ard**.
wombat ■ noun a burrowing plant-eating Australian marsupial which resembles a small bear with short legs. [Vombatus ursinus and other species.]
ORIGIN C18: from Dharuk.
WYSIWYG (also **wysiwyg**) ■ adjective Computing denoting the representation of text on-screen in a form exactly corresponding to its appearance on a printout.
ORIGIN 1980s: acronym from what you see is what you get.

Other integrated neologisms:

Y2K
■ abbreviation year 2000 (with reference to the millennium bug).
C2C
■ abbreviation consumer-to-consumer, denoting transactions conducted via the Internet between consumers.
B2B
■ abbreviation business-to-business, denoting trade conducted via the Internet between businesses.
B2C

■ abbreviation business-to-consumer, denoting trade conducted via the Internet between businesses and consumers.

e-zine

■ noun a magazine only published in electronic form on a computer network.

snafu informal

■ noun a confused or chaotic state; a mess.

■ verb North American throw into chaos.

ORIGIN

1940s: acronym from situation normal: all fouled (or fucked) up.

ASP ■ abbreviation application service provider, a company providing Internet access to software applications that would otherwise have to be installed on individual computers.

home page ■ noun a person's or organization's introductory document on the Internet.

hotlink Computing

■ noun

1 a hypertext link.

2 a connection between documents or applications which enables material from one to be incorporated into another, in particular one providing for automatic updating.

■ verb connect by means of a hotlink.

HTML ■ noun Computing Hypertext Markup Language.

HTTP ■abbreviation Computing Hypertext Transport (or Transfer) Protocol.

IBM ■ abbreviation International Business Machines.

Glossary

404 compliant adj. The status of a website which has been completely removed, usually by the administrators of the hosting site as a result of net abuse by the website operators. The term is a tongue-in-cheek reference to the standard "301 compliant" Murkowski Bill disclaimer used by spammers.

@-party /at'par`tee/ n. [from the @-sign in an Internet address] (alt. `@-sign party' /at'sı:n par`tee/) A semi-closed party thrown for hackers at a science-fiction convention (esp. the annual World Science Fiction Convention or "Worldcon"); one must have a **network address** to get in, or at least be in company with someone who does. One of the most reliable opportunities for hackers to meet face to face with people who might otherwise be represented by mere phosphor dots on their screens.The first recorded @-party was held at the Westercon (a California SF convention) over the July 4th weekend in 1980. It is not clear exactly when the canonical @-party venue shifted to the Worldcon but it had certainly become established by Constellation in 1983. Sadly, the @-party tradition has been in decline since about 1996, mainly because having an @-address no longer functions as an effective lodge pin.

ABEND /a'bend/, /*-bend'/ n. [ABnormal END] 1. Abnormal termination (of software); **crash**; **lossage**. Derives from an error message on the IBM 360; used jokingly by hackers but seriously mainly by **code grinder**s. Usually capitalized, but may appear as `abend'. Hackers will try to persuade you that ABEND is called `abend' because it is what system operators do to the machine late on Friday when they want to call it a day, and hence is from the German `Abend' = `Evening'. 2. [*alt.callahans*] Absent By Enforced Net Deprivation - used in the subject lines of postings warning friends of an imminent loss of Internet access. (This can be because of computer downtime, loss of provider, moving or illness.) Variants of this also appear: ABVND = `Absent By Voluntary Net Deprivation' and ABSEND = `Absent By Self-Enforced Net Deprivation' have been sighted.

ACK /ak/ interj. 1. [common; from the ASCII mnemonic for 0000110] Acknowledge. Used to register one's presence (compare mainstream *Yo!*). An appropriate response to **ping** or **ENQ**. 2. [from the comic strip "Bloom County"] An exclamation of surprised disgust, esp. in "Ack pffft!" Semi-humorous. Generally this sense is not spelled in caps (ACK) and is distinguished by a following exclamation point. 3. Used to politely interrupt someone to tell them you understand their point (see **NAK**). Thus, for example, you might cut off an overly long explanation with "Ack. Ack. Ack. I get it now". There is also a usage "ACK?" (from sense 1) meaning "Are you there?", often used in email when earlier mail has produced no reply, or during a lull in **talk mode** to see if the person has gone away (the standard humorous response is of course **NAK** (sense 2), i.e., "I'm not here").

AFAIK // n. [Usenet] Abbrev. for "As Far As I Know".

AFJ // n. Written-only abbreviation for "April Fool's Joke". Elaborate April Fool's hoaxes are a long-established tradition on Usenet and Internet; see **kremvax** for an example. In fact, April Fool's Day is the *only* seasonal holiday consistently marked by customary observances on Internet and other hacker networks.

AI koans /A-I koh'anz/ pl.n. A series of pastiches of Zen teaching riddles created by Danny Hillis at the MIT AI Lab around various major figures of the Lab's culture

AIDS /aydz/ n. Short for A* Infected Disk Syndrome (A*' is a **glob** pattern that matches, but is not limited to, Apple or Amiga), this condition is quite often the result of practicing unsafe **SEX**.

alpha geek n. [from animal ethologists' `alpha male'] The most technically accomplished or skillful person in some implied context. "Ask Larry, he's the alpha geek here."

angry fruit salad n. A bad visual-interface design that uses too many colors. (This term derives, of course, from the bizarre day-glo colors found in canned fruit salad.) Too often one sees similar effects from interface designers using color window systems such

as **X**; there is a tendency to create displays that are flashy and attention-getting but uncomfortable for long-term use.

asbestos adj. [common] Used as a modifier to anything intended to protect one from **flame**s; also in other highly **flame**-suggestive usages.

ASCIIbetical order /as'kee-be'-t*-kl or'dr/ adj.,n. Used to indicate that data is sorted in ASCII collated order rather than alphabetical order. This lexicon is sorted in something close to ASCIIbetical order, but with case ignored and entries beginning with non-alphabetic characters moved to the end. "At my video store, they used their computer to sort the videos into ASCIIbetical order, so I couldn't find `"Crocodile" Dundee' until I thought to look before `2001' and `48 HRS.'!"

autobogotiphobia /aw'toh-boh-got`*-foh'bee-*/ n. See **bogotify**.

automagically /aw-toh-maj'i-klee/ adv. Automatically, but in a way that, for some reason (typically because it is too complicated, or too ugly, or perhaps even too trivial), the speaker doesn't feel like explaining to you. See **magic**. "The C-INTERCAL compiler generates C, then automagically invokes `cc(1)` to produce an executable." This term is quite old, going back at least to the mid-70s in jargon and probably much earlier. The word `automagic' occurred in advertising (for a shirt-ironing gadget) as far back as the late 1940s.

avatar n. Syn. [in Hindu mythology, the incarnation of a god] 1. Among people working on virtual reality and **cyberspace** interfaces, an *avatar* is an icon or representation of a user in a shared virtual reality. The term is sometimes used on **MUD**s. 2. [CMU, Tektronix] **root**, **superuser**. There are quite a few Unix machines on which the name of the superuser account is `avatar' rather than `root'. This quirk was originated by a CMU hacker who found the terms `root' and `superuser' unimaginative, and thought `avatar' might better impress people with the responsibility they were accepting.

BAD /B-A-D/ adj. [IBM: acronym, `Broken As Designed'] Said of a program that is **bogus** because of bad design and misfeatures rather than because of bugginess.

bagbiter /bag'bi:t-*r/ n. 1. Something, such as a program or a computer, that fails to work, or works in a remarkably clumsy manner. "This text editor won't let me make a file with a line longer than 80 characters! What a bagbiter!" 2. A person who has caused you some trouble, inadvertently or otherwise, typically by failing to program the computer properly. Synonyms: **loser**, **cretin**, **chomper**. 3. `bite the bag' vi. To fail in some manner. "The computer keeps crashing every five minutes." "Yes, the disk controller is really biting the bag." The original loading of these terms was almost undoubtedly obscene, possibly referring to a douche bag or the scrotum (we have reports of "Bite the douche bag!" being used as an insult at MIT 1970-1976), but in their current usage they have become almost completely sanitized. ITS's **lexiphage** program was the first and to date only known example of a program *intended* to be a bagbiter.

barfulous /bar'fyoo-l*s/ adj. (alt. `barfucious', /bar-fyoo-sh*s/) Said of something that would make anyone barf, if only for esthetic reasons.

BASIC /bay'-sic/ n. A programming language, originally designed for Dartmouth's experimental timesharing system in the early 1960s, which for many years was the leading cause of brain damage in proto-hackers. Edsger W. Dijkstra observed in "Selected Writings on Computing: A Personal Perspective" that "It is practically impossible to teach good programming style to students that have had prior exposure to BASIC: as potential programmers they are mentally mutilated beyond hope of regeneration." This is another case (like **Pascal**) of the cascading **lossage** that happens when a language deliberately designed as an educational toy gets taken too seriously. A novice can write short BASIC programs (on the order of 10-20 lines) very easily; writing anything longer (a) is very painful, and (b) encourages bad habits that will make it harder to use more powerful languages well. This wouldn't be so bad if historical accidents hadn't made BASIC so common on low-end micros in the 1980s. As it is, it probably ruined tens of thousands of potential wizards. [1995: Some languages called `BASIC' aren't quite this nasty any more, having acquired Pascal- and C-like procedures and control structures and shed their line numbers. --ESR] Note: the name is commonly parsed as Beginner's All-purpose Symbolic Instruction Code, but this is a **backronym**.

BASIC was originally named Basic, simply because it was a simple and basic programming language. Because most programming language names were in fact acronyms, BASIC was often capitalized just out of habit or to be silly. No acronym for BASIC originally existed or was intended (as one can verify by reading texts through the early 1970s). Later, around the mid-1970s, people began to make up backronyms for BASIC because they weren't sure. Beginner's All-purpose Symbolic Instruction Code is the one that caught on.

bit n. [from the mainstream meaning and `Binary digIT'] 1. [techspeak] The unit of information; the amount of information obtained by asking a yes-or-no question for which the two outcomes are equally probable. 2. [techspeak] A computational quantity that can take on one of two values, such as true and false or 0 and 1. 3. A mental flag: a reminder that something should be done eventually. "I have a bit set for you." (I haven't seen you for a while, and I'm supposed to tell or ask you something.) 4. More generally, a (possibly incorrect) mental state of belief. "I have a bit set that says that you were the last guy to hack on EMACS." (Meaning "I think you were the last guy to hack on EMACS, and what I am about to say is predicated on this, so please stop me if this isn't true.") "I just need one bit from you" is a polite way of indicating that you intend only a short interruption for a question that can presumably be answered yes or no. A bit is said to be `set' if its value is true or 1, and `reset' or `clear' if its value is false or 0. One speaks of setting and clearing bits. To **toggle** or `invert' a bit is to change it, either from 0 to 1 or from 1 to 0. The term `bit' first appeared in print in the computer-science sense in 1949, and seems to have been coined by early statistician and computer scientist John Tukey. Tukey records that it evolved over a lunch table as a handier alternative to `bigit' or `binit'.

bit bucket n. [very common] 1. The universal data sink (originally, the mythical receptacle used to catch bits when they fall off the end of a register during a shift instruction). Discarded, lost, or destroyed data is said to have `gone to the bit bucket'. On **Unix**, often used for **/dev/null**. Sometimes amplified as `the Great Bit Bucket in the Sky'. 2. The place where all lost mail and news messages eventually go. The selection is performed according to **Finagle's Law**; important mail is much more likely to end up in the bit bucket than junk mail, which has an almost 100% probability of getting delivered. Routing to the bit bucket is automatically performed by mail-transfer agents, news systems, and the lower layers of the network. 3. The ideal location for all unwanted mail responses: "Flames about this article to the bit bucket." Such a request is guaranteed to overflow one's mailbox with flames. 4. Excuse for all mail that has not been sent. "I mailed you those figures last week; they must have landed in the bit bucket." Compare **black hole**. This term is used purely in jest. It is based on the fanciful notion that bits are objects that are not destroyed but only misplaced. This appears to have been a mutation of an earlier term `bit box', about which the same legend was current; old-time hackers also report that trainees used to be told that when the CPU stored bits into memory it was actually pulling them `out of the bit box'. See also **chad box**. Another variant of this legend has it that, as a consequence of the `parity preservation law', the number of 1 bits that go to the bit bucket must equal the number of 0 bits. Any imbalance results in bits filling up the bit bucket. A qualified computer technician can empty a full bit bucket as part of scheduled maintenance.

bletch /blech/ interj. [very common; from Yiddish/German `brechen', to vomit, poss. via comic-strip exclamation `blech'] Term of disgust. Often used in "Ugh, bletch".

