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**NEOLOGICAL REPRESENTATION OF THE CONCEPT *ILLNESS* (AS A RESULT OF INFORMATION TECHNOLOGY IMPACT) IN ENGLISH-SPEAKING COMPUTER DISCOURSE**

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**N. V. Tatsenko. Neological representation of the concept *ILLNESS* (as a result of information technology impact) in English-speaking computer discourse.** The article presents a cognitive analysis and a systematization of ways of linguistic objectification of the concept *ILLNESS* as a result of speech-thinking impact of information technology on the basis of computer discourse neologisms. A frame network of the concept *ILLNESS* in computer discourse is built which helps to identify the main ways of its cognitive modeling.

**Key words:** computer discourse, concept *ILLNESS*, neologism, neological representation, frame network.

**Н. В. Таценко. Неологическая репрезентация концепта БОЛЕЗНЬ (как результата влияния информационных технологий) в англоязычном компьютерном дискурсе.** В статье представлены когнитивный анализ и систематизация способов языковой объективации концепта БОЛЕЗНЬ как результата речемыслительного влияния информационных технологий на материале неологизмов компьютерного дискурса. Построена фреймовая сеть концепта БОЛЕЗНЬ в компьютерном дискурсе, которая позволяет выявить основные способы его когнитивного моделирования.

**Ключевые слова:** компьютерный дискурс, концепт БОЛЕЗНЬ, неологизм, неологическая репрезентация, фреймовая сеть.

**Н. В. Таценко. Неологічна репрезентація концепту ХВОРОБА (як результату впливу інформаційних технологій) у англomовному комп'ютерному дискурсі.** У статті подано когнітивний аналіз та систематизацію способів мовної об'єктивації концепту ХВОРОБА як результату мовленнєво-мисленнєвого впливу інформаційних технологій на матеріалі неологізмів комп'ютерного дискурсу. Побудовано фреймову мережу концепту ХВОРОБА в комп'ютерному дискурсі, що дозволяє виявити основні шляхи його когнітивного моделювання.

**Ключові слова:** комп'ютерний дискурс, концепт ХВОРОБА, неологізм, неологічна репрезентація, фреймова мережа.

**1. Introduction.** It is a common knowledge that present days are marked by the formation of a new information society, which has changed a postindustrial one. In a new "informogenic" civilization the strategy of interdiscipline synthesis and interest in non-classical methods and themes enable the study of human exposure to areas of computer technologies as specific language and existential phenomena.

The problem of language / speech influence on people for making them do something unknowingly or against their own will or intention is the focus of attention of scientists in modern cognitive-discursive paradigm of linguistics. Speech impact per se as a domain of research, covering the processes of speech-thinking regulation of human activity through agitation, propaganda, demagogy, PR, neurolinguistic programming, persuasion, suggestions etc., is considered from different points of view by a number of researchers [V. Z. Demyankov, O.S. Isers, Y.A. Zatsny, T. V. Kuznetsova, P.B. Parshin, G.G. Pocheptsov, Y.Y. Shamayeva, R. E. Goodin, L. Proto et al.].

In recent years the technologies and strategies of speech influence and manipulative impact on the basis of political discourse, advertising discourse are a primary concern of linguists. This manipulative impact shapes and affects the discourse itself. In other words, discourse constitutes social impact and is at the same time constituted by it. But studies of concepts related to the results of speech impact in computer discourse are, au contraire, still overlooked by researchers.

Human-to-human communication via computer networks, or interactive networking, is a recent phenomenon. The study of computer-mediated discourse developed alongside of interactive networking itself, as scholars became exposed to and intrigued by communication in the new medium. Nowadays we witness the rise of a wave of computer discourse researchers, working independently on more or less coherent agenda: the empirical description of computer language and varieties of computer discourse which give new areas of inquiry and result in an ever-growing list of published resources [E. N. Galichkina, I. M. Derik, L. Y. Ivanov, N. G. Lukashenko, O. I. Lytnevskaya, N. L. Morgun, A. O. Nikolaeva, I. M. Rozina, F. O. Smirnov, I. M. Shukalo, D. Boyd, D. Crystal, M. Galvin, S. Herrig, M. Morris, M. Stubbs, J. Tornow, J. Walter et al.].

