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THEORY OF THE ENGLISH LANGUAGE

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All languages that have their written language transmit ideas of the writing man with the help of sentences (SN) (1). Transmitting ideas by the speech is not described here because this topic is behind the frames of this article [1, 2]

$SN = \{SN_1, SN_2...SNi\}.$ (1)

The sentences cab be divided into simple (SM) and composite (CM) (2)

$SNi = \{SM_1...SMv, CM_1...CMi\}.$ (2)

The simple sentences, in their turn, are divided into declarative (DC), interrogative (IN), imperative (IM) and exclamatory ones (EX). As to the sentence types one refers also negative sentences (NG), we can put down the following expression (3)

$SMv = \{IN_1...INz, DC_1...DCe, IM_1...IMu, EX_1...EXn, NG_1...NGx\}.$ (3)

The interrogative sentences can include the general questions (GNQ), special questions (SPQ), alternative ones (ALQ), tag question (TGQ) and a question to the subject (SBQ) (4)

$INz = \{GNQ_1...GNQz, SPQ_1...SPQe, ALQ_1...ALQr, TGQ_1...TGQe, SBQ_1...SBQw\}.$ (4)

In the interrogative sentences one can use the following question words: who, whom, whose, what, etc. (5)

$INz = \{WHOz, WHOMe, WHOSEr, WHATn\}.$ (5)

In its turn the composite sentences are subdivided into compound (CD), complex (CM) and conditional sentences (CN) (6)

$CMi = \{CD_1...CDz, CM_1...CMe, CN_1...CNu\}.$ (6)

Any sentence in the English language must have a subject (SB), a predicate (PR), a verb (VR), and it can also include: adjectives (AG), pronouns (PRN), numerals (NUM), adverbs (ADV), prepositions (PRP), articles (AR), conjunctions (CON), particles (PRT), interjections (INT), main parts of the sentences (MPS), secondary parts of the sentences (SPS) and punctuation (PUN) (7)

$STh = \{SB_1...SBz, PR_1...PRe, VR_1...VRu, AG_1...AGt, (PRN_1...PRNq, NUM_1...NUMa, ADV_1...ADVd, PRP_1...PRPx, AR_1...ARw, CON_1...CONf,$

PRT_1...PRTp, INT_1...INTc, MPS_1...MPSc, SPS_1...SPSk, PUN_1...PUNn}.
(7)

The verbs in the English language are subdivided into regular verbs (RG) and irregularverbs (IR) (8)

VRu = {RG_1...RGz, IR_1...IRe}.

(8)

All these verbs can be changed in the following tenses: Simple Tense (ST), Continuous Tense (CT), Perfect Tense (PT) and Perfect Continuous Tense (PCT) (9)

RGz (IRe) = {ST_1...STm, CT_1...CTj, PT_1...PTe, PCT_1...PCTv}.
(9)

All these tenses have three forms: present (PRS), past (PS) and future (FT) (10)

STm (CTj, PTe, PCTv) = {PRS_1...PRSx, PS_1...PSg, FT_1...FTh}.
(10)

The verbs can have the following voices: the active voice (AV) and passive voice (PV) (11)

VRu = {AV_1...AVm, PV,...PVj}.

(11)

The verbs in the English language also have the following moods: the indicative mood (INM), the conjunctive mood (CNM) and the imperative mood (IMM) (12)

VRu = {INM,...INMm, CNM,...CNMj, IMM,...IMMe}.
(12)

In the English language there is a group of the modal verbs (13)

VRu = {CAN, MAY, MUST, HAVE (GOT) TO, BE TO, NEED, OUGHT TO,
SHOULD, WOULD, SHALL (WILL), DARE, USED TO}.
(13)

The nouns (NN) in the English language are divided into simple nouns (SN), derived nouns (derivatives nouns) (DN) and compound ones (CMN) (14)

NNu = {SN_1...SNm,DN_1...DNj, CMN_1...CMNe}.
(14)

The nouns are classified into proper nouns (PN) and common nouns (CNN) (15)

NNu = {PN_1...PNr, CNN_1...CNNy}.
(15)

In their turn, the common nouns are divided into countable (CNT), uncountable (UCT) and collective (COL) (16)

CNNu = {CNT_1...CNTm, UCT_1...UCTj, COL_1...COLe}.
(16)

Some English nouns in different meanings can be as count nouns (CTN), so as noncount nouns (NCTN) (17)

$NNu = \{CTN_1...CTNe, NCTN_1...NCTNs\}.$

(17)

The uncountable nouns are divided into: concrete (CNC), abstract (AN), and material ones (MC) (18)

$CTm = \{CNC_1...CNCm, AN_1...ANj, MC_1...MCe\}.$

(18)

The collective nouns are divided into animate (AN) and inanimate ones (IN) (19)

$COLe = \{AN_1...ANe, IN_1...INs\}.$

(19)

The adjectives in the English language are subdivided into simple (SMA), derivates (DRA) and compound ones (CMA) (20)

