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Geographical analysis of elections in Visegrad group countries in 2010

In every country of Visegrad group took part elections this year. The purpose of this text is to answer questions about where electoral support of conservative, liberal and social democratic parties are located, what the determinants of support are for selected parties and finally what the differences are between selected countries.

The answer to the first question will be found through drawing maps of electoral support. The second question will be answered with usage regression analysis with electoral results in regions as dependent variables and data about cleavages in society as independent variables.

Spatial distribution of similar parties is different in different countries.

There are also several differences in the nature of party systems in selected countries. The Czech party system is more based on cleavage owners – employers, while Slovak and Polish parties are more based on urban-rural cleavage. In the case of Poland, rural areas are defined by agriculture while in the case of Slovakia by population in cities. Electoral support of Hungarian parties is almost independent on used variables.

Zuzana:

Named entity recognition (NER) is important for different NLP tasks. During an analysis (from syntactic to semantic) it is useful to know about a word, or word expression, and how it represents a named entity (NE), such as person, institution or place.

Within this task, several problems appear. First, languages with rich nominal inflection (e.g. Slavonic languages) do inflect proper names. Therefore, morphological analyzers constitute an important part of the analyses. While these programs usually contain stems of most words, it is difficult to add and maintain a database of proper names. Second, during an analysis it is sometimes more efficient to replace the entity (e.g. John Smith) by its category (a person). For this reason it is necessary to have a classification of NEs. Finally, high ambiguity within NEs appears: typically there is more than one John Smith. This paper considers all these issues, since it is not easy and they are not worth separating. All three aims are partially achieved by analysis of hyperlink extraction in Czech Wikipedia.

Michal:

Semantics of proper names in fiction

Keywords: semantics, fiction, proper names, fictional proper names, empty names, rigid designation, direct reference, millianism, fictional worlds, counterparts, Kripke, Doležel

In the last 40 years, both philosophers and literary theorists have struggled to reveal the semantic nature of proper names in fiction. Most philosophers have treated fictional names as a subcategory of so-called empty names, emphasizing their incapability of being directly referring terms, due to the absence of empirical referents. Literary theorists, on the other hand, have often argued for the unique nature of fiction while creating fictional semantics and ignoring philosophical objections.

The article deals with the semantics of all the types of proper names one can find in literary works of fiction, analyzing and comparing both philosophical and literary theoretical tradition. Kripke's theory of direct reference of proper names is introduced and various ways of how it may overcome the problem of empty names are discussed. The direct reference theory proves to be the most important inspiration source for a large group of literary theorists. The theory of counterparts by Lubomír Doležel, an influential proponent of the fictional worlds theory, is discussed, discovering the influence of Kripke's term of rigid designation. However, Doležel's solution, being a part of the complex fictional semantics, proves Kripke's theory of rigid designation can hardly be used when treating fictional names. Thus, a competing solution based on a non-Kripkean explanation of the fictional proper names is presented.

Jana:

The European Commission Register of Interest Representatives: Expectation and Reality

Keywords: CONECCS, European Transparency Initiative (ETI), European Commission, interest groups, lobbyists, lobbying, Register of Interest Representatives, transparency in decision-making and policy-making.

The Register of Interest Representatives (the Register) was opened in June 2008. It is one of the most important developments in the domain of lobbying regulation at EU institutions and enhances transparency in interest representation. This article seeks to identify functional and systemic shortcomings of the Register and contrasts them with the Commission's evaluation of the Register's functioning. Special attention is given to the analysis of financial data published by interest groups in the Register.

The article builds on original empirical research in which quantifiable data from 1063 registered interests were evaluated. The analysis of the financial data is complemented by a survey among the registered interest groups. The questionnaire was addressed to almost one third (324) of interests registered at the end of February 2009 and the return rate achieved 22.84 %.

The survey provides evidence that interest groups do not follow a common methodology while calculating the amounts invested into lobbying. The research suggests that these methodologies for calculating financial amounts are inadequate. When this is coupled with a passive control system of truthfulness and completeness of the registered data, with weak motivation to voluntarily register in addition to a non-existent sanction policy, it decreases the credibility of the data in the Register. Consequently, the level of transparency of the financial aspects of lobbying is, to a great extent, limited.

Helena:

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Transcatheter Closure of Coronary Fistula by Implanting Three Platinum Coils in a 91 - years Old Female.