In this regard, **the relevance** of our research is highlighted by its focus on cognitive mechanisms of verbalization of the concept ILLNESS as a result of information technology impact on the basis of computer discourse neologisms, on covering the specific of computer discourse as a medium and simultaneously a means of concepts existence with the power of influencing their change and development. The scientific research is connected with such current problems of modern linguistics as the study of the processes of acquisition, display and storage of information in linguistic forms, nominative human activities, quantitative and qualitative differences in word formation in various communication fields.

**The object** of the paper is the group of neologisms of computer discourse that have a common meaning component – a sign of illness, and **the subject** is a linguistic

neological representation of negative impact of computer discourse on mental and physical state of information technology user.

**The purpose** of this article is a cognitive analysis and a systematization of ways of linguistic objectification of the concept ILLNESS as a result of speech-thinking impact of information technology on the basis of computer discourse neologisms. Achieving this goal involves the following **tasks**: 1) to identify the specific system of verbalization of the concept ILLNESS and to analyze in it the aspects of negative impact consequences of information technology based on neologisms of English computer discourse; 2) to make a cognitive model of the formation of language innovations, 3) to build a frame network of the concept ILLNESS in computer discourse.

The **material** for this paper has been collected from direct and indirect neological nominations of the concept ILLNESS connected with new computer technologies, obtained by continuous sampling of contemporary English-language newspaper sources, lexicographical publications and lexicographical registers of electronic format.

**2. The concept ILLNESS in computer discourse.** At present, information technologies are the creators of social life and construct it by their own rules. Interesting is the fact that computer discourse as a product of human thought has the power to influence not only the most essential sociocultural characteristics of the individuals as members of some culture, but also their mental and physical conditions. The analysis of computer discourse neologisms suggests that informational technical being affects human cognitive mechanisms and physical characteristics, and causes human dependence on information technology.

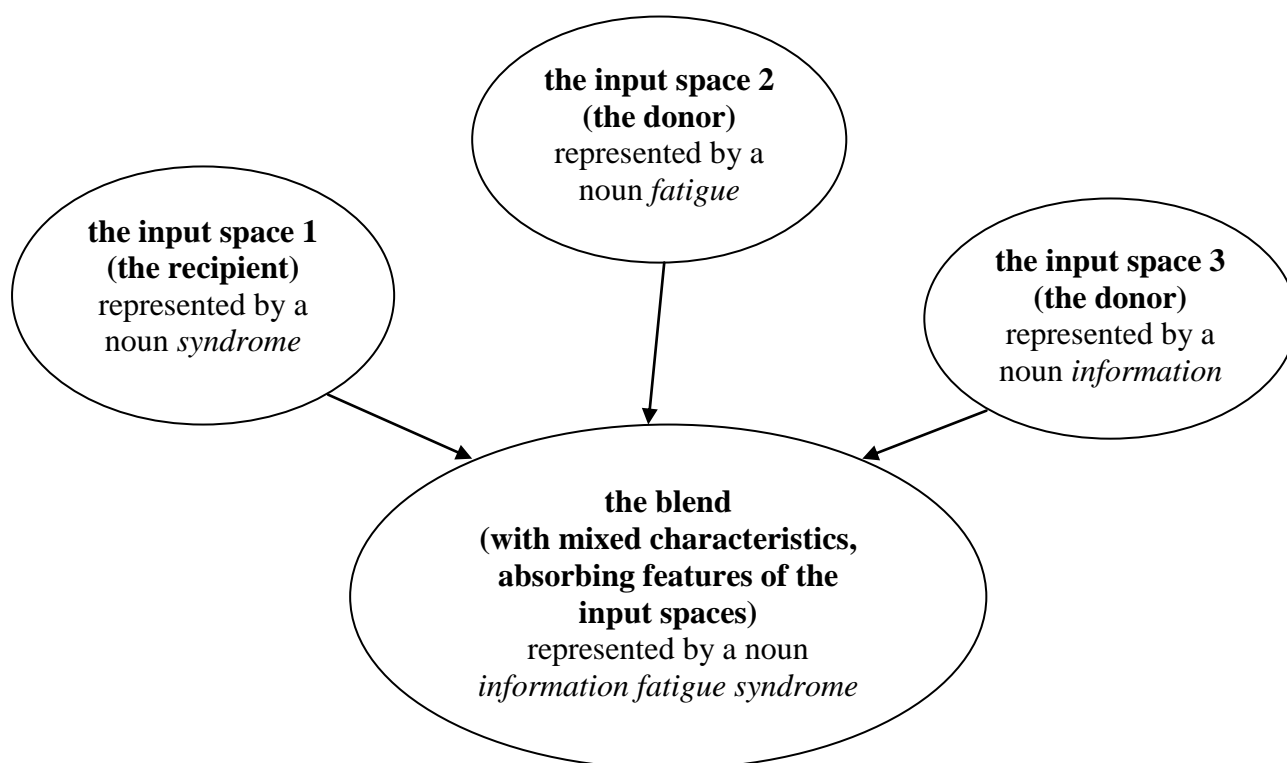
Active use of computers by representatives of both older generation and younger one is often a factor of a variety of new diseases, whose names fill up an innovative system of terminology of computer discourse. Thus, many people suffer from “*computer addiction*”: “*Among the programs offered by the Center for Online Addiction in Bradford, Pa., founded in 1994 by Dr. Kimberly S. Young, a leading researcher in **Computer addiction**, are cyberwidow support groups for the spouses of those having online affairs, treatment for addiction to eBay and intense behavioral counseling – in person, by telephone and online – to help clients get Web sober.*” (The New York Times, December 1, 2005). Continuous exposure to modern technology causes “*technostress*” and “*computer sickness*”.