$ADf = \{SMA_1...SMAm, DRA_1...DRAk, CMA_1...CMAh\}.$

(20)

There are also some types of the adjectives: qualitative (QLA), relative (RA), quantitative (QTA), numeric (NA) and possessive (PA) (21)

$ADf=\{QLA_1...QLAm, RA_1...RAk, QTA_1...QTAh, NA_1...NAz, PA_1...PAh\}.$(21)

The adjactives are divided into the degrees of comparison: positive (PSA), comparative (CTA) and superlative degree (SUA) (22)

$ADf = \{PSA_1...PSAg, CTA_1...CTAq, SUA_1...SUAe\}.$

(22)

Let us have a look at pronouns that can be as follows: personal (PLP), possessive (PSP), demonstrative (DMP), reflexive (RFP), indefinite (INP), interrogative (ITP) and etc. (23)

$PRNi = \{PLP_1...PLPr, PSP_1...PSPq, DMP_1...DMPe, RFP_1...RFPd, INP_1...INPy, ITP_1...ITPx\}.$

(23)

The numerals in the English language can be of two types: cardinal (CRN) and ordinal (ORN) (24)

$NUMe=\{CRN_1...CRNe,ORN_1...ORNs\}.$

(24)

All adverbs in the English language can be divided into two categories: by their form and their meaning.

By the form the adverbs can be simple (ADS), derived (DVA), compound (CDA) and composite (CPA) (25)

$ADVf = \{ADS_1...ADSm, DVA_1...DVAk, CDA_1...CD Ah, CPA_1...CPAz\}.$

(25) (25)

If we study the adverb classification in the English language by the meaning, we will have the following groups: adverbs of place (PLA),

adverbs of time (TMA), adverbs of manner (MNA), adverbs of frequency (FRA) and adverbs of degree (DGA) (26)

ADVf = {PLA_1...PLAm, TMA_1...TMAk, MNA_1...MNAh, FRA_1...FRAz, DGA_1...DGAz}.

(26)

The adverbs have three degrees of comparison: the positive degree (PSD), the comparative degree (CMD) and the superlative degree (SUD) (27)

ADVf= {PSD_1...PSDm, CMD_1...CMDk, SUD_1...SUDh}.

(27)

In the English language there are many varied prepositions used, such as: at, on, in, about, etc. (28)

PRPi = {at, on, in, about.....}.

(28)

The conjunctions in the English language are classified by their structure as: simple (one- word) (SMC), derived (DRC), compound (CPC) and composite (many-words) (CMC) (29)

CONf={SMC_1...SMCm, DRC_1...DRCk, CPC_1...CPCh, CMC_1...CMCz}.

(29) (29)

The English particles can be divided into the following significance groups: the limiting particles (LMP), the intensifying particles (IFP), the specifying particles (SPP), the negative particle (not) (NGP) and the additive particle (else) (ADP) (30)

PRTf={LMP_1..LMPm,IFP_1..IFPk,SPP_1..SPPh,NGP_1..NGPz,ADP_1..ADPc}

(30)

The interjections in the English language are divided into three groups: the emotional (EMI), the incentive (INI) and the etiquette (ETI) (31)

INTf= {EMI_1...EMIm, INI_1...INIk, ETI_1...ETIh}.

(31)

The articles in the English language can be of two types: the definite (DFA) and indefinite one (IN A) (32)

ARe = {DFA,...DFAe, INA,...INAs}.

(32)

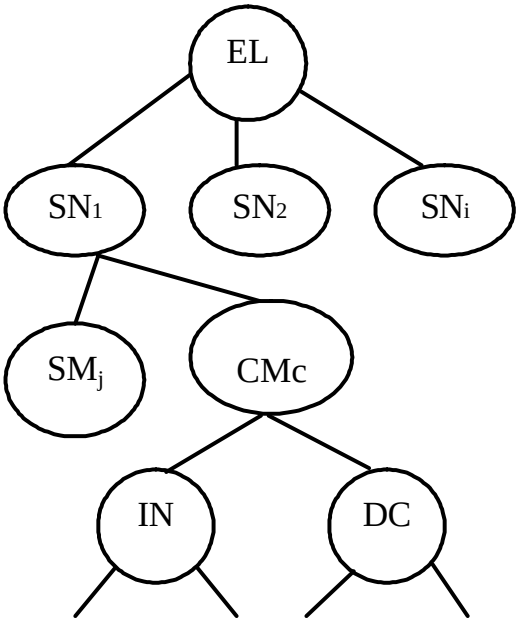
The punctuation in the English language is represented, as in any other language: a point (PIT), a comer (COM), etc. (33)

ARe = {PIT, COM...}.

(33)

Considering the described above material the mathematic model of the English language (EL) can be represented as a graph, the tops of which are different sentence types (SR), nouns, verbs, and the edges are parameters that characterize the definite tops. The mentioned graph is

represented in the picture. This model can be spread to other languages with a development of their peculiarities.



Pic. The graph of the English language structure

LITERATURE

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