Background:

Coronary artery fistulae are defined as abnormal communications between a coronary artery and a heart chamber or a big vessel. Incidence in diagnostic coronary angiography among adults varies between 0.1 -0.2%.

Case report:

A 91-year old patient was referred for elective coronary angiography due to typical exertional long-term chest pain and shortness of breath, worsening in the previous month, resulting in a NYHA class III. Catheter examination showed a fistula connecting proximal segment of the left anterior descending artery and the proximal portion of pulmonary artery. The decision for percutaneous occlusion of the fistula was taken. The procedure was carried out without any complications. After a hospital discharge, the patient was asymptomatic and in a good condition 10 months after the procedure.

Conclusion:

Coronary artery fistula can be safely treated by percutaneous transcatheter closure even in older patients.

Michaela:

Emerging commitments in middle adolescence: content analysis and possible antecedents

The exploration and formation of commitments are generally seen as key concepts for the study of identity formation. The explicit commitments are usually situated in middle and late adolescence when they emerge in the different domains of life. They represent a long-term process determined by previous personal experiences and influenced by many contextual factors (Bosma, 1992; Kunnen, 2009).

The aim of this contribution is to characterize the content of commitments in the 17-year-old respondents and describe psychosocial factors (influence of parents, peers, self-evaluation), which can be regarded as their antecedents in early adolescence. The sample includes adolescents who have participated in the long-term longitudinal research ELSPAC since their prenatal stage of development (n = 503 at the age of 17).

As an instrument for investigating commitments, we used the Czech adaptation of The Groningen Identity Development Scale (GIDS; Bosma, 1985). It combines an interview and a questionnaire to analyze the content and strength of commitment and the amount of exploration in the different domains of life (school, occupation, leisure-time activities, philosophy of life, friendship and romantic relationships). As possible predictors, we used variables regarding the perception and evaluation of parents, peers, and of the participants themselves.

Preliminary results, based on qualitative and quantitative data analysis, inform the subjective importance of commitment, about their strength, indications of agency, and about the degree of exploration. Former parental influence (in terms of perceived parental styles in the age of 11, 13 and 15) seems to be a weak predictor of emerging commitments. There is evidence of a relationship between styles of self-definition and the degree of exploration, as well as a link between the development of global self-evaluation (in terms of the clarity of self at the age of 15, and self-esteem at the ages of 13 and 17) and the strength of commitments.

Radovan:

The application of transcranial color-coded sonography in severe brain Injury

Abstract

Introduction

Brain ischemia is one of the most important components of secondary brain injury. A fundamental mechanism of brain ischemia is the lowering of cerebral blood flow (CBF) below critical level. Among factors contributing to CBF decline are intracranial hypertension, hypotension, microvascular damage, compression by hematomas etc. Current therapeutic strategy is based on control of intracranial pressure and maintenance of adequate cerebral perfusion pressure. In cases of severe brain injury there may occur disturbances of autoregulation, in which a CPP-oriented therapy may worsen intracranial hypertension due to increased cerebral blood volume. On the other hand, in patients with posttraumatic vasospasms, adequate CPP is higher than in presence of hyperaemia. Knowledge of patient's hemodynamic status – hyperaemia or vasospasm – helps in choosing proper therapeutic strategy. A linear correlation between blood flow velocity and CBF makes it possible to determine CBF by use of transcranial color-coded sonography (TCCS). Calculation of Lindegaard's index distinguishes brain hyperaemia from vasospasm.

Aim of the study

The aim of this study is to detect hemodynamic changes in trauma brain injury patients using transcranial color-coded duplex sonography (TCCS) and comparison with intracranial pressure in severe brain injury patients.

Method

TCCS equipped by ultrasound probe 2.4MHz was used to measure blood flow velocity in ACM bilaterally through transtemporal bone window. Peak systolic velocity (PSV), end-diastolic velocity (DV) and time-average mean velocity were captured and pulsatile index, resistance index and LI were calculated. ICA flow velocities were recorded in the cervical region and Lindegaard's index was calculated. TCCS examination was performed once daily, where the duration of the study was 7 days. At the time of investigation patients were hemodynamically stable and received full conservative treatment. ICP and CPP values were also recorded. According to FV values presence of cerebral hyperaemia or vasospasm was established. A group of 20 patients was included in the study. Inclusion criteria were severe brain injury (GCS <8) and admittance up to 24 hours after injury.