A neologism “*information fatigue syndrome*”, which may also be found in abbreviation form “*IFS*”, signals the emergence of a specific disease associated with excessive information, which leads to stress, incredible fatigue and loss of human analytical skills: “*Too much information can have negative effects on health and well-being, says psychologist David Lewis. He coined the phrase “**Information Fatigue Syndrome**” for the condition that, he says, is caused by unrelenting exposure to excessive information.*” (Journal of School Health, April, 2009).

Involving a medical term *syndrome* “a combination of signs and symptoms that indicate a particular disease” [Collins 2008: 897] to the formation of the neologism actualizes the idea of the kind of cognitive component of this scenario: a serious problem that must be solved addressing to specialists. The component *syndrome* actualizes a correlation of computer addiction with difficult and dangerous medical conditions.

A further semantic and conceptual investigation of the neologism *information fatigue syndrome* allows us to define the schema of its appealing to the concept ILLNESS. This innovation is formed by way of compounding (the process of combining several words (free morphemes) to create a new word). The model of the compounding is  $N^1+N^2+N^3$ : *information+fatigue+syndrome*→ *information fatigue syndrome*. In the conceptual analysis of this compounded formation we used the theory of conceptual blending [G. Fauconnier, M. Turner 2002], which allows us to suppose that the essence of the creation of this neologism is a cognitive process of combining three mental spaces, resulting in a “blended space” or “the blend” with mixed characteristics, absorbing properties of the input spaces.

Thus, on the mental level, this neologism corresponds to **the blend**, which combines the signs of three mental spaces: **the input space 1** which is the *recipient* and expressed by the noun *syndrome* (symptoms that indicate a disease), **the input space 2** which is the *donor* and expressed by the noun *fatigue* (weariness, overwork), and **the input space 3** which is the *donor* and expressed by the noun *information* (knowledge received by any means). In the process of integration of input spaces and borrowing of their features a new set of features in the blend structure is created. As a result, a new compound neologism is formed which means “a disorder expressed by weariness and stress which results from having to deal with excessive amounts of information” (**Figure 1**):



### Fig. 1. A cognitive model of the neologism *information fatigue syndrome*

Quite common pathology among the diseases in the hands of people who spend 8 or more hours per day at a computer is *carpal tunnel syndrome* or *CTS*. *Carpal tunnel syndrome* is a serious wrist injury, the symptoms of which are swelling, pain in the hand, weakening and numbness of fingers; sometimes even surgery is used for its treatment. The synonyms for denotation of the disease are innovations *repetitive strain injury (RSI)* and *mouse arm syndrome*: “By using it like a pen, muscles in the forearm and upper arm are at rest and the user’s hand and forearm are in a more natural position, rather than being twisted around horizontally, as they are when a mouse is used. It’s this position which causes **mouse arm syndrome**, a type of **RSI** that affects millions.” (Network World, April 2, 2001).