BLOB 1. n. [acronym: Binary Large OBject] Used by database people to refer to any random large block of bits that needs to be stored in a database, such as a picture or sound file. The essential point about a BLOB is that it's an object that cannot be interpreted within the database itself. 2. v. To **mailbomb** someone by sending a BLOB to him/her; esp. used as a mild threat. "If that program crashes again, I'm going to BLOB the core dump to you."

boa [IBM] n. Any one of the fat cables that lurk under the floor in a **dinosaur pen**. Possibly so called because they display a ferocious life of their own when you try to lay them straight and flat after they have been coiled for some time. It is rumored within IBM that channel cables for the 370 are limited to 200 feet because beyond that length the boas get dangerous -- and it is worth noting that one of the major cable makers uses the trademark `Anaconda'.

bogometer /boh-gom'-*t-er/ n. A notional instrument for measuring **bogosity**. Compare the **Troll-O-Meter** and the `wankometer' described in the **wank** entry;

bogus adj. 1. Non-functional. "Your patches are bogus." 2. Useless. "OPCON is a bogus program." 3. False. "Your arguments are bogus." 4. Incorrect. "That algorithm is bogus." 5. Unbelievable. "You claim to have solved the halting problem for Turing Machines? That's totally bogus." 6. Silly. "Stop writing those bogus sagas." Astrology is bogus. So is a bolt that is obviously about to break. So is someone who makes blatantly false claims to have solved a scientific problem. (This word seems to have some, but not all, of the connotations of **random** -- mostly the negative ones.) It is claimed that `bogus' was originally used in the hackish sense at Princeton in the late 1960s. It was spread to CMU and Yale by Michael Shamos, a migratory Princeton alumnus. A glossary of bogus words was compiled at Yale when the word was first popularized there about 1975-76. These coinages spread into hackerdom from CMU and MIT. Most of them remained wordplay objects rather than actual vocabulary items or live metaphors. Examples: `amboguous' (having multiple bogus interpretations); `bogotissimo' (in a gloriously bogus manner); `bogotophile' (one who is pathologically fascinated by the bogus); `paleobogology' (the study of primeval bogosity). Some bogowords, however, obtained sufficient live currency to be listed elsewhere in this lexicon; By the early 1980s `bogus' was also current in something like hacker usage sense in West Coast teen slang, and it had gone mainstream by 1985. A correspondent from Cambridge reports, by contrast, that these uses of `bogus' grate on British nerves; in Britain the word means, rather specifically, `counterfeit', as in "a bogus 10-pound note".

bot n. [common on IRC, MUD and among gamers; from `robot'] 1. An **IRC** or **MUD** user who is actually a program. On IRC, typically the robot provides some useful service. Examples are NickServ, which tries to prevent random users from adopting **nick**s already claimed by others, and MsgServ, which allows one to send asynchronous messages to be delivered when the recipient signs on. Also common are `annoybots', such as KissServ, which perform no useful function except to send cute messages to other people. Service bots are less common on MUDs; but some others, such as the `Julia' bot active in 1990-91, have been remarkably impressive Turing-test experiments, able to pass as human for as long as ten or fifteen minutes of conversation. 2. An AI-controlled player in a computer game (especially a first-person shooter such as Quake) which, unlike ordinary monsters, operates like a human-controlled player, with access to a player's weapons and abilities. An example can be found at http://www.telefragged.com/thefatal/. Note that bots in both senses were `robots' when the term first appeared in the early 1990s, but the shortened form is now habitual.

boxology /bok-sol'*-jee/ n. Syn. **ASCII art**. This term implies a more restricted domain, that of box-and-arrow drawings. "His report has a lot of boxology in it."

buglix /buhg'liks/ n. [uncommon] Pejorative term referring to **DEC**'s ULTRIX operating system in its earlier *severely* buggy versions. Still used to describe ULTRIX, but without nearly so much venom.

catatonic adj. Describes a condition of suspended animation in which something is so **wedged** or **hung** that it makes no response. If you are typing on a terminal and suddenly the computer doesn't even echo the letters back to the screen as you type, let alone do what you're asking it to do, then the computer is suffering from catatonia (possibly because it has crashed). "There I was in the middle of a winning game of **nethack** and it went catatonic on me! Aaargh!"

chad /chad/ n. 1. [common] The perforated edge strips on printer paper, after they have been separated from the printed portion. Also called **selvage**, **perf**, and **ripoff**. 2. obs. The confetti-like paper bits punched out of cards or paper tape; this has also been called `chaff', `computer confetti', and `keypunch droppings'. It's reported that this was very old Army slang, and it may now be mainstream; it has been reported seen (1993) in directions for a card-based voting machine in California. Historical note: One correspondent believes `chad' (sense 2) derives from the Chadless keypunch (named for its inventor), which cut little u-shaped tabs in the card to make a hole when the tab folded back, rather than punching out a circle/rectangle; it was clear that if the Chadless keypunch didn't make them, then the stuff that other keypunches made had to be `chad'. There is a legend that the word was originally acronymic, standing for "Card Hole Aggregate Debris", but this has all the earmarks of a **backronym**.

Chernobyl packet /cher-noh'b*l pak'*t/ n. A network packet that induces a **broadcast storm** and/or **network meltdown**, in memory of the April 1986 nuclear accident at Chernobyl in Ukraine. The typical scenario involves an IP Ethernet datagram that

passes through a gateway with both source and destination Ether and IP address set as the respective broadcast addresses for the subnetworks being gated between.

CHOP /chop/ n. [IRC] See **channel op**.

computer geek n. 1. One who eats (computer) bugs for a living. One who fulfills all the dreariest negative stereotypes about hackers: an asocial, malodorous, pasty-faced monomaniac with all the personality of a cheese grater. Cannot be used by outsiders without implied insult to all hackers; compare black-on-black vs. white-on-black usage of `nigger'. A computer geek may be either a fundamentally clueless individual or a proto-hacker in **larval stage**. Also called `turbo nerd', `turbo geek'. See also **propeller head**, **clustergeeking**, **geek out**, **wannabee**, **terminal junkie**, **spod**, **weenie**. 2. Some self-described computer geeks use this term in a positive sense and protest sense 1 (this seems to have been a post-1990 development). For one such argument, see http://www.darkwater.com/omni/geek.html.

content-free adj. [by analogy with techspeak `context-free'] Used of a message that adds nothing to the recipient's knowledge. Though this adjective is sometimes applied to **flamage**, it more usually connotes derision for communication styles that exalt form over substance or are centered on concerns irrelevant to the subject ostensibly at hand. Perhaps most used with reference to speeches by company presidents and other professional manipulators. "Content-free? Uh... that's anything printed on glossy paper." (See also **four-color glossies**.) "He gave a talk on the implications of electronic networks for postmodernism and the fin-de-siecle aesthetic. It was content-free."

cracker n. One who breaks security on a system. Coined ca. 1985 by hackers in defense against journalistic misuse of **hacker** (q.v., sense 8). An earlier attempt to establish `worm' in this sense around 1981-82 on Usenet was largely a failure. Use of both these neologisms reflects a strong revulsion against the theft and vandalism perpetrated by cracking rings. While it is expected that any real hacker will have done some playful cracking and knows many of the basic techniques, anyone past **larval stage** is expected to have outgrown the desire to do so except for immediate, benign, practical reasons (for example, if it's necessary to get around some security in order to get some work done). Thus, there is far less overlap between hackerdom and crackerdom than the **mundane** reader misled by sensationalistic journalism might expect. Crackers tend to gather in small, tight-knit, very secretive groups that have little overlap with the huge, open poly-culture this lexicon describes; though crackers often like to describe *themselves* as hackers, most true hackers consider them a separate and lower form of life. Ethical considerations aside, hackers figure that anyone who can't imagine a more interesting way to play with their computers than breaking into someone else's has to be pretty **losing**. Some other reasons crackers are looked down on are discussed in the entries on **cracking** and **phreaking**.

crapplet n. [portmanteau, crap + applet] A worthless applet, esp. a Java widget attached to a web page that doesn't work or even crashes your browser. Also spelled `craplet'.

cretin /kret'in/ or /kree'tn/ n. Congenital **loser**; an obnoxious person; someone who can't do anything right. It has been observed that many American hackers tend to favor the British pronunciation /kret'in/ over standard American /kree'tn/; it is thought this may be due to the insidious phonetic influence of Monty Python's Flying Circus.

cretinous /kret'n-*s/ or /kreet'n-*s/ adj. Wrong; stupid; non-functional; very poorly designed. Also used pejoratively of people.

cross-post vi. [Usenet; very common] To post a single article simultaneously to several newsgroups. Distinguished from posting the article repeatedly, once to each newsgroup, which causes people to see it multiple times (which is very bad form). Gratuitous cross-posting without a Followup-To line directing responses to a single followup group is frowned upon, as it tends to cause **followup** articles to go to inappropriate newsgroups when people respond to only one part of the original posting.

cruft /kruhft/ [very common; back-formation from **crufty**] 1. n. An unpleasant substance. The dust that gathers under your bed is cruft; the TMRC Dictionary correctly noted that attacking it with a broom only produces more. 2. n. The results of shoddy construction. 3. vt. [from `hand cruft', pun on `hand craft'] To write assembler code for something normally (and better) done by a compiler (see **hand-hacking**). 4. n. Excess;

superfluous junk; used esp. of redundant or superseded code. 5. [University of Wisconsin] n. Cruft is to hackers as gaggle is to geese; that is, at UW one properly says "a cruft of hackers".

crufty /kruhf'tee/ adj. [very common; origin unknown; poss. from `crusty' or `cruddy'] 1. Poorly built, possibly over-complex. The **canonical** example is "This is standard old crufty **DEC** software". In fact, one fanciful theory of the origin of `crufty' holds that was originally a mutation of `crusty' applied to DEC software so old that the `s' characters were tall and skinny, looking more like `f' characters. 2. Unpleasant, especially to the touch, often with encrusted junk. Like spilled coffee smeared with peanut butter and catsup. 3. Generally unpleasant. 4. (sometimes spelled `cruftie') n. A small crufty object (see **frob**); often one that doesn't fit well into the scheme of things. "A LISP property list is a good place to store crufties (or, collectively, **random** cruft)." This term is one of the oldest in the jargon and no one is sure of its etymology, but it is suggestive that there is a Cruft Hall at Harvard University which is part of the old physics building; it's said to have been the physics department's radar lab during WWII. To this day (early 1993) the windows appear to be full of random techno-junk. MIT or Lincoln Labs people may well have coined the term as a knock on the competition.

cup holder n. The tray of a CD-ROM drive, or by extension the CD drive itself. So called because of a common tech support legend about the idiot who called to complain that the cup holder on his computer broke. A joke program was once distributed around the net called "cupholder.exe", which when run simply extended the CD drive tray. The humor of this was of course lost on people whose drive had a slot or a caddy instead

cyberpunk /si:'ber-puhnk/ n.,adj. [orig. by SF writer Bruce Bethke and/or editor Gardner Dozois] A subgenre of SF launched in 1982 by William Gibson's epoch-making novel "Neuromancer" (though its roots go back through Vernor Vinge's "True Names" (see the **Bibliography** in Appendix C) to John Brunner's 1975 novel "The Shockwave Rider"). Gibson's near-total ignorance of computers and the present-day hacker culture enabled him to speculate about the role of computers and hackers in the future in ways hackers have since found both irritatingly naïve and tremendously stimulating. Gibson's work was widely imitated, in particular by the short-lived but innovative "Max Headroom" TV series. Since 1990 or so, popular culture has included a movement or fashion trend that calls itself `cyberpunk', associated especially with the rave/techno subculture. Hackers have mixed feelings about this. On the one hand, self-described cyberpunks too often seem to be shallow trendoids in black leather who have substituted enthusiastic blathering about technology for actually learning and *doing* it. Attitude is no substitute for competence. On the other hand, at least cyberpunks are excited about the right things and properly respectful of hacking talent in those who have it. The general consensus is to tolerate them politely in hopes that they'll attract people who grow into being true hackers.

cyberspace /si:'br-spays`/ n. 1. Notional `information-space' loaded with visual cues and navigable with brain-computer interfaces called `cyberspace decks'; a characteristic prop of **cyberpunk** SF. Serious efforts to construct **virtual reality** interfaces modeled explicitly on Gibsonian cyberspace are under way, using more conventional devices such as glove sensors and binocular TV headsets. Few hackers are prepared to deny outright the possibility of a cyberspace someday evolving out of the network (see **the network**). 2. The Internet or **Matrix** (sense #2) as a whole, considered as a crude cyberspace (sense 1). Although this usage became widely popular in the mainstream press during 1994 when the Internet exploded into public awareness, it is strongly deprecated among hackers because the Internet does not meet the high, SF-inspired standards they have for true cyberspace technology. Thus, this use of the term usually tags a **wannabee** or outsider. Oppose **meatspace**. 3. Occasionally, the metaphoric location of the mind of a person in **hack mode**. Some hackers report experiencing strong eidetic imagery when in hack mode; interestingly, independent reports from multiple sources suggest that there are common features to the experience. In particular, the dominant colors of this subjective `cyberspace' are often gray and silver, and the imagery often involves constellations of marching dots, elaborate shifting patterns of lines and angles, or moire patterns.

defenestration n.

[mythically from a traditional Czech assasination method, via SF fandom] 1. Proper karmic retribution for an incorrigible punster. "Oh, ghod, that was *awful*!" "Quick! Defenestrate him!" 2. The act of exiting a window system in order to get better response

time from a full-screen program. This comes from the dictionary meaning of `defenestrate', which is to throw something out a window. 3. The act of discarding something under the assumption that it will improve matters. "I don't have any disk space left." "Well, why don't you defenestrate that 100 megs worth of old core dumps?" 4. Under a GUI, the act of dragging something out of a window (onto the screen). "Next, defenestrate the MugWump icon." 5. The act of completely removing Micro$oft Windows from a PC in favor of a better OS (typically Linux).

dehose /dee-hohz/ vt. To clear a **hosed** condition.

demigod n. A hacker with years of experience, a world-wide reputation, and a major role in the development of at least one design, tool, or game used by or known to more than half of the hacker community. To qualify as a genuine demigod, the person must recognizably identify with the hacker community and have helped shape it. Major demigods include Ken Thompson and Dennis Ritchie (co-inventors of **Unix** and **C**), Richard M. Stallman (inventor of **EMACS**), Larry Wall (inventor of **Perl**), Linus Torvalds (inventor of Linux), and most recently James Gosling (inventor of Java). In their hearts of hearts, most hackers dream of someday becoming demigods themselves, and more than one major software project has been driven to completion by the author's veiled hopes of apotheosis.

demo /de'moh/ [short for `demonstration'] 1. v. To demonstrate a product or prototype. A far more effective way of inducing bugs to manifest than any number of **test** runs, especially when important people are watching. 2. n. The act of demoing. "I've gotta give a demo of the drool-proof interface; how does it work again?" 3. n. Esp. as `demo version', can refer either to an early, barely-functional version of a program which can be used for demonstration purposes as long as the operator uses *exactly* the right commands and skirts its numerous bugs, deficiencies, and unimplemented portions, or to a special version of a program (frequently with some features crippled) which is distributed at little or no cost to the user for enticement purposes. 4. [**demoscene**] A sequence of **demoeffect**s (usually) combined with self-composed music and hand-drawn ("pixelated") graphics. These days (1997) usually built to attend a **compo**. Often called `eurodemos' outside Europe, as most of the **demoscene** activity seems to have gathered in northern Europe and especially Scandinavia

depeditate /dee-ped'*-tayt/ n. [by (faulty) analogy with `decapitate'] Humorously, to cut off the feet of. When one is using some computer-aided typesetting tools, careless placement of text blocks within a page or above a rule can result in chopped-off letter descenders. Such letters are said to have been depeditated.

derf /derf/ v.,n. [PLATO] The act of exploiting a terminal which someone else has absentmindedly left logged on, to use that person's account, especially to post articles intended to make an ass of the victim you're impersonating. It has been alleged that the term originated as a reversal of the name of the gentleman who most usually left himself vulnerable to it, who also happened to be the head of the department that handled PLATO at the University of Delaware.

despew /d*-spyoo'/ v. [Usenet] To automatically generate a large amount of garbage to the net, esp. from an automated posting program gone wild. See **ARMM**.

dickless workstation n. Extremely pejorative hackerism for `diskless workstation', a class of botches including the Sun 3/50 and other machines designed exclusively to network with an expensive central disk server. These combine all the disadvantages of time-sharing with all the disadvantages of distributed personal computers; typically, they cannot even **boot** themselves without help (in the form of some kind of **breath-of-life packet**) from the server.

dinosaur pen n. A traditional **mainframe** computer room complete with raised flooring, special power, its own ultra-heavy-duty air conditioning, and a side order of Halon fire extinguishers.

disclaimer n. [Usenet] Statement ritually appended to many Usenet postings (sometimes automatically, by the posting software) reiterating the fact (which should be obvious, but is easily forgotten) that the article reflects its author's opinions and not necessarily those of the organization running the machine through which the article entered the network.