A skin rash caused by lengthy exposure to a heat source, such as laptop computer balanced on the thighs for an extended period is called *toasted skin syndrome*: “Balancing your laptop on your knees could cause permanent discolouration of the skin and, in rare cases, cancer, doctors have warned. The heat generated by the computers can cause a nettle sting-like rash – a condition named ‘**toasted skin syndrome**’.” (Daily Mail, October 5, 2010).

It should be noted that the word *syndrome* becomes a center for conceptual and derivational paradigm. Along with the above mentioned neologisms a number of innovations with this component appeared in computer discourse: *perfect programmer syndrome* “a morbid belief in one’s infallibility”, *sedentary death syndrome* “a phenomenon, when motionless lifestyle as a result of permanent exposure to PC leads to death” [Зацний 2008: 290], *sudden wealth syndrome* “a depression of ‘virtual nouveau riches’ as a result of a constant self-frustration”. Similar to the latter phrase a neologism *sudden loss of wealth syndrome* emerged to describe a depression of people who have been deprived of their wealth as a result of mass extinction of Internet companies [Ibid: 316].

An innovation *heroinware* describing programs for games that provoke dependence indicates serious concerns of the society as its metaphorical name equates computer dependence with drug addiction: “*Luckily, Jaffe found refuge and eventual salvation with On-line Gamers Anonymous, one of several online self-help groups that have sprung up to deal with the fallout from electronic entertainment they call **heroinware**. Its forums are swollen with refugees of various online worlds, all with harrowing stories of runaway gaming habits, lives ruined, friends lost, and marriages broken.*” (The Guardian, April 3, 2003).

Some people when wearing virtual reality headsets suffer from motion sickness caused by video media, particularly video games and virtual reality environments. This phenomenon has got a specific linguistic denomination *barfogenesis* (*to barf+genesis*). *Barfogenesis* is caused by a conflict in the brain – the eyes register movement but the inner ear doesn’t feel it: “*Such instances, like the one mentioned above, can contribute to the sensory theory conflict that can cause cybersickness. Some researchers find that the Gestalt psychology can help explain the problem of*

*barfogenesis and how it differs from motion sickness.*” (Information Week, July 8, 2006).

Researchers say that the stress of not being able to process information as fast as it arrives, combined with the personal and social expectation that you will answer every e-mail message, can deplete and demoralize people. Moreover, it can cause “*e-mail apnea*”: the unconscious suspension of regular and steady breathing when people tackle their e-mail: “*The idea is to develop better breathing habits, so you are not experiencing apnea (holding your breath) in situations that you may not be aware of as stressful. These small situations or “pebble stones” never seem to register as something significant; however, collectively they add up. For example the dangers of e-mail apnea (holding or shallow breathing, while doing e-mail) have been warned against.*” (Cognitive Behavior Therapist, April 2, 2009).

Doctors admonish that a long-term “sitting on the Internet” can cause *e-thrombosis* “due to the formation of blood clots as a result of permanent exposure to the computer”: “*Office workers risk being struck down by deep vein thrombosis if they sit at their computer screens for long periods without a break, health experts said yesterday. The warning came as it emerged that a computer programmer from Bristol almost died after a 12-hour stint in front of his screen in what is believed to be one of the first cases in the UK of a growing phenomenon dubbed e-thrombosis.*” (The Guardian, May 9, 2006). The constituent *e-* of the mentioned neologisms (etymologically – an abbreviation of the word *electronic*) is a new prefix, and almost a complete equivalent of a computer affix *cyber-*.

“Abuse of time” before a computer screen is also a serious problem of modern people, evidenced by such neologisms as *Nintendo epilepsy* “symptoms similar to epilepsy caused by ‘overdose’ of computer games”, *Wii elbow* “pain in the elbow as a result of long-term use of a remote control of a video game Wii”: “*Called variously Nintendo epilepsy, video-game epilepsy or more generically light epilepsy, a TV-related condition was first documented in the United States in 1952.*” (Associated Press, February 20, 2008), “*The new console has been wildly successful, selling out at stores and winning high marks from critics and game buffs. But as players spend more time with the Wii, some are noticing that hours waving the game’s controller around can add up to fairly intense exertion – resulting in aches and pains common in more familiar forms of exercise. They’re reporting aching backs, sore shoulders – even something some have dubbed Wii elbow.*” (The Wall Street Journal, November 25, 2006).