Dissociated Press n. [play on `Associated Press'; perhaps inspired by a reference in the 1950 Bugs Bunny cartoon "What's Up, Doc?"] An algorithm for transforming any text into potentially humorous garbage even more efficiently than by passing it through a **marketroid**. The algorithm starts by printing any N consecutive words (or letters) in the text. Then at every step it searches for any random occurrence in the original text of the last N words (or letters) already printed and then prints the next word or letter. **EMACS** has a handy command for this. Here is a short example of word-based Dissociated Press applied to an earlier version of this Jargon File: wart: n. A small, crocky **feature** that sticks out of an array (C has no checks for this). This is relatively benign and easy to spot if the phrase is bent so as to be not worth paying attention to the medium in question. Here is a short example of letter-based Dissociated Press applied to the same source: window sysIWYG: n. A bit was named aften /bee't*/ prefer to use the other guy's re, especially in every cast a chuckle on neithout getting into useful informash speech makes removing a featuring a move or usage actual abstractionsidered interj. Indeed spectace logic or problem! hackish idle pastime is to apply letter-based Dissociated Press to a random body of text and **vgrep** the output in hopes of finding an interesting new word. (In the preceding example, `window sysIWYG' and `informash' show some promise.) Iterated applications of Dissociated Press usually yield better results. Similar techniques called `travesty generators' have been employed with considerable satirical effect to the utterances of Usenet flamers;.

doc /dok/ n. Common spoken and written shorthand for `documentation'. Often used in the plural `docs' and in the construction `doc file' (i.e., documentation available on-line).

droid n. [from `android', SF terminology for a humanoid robot of essentially biological (as opposed to mechanical/electronic) construction] A person (esp. a low-level bureaucrat or service-business employee) exhibiting most of the following characteristics: (a) naive trust in the wisdom of the parent organization or `the system'; (b) a blind-faith propensity to believe obvious nonsense emitted by authority figures (or computers!); (c) a rule-governed mentality, one unwilling or unable to look beyond the `letter of the law' in exceptional situations; (d) a paralyzing fear of official reprimand or worse if Procedures are not followed No Matter What; and (e) no interest in doing anything above or beyond the call of a very narrowly-interpreted duty, or in particular in fixing that which is broken; an "It's not my job, man" attitude. Typical droid positions include supermarket checkout assistant and bank clerk; the syndrome is also endemic in low-level government employees. The implication is that the rules and official procedures constitute software that the droid is executing; problems arise when the software has not been properly debugged. The term `droid mentality' is also used to describe the mindset behind this behavior. Compare **suit**, **marketroid**; see **-oid**. In England there is equivalent mainstream slang; a `jobsworth' is an obstructive, rule-following bureaucrat, often of the uniformed or suited variety. Named for the habit of denying a reasonable request by sucking his teeth and saying "Oh no, guv, sorry I can't help you: that's more than my job's worth".

drunk mouse syndrome n. (also `mouse on drugs') A malady exhibited by the mouse pointing device of some computers. The typical symptom is for the mouse cursor on the screen to move in random directions and not in sync with the motion of the actual mouse. Can usually be corrected by unplugging the mouse and plugging it back again. Another recommended fix for optical mice is to rotate your mouse pad 90 degrees. At Xerox PARC in the 1970s, most people kept a can of copier cleaner (isopropyl alcohol) at their desks. When the steel ball on the mouse had picked up enough **cruft** to be unreliable, the mouse was doused in cleaner, which restored it for a while. However, this operation left a fine residue that accelerated the accumulation of cruft, so the dousings became more and more frequent. Finally, the mouse was declared `alcoholic' and sent to the clinic to be dried out in a CFC ultrasonic bath.

elegant adj. [common; from mathematical usage] Combining simplicity, power, and a certain ineffable grace of design. Higher praise than `clever', `winning', or even **cuspy**. The French aviator, adventurer, and author Antoine de Saint-Exupéry, probably best known for his classic children's book "The Little Prince", was also an aircraft designer. He gave us perhaps the best definition of engineering elegance when he said "A designer knows he has achieved perfection not when there is nothing left to add, but when there is nothing left to take away."

elite adj. Clueful. Plugged-in. One of the cognoscenti. Also used as a general positive adjective. This term is not actually hacker slang in the strict sense; it is used primarily by crackers and **warez d00dz**, for which reason hackers use it only with heavy irony. The term used to refer to the folks allowed in to the "hidden" or "privileged" sections of

BBSes in the early 1980s (which, typically, contained pirated software). Frequently, early boards would only let you post, or even see, a certain subset of the sections (or `boards') on a BBS. Those who got to the frequently legendary `triple super secret' boards were elite. Misspellings of this term in warez d00dz style abound; the forms `eleet', and `31337' (among others) have been sighted. A true hacker would be more likely to use `wizardly'. Oppose **lamer**.

email /ee'mayl/ (also written `e-mail' and `E-mail') 1. n. Electronic mail automatically passed through computer networks and/or via modems over common-carrier lines. Contrast **snail-mail**, **paper-net**, **voice-net**. See **network address**. 2. vt. To send electronic mail. Oddly enough, the word `emailed' is actually listed in the OED; it means "embossed (with a raised pattern) or perh. arranged in a net or open work". A use from 1480 is given. The word is probably derived from French `émaillé' (enameled) and related to Old French `emmailleüre' (network). A French correspondent tells us that in modern French, `email' is a hard enamel obtained by heating special paints in a furnace; an `emailleur' (no final e) is a craftsman who makes email (he generally paints some objects (like, say, jewelry) and cooks them in a furnace). There are numerous spelling variants of this word. In Internet traffic up to 1995, `email' predominates, `e-mail' runs a not-too-distant second, and `E-mail' and `Email' are a distant third and fourth.

emoticon /ee-moh'ti-kon/ n. [common] An ASCII glyph used to indicate an emotional state in email or news. Although originally intended mostly as jokes, emoticons (or some other explicit humor indication) are virtually required under certain circumstances in high-volume text-only communication forums such as Usenet; the lack of verbal and visual cues can otherwise cause what were intended to be humorous, sarcastic, ironic, or otherwise non-100%-serious comments to be badly misinterpreted (not always even by **newbie**s), resulting in arguments and **flame war**s. Hundreds of emoticons have been proposed, but only a few are in common use. These include:

`:-)`
: `smiley face' (for humor, laughter, friendliness, occasionally sarcasm)

`:-(`
: `frowney face' (for sadness, anger, or upset)

`;-)`
: `half-smiley' (**ha ha only serious**); also known as `semi-smiley' or `winkey face'.

`:-/`
: `wry face'

(These may become more comprehensible if you tilt your head sideways, to the left.) The first two listed are by far the most frequently encountered. Hyphenless forms of them are common on CompuServe, GEnie, and BIX; see also **bixie**. On **Usenet**, `smiley' is often used as a generic term synonymous with **emoticon**, as well as specifically for the happy-face emoticon. It appears that the emoticon was invented by one Scott Fahlman on the CMU **bboard** systems sometime between early 1981 and mid-1982. He later wrote: "I wish I had saved the original post, or at least recorded the date for posterity, but I had no idea that I was starting something that would soon pollute all the world's communication channels." [GLS confirms that he remembers this original posting]. Note for the **newbie**: Overuse of the smiley is a mark of loserhood! More than one per paragraph is a fairly sure sign that you've gone over the line.

eye candy /i:' kand`ee/ n. [from mainstream slang "ear candy"] A display of some sort that's presented to **user**s to keep them distracted while the program performs necessary background tasks. "Give 'em some eye candy while the back-end **slurp**s that **BLOB** into core." Reported as mainstream usage among players of graphics-heavy computer games. We're also told this term is mainstream slang for soft pornography, but that sense does not appear to be live among hackers.

FAQ /F-A-Q/ or /fak/ n. [Usenet] 1. A Frequently Asked Question. 2. A compendium of accumulated lore, posted periodically to high-volume newsgroups in an attempt to forestall such questions. Some people prefer the term `FAQ list' or `FAQL' /fa'kl/, reserving `FAQ' for sense 1. This lexicon itself serves as a good example of a collection of one kind of lore, although it is far too big for a regular FAQ posting. Examples: "What is the proper type of NULL?" and "What's that funny name for the # character?" are both Frequently Asked Questions. Several FAQs refer readers to this file.

FAQ list /F-A-Q list/ or /fak list/ n. [common; Usenet] Syn **FAQ**, sense 2.

featurectomy /fee`ch*r-ek't*-mee/ n. The act of removing a feature from a program. Featurectomies come in two flavors, the `righteous' and the `reluctant'. Righteous featurectomies are performed because the remover believes the program would be more elegant without the feature, or there is already an equivalent and better way to achieve the same end. (Doing so is not quite the same thing as removing a **misfeature**.) Reluctant featurectomies are performed to satisfy some external constraint such as code size or execution speed.

feep /feep/ 1. n. The soft electronic `bell' sound of a display terminal (except for a VT-52); a beep (in fact, the microcomputer world seems to prefer **beep**). 2. vi. To cause the display to make a feep sound. ASR-33s (the original TTYs) do not feep; they have mechanical bells that ring. Alternate forms: **beep**, `bleep', or just about anything suitably onomatopoeic. (Jeff MacNelly, in his comic strip "Shoe", uses the word `eep' for sounds made by computer terminals and video games; this is perhaps the closest written approximation yet.) The term `breedle' was sometimes heard at SAIL, where the terminal bleepers are not particularly soft (they sound more like the musical equivalent of a raspberry or Bronx cheer; for a close approximation, imagine the sound of a Star Trek communicator's beep lasting for five seconds). The `feeper' on a VT-52 has been compared to the sound of a '52 Chevy stripping its gears.

FISH queue n. [acronym, by analogy with FIFO (First In, First Out)] `First In, Still Here'. A joking way of pointing out that processing of a particular sequence of events or requests has stopped dead. Also `FISH mode' and `FISHnet'; the latter may be applied to any network that is running really slowly or exhibiting extreme flakiness.

flamage /flay'm*j/ n. [very common] Flaming verbiage, esp. high-noise, low-signal postings to **Usenet** or other electronic **fora**. Often in the phrase `the usual flamage'. `Flaming' is the act itself; `flamage' the content; a `flame' is a single flaming message.

flame [at MIT, orig. from the phrase `flaming asshole'] 1. vi. To post an email message intended to insult and provoke. 2. vi. To speak incessantly and/or rabidly on some relatively uninteresting subject or with a patently ridiculous attitude. 3. vt. Either of senses 1 or 2, directed with hostility at a particular person or people. 4. n. An instance of flaming. When a discussion degenerates into useless controversy, one might tell the participants "Now you're just flaming" or "Stop all that flamage!" to try to get them to cool down (so to speak). The term may have been independently invented at several different places. It has been reported from MIT, Carleton College and RPI (among many other places) from as far back as 1969, and from the University of Virginia in the early 1960s. It is possible that the hackish sense of `flame' is much older than that. The poet Chaucer was also what passed for a wizard hacker in his time; he wrote a treatise on the astrolabe, the most advanced computing device of the day. In Chaucer's "Troilus and Cressida", Cressida laments her inability to grasp the proof of a particular mathematical theorem; her uncle Pandarus then observes that it's called "the fleminge of wrecches." This phrase seems to have been intended in context as "that which puts the wretches to flight" but was probably just as ambiguous in Middle English as "the flaming of wretches" would be today. One suspects that Chaucer would feel right at home on Usenet.