Deformation of an index finger as a result of long printing of e-mails is denominated by a metonymic innovation *BlackBerry thumb* (BlackBerry is a brand of smartphones): “*There’s a new indicator of the physical downsides to text messaging. A study from the U.K. finds that 38% more people suffer from sore wrists and thumbs due to “texting” than five years ago and 3.8 million people now complain of text-related injuries every year. This, of course, follows the recent revelations of people suffering from “BlackBerry thumb”.*” (InformationWeek, February 21, 2006).

A component *thumb* served as a basis for further branching of the derivational paradigm. Therefore, the swelling of an index finger due to excessive addiction to computer games is represented by a neologism *Nintendo thumb*; generation which skillfully manipulates by an index finger, constantly using mobile phones, computers, laptops, is called *thumb culture*. Elements of this derivational paradigm are formed by a lingual mechanism of analogy (cf. with idioms *green thumb*, *sore thumb*).

Neologisms *e-mail fatigue*, *high-tech fatigue* suggest the idea that overuse of computer correspondence can cause not only physical pain but mental exhaustion, and bring negative emotive component to the general cognitive mechanism of interaction between man and technosphere. An innovation *password fatigue* represents people's discontent because of the necessity to remember a lot of computer passwords: "*One of the tribulations of internet life is **password fatigue**. Use a different one for every website and you're likely to forget them. Write them all down, or use the same one, and you risk becoming the latest victim of identity theft.*" (The Observer, April 22, 2007).

Stress from extremely sophisticated computers is actualized by an innovation *feature fatigue* [Зацний 2008: 164]: "***Feature fatigue** is the inevitable consequence of feature creep, the tendency for designers and programmers to bundle every feature they can imagine into every single product.*" (Chicago Tribune, September 8, 2006). To indicate mental exhaustion resulting from the need to constantly give out personal information on social sites on the web there appeared a neologism *social networking fatigue* [Зацний 2008: 304]: "*This is why there's been a growing online grumble about **social network fatigue**. It's more than a frustration with signing up for umpteen useless accounts; it's the exhaustion that comes from being asked to build an online identity over and over again. Yes, young people have an inexhaustible desire to try on and discard alternative personas like clothing. But the point comes where you say, can't I just be me?*" (The Globe and Mail, February 16, 2007).

"Internetization" of the community's living space often leads to fragmentation of people's mental representations and to colonization of their worldview. For example, excessive confidence in Internet medical sites sometimes leads to destructive consequences and general deterioration of users' physical health. A condition when people suffer from fictional diseases, qualifying symptoms found in the medical Web site, as "theirs" is represented by an innovation *cyberchondria*, and people, respectively, are *cyberchondriacs*: "*Today it is often referred to as health anxiety or a "somatoform disorder", where symptoms suggest a disease not explained by a medical diagnosis, or even, in the age of the Internet, "syberchondria".* (San Francisco Chronicle, February 15, 2004). "*The average cyberchondriac, Harris says, searches the web for information five times a month. But these net users are also becoming more savvy, with the number of people describing the information they find as "very reliable."* (Advice and Help, August 12, 2006).

It should be noted that the above given neologisms were created by telescopic combining of an existing medical term *hypochondria* and a productive computer affix

*cyber-*. The correlation between semantic features of the medical terms and semantic content of the formed innovations emphasizes the relationship of difficulties, caused by virtual existence, with the diseases of real existence. We should also pay attention to the fact that innovations *cyberchondria* and *cyberchondriac* belong to nominations, which are based on the creation of wrong associations and incorrect logical conclusions in a user.

**3. Frame network of the concept ILLNESS.** It is maintained that the most suitable cognitive model of describing the concept is a frame as a unit of knowledge, organized around the concept and containing the data about something significant, typical and possible for this concept within a particular culture. In other words, the frame is one of the ways of mental representation of the concept by reference to the conceptual area in which this concept is interpreted. Thus, the frame structure of the concept allows tracing its relationship to other concepts. It may include not only the frames, but another kind of cognitive models – a conceptual metaphor that reflects the indirect cognitive features of the concept.