fontology n. [XEROX PARC] The body of knowledge dealing with the construction and use of new fonts (e.g., for window systems and typesetting software). It has been said that fontology recapitulates file-ogeny. [Unfortunately, this reference to the embryological dictum that "Ontogeny recapitulates phylogeny" is not merely a joke. On the Macintosh, for example, System 7 has to go through contortions to compensate for an earlier design error that created a whole different set of abstractions for fonts parallel to `files' and `folders' --ESR]

foo /foo/ 1. interj. Term of disgust. 2. [very common] Used very generally as a sample name for absolutely anything, esp. programs and files (esp. scratch files). 3. First on the standard list of **metasyntactic variable**s used in syntax examples. When `foo' is used in connection with `bar' it has generally traced to the WWII-era Army slang acronym **FUBAR** (`Fucked Up Beyond All Repair'), later modified to **foobar**. Early versions of the Jargon File interpreted this change as a post-war bowdlerization, but it it now seems more likely that FUBAR was itself a derivative of `foo' perhaps influenced by German `furchtbar' (terrible) - `foobar' may actually have been the *original* form. For, it seems, the word `foo' itself had an immediate prewar history in comic strips and cartoons. The earliest documented uses were in the "Smokey Stover" comic strip popular in the 1930s, which frequently included the word "foo". Bill Holman, the author of the strip, filled it

with odd jokes and personal contrivances, including other nonsense phrases such as "Notary Sojac" abd "1506 nix nix". According to the Warner Brothers Cartoon Companion Holman claimed to have found the word "foo" on the bottom of a Chinese figurine. This is plausible; Chinese statuettes often have apotropaic inscriptions, and this may have been the Chinese word `fu' (sometimes transliterated `foo'), which can mean "happiness" when spoken with the proper tone (the lion-dog guardians flanking the steps of many Chinese restaurants are properly called "fu dogs"). English speakers' reception of Holman's `foo' nonsense word was undoubtedly influenced by Yiddish `feh' and English `fooey' and `fool'. Holman's strip featured a firetruck called the Foomobile that rode on two wheels. The comic strip was tremendously popular in the late 1930s, and legend has it that a manufacturer in Indiana even produced an operable version of Holman's Foomobile. According to the Encyclopedia of American Comics, `Foo' fever swept the U.S., finding its way into popular songs and generating over 500 `Foo Clubs.' The fad left `foo' references embedded in popular culture (including a couple of appearances in Warner Brothers cartoons of 1938-39) but with their origins rapidly forgotten. One place they are known to have remained live is in the U.S. military during the WWII years. In 1944-45, the term `foo fighters' was in use by radar operators for the kind of mysterious or spurious trace that would later be called a UFO (the older term resurfaced in popular American usage in 1995 via the name of one of the better grunge-rock bands). Informants connected the term to the Smokey Stover strip. The U.S. and British militaries frequently swapped slang terms during the war (see **kluge** and **kludge** for another important example) Period sources reported that `FOO' became a semi-legendary subject of WWII British-army graffiti more or less equivalent to the American Kilroy. Where British troops went, the graffito "FOO was here" or something similar showed up. Several slang dictionaries aver that FOO probably came from Forward Observation Officer, but this (like the contemporaneous "FUBAR") was probably a **backronym** . Forty years later, Paul Dickson's excellent book "Words" (Dell, 1982, ISBN 0-440-52260-7) traced "Foo" to an unspecified British naval magazine in 1946, quoting as follows: "Mr. Foo is a mysterious Second World War product, gifted with bitter omniscience and sarcasm." Earlier versions of this entry suggested the possibility that hacker usage actually sprang from "FOO, Lampoons and Parody", the title of a comic book first issued in September 1958, a joint project of Charles and Robert Crumb. Though Robert Crumb (then in his mid-teens) later became one of the most important and influential artists in underground comics, this venture was hardly a success; indeed, the brothers later burned most of the existing copies in disgust. The title FOO was featured in large letters on the front cover. However, very few copies of this comic actually circulated, and students of Crumb's `oeuvre' have established that this title was a reference to the earlier Smokey Stover comics. The Crumbs may also have been influenced by a short-lived Canadian parody magazine named `Foo' published in 1951-52. An old-time member reports that in the 1959 "Dictionary of the TMRC Language", compiled at **TMRC**, there was an entry that went something like this: FOO: The first syllable of the sacred chant phrase "FOO MANE PADME HUM." Our first obligation is to keep the foo counters turning. (For more about the legendary foo counters, see **TMRC**.) This definition used Bill Holman's nonsense word, only then two decades old and demonstrably still live in popular culture and slang, to a **ha ha only serious** analogy with esoteric Tibetan Buddhism. Today's hackers would find it difficulty to resist elaborating a joke like that, and it would be hard to believe 1959's were any less susceptible. Almost the entire staff of what later became the MIT AI Lab was involved with TMRC, and the word spread from there.

freeware n. [common] Free software, often written by enthusiasts and distributed by users' groups, or via electronic mail, local bulletin boards, **Usenet**, or other electronic media. At one time, `freeware' was a trademark of Andrew Fluegelman, the author of the well-known MS-DOS comm program PC-TALK III. It wasn't enforced after his mysterious disappearance and presumed death in 1984.

fried adj. 1. [common] Non-working due to hardware failure; burnt out. Especially used of hardware brought down by a `power glitch' (see **glitch**), **drop-outs**, a short, or some other electrical event. (Sometimes this literally happens to electronic circuits! In particular, resistors can burn out and transformers can melt down, emitting noxious smoke -- see **friode**, **SED** and **LER**. However, this term is also used metaphorically.) Compare **frotzed**. 2. [common] Of people, exhausted. Said particularly of those who continue to work in such a state. Often used as an explanation or excuse. "Yeah, I know that fix destroyed the file system, but I was fried when I put it in." Esp. common in conjunction with `brain': "My brain is fried today, I'm very short on sleep."

friode /fri:'ohd/ n. [TMRC] A reversible (that is, fused or blown) diode.

frob /frob/ 1. n. [MIT; very common] The **TMRC** definition was "FROB = a protruding arm or trunnion"; by metaphoric extension, a `frob' is any random small thing; an object that you can comfortably hold in one hand; something you can frob (sense 2). See **frobnitz**. 2. vt. Abbreviated form of **frobnicate**. 3. [from the **MUD** world] A command on some MUDs that changes a player's experience level (this can be used to make wizards); also, to request **wizard** privileges on the `professional courtesy' grounds that one is a wizard elsewhere. The command is actually `frobnicate' but is universally abbreviated to the shorter form.

frobnitz /frob'nits/, pl. `frobnitzem' /frob'nit-zm/ or `frobni' /frob'ni:/ n. [TMRC] An unspecified physical object, a widget. Also refers to electronic black boxes. This rare form is usually abbreviated to `frotz', or more commonly to **frob**. Also used are `frobnule' (/frob'n[y]ool/) and `frobule' (/frob'yool/). Starting perhaps in 1979, `frobozz' /fr*-boz'/ (plural: `frobbotzim' /fr*-bot'zm/) has also become very popular, largely through its exposure as a name via **Zork**. These variants can also be applied to nonphysical objects, such as data structures. Pete Samson, compiler of the original **TMRC** lexicon, adds, "Under the TMRC [railroad] layout were many storage boxes, managed (in 1958) by David R. Sawyer. Several had fanciful designations written on them, such as `Frobnitz Coil Oil'. Perhaps DRS intended Frobnitz to be a proper name, but the name was quickly taken for the thing". This was almost certainly the origin of the term.

gedanken /g*-dahn'kn/ adj. Ungrounded; impractical; not well-thought-out; untried; untested. `Gedanken' is a German word for `thought'. A thought experiment is one you carry out in your head. In physics, the term `gedanken experiment' is used to refer to an experiment that is impractical to carry out, but useful to consider because it can be reasoned about theoretically. (A classic gedanken experiment of relativity theory involves thinking about a man in an elevator accelerating through space.) Gedanken experiments are very useful in physics, but must be used with care. It's too easy to idealize away some important aspect of the real world in constructing the `apparatus'. Among hackers, accordingly, the word has a pejorative connotation. It is typically used of a project, especially one in artificial intelligence research, that is written up in grand detail (typically as a Ph.D. thesis) without ever being implemented to any great extent. Such a project is usually perpetrated by people who aren't very good hackers or find programming distasteful or are just in a hurry. A `gedanken thesis' is usually marked by an obvious lack of intuition about what is programmable and what is not, and about what does and does not constitute a clear specification of an algorithm.

gender mender n. [common] A cable connector shell with either two male or two female connectors on it, used to correct the mismatches that result when some **loser** didn't understand the RS232C specification and the distinction between DTE and DCE. Used esp. for RS-232C parts in either the original D-25 or the IBM PC's bogus D-9 format. Also called `gender bender', `gender blender', `sex changer', and even `homosexual adapter;' however, there appears to be some confusion as to whether a `male homosexual adapter' has pins on both sides (is doubly male) or sockets on both sides (connects two males).

GIGO /gi:'goh/ [acronym] 1. `Garbage In, Garbage Out' -- usually said in response to **luser**s who complain that a program didn't "do the right thing" when given imperfect input or otherwise mistreated in some way. Also commonly used to describe failures in human decision making due to faulty, incomplete, or imprecise data. 2. `Garbage In, Gospel Out': this more recent expansion is a sardonic comment on the tendency human beings have to put excessive trust in `computerized' data.

glark /glark/ vt. To figure something out from context. "The System III manuals are pretty poor, but you can generally glark the meaning from context." Interestingly, the word was originally `glork'; the context was "This gubblick contains many nonsklarkish English flutzpahs, but the overall pluggandisp can be glorked [sic] from context" (David Moser, quoted by Douglas Hofstadter in his "Metamagical Themas" column in the January 1981 "Scientific American"). It is conjectured that hacker usage mutated the verb to `glark' because **glork** was already an established jargon term (some hackers do report using the original term).

go flatline v. [from cyberpunk SF, refers to flattening of EEG traces upon brain-death] (also adjectival `flatlined'). 1. To **die**, terminate, or fail, esp. irreversibly. In hacker parlance, this is used of machines only, human death being considered somewhat too serious a matter to employ jargon-jokes about. 2. To go completely quiescent; said of

machines undergoing controlled shutdown. "You can suffer file damage if you shut down Unix but power off before the system has gone flatline." 3. Of a video tube, to fail by losing vertical scan, so all one sees is a bright horizontal line bisecting the screen.

GoAT // [Usenet] Abbreviation: "Go Away, Troll".

gonk /gonk/ vi.,n. 1. To prevaricate or to embellish the truth beyond any reasonable recognition. In German the term is (mythically) `gonken'; in Spanish the verb becomes `gonkar'. "You're gonking me. That story you just told me is a bunch of gonk." In German, for example, "Du gonkst mich" (You're pulling my leg). See also **gonkulator**. 2. [British] To grab some sleep at an odd time;

grep /grep/ vi. [from the qed/ed editor idiom g/*re*/p, where *re* stands for a regular expression, to Globally search for the Regular Expression and Print the lines containing matches to it, via **Unix** `grep(1)`] To rapidly scan a file or set of files looking for a particular string or pattern (when browsing through a large set of files, one may speak of `grepping around'). By extension, to look for something by pattern. "Grep the bulletin board for the system backup schedule, would you?" [It has also been alleged that the source is from the title of a paper "A General Regular Expression Parser" -ESR]

gubbish /guhb'*sh/ n. [a portmanteau of `garbage' and `rubbish'; may have originated with SF author Philip K. Dick] Garbage; crap; nonsense. "What is all this gubbish?" The opposite portmanteau `rubbage' is also reported; in fact, it was British slang during the 19th century and appears in Dickens

hack [very common] 1. n. Originally, a quick job that produces what is needed, but not well. 2. n. An incredibly good, and perhaps very time-consuming, piece of work that produces exactly what is needed. 3. vt. To bear emotionally or physically. "I can't hack this heat!" 4. vt. To work on something (typically a program). In an immediate sense: "What are you doing?" "I'm hacking TECO." In a general (time-extended) sense: "What do you do around here?" "I hack TECO." More generally, "I hack `foo'" is roughly equivalent to "`foo' is my major interest (or project)". "I hack solid-state physics." See **Hacking X for Y**. 5. vt. To pull a prank on. See sense 2 and **hacker** (sense 5). 6. vi. To interact with a computer in a playful and exploratory rather than goal-directed way. "Whatcha up to?" "Oh, just hacking." 7. n. Short for **hacker**. 8. See **nethack**. 9. [MIT] v. To explore the basements, roof ledges, and steam tunnels of a large, institutional building, to the dismay of Physical Plant workers and (since this is usually performed at educational institutions) the Campus Police. This activity has been found to be eerily similar to playing adventure games such as Dungeons and Dragons and **Zork**. Constructions on this term abound. They include `happy hacking' (a farewell), `how's hacking?' (a friendly greeting among hackers) and `hack, hack' (a fairly content-free but friendly comment, often used as a temporary farewell).

hack mode n. 1. What one is in when hacking, of course. 2. More specifically, a Zen-like state of total focus on The Problem that may be achieved when one is hacking (this is why every good hacker is part mystic). Ability to enter such concentration at will correlates strongly with wizardliness; it is one of the most important skills learned during **larval stage**. Sometimes amplified as `deep hack mode'. Being yanked out of hack mode (see **priority interrupt**) may be experienced as a physical shock, and the sensation of being in hack mode is more than a little habituating. The intensity of this experience is probably by itself sufficient explanation for the existence of hackers, and explains why many resist being promoted out of positions where they can code. See also **cyberspace** (sense 2). Some aspects of hacker etiquette will appear quite odd to an observer unaware of the high value placed on hack mode. For example, if someone appears at your door, it is perfectly okay to hold up a hand (without turning one's eyes away from the screen) to avoid being interrupted. One may read, type, and interact with the computer for quite some time before further acknowledging the other's presence (of course, he or she is reciprocally free to leave without a word). The understanding is that you might be in **hack mode** with a lot of delicate **state** (sense 2) in your head, and you dare not **swap** that context out until you have reached a good point to pause.

hacker n. [originally, someone who makes furniture with an axe] 1. A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary. 2. One who programs enthusiastically (even obsessively) or who enjoys programming rather than just theorizing about programming. 3. A person capable of appreciating **hack value**. 4. A person who is good at programming quickly. 5. An expert at a

particular program, or one who frequently does work using it or on it; as in `a Unix hacker'. (Definitions 1 through 5 are correlated, and people who fit them congregate.) 6. An expert or enthusiast of any kind. One might be an astronomy hacker, for example. 7. One who enjoys the intellectual challenge of creatively overcoming or circumventing limitations. 8. [deprecated] A malicious meddler who tries to discover sensitive information by poking around. Hence `password hacker', `network hacker'. The correct term for this sense is **cracker**. The term `hacker' also tends to connote membership in the global community defined by the net (see **the network** and **Internet address**). For discussion of some of the basics of this culture, see the How To Become A Hacker FAQ. It also implies that the person described is seen to subscribe to some version of the hacker ethic (see **hacker ethic**). It is better to be described as a hacker by others than to describe oneself that way. Hackers consider themselves something of an elite (a meritocracy based on ability), though one to which new members are gladly welcome. There is thus a certain ego satisfaction to be had in identifying yourself as a hacker (but if you claim to be one and are not, you'll quickly be labeled **bogus**). This term seems to have been first adopted as a badge in the 1960s by the hacker culture surrounding TMRC and the MIT AI Lab. We have a report that it was used in a sense close to this entry's by teenage radio hams and electronics tinkerers in the mid-1950s.

hakspek /hak'speek/ n. A shorthand method of spelling found on many British academic bulletin boards and **talker system**s. Syllables and whole words in a sentence are replaced by single ASCII characters the names of which are phonetically similar or equivalent, while multiple letters are usually dropped. Hence, `for' becomes `4'; `two', `too', and `to' become `2'; `ck' becomes `k'. "Before I see you tomorrow" becomes "b4 i c u 2moro". First appeared in London about 1986, and was probably caused by the slowness of available talker systems, which operated on archaic machines with outdated operating systems and no standard methods of communication. Has become rarer since.**hairy** adj. 1. Annoyingly complicated. "**DWIM** is incredibly hairy." 2. Incomprehensible. "**DWIM** is incredibly hairy." 3. Of people, high-powered, authoritative, rare, expert, and/or incomprehensible. Hard to explain except in context: "He knows this hairy lawyer who says there's nothing to worry about." A well-known result in topology called the Brouwer Fixed-Point Theorem states that any continuous transformation of a 2-sphere into itself has at least one fixed point. Mathematically literate hackers tend to associate the term `hairy' with the informal version of this theorem; "You can't comb a hairy ball smooth." The adjective `long-haired' is well-attested to have been in slang use among scientists and engineers during the early 1950s; it was equivalent to modern `hairy' senses 1 and 2, and was very likely ancestral to the hackish use. In fact the noun `long-hair' was at the time used to describe a person satisfying sense 3. Both senses probably passed out of use when long hair was adopted as a signature trait by the 1960s counterculture, leaving hackish `hairy' as a sort of stunted mutant relic.

heatseeker n. [IBM] A customer who can be relied upon to buy, without fail, the latest version of an existing product (not quite the same as a member of the **lunatic fringe**). A 1993 example of a heatseeker was someone who, owning a 286 PC and Windows 3.0, went out and bought Windows 3.1 (which offers no worthwhile benefits unless you have a 386). If all customers were heatseekers, vast amounts of money could be made by just fixing some of the bugs in each release (n) and selling it to them as release (n+1). Microsoft in fact eems to have matered this technique.

hired gun n. A contract programmer, as opposed to a full-time staff member. All the connotations of this term suggested by innumerable spaghetti Westerns are intentional.

home page n. 1. One's personal billboard on the World Wide Web. The term `home page' is perhaps a bit misleading because home directories and physical homes in **RL** are private, but home pages are designed to be very public. 2. By extension, a WWW repository for information and links related to a project or organization.

hotlink /hot'link/ n. A **hot spot** on a World Wide Web page; an area, which, when clicked or selected, chases a URL. Also spelled `hot link'. Use of this term focuses on the link's role as an immediate part of your display, as opposed to the timeless sense of logical connection suggested by **web pointer**. Your screen shows hotlinks but your document has web pointers, not (in normal usage) the other way around

HTH // [Usenet: very common] Abbreviation: Hope This Helps (e.g. following a response to a technical question). Often used just before **HAND**.

IBM /I-B-M/ Inferior But Marketable; It's Better Manually; Insidious Black Magic; It's Been Malfunctioning; Incontinent Bowel Movement; and a near-**infinite** number of even less complimentary expansions, including `International Business Machines'. See **TLA**. These abbreviations illustrate the considerable antipathy most hackers long felt toward the `industry leader' (see **fear and loathing**). What galled hackers about most IBM machines above the PC level wasn't so much that they were underpowered and overpriced (though that does count against them), but that the designs are incredibly archaic, **crufty**, and **elephantine** ... and you can't *fix* them -- source code is locked up tight, and programming tools are expensive, hard to find, and bletcherous to use once you've found them. For many years, before Microsoft, IBM was the company hackers loved to hate. But everything changes. In the 1980s IBM had its own troubles with Microsoft. In the late 1990s IBM re-invented itself as a services company, began to release open-source software through its AlphaWorks group, and began shipping **Linux** systems and building ties to the Linux community. To the astonishment of all parties, IBM emerged as a friend of the hacker community . This lexicon includes a number of entries attributed to `IBM'; these derive from some rampantly unofficial jargon lists circulated within IBM's own beleaguered hacker underground.

ice n. [coined by Usenetter Tom Maddox, popularized by William Gibson's cyberpunk SF novels: a contrived acronym for `Intrusion Countermeasure Electronics'] Security software (in Gibson's novels, software that responds to intrusion by attempting to immobilize or even literally kill the intruder). Hence, `icebreaker': a program designed for cracking security on a system. Neither term is in serious use yet as of early 1999, but many hackers find the metaphor attractive, and each may develop a denotation in the future. In the meantime, the speculative usage could be confused with `ICE', an acronym for "in-circuit emulator". In ironic reference to the speculative usage, however, some hackers and computer scientists formed ICE (International Cryptographic Experiment) in 1994. ICE is a consortium to promote uniform international access to strong cryptography.

ID10T error /I-D-ten-T er'*r/ Synonym for **PEBKAC**, e.g. "The user is being an idiot". Tech-support people passing a problem report to someone higher up the food chain (and presumably better equipped to deal with idiots) may ask the user to convey that there seems to be an I-D-ten-T error. Users never twig.

IIRC // Common abbreviation for "If I Recall Correctly".

Internet n. The mother of all networks. First incarnated beginning in 1969 as the ARPANET, a U.S. Department of Defense research testbed. Though it has been widely believed that the goal was to develop a network architecture for military command-and-control that could survive disruptions up to and including nuclear war, this is a myth; in fact, ARPANET was conceived from the start as a way to get most economical use out of then-scarce large-computer resources. As originally imagined, ARPANET's major use would have been to support what is now called remote login and more sophisticated forms of distributed computing, but the infant technology of electronic mail quickly grew to dominate actual usage. Universities, research labs and defense contractors early discovered the Internet's potential as a medium of communication between *humans* and linked up in steadily increasing numbers, connecting together a quirky mix of academics, techies, hippies, SF fans, hackers, and anarchists. The roots of this lexicon lie in those early years. Over the next quarter-century the Internet evolved in many ways. The typical machine/OS combination moved from **DEC** **PDP-10**s and **PDP-20**s, running **TOPS-10** and **TOPS-20**, to PDP-11s and VAXes and Suns running **Unix**, and in the 1990s to Unix on Intel microcomputers. The Internet's protocols grew more capable, most notably in the move from NCP/IP to **TCP/IP** in 1982 and the implementation of Domain Name Service in 1983. It was around this time that people began referring to the collection of interconnected networks with ARPANET at its core as "the Internet". The ARPANET had a fairly strict set of participation guidelines - connected institutions had to be involved with a DOD-related research project. By the mid-80s, many of the organizations clamoring to join didn't fit this profile. In 1986, the National Science Foundation built NSFnet to open up access to its five regional supercomputing centers; NSFnet became the backbone of the Internet, replacing the original ARPANET pipes (which were formally shut down in 1990). Between 1990 and late 1994 the pieces of NSFnet were sold to major telecommunications companies until the Internet backbone had gone completely commercial. That year, 1994, was also the year the mainstream culture discovered the Internet. Once again, the **killer app** was not the anticipated one - rather, what caught the public imagination was the hypertext and multimedia features of the World Wide Web. Subsequently the Internet has seen off its only serious challenger (the OSI protocol stack favored by European telecom

monopolies) and is in the process of absorbing into itself many of the proprietary networks built during the second wave of wide-area networking after 1980. It is now (1996) a commonplace even in mainstream media to predict that a globally-extended Internet will become the key unifying communications technology of the next century.

Internet Death Penalty [Usenet] (often abbreviated IDP) The ultimate sanction against **spam**-emitting sites - complete shunning at the router level of all mail and packets, as well as Usenet messages, from the offending domain(s).

Internet Exploiter n. Another common name-of-insult for Internet Explorer, Microsoft's overweight Web Browser; more hostile than **Internet Exploder**. Reflects widespread hostility to Microsoft and a sense that it is seeking to hijack, monopolize, and corrupt the Internet.

job security n. When some piece of code is written in a particularly **obscure** fashion, and no good reason (such as time or space optimization) can be discovered, it is often said that the programmer was attempting to increase his job security (i.e., by making himself indispensable for maintenance). This sour joke seldom has to be said in full; if two hackers are looking over some code together and one points at a section and says "job security", the other one may just nod.

jolix /joh'liks/ n.,adj. 386BSD, the freeware port of the BSD Net/2 release to the Intel i386 architecture by Bill Jolitz, Lynne Greer Jolitz, and friends. Used to differentiate from BSDI's port based on the same source tape, which used to be called BSD/386 and is now BSD/OS.

kahuna /k*-hoo'n*/ n. [IBM: from the Hawaiian title for a shaman] Synonym for **wizard**, **guru**.

KIBO /ki:'boh/ 1. [acronym] Knowledge In, Bullshit Out. A summary of what happens whenever valid data is passed through an organization (or person) that deliberately or accidentally disregards or ignores its significance. Consider, for example, what an advertising campaign can do with a product's actual specifications. Compare **GIGO**; see also **SNAFU principle**. 2. James Parry <kibo@world.std.com>, a Usenetter infamous for various surrealist net.pranks and an uncanny, machine-assisted knack for joining any thread in which his nom de guerre is mentioned. He has a website at http://www.kibo.com/.

kiboze v. [Usenet] To **grep** the Usenet news for a string, especially with the intention of posting a follow-up. This activity was popularised by Kibo (see **KIBO**, sense 2).

lamer n. [prob. originated in skateboarder slang] 1. Synonym for **luser**, not used much by hackers but common among **warez d00dz**, crackers, and **phreaker**s. A person who downloads much, but who never uploads. (Also known as `leecher'). Oppose **elite**. Has the same connotations of self-conscious elitism that use of **luser** does among hackers. 2. Someone who tries to crack a BBS. 3. Someone who annoys the sysop or other BBS users - for instance, by posting lots of silly messages, uploading virus-ridden software, frequently dropping carrier, etc. Crackers also use it to refer to cracker **wannabee**s. In phreak culture, a lamer is one who scams codes off others rather than doing cracks or really understanding the fundamental concepts. In **warez d00dz** culture, where the ability to wave around cracked commercial software within days of (or before) release to the commercial market is much esteemed, the lamer might try to upload garbage or shareware or something incredibly old (old in this context is read as a few years to anything older than 3 days). `Lamer' is also much used in the IRC world in a similar sense to the above.

language lawyer n. A person, usually an experienced or senior software engineer, who is intimately familiar with many or most of the numerous restrictions and features (both useful and esoteric) applicable to one or more computer programming languages. A language lawyer is distinguished by the ability to show you the five sentences scattered through a 200-plus-page manual that together imply the answer to your question "if only you had thought to look there". Compare **wizard**, **legal**, **legalese**.

larval stage n. Describes a period of monomaniacal concentration on coding apparently passed through by all fledgling hackers. Common symptoms include the perpetration of more than one 36-hour **hacking run** in a given week; neglect of all other activities

including usual basics like food, sleep, and personal hygiene; and a chronic case of advanced bleary-eye. Can last from 6 months to 2 years, the apparent median being around 18 months. A few so afflicted never resume a more `normal' life, but the ordeal seems to be necessary to produce really wizardly (as opposed to merely competent) programmers. See also **wannabee**. A less protracted and intense version of larval stage (typically lasting about a month) may recur when one is learning a new **OS** or programming language.

laser chicken n. Kung Pao Chicken, a standard Chinese dish containing chicken, peanuts, and hot red peppers in a spicy pepper-oil sauce. Many hackers call it `laser chicken' for two reasons: It can **zap** you just like a laser, and the sauce has a red color reminiscent of some laser beams. The dish has also been called `gunpowder chicken'. In a variation on this theme, it is reported that some Australian hackers have redesignated the common dish `lemon chicken' as `Chernobyl Chicken'. The name is derived from the color of the sauce, which is considered bright enough to glow in the dark (as, mythically, do some of the inhabitants of Chernobyl).

leech n. Among BBS types, crackers and **warez d00dz**, one who consumes knowledge without generating new software, cracks, or techniques. BBS culture specifically defines a leech as someone who downloads files with few or no uploads in return, and who does not contribute to the message section. Cracker culture extends this definition to someone (a **lamer**, usually) who constantly presses informed sources for information and/or assistance, but has nothing to contribute.

lexer /lek'sr/ n. Common hacker shorthand for `lexical analyzer', the input-tokenizing stage in the parser for a language (the part that breaks it into word-like pieces). "Some C lexers get confused by the old-style compound ops like =-."

lexiphage /lek'si-fayj`/ n. A notorious word **chomper** on ITS. See **bagbiter**. This program would draw on a selected victim's bitmapped terminal the words "THE BAG" in ornate letters, followed a pair of jaws biting pieces of it off.

like kicking dead whales down the beach adj. Describes a slow, difficult, and disgusting process. First popularized by a famous quote about the difficulty of getting work done under one of IBM's mainframe OSes. "Well, you *could* write a C compiler in COBOL, but it would be like kicking dead whales down the beach." See also **fear and loathing**

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lithium lick n. [NeXT] Steve Jobs. Employees who have gotten too much attention from their esteemed founder are said to have `lithium lick' when they begin to show signs of Jobsian fervor and repeat the most recent catch phrases in normal conversation -- for example, "It just works, right out of the box!"

logic bomb n. Code surreptitiously inserted into an application or OS that causes it to perform some destructive or security-compromising activity whenever specified conditions are met.

loser n. An unexpectedly bad situation, program, programmer, or person. Someone who habitually loses. (Even winners can lose occasionally.) Someone who knows not and knows not that he knows not. Emphatic forms are `real loser', `total loser', and `complete loser' (but not **`moby loser', which would be a contradiction in terms).