The semantic space of computer discourse consists of overlapping frame configurations. Their relationship is structured with a network. Further, it is argued that building the networks at any conceptual level employs a universal tool – the limited set of prepositions that belong to the five basic frames where the most fundamental categories of thought are arranged in accordance with the way we perceive things of the experienced world. These frames are the Thing Frame, the Action Frame, the Possession Frame, the Identification Frame, and the Comparison Frame. They include a limited number of most abstract propositional schemas whose type is defined by the frame they belong to [Zhabotynska 2010: 80-84].

Thus, in computer discourse the concept ILLNESS is structured by the Thing Frame, the Action Frame, the Possession Frame, the Identification Frame, and the Comparison Frame.

**The Thing Frame** includes being schemas in which the thing and its property are combined by the link *is/exists*:

1) The quantitative schema “SB/STH is that many – quantity”, e.g.: *A condition ‘toasted skin syndrome’ is becoming more and more numerous*;

2) The qualitative schema “SB/STH is such – quality”, e.g.: *Computer addiction is dangerous*.

3) The locative schema “SB/STH is (exists) there – place” and the temporative schema “SB/STH is (exists) then – time”, e.g.: *The average cyberchondriac sits online more than three hours a day*.

**The Action Frame** contains doing schemas that include SB/STH – the doer of the action, and the action itself, which in the schemas is represented with the schematic verbs *acts/makes (=does)*. Action schemas have three variations – the state/process, contact, and causation schemas:

1) The state/process schema “SMB/STH-agent acts” models an intransitive act, which is a state if the agent maintains its property (quantity, quality, place, time, or



mode of being) or a process, if the agent changes its property, e.g.: *Cases of RSI are numerous (state); e-thrombosis grows in number (process)*;

2) The contact schema models a transitive act, which may be of two kinds: a) the schema “SB/STH-agent acts upon SB/STH-patient” represents a physical or mental contact between the agent and the patient, when the patient does not undergo changes, e.g.: *People often use this heroinware*; b) the schema “SB/STH-agent/instrument acts upon SB/STH-affected” represents a physical or mental contact between the agent and the patient, when the patient undergoes changes (“SB/STH-agent makes SB/STH-patient SUCH”) and thus becomes the affected, e.g.: *Syberchondria affects millions*;

3) The causative schema “SB/STH-causer makes STH-factitive” models a transitive act that results in creating a new thing (factitive, or effected) by the agent (or instrument) that becomes the causer, e.g.: *Continuous exposure to modern technology causes computer addiction, technostress, and computer sickness*.

Action schemas are extended with additional semantic roles which are grouped into types with regard to their syntactic manifestation: 1) acts/makes with – the circumstance (attendant, aid, instrument): *Addicts are often addicted to Internet with the help of multiplayer games users have described as ‘heroinware’*; 2) acts/makes because of – the stimulus (goal, cause): *Doctors admonish that a long-term “sitting on the Internet” can cause e-thrombosis due to the formation of blood clots as a result of permanent exposure to the computer*; 3) acts/makes if, in spite of – the prerequisite (condition, concession): *If you ‘overdose’ in computer games, you may have Nintendo epilepsy, which symptoms are similar to epilepsy*; 4) acts/makes to, for – the recipient (addressee, benefactor/malefactor): *All these medical sites are dangerous for cyberchondriacs*. Propositions of the Action Frame may be also extended with the locative and temporal slots that belong to the Thing Frame: 5) acts/makes there, from there, to there – the locative (source, path/place, goal); 6) acts/makes since (from), then, till then – the temporative (beginning, duration, end): *Sitting on line all the time very often causes e-mail fatigue*.

**The Possession Frame** includes the generalized roles “the possessor” and “the possessed” linked by the verb *has*. The structure “SB/STH-possessor has SB/STH-possessed” is the possession schema, e.g.: *Office workers risk having e-thrombosis if they sit at their computer screens for long periods without a break*.