lossage /los'*j/ n. [very common] The result of a bug or malfunction. This is a mass or collective noun. "What a loss!" and "What lossage!" are nearly synonymous. The former is slightly more particular to the speaker's present circumstances; the latter implies a continuing **lose** of which the speaker is currently a victim. Thus (for example) a temporary hardware failure is a loss, but bugs in an important tool (like a compiler) are serious lossage.

lost in the underflow adj. Too small to be worth considering; more specifically, small beyond the limits of accuracy or measurement. This is a reference to `floating underflow', a condition that can occur when a floating-point arithmetic processor tries to handle quantities smaller than its limit of magnitude. It is also a pun on `undertow' (a kind of fast, cold current that sometimes runs just offshore and can be dangerous to swimmers). "Well, sure, photon pressure from the stadium lights alters the path of a thrown baseball, but that effect gets lost in the underflow." One of the `silent majority' in a electronic forum; one who posts occasionally or not at all but is known to read the group's postings regularly. This term is not pejorative and indeed is casually used reflexively: "Oh, I'm just lurking." Often used in `the lurkers', the hypothetical audience for the group's **flamage**-emitting regulars. When a lurker speaks up for the first time, this is called `delurking'. The creator of the popular science-fiction TV series "Babylon 5" has ties to SF fandom and the hacker culture. In that series, the use of the term `lurker' for a homeless or displaced person is a conscious reference to the jargon term.

machoflops /mach'oh-flops/ n. [pun on `megaflops', a coinage for `millions of FLoating-point Operations Per Second'] Refers to artificially inflated performance figures often quoted by computer manufacturers. Real applications are lucky to get half the quoted speed

mailing list n. (often shortened in context to `list') 1. An **email** address that is an alias (or **macro**, though that word is never used in this connection) for many other email addresses. Some mailing lists are simple `reflectors', redirecting mail sent to them to the list of recipients. Others are filtered by humans or programs of varying degrees of sophistication; lists filtered by humans are said to be `moderated'. 2. The people who receive your email when you send it to such an address. Mailing lists are one of the primary forms of hacker interaction, along with **Usenet**. They predate Usenet, having originated with the first UUCP and ARPANET connections. They are often used for private information-sharing on topics that would be too specialized for or inappropriate to public Usenet groups. Though some of these maintain almost purely technical content (such as the Internet Engineering Task Force mailing list), others (like the `sf-lovers' list maintained for many years by Saul Jaffe) are recreational, and many are purely social. Perhaps the most infamous of the social lists was the eccentric *bandykin* distribution; its latter-day progeny, *lectroids* and *tanstaafl*, still include a number of the oddest and most interesting people in hackerdom. Mailing lists are easy to create and (unlike Usenet) don't tie up a significant amount of machine resources (until they get very large, at which point they can become interesting torture tests for mail software). Thus, they are often created temporarily by working groups, the members of which can then collaborate on a project without ever needing to meet face-to-face. Much of the material in this lexicon was criticized and polished on just such a mailing list (called `jargon-friends'), which included all the co-authors of Steele-1983.

mail storm n. [from **broadcast storm**, influenced by `maelstrom'] What often happens when a machine with an Internet connection and active users re-connects after extended downtime -- a flood of incoming mail that brings the machine to its knees.

meatspace /meet'spays/ n. The physical world, where the meat lives - as opposed to **cyberspace**. Hackers are actually more willing to use this term than `cyberspace', because it's not speculative - we already have a running meatspace implementation (the universe).

memetics /me-met'iks/ n. [from **meme**] The study of memes. As of early 1999, this is still an extremely informal and speculative endeavor, though the first steps towards at least statistical rigor have been made by H. Keith Henson and others. Memetics is a popular topic for speculation among hackers, who like to see themselves as the architects of the new information ecologies in which memes live and replicate.

memory leak n. An error in a program's dynamic-store allocation logic that causes it to fail to reclaim discarded memory, leading to eventual collapse due to memory exhaustion. Also (esp. at CMU) called **core leak**. These problems were severe on older machines with small, fixed-size address spaces, and special "leak detection" tools were commonly written to root them out. With the advent of virtual memory, it is unfortunately easier to be sloppy about wasting a bit of memory (although when you run out of memory on a VM machine, it means you've got a *real* leak!).

menuitis /men`yoo-i:'tis/ n. Notional disease suffered by software with an obsessively simple-minded menu interface and no escape. Hackers find this intensely irritating and much prefer the flexibility of command-line or language-style interfaces, especially those customizable via macros or a special-purpose language in which one can encode useful hacks.

MicroDroid n. [Usenet] A Microsoft employee, esp. one who posts to various operating-system advocacy newsgroups. MicroDroids post follow-ups to any messages critical of Microsoft's operating systems, and often end up sounding like visiting Mormon missionaries.

MUD /muhd/ n. [acronym, Multi-User Dungeon; alt. Multi-User Dimension] 1. A class of **virtual reality** experiments accessible via the Internet. These are real-time chat forums with structure; they have multiple `locations' like an adventure game, and may include combat, traps, puzzles, magic, a simple economic system, and the capability for characters to build more structure onto the database that represents the existing world. 2. vi. To play a MUD. The acronym MUD is often lowercased and/or verbed; thus, one may speak of `going mudding', etc. Historically, MUDs (and their more recent progeny with names of MU- form) derive from a hack by Richard Bartle and Roy Trubshaw on the University of Essex's DEC-10 in the early 1980s; descendants of that game still exist today and are sometimes generically called *BartleMUD*s. There is a widespread myth (repeated, unfortunately, by earlier versions of this lexicon) that the name MUD was trademarked to the commercial MUD run by Bartle on British Telecom (the motto: "You haven't *lived* 'til you've *died* on MUD!"); however, this is false -- Richard Bartle explicitly placed `MUD' in the public domain in 1985. BT was upset at this, as they had already printed trademark claims on some maps and posters, which were released and created the myth. Students on the European academic networks quickly improved on the MUD concept, spawning several new MUDs (VAXMUD, AberMUD, LPMUD). Many of these had associated bulletin-board systems for social interaction. Because these had an image as `research' they often survived administrative hostility to BBSs in general. This, together with the fact that Usenet feeds were often spotty and difficult to get in the U.K., made the MUDs major foci of hackish social interaction there. AberMUD and other variants crossed the Atlantic around 1988 and quickly gained popularity in the U.S.; they became nuclei for large hacker communities with only loose ties to traditional hackerdom (some observers see parallels with the growth of Usenet in the early 1980s). The second wave of MUDs (TinyMUD and variants) tended to emphasize social interaction, puzzles, and cooperative world-building as opposed to combat and competition (in writing, these social MUDs are sometimes referred to as `MU*', with `MUD' implicitly reserved for the more game-oriented ones). By 1991, over 50% of MUD sites were of a third major variety, LPMUD, which synthesizes the combat/puzzle aspects of AberMUD and older systems with the extensibility of TinyMud. In 1996 the cutting edge of the technology is Pavel Curtis's MOO, even more extensible using a built-in object-oriented language. The trend toward greater programmability and flexibility will doubtless continue. The state of the art in MUD design is still moving very rapidly, with new simulation designs appearing (seemingly) every month. Around 1991 there was an unsuccessful movement to deprecate the term **MUD** itself, as newer designs exhibit an exploding variety of names corresponding to the different simulation styles being explored. It survived.

nastygram /nas'tee-gram/ n. 1. A protocol packet or item of email (the latter is also called a **letterbomb**) that takes advantage of misfeatures or security holes on the target system to do untoward things. 2. Disapproving mail, esp. from a **net.god**, pursuant to a violation of **netiquette** or a complaint about failure to correct some mail- or news-transmission problem. Compare **shitogram**, **mailbomb**. 3. A status report from an unhappy, and probably picky, customer. "What'd Corporate say in today's nastygram?" 4. [deprecated] An error reply by mail from a **daemon**; in particular, a **bounce message**.

neophilia /nee`oh-fil'-ee-*/ n. The trait of being excited and pleased by novelty. Common among most hackers, SF fans, and members of several other connected leading-edge subcultures, including the pro-technology `Whole Earth' wing of the ecology movement, space activists, many members of Mensa, and the Discordian/neo-pagan underground. All these groups overlap heavily and (where evidence is available) seem to share characteristic hacker tropisms for science fiction, **music**, and **oriental food**. The opposite tendency is `neophobia'.

net.god /net god/ n. Accolade referring to anyone who satisfies some combination of the following conditions: has been visible on Usenet for more than 5 years, ran one of the original backbone sites, moderated an important newsgroup, wrote news software,

or knows Gene, Mark, Rick, Mel, Henry, Chuq, and Greg personally. See **demigod**. Net.goddesses such as Rissa or the Slime Sisters have (so far) been distinguished more by personality than by authority.

netiquette /net'ee-ket/ or /net'i-ket/ n. [portmanteau, network + etiquette] The conventions of politeness recognized on **Usenet**, such as avoidance of cross-posting to inappropriate groups and refraining from commercial pluggery outside the *biz* groups.

newbie /n[y]oo'bee/ n. [very common; orig. from British public-school and military slang variant of `new boy'] A Usenet neophyte. This term surfaced in the **newsgroup** *talk.bizarre* but is now in wide use. Criteria for being considered a newbie vary wildly; a person can be called a newbie in one newsgroup while remaining a respected regular in another. The label `newbie' is sometimes applied as a serious insult to a person who has been around Usenet for a long time but who carefully hides all evidence of having a clue.

nyetwork /nyet'werk/ n. [from Russian `nyet' = no] A network, when it is acting **flaky** or is **down**. Compare **notwork**.

ogg /og/ v. [CMU] 1. In the multi-player space combat game Netrek, to execute kamikaze attacks against enemy ships which are carrying armies or occupying strategic positions. Named during a game in which one of the players repeatedly used the tactic while playing Orion ship G, showing up in the player list as "Og". This trick has been roundly denounced by those who would return to the good old days when the tactic of dogfighting was dominant, but as Sun Tzu wrote, "What is of supreme importance in war is to attack the enemy's strategy, not his tactics." However, the traditional answer to the newbie question "What does ogg mean?" is just "Pick up some armies and I'll show you." 2. In other games, to forcefully attack an opponent with the expectation that the resources expended will be renewed faster than the opponent will be able to regain his previous advantage. Taken more seriously as a tactic since it has gained a simple name. 3. To do anything forcefully, possibly without consideration of the drain on future resources. "I guess I'd better go ogg the problem set that's due tomorrow." "Whoops! I looked down at the map for a sec and almost ogged that oncoming car."

old fart n. Tribal elder. A title self-assumed with remarkable frequency by (esp.) Usenetters who have been programming for more than about 25 years; often appears in **sig block**s attached to Jargon File contributions of great archeological significance. This is a term of insult in the second or third person but one of pride in first person.

OTOH // [Usenet; very common] On The Other Hand.

page out vi. [MIT] 1. To become unaware of one's surroundings temporarily, due to daydreaming or preoccupation. "Can you repeat that? I paged out for a minute."**person of no account** n. [University of California at Santa Cruz] Used when referring to a person with no **network address**, frequently to forestall confusion. Most often as part of an introduction: "This is Bill, a person of no account, but he used to be bill@random.com".

phage n. A program that modifies other programs or databases in unauthorized ways; esp. one that propagates a **virus** or **Trojan horse**.

plain-ASCII /playn-as'kee/ Syn. **flat-ASCII**.

plug-and-pray adj.,vi. Parody of the techspeak term `plug-and-play', describing a PC peripheral card which is claimed to have no need for hardware configuration via DIP switches, and which should be work as soon as it is inserted in the PC. Unfortunately, even the PCI bus is not up to pulling this off reliably, and people who have to do installation or troubleshoot PCs soon find themselves longing for the DIP switches.

pod n. [allegedly from abbreviation POD for `Prince Of Darkness'] A Diablo 630 (or, latterly, any letter-quality impact printer). From the DEC-10 PODTYPE program used to feed formatted text to it. Not to be confused with **P.O.D.**.

progasm /proh'gaz-m/ n. [University of Wisconsin] The euphoria experienced upon the completion of a program or other computer-related project.

rasterbation n. [portmanteau: raster + masturbation] The gratuituous use of comuputer generated images and effects in movies and graphic art which would have been better without them. Especially employed as a term of abuse by Photoshop/GIMP users and graphic artists

rat belt n. A cable tie, esp. the sawtoothed, self-locking plastic kind that you can remove only by cutting (as opposed to a random twist of wire or a twist tie or one of those humongous metal clip frobs). Small cable ties are `mouse belts'.

read-only user n. Describes a **luser** who uses computers almost exclusively for reading Usenet, bulletin boards, and/or email, rather than writing code or purveying useful information.

rot13 /rot ther'teen/ n.,v. [Usenet: from `rotate alphabet 13 places'] The simple Caesar-cypher encryption that replaces each English letter with the one 13 places forward or back along the alphabet, so that "The butler did it!" becomes "Gur ohgyre qvq vg!" Most Usenet news reading and posting programs include a rot13 feature. It is used to enclose the text in a sealed wrapper that the reader must choose to open -- e.g., for posting things that might offend some readers, or **spoiler**s. A major advantage of rot13 over rot(N) for other N is that it is self-inverse, so the same code can be used for encoding and decoding. See also **spoiler space**, which has partly displaced rot13 since non-Unix-based newsreaders became common

rude [WPI] adj. 1. (of a program) Badly written. 2. Functionally poor, e.g., a program that is very difficult to use because of gratuitously poor (random?) design decisions. Oppose **cuspy**. 3. Anything that manipulates a shared resource without regard for its other users in such a way as to cause a (non-fatal) problem. Examples: programs that change tty modes without resetting them on exit, or windowing programs that keep forcing themselves to the top of the window stack.

samizdat /sahm-iz-daht/ n. [Russian, literally "self publishing"] The process of disseminating documentation via underground channels. Originally referred to underground duplication and distribution of banned books in the Soviet Union; now refers by obvious extension to any less-than-official promulgation of textual material, esp. rare, obsolete, or never-formally-published computer documentation. Samizdat is obviously much easier when one has access to high-bandwidth networks and high-quality laser printers. Note that samizdat is properly used only with respect to documents which contain needed information (see also **hacker ethic**) but which are for some reason otherwise unavailable, but *not* in the context of documents which are available through normal channels, for which unauthorized duplication would be unethical copyright violation.

samurai n. A hacker who hires out for legal cracking jobs, snooping for factions in corporate political fights, lawyers pursuing privacy-rights and First Amendment cases, and other parties with legitimate reasons to need an electronic locksmith. In 1991, mainstream media reported the existence of a loose-knit culture of samurai that meets electronically on BBS systems, mostly bright teenagers with personal micros; they have modeled themselves explicitly on the historical samurai of Japan and on the "net cowboys" of William Gibson's **cyberpunk** novels. Those interviewed claim to adhere to a rigid ethic of loyalty to their employers and to disdain the vandalism and theft practiced by criminal crackers as beneath them and contrary to the hacker ethic; some quote Miyamoto Musashi's "Book of Five Rings", a classic of historical samurai doctrine, in support of these principles.

screwage /skroo'*j/ n. Like **lossage** but connotes that the failure is due to a designed-in misfeature rather than a simple inadequacy or a mere bug.

September that never ended. All time since September 1993. One of the seasonal rhythms of the Usenet used to be the annual September influx of clueless newbies who, lacking any sense of **netiquette**, made a general nuisance of themselves. This coincided with people starting college, getting their first internet accounts, and plunging in without bothering to learn what was acceptable. These relatively small drafts of newbies could be assimilated within a few months. But in September 1993, AOL users became able to post to Usenet, nearly overwhelming the old-timers' capacity to acculturate them; to those who nostalgically recall the period before hand, this triggered an inexorable decline in the quality of discussions on newsgroups.

shambolic link /sham-bol'ik link/ n. A Unix symbolic link, particularly when it confuses you, points to nothing at all, or results in your ending up in some completely unexpected part of the filesystem....

sharchive /shar'ki:v/ n. [Unix and Usenet; from /bin/sh archive] A **flatten**ed representation of a set of one or more files, with the unique property that it can be unflattened (the original files restored) by feeding it through a standard Unix shell; thus, a sharchive can be distributed to anyone running Unix, and no special unpacking software is required. Sharchives are also intriguing in that they are typically created by shell scripts; the script that produces sharchives is thus a script which produces self-unpacking scripts, which may themselves contain scripts. (The downsides of sharchives are that they are an ideal venue for **Trojan horse** attacks and that, for recipients not running Unix, no simple un-sharchiving program is possible; sharchives can and do make use of arbitrarily-powerful shell features.) Sharchives are also commonly referred to as `shar files' after the name of the most common program for generating them.

shelfware /shelf'weir/ n. Software purchased on a whim (by an individual user) or in accordance with policy (by a corporation or government agency), but not actually required for any particular use. Therefore, it often ends up on some shelf.

signal-to-noise ratio [from analog electronics] n. Used by hackers in a generalization of its technical meaning. `Signal' refers to useful information conveyed by some communications medium, and `noise' to anything else on that medium. Hence a low ratio implies that it is not worth paying attention to the medium in question. Figures for such metaphorical ratios are never given. The term is most often applied to **Usenet** newsgroups during **flame war**s.

sitename /si:t'naym/ n. [Unix/Internet] The unique electronic name of a computer system, used to identify it in UUCP mail, Usenet, or other forms of electronic information interchange. The folklore interest of sitenames stems from the creativity and humor they often display. Interpreting a sitename is not unlike interpreting a vanity license plate; one has to mentally unpack it, allowing for mono-case and length restrictions and the lack of whitespace. Hacker tradition deprecates dull, institutional-sounding names in favor of punchy, humorous, and clever coinages (except that it is considered appropriate for the official public gateway machine of an organization to bear the organization's name or acronym). Mythological references, cartoon characters, animal names, and allusions to SF or fantasy literature are probably the most popular sources for sitenames (in roughly descending order). The obligatory comment when discussing these is Harris's Lament: "All the good ones are taken!"

SNAFU principle /sna'foo prin'si-pl/ n.

[from a WWII Army acronym for `Situation Normal, All Fucked Up'] "True communication is possible only between equals, because inferiors are more consistently rewarded for telling their superiors pleasant lies than for telling the truth." -- a central tenet of **Discordianism**, often invoked by hackers to explain why authoritarian hierarchies screw up so reliably and systematically. The effect of the SNAFU principle is a progressive disconnection of decision-makers from reality. This lightly adapted version of a fable dating back to the early 1960s illustrates the phenomenon perfectly:

In the beginning was the plan,
and then the specification;
And the plan was without form,
and the specification was void.

And darkness
was on the faces of the implementors thereof;
And they spake unto their leader,
saying:

"It is a crock of shit,
and smells as of a sewer."

And the leader took pity on them,
and spoke to the project leader:
"It is a crock of excrement,
and none may abide the odor thereof."

And the project leader
spake unto his section head, saying:
"It is a container of excrement,
and it is very strong, such that none may abide it."

The section head then hurried to his department manager,
and informed him thus:
"It is a vessel of fertilizer,
and none may abide its strength."

The department manager carried these words
to his general manager,
and spoke unto him
saying:
"It containeth that which aideth the growth of plants,
and it is very strong."

And so it was that the general manager rejoiced
and delivered the good news unto the Vice President.
"It promoteth growth,
and it is very powerful."

The Vice President rushed to the President's side,
and joyously exclaimed:
"This powerful new software product
will promote the growth of the company!"

And the President looked upon the product,
and saw that it was very good.

After the subsequent and inevitable disaster, the **suit**s protect themselves by saying "I was misinformed!", and the implementors are demoted or fired.

snail-mail n. Paper mail, as opposed to electronic. Sometimes written as the single word `SnailMail'. One's postal address is, correspondingly, a `snail address'. Derives from earlier coinage `USnail' (from `U.S. Mail'), for which there have even been parody posters and stamps made. Also (less commonly) called `P-mail', from `paper mail' or `physical mail'. Oppose **email**.

snivitz /sniv'itz/ n. A hiccup in hardware or software; a small, transient problem of unknown origin (less serious than a **snark**).

source of all good bits n. A person from whom (or a place from which) useful information may be obtained. If you need to know about a program, a **guru** might be

the source of all good bits. The title is often applied to a particularly competent secretary.

spam vt.,vi.,n. [from "Monty Python's Flying Circus"] 1. To crash a program by overrunning a fixed-size buffer with excessively large input data. See also **buffer overflow**, **overrun screw**, **smash the stack**. 2. To cause a newsgroup to be flooded with irrelevant or inappropriate messages. You can spam a newsgroup with as little as one well- (or ill-) planned message (e.g. asking "What do you think of abortion?" on *soc.women*). This is often done with **cross-post**ing (e.g. any message which is crossposted to *alt.rush-limbaugh* and *alt.politics.homosexuality* will almost inevitably spam both groups). This overlaps with **troll** behavior; the latter more specific term has become more common. 3. To send many identical or nearly-identical messages separately to a large number of Usenet newsgroups. This is more specifically called `ECP', Excessive Cross-Posting. This is one sure way to infuriate nearly everyone on the Net. See also **velveeta** and **jello**. 4. To bombard a newsgroup with multiple copies of a message. This is more specifically called `EMP', Excessive Multi-Posting. 5. To mass-mail unrequested identical or nearly-identical email messages, particularly those containing advertising. Especially used when the mail addresses have been culled from network traffic or databases without the consent of the recipients. Synonyms include **UCE**, **UBE**. 6. Any large, annoying, quantity of output. For instance, someone on IRC who walks away from their screen and comes back to find 200 lines of text might say "Oh no, spam".

The later definitions have become much more prevalent as the Internet has opened up to non-techies, and to most people senses 3 4 and 5 are now primary. All three behaviors are considered abuse of the net, and are almost universally grounds for termination of the originator's email account or network connection. In these senses the term `spam' has gone mainstream, though without its original sense or folkloric freight - there is apparently a widespread myth among **luser**s that "spamming" is what happens when you dump cans of Spam into a revolving fan.

spamvertize v. To advertise using **spam**. Pejorative.

spod n. [UK] 1. A lower form of life found on **talker system**s and **MUD**s. The spod has few friends in **RL** and uses talkers instead, finding communication easier and preferable over the net. He has all the negative traits of the **computer geek** without having any interest in computers per se. Lacking any knowledge of or interest in how networks work, and considering his access a God-given right, he is a major irritant to sysadmins, clogging up lines in order to reach new MUDs, following passed-on instructions on how to sneak his way onto Internet ("Wow! It's in America!") and complaining when he is not allowed to use busy routes. A true spod will start any conversation with "Are you male or female?" (and follow it up with "Got any good numbers/IDs/passwords?") and will not talk to someone physically present in the same terminal room until they log onto the same machine that he is using and enter talk mode. Compare **newbie**, **tourist**, **weenie**, **twink**, **terminal junkie**, **warez d00dz**. 2. A **backronym** for "Sole Purpose, Obtain a Degree"; according to some self-described spods, this term is used by indifferent students to condemn their harder-working fellows. Compare the defiant adoption of the term `geek' in the mid-1990s by people who would previously have been stigmatized by it (see **computer geek**). 3. [obs.] An ordinary person; a **random**. This is the meaning with which the term was coined, but the inventor informs us he has himself accepted sense 1.

spungle n. [Durham, UK; portmanteau, **spangle** + bungle] A **spangle** of no actual usefulness. Example: Roger the Bent Paperclip in Microsoft Word '98. A spungle's only virtue is that it looks pretty, unless you find creeping featurism ugly.

squirrelcide n. [common on Usenet's *comp.risks* newsgroup.] (alt. `squirrelicide') What all too frequently happens when a squirrel decides to exercise its species's unfortunate penchant for shorting out power lines with their little furry bodies. Result: one dead squirrel, one down computer installation. In this situation, the computer system is said to have been squirrelcided.

state n. 1. Condition, situation. "What's the state of your latest hack?" "It's winning away." "The system tried to read and write the disk simultaneously and got into a totally **wedged** state." The standard question "What's your state?" means "What are you doing?" or "What are you about to do?" Typical answers are "about to gronk out", or "hungry". Another standard question is "What's the state of the world?", meaning "What's new?" or "What's going on?". The more terse and humorous way of asking these questions would be "State-p?". Another way of phrasing the first question under sense 1 would be "state-p latest hack?". 2. Information being maintained in non-permanent memory (electronic or human).

superloser n. [Unix] A superuser with no clue - someone with root privileges on a Unix system and no idea what he/she is doing, the moral equivalent of a three-year-old with an unsafetied Uzi. Anyone who thinks this is an uncommon situation reckons without the territorial urges of **management**.

sync /sink/ n., vi. (var. `synch') 1. To synchronize, to bring into synchronization. 2. [techspeak] To force all pending I/O to the disk; see **flush**, sense 2. 3. More generally, to force a number of competing processes or agents to a state that would be `safe' if the system were to crash; thus, to checkpoint (in the database-theory sense).

sysape /sys'ayp/ n. A rather derogatory term for a computer operator; a play on **sysop** common at sites that use the banana hierarchy of problem complexity

sysop /sis'op/ n. [esp. in the BBS world] The operator (and usually the owner) of a bulletin-board system. A common neophyte mistake on **FidoNet** is to address a message to `sysop' in an international **echo**, thus sending it to hundreds of sysops around the world.

TANSTAAFL /tan'stah-fl/ [acronym, from Robert Heinlein's classic "The Moon is a Harsh Mistress".] "There Ain't No Such Thing As A Free Lunch", often invoked when someone is balking at the prospect of using an unpleasantly **heavyweight** technique, or at the poor quality of some piece of software, or at the **signal-to-noise ratio** of unmoderated Usenet newsgroups. "What? Don't tell me I have to implement a database back end to get my address book program to work!" "Well, TANSTAAFL you know." This phrase owes some of its popularity to the high concentration of science-fiction fans and political libertarians in hackerdom (see **Appendix B** for discussion).

tee n.,vt. [Purdue] A carbon copy of an electronic transmission. "Oh, you're sending him the **bits** to that? Slap on a tee for me." From the Unix command `tee(1)`, itself named after a pipe fitting (see **plumbing**). Can also mean `save one for me', as in "Tee a slice for me!" Also spelled `T'.

teledildonics /tel`*-dil-do'-niks/ n. Sex in a computer simulated virtual reality, esp. computer-mediated sexual interaction between the **VR** presences of two humans. This practice is not yet possible except in the rather limited form of erotic conversation on **MUD**s and the like. The term, however, is widely recognized in the VR community as a **ha ha only serious** projection of things to come. "When we can sustain a multi-sensory surround good enough for teledildonics, *then* we'll know we're getting somewhere."

tenured graduate student n. One who has been in graduate school for 10 years (the usual maximum is 5 or 6): a `ten-yeared' student (get it?). Actually, this term may be used of any grad student beginning in his seventh year. Students don't really get tenure,

of course, the way professors do, but a tenth-year graduate student has probably been around the university longer than any untenured professor.

terminal brain death n. The extreme form of **terminal illness** (sense 1). What someone who has obviously been hacking continuously for far too long is said to be suffering from.

thinko /thing'koh/ n. [by analogy with `typo'] A momentary, correctable glitch in mental processing, especially one involving recall of information learned by rote; a bubble in the stream of consciousness. Syn. **braino**; see also **brain fart**.

throwaway account n. 1. An inexpensive Internet account purchased on a legitimate **ISP** for the the sole purpose of spewing **spam**. 2. An inexpensive Internet account obtained for the sole purpose of doing something which requires a valid email address but being able to ignore spam since the user will not look at the account again.

tip of the ice-cube n. // [IBM] The visible part of something small and insignificant. Used as an ironic comment in situations where `tip of the iceberg' might be appropriate if the subject were at all important.