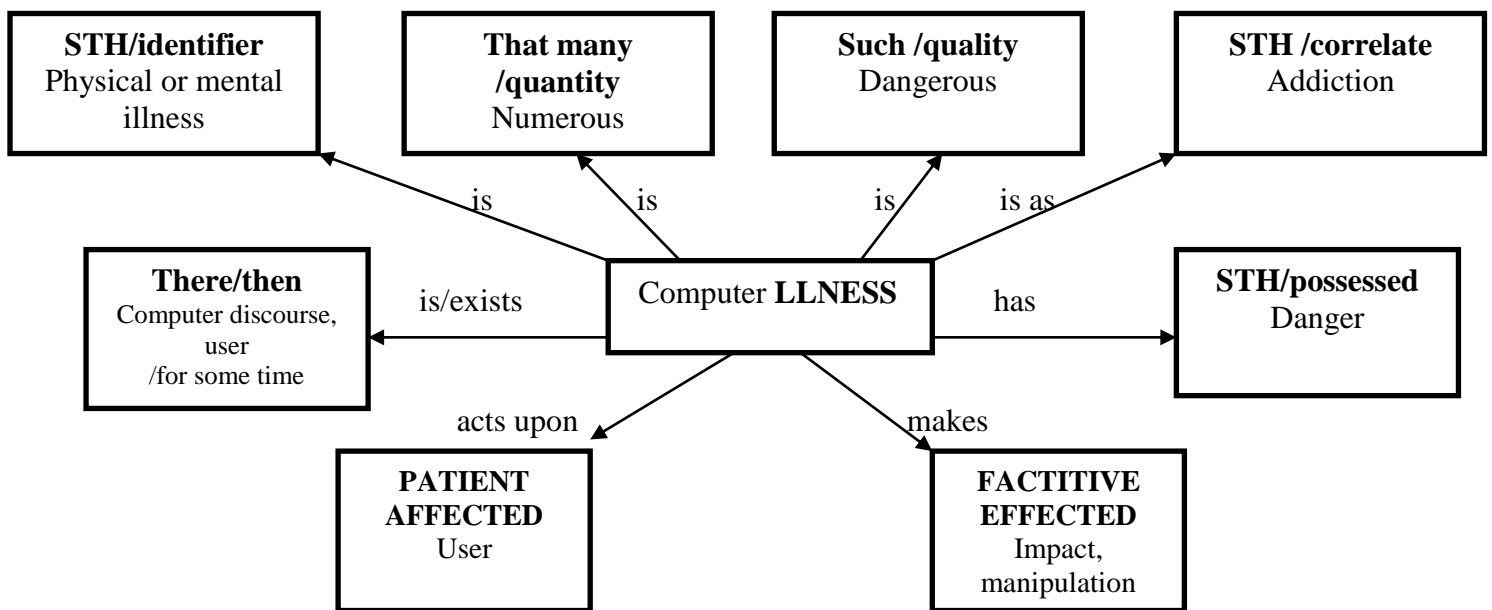
**The Identification Frame**, which includes two things joined by the link *is*, models the relation “SB/STH-identified is SB/STH-identifier” provided in the generalized identification schema, e.g.: *Carpal tunnel syndrome is a serious wrist injury, the symptoms of which are swelling, pain in the hand, weakening and numbness of fingers*.

**The Comparison Frame**, which may be considered as an evolution of the Identification Frame, includes the link *is as* that joins two roles – the compared (target, or referent) and the correlate (source). This frame is constituted by the comparison schemas “SB/STH-compared is as (if) SB/STH-correlate” which are the conceptual foundations of metamorphosis, analogy, and metaphor, e.g.: *An*

*innovation 'heroinware' describing programs for games that provoke dependence indicates serious concerns of the society as its metaphorical name shows that it is considered as drug addiction.*

These basic frames merge into the conceptual network which combines all propositional schemas within a coherent whole retained in the mind as a set of instruments for processing information in computer discourse. The schemas may serve as a tool for creating unlimited configurations of conceptual networks, which structure semantic spaces of the concept ILLNESS.

A schematic representation of a structure of the concept ILLNESS in computer discourse in the form of a frame network is presented in **Figure 2.**:



**Fig. 2. A frame network of the concept ILLNESS in computer discourse**

Thus, the semantic and cognitive analyses of neological representation of the concept ILLNESS, and also the construction of its frame network give us grounds for concluding about the existence of a general complex semiotic continuum of negative emotional manipulation and physical impact of information technology within the computer discourse, leading to fragmentation of people's mental representations and to colonization of their outlook. The presence of this phenomenon motivates a deeper study of the interaction of computer discourse concepts, which is the prospect of our further research.

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