TLA /T-L-A/ n. [Three-Letter Acronym] 1. Self-describing abbreviation for a species with which computing terminology is infested. 2. Any confusing acronym. Examples include MCA, FTP, SNA, CPU, MMU, SCCS, DMU, FPU, NNTP, TLA. People who like this looser usage argue that not all TLAs have three letters, just as not all four-letter words have four letters. One also hears of `ETLA' (Extended Three-Letter Acronym, pronounced /ee tee el ay/) being used to describe four-letter acronyms. The term `SFLA' (Stupid Four-Letter Acronym) has also been reported. The self-effacing phrase "TDM TLA" (Too Damn Many...) is often used to bemoan the plethora of TLAs in use. In 1989, a random of the journalistic persuasion asked hacker Paul Boutin "What do you think will be the biggest problem in computing in the 90s?" Paul's straight-faced response: "There are only 17,000 three-letter acronyms." (To be exact, there are 26^3 = 17,576.) There is probably some karmic justice in the fact that Paul Boutin subsequently became a journalist.

TMTOWTDI There's More Than One Way To Do It. This abbreviation of the official motto of **Perl** is frequently used on newsgroups and mailing lists related to that language.

tourist n. 1. [ITS] A guest on the system, especially one who generally logs in over a network from a remote location for **comm mode**, email, games, and other trivial purposes. One step below **luser**. ITS hackers often used to spell this **turist**, perhaps by some sort of tenuous analogy with **luser** (this usage may also have expressed the ITS culture's penchant for six-letterisms, and-or been some sort of tribute to Alan Turing). 2. [IRC] An **IRC** user who goes from channel to channel without saying anything;

treeware /tree'weir/ n. Printouts, books, and other information media made from pulped dead trees.

Troll-O-Meter n. Common Usenet jargon for a notional instrument used to measure the quality of a Usenet **troll**. "Come on, everyone! If the above doesn't set off the Troll-O-Meter, we're going to have to get him to run around with a big blinking sign saying `I am a troll, I'm only in it for the controversy and flames' and shooting random gobs of Jell-O(tm) at us before the point is proven." Mentions of the Troll-O-Meter are often accompanied by an ASCII picture of an arrow pointing at a numeric scale.

true-hacker n. [analogy with `trufan' from SF fandom] One who exemplifies the primary values of hacker culture, esp. competence and helpfulness to other hackers. A high compliment. "He spent 6 hours helping me bring up UUCP and netnews on my FOOBAR 4000 last week -- manifestly the act of a true-hacker."

turist /too'rist/ n. Var. sp. of **tourist**, q.v. Also in adjectival form, `turistic'. Poss. influenced by **luser** and `Turing'.

Unix brain damage n. Something that has to be done to break a network program (typically a mailer) on a non-Unix system so that it will interoperate with Unix systems. The hack may qualify as `Unix brain damage' if the program conforms to published standards and the Unix program in question does not. Unix brain damage happens because it is much easier for other (minority) systems to change their ways to match non-conforming behavior than it is to change all the hundreds of thousands of Unix systems out there. An example of Unix brain damage is a **kluge** in a mail server to recognize bare line feed (the Unix newline) as an equivalent form to the Internet standard newline, which is a carriage return followed by a line feed. Such things can make even a hardened **jock** weep.

user-friendly adj. Programmer-hostile. Generally used by hackers in a critical tone, to describe systems that hold the user's hand so obsessively that they make it painful for the more experienced and knowledgeable to get any work done.

vaporware /vay'pr-weir/ n. Products announced far in advance of any release (which may or may not actually take place).

vaston n. [Durham, UK] The unit of `load average'. A measure of how much work a computer is doing. A meter displaying this as a function of time is known as a `vastometer'. First used in during a computing practical in December 1996. **VAX** /vaks/ n. 1. [from Virtual Address eXtension] The most successful minicomputer design in industry history, possibly excepting its immediate ancestor, the PDP-11. Between its release in 1978 and its eclipse by **killer micro**s after about 1986, the VAX was probably the hacker's favorite machine of them all, esp. after the 1982 release of 4.2 BSD Unix (see **BSD**). Esp. noted for its large, assembler-programmer-friendly instruction set -- an asset that became a liability after the RISC revolution. 2. A major brand of vacuum cleaner in Britain. Cited here because its sales pitch, "Nothing sucks like a VAX!" became a sort of battle-cry of RISC partisans. It is even sometimes claimed that DEC actually entered a cross-licensing deal with the vacuum-Vax people that allowed them to market VAX computers in the U.K. in return for not challenging the vacuum cleaner trademark in the U.S. A rival brand actually pioneered the slogan: its original form was "Nothing sucks like Electrolux". It has apparently become a classic example (used in advertising textbooks) of the perils of not knowing the local idiom. But in 1996, the press manager of Electrolux AB, while confirming that the company used this slogan in the late 1960s, also tells us that their marketing people were fully aware of the possible double entendre and intended it to gain attention. And gain attention it did - the VAX-vacuum-cleaner people thought the slogan a sufficiently good idea to copy it. Several British hackers report that VAX's promotions used it in 1986-1987, and we have one report from a New Zealander that the infamous slogan surfaced there in TV ads for the product in 1992.

VAXectomy /vak-sek't*-mee/ n. [by analogy with `vasectomy'] A VAX removal. **DEC**'s Microvaxen, especially, are much slower than newer RISC-based workstations such as the SPARC. Thus, if one knows one has a replacement coming, VAX removal can be cause for celebration.

virtual beer n. Praise or thanks. Used universally in the Linux community. Originally this term signified cash, after a famous incident in which some some Britishers who wanted to buy Linus a beer and sent him money to Finland to do so.

VR // [MUD] n. On-line abbrev for **virtual reality**, as opposed to **RL**.

vulture capitalist n.Pejorative hackerism for `venture capitalist', deriving from the common practice of pushing contracts that deprive inventors of control over their own innovations and most of the money they ought to have made from them.

W2K bug [from `Y2K bug' for the Year 2000 problem] The upcoming deployment of Microsoft's Windows 2000 operating system, which hackers generally expect will be among the worst train wrecks in the history of software engineering. Such is the power of Microsoft marketing, however, that it is also expected this will not become obvious until it has incurred hundreds of millions of dollars in downtime and lost opportunity costs.

wannabee /won'*-bee/ n. (also, more plausibly, spelled `wannabe') [from a term recently used to describe Madonna fans who dress, talk, and act like their idol; prob. originally from biker slang] A would-be **hacker**. The connotations of this term differ sharply depending on the age and exposure of the subject. Used of a person who is in or might be entering **larval stage**, it is semi-approving; such wannabees can be annoying but most hackers remember that they, too, were once such creatures. When used of any professional programmer, CS academic, writer, or **suit**, it is derogatory, implying that said person is trying to cuddle up to the hacker mystique but doesn't, fundamentally, have a prayer of understanding what it is all about. Overuse of terms from this lexicon is often an indication of the **wannabee** nature. Historical note: The wannabee phenomenon has a slightly different flavor now (1993) than it did ten or fifteen years ago. When the people who are now hackerdom's tribal elders were in **larval stage**, the process of becoming a hacker was largely unconscious and unaffected by models known in popular culture -- communities formed spontaneously around people who, *as individuals*, felt irresistibly drawn to do hackerly things, and what wannabees experienced was a fairly pure, skill-focused desire to become similarly wizardly. Those days of innocence are gone forever; society's adaptation to the advent of the microcomputer after 1980 included the elevation of the hacker as a new kind of folk hero, and the result is that some people semi-consciously set out to *be hackers* and borrow hackish prestige by fitting the popular image of hackers. Fortunately, to do this really well, one has to actually become a wizard. Nevertheless, old-time hackers tend to share a poorly articulated disquiet about the change; among other things, it gives them mixed feelings about the effects of public compendia of lore like this one.

weasel n. [Cambridge] A naive user, one who deliberately or accidentally does things that are stupid or ill-advised. Roughly synonymous with **loser**.

virtual beer n. Praise or thanks. Used universally in the Linux community. Originally this term signified cash, after a famous incident in which some some Britishers who wanted to buy Linus a beer and sent him money to Finland to do so.

weenie n. 1. [on BBSes] Any of a species of luser resembling a less amusing version of **B1FF** that infests many **BBS** systems. The typical weenie is a teenage boy with poor social skills travelling under a grandiose **handle** derived from fantasy or heavy-metal rock lyrics. Among sysops, `the weenie problem' refers to the marginally literate and profanity-laden **flamage** weenies tend to spew all over a newly-discovered BBS. Compare **spod**, **computer geek**, **terminal junkie**, **warez d00dz**. 2. [Among hackers] When used with a qualifier (for example, as in **Unix weenie**, VMS weenie, IBM weenie) this can be either an insult or a term of praise, depending on context, tone of voice, and whether or not it is applied by a person who considers him or herself to be the same sort of weenie. Implies that the weenie has put a major investment of time, effort, and concentration into the area indicated; whether this is good or bad depends on the hearer's judgment of how the speaker feels about that area. See also **bigot**. 3. The semicolon character, ; (ASCII 0111011).

whalesong n. The peculiar clicking and whooshing sounds made by a PEP modem such as the Telebit Trailblazer as it tries to synchronize with another PEP modem for their special high-speed mode. This sound isn't anything like the normal two-tone handshake between conventional V-series modems and is instantly recognizable to anyone who has heard it more than once. It sounds, in fact, very much like whale songs. This noise is also called "the moose call" or "moose tones".

winnage /win'*j/ n. The situation when a lossage is corrected, or when something is winning.

wirehead /wi:r'hed/ n. [prob. from SF slang for an electrical-brain-stimulation addict] 1. A hardware hacker, especially one who concentrates on communications hardware. 2. An expert in local-area networks. A wirehead can be a network software wizard too, but will always have the ability to deal with network hardware, down to the smallest component. Wireheads are known for their ability to lash up an Ethernet terminator from spare resistors, for example.

wizard n. 1. Transitively, a person who knows how a complex piece of software or hardware works (that is, who **grok**s it); esp. someone who can find and fix bugs quickly in an emergency. Someone is a **hacker** if he or she has general hacking ability, but is a wizard with respect to something only if he or she has specific detailed knowledge of that thing. A good hacker could become a wizard for something given the time to study

it. 2. The term `wizard' is also used intransitively of someone who has extremely high-level hacking or problem-solving ability. 3. A person who is permitted to do things forbidden to ordinary people; one who has **wheel** privileges on a system. 4. A Unix expert, esp. a Unix systems programmer. This usage is well enough established that `Unix Wizard' is a recognized job title at some corporations and to most headhunters.

WOMBAT /wom'bat/ adj. [acronym: Waste Of Money, Brains, And Time] Applied to problems which are both profoundly **uninteresting** in themselves and unlikely to benefit anyone interesting even if solved. Often used in fanciful constructions such as `wrestling with a wombat'. See also **crawling horror**, **SMOP**. Also note the rather different usage as a metasyntactic variable in **Commonwealth Hackish**. Users of the PDP-11 database program DATATRIEVE adopted the wombat as their notional mascot; the program's help file responded to "HELP WOMBAT" with factual information about Real World wombats.

womble n. [Unisys UK: from British cartoon characters] A user who has great difficulty in communicating their requirements and/or in using the resulting software. Extreme case of **luser**. An especially senior or high-ranking womble is referred to as Great-Uncle Bulgaria.

wonky /wong'kee/ adj. [from Australian slang] Yet another approximate synonym for **broken**. Specifically connotes a malfunction that produces behavior seen as crazy, humorous, or amusingly perverse. "That was the day the printer's font logic went wonky and everybody's listings came out in Tengwar." Also in `wonked out'.

wugga wugga /wuh'g* wuh'g*/ n. Imaginary sound that a computer program makes as it labors with a tedious or difficult task.**grind** (sense 4).

wumpus /wuhm'p*s/ n. The central monster (and, in many versions, the name) of a famous family of very early computer games called "Hunt The Wumpus'. The original was invented in 1970 (several years before **ADVENT**) by Gregory Yob. The wumpus lived somewhere in a cave with the topology of an dodecahedron's edge/vertex graph (later versions supported other topologies, including an icosahedron and Möbius strip). The player started somewhere at random in the cave with five `crooked arrows'; these could be shot through up to three connected rooms, and would kill the wumpus on a hit (later versions introduced the wounded wumpus, which got very angry). Unfortunately for players, the movement necessary to map the maze was made hazardous not merely by the wumpus (which would eat you if you stepped on him) but also by bottomless pits and colonies of super bats that would pick you up and drop you at a random location (later versions added `anaerobic termites' that ate arrows, bat migrations, and earthquakes that randomly changed pit locations). This game appears to have been the first to use a non-random graph-structured map (as opposed to a rectangular grid like the even older Star Trek games). In this respect, as in the dungeon-like setting and its terse, amusing messages, it prefigured **ADVENT** and **Zork** and was directly ancestral to the latter (Zork acknowledged this heritage by including a super-bat colony). A C emulation of the original Basic game is available at the Retrocomputing Museum, http://www.ccil.org/retro.

WYSIWYG /wiz'ee-wig/ adj. Describes a user interface under which "What You See Is What You Get", as opposed to one that uses more-or-less obscure commands that do not result in immediate visual feedback. True WYSIWYG in environments supporting multiple fonts or graphics is a a rarely-attained ideal; there are variants of this term to express real-world manifestations including WYSIAWYG (What You See Is *Almost* What You Get) and WYSIMOLWYG (What You See Is More or Less What You Get). All these can be mildly derogatory, as they are often used to refer to dumbed-down **user-friendly** interfaces targeted at non-programmers; a hacker has no fear of obscure commands (compare **WYSIAYG**). On the other hand, **EMACS** was one of the very first WYSIWYG editors, replacing (actually, at first overlaying) the extremely obscure, command-based **TECO**. See also **WIMP environment**. [Oddly enough, WYSIWYG has already made it into the OED, in lower case yet. --ESR]

xref /X'ref/ v.,n. Hackish standard abbreviation for `cross-reference'.

Yow! /yow/ interj.[from "Zippy the Pinhead" comix] A favored hacker expression of humorous surprise or emphasis. "Yow! Check out what happens when you twiddle the foo option on this display hack!" Compare **gurfle**.

zen vt. To figure out something by meditation or by a sudden flash of enlightenment. Originally applied to bugs, but occasionally applied to problems of life in general. "How'd you figure out the buffer allocation problem?" "Oh, I zenned it." Contrast **grok**, which connotes a time-extended version of zenning a system. Compare **hack mode**. See also **guru**.

zipperhead n. [IBM] A person with a closed mind.