Results

In the week after severe brain trauma, 80% of patients showed significant hemodynamic changes. Hyperaemia couples with intracranial hypertension was detected in 41.6 % of patients. Presence of vasospasms was noted in 23% of patients with an average duration of 2.8 days. Vasospasms occurred even in cases where subarachnoid haemorrhage was absent.

Conclusion

TCCS detection of hemodynamic changes in severely brain injured patients may help disclose a subgroup of patients requiring different therapeutic strategies. This may contribute to the reduction of secondary ischemic cerebral damage.

Eva:

ATP content in the chemolithoautotrophic bacteria *Acidithiobacillus ferrooxidans*: application of luciferase reaction kit

Acidithiobacillus ferrooxidans is an acidophilic chemolithoautotrophic bacterium that can grow in the presence of either ferrous iron, or reducing sulfur compounds.

A chemiluminescence system was used to investigate energetic levels in *A. ferrooxidans* grown on various substrates. Implementation of a commercial kit based on firefly luciferase, in order to obtain exact ATP content values in acidophilic *A. ferrooxidans*, is demonstrated in the present work. Many analytical considerations had to be taken due to both low pH of the bacterial cultures, and the substrates inhibition of luciferase.

The relationship between active and substrate-limiting phases and cellular ATP content was confirmed. In the case of soluble substrates, cellular ATP content exceeds the value of ATP content in cells growing on elemental sulfur, which supports elemental sulfur limitation postulated earlier. The study brings for the first time exact ATP content values in acidophilic bacteria.

Katerina N.

This work analyses the category of self in the philosophies of American authors R.W. Emerson, W. James and J. Dewey. We focus on Emerson's conception of self-reliance, his critique of egoism and the ontological aspects of soul, W. James's psychological analysis of the self structure, his concept of subconsciousness and stream of thoughts and finally J. Dewey's ethical point of view in the field of concept of the self. We compare these authors by four categories derived from an analysis of their work. We tried to show and emphasize the substantial connection of philosophical and psychological points, which are common in temporary works for this period of time. That strengthens the claims that there is a need for more philosophical influences in the psychological science. My recommendations are that a higher interest of philosophy is implemented into the science of psychology because of the close connections between these two fields.

Katerina D.

Oligogalacturonide – induced defence responses in grapevine cell cultures

Stimulation of plant defence reaction is an alternative to pesticide use in plant protection against pathogens. The defence responses are induced by elicitors derived from pathogens or plant cells during infection. Alpha-1,4 oligogalacturonides (OGA) are released from plant cell walls by pathogen enzymes. The effect of OGA on defence reaction in grapevine (*Vitis vinifera* L.) cells was studied. OGA treatment induced alkalinization of extracellular medium, enhanced expression of genes encoding phenylalanine ammonia lyase, stilbene synthase, chitinase and thaumatin-like protein, increase in stilbene production and salicylic acid accumulation. OGA did not influence the viability of grapevine cells. These effects should be now checked in whole plants.

Johana:

Abstract

The clock gene Period3 (Per3) has been recently demonstrated to affect circadian expression of various genes in a variety of tissues including the heart. Alterations in the circadian patterns of a variety of circulatory functions are frequently observed in cardiovascular diseases. No studies of Per3 gene on chronic heart failure (CHF) patients have been conducted to date, therefore we investigated the effect of variable number tandem repeat (VNTR) polymorphism Per3 on CHF.

The study subjects (371 patients of Caucasian origin with CHF and 332 healthy controls) were genotyped for Per3 VNTR polymorphism using an allele-specific PCR. No significant differences in genotype or Per3 VNTR allele frequencies were observed when comparing CHF cases and control ($p_g = 0.30$, $p_a = 0.52$); moreover, no significant differences were observed when comparing CHF cases according to their etiology ($p_g = 0.87$, $p_a = 0.91$). In the multivariate regression modeling, no predictive function of VNTR Per3 polymorphism on ejection fraction or NYHA class, hyperlipidaemia, or type II diabetes risk was observed.

Based on the results of the presented study, we do not consider the Per3 VNTR polymorphism to be a major risk factor for chronic heart failure, or a factor modulating severity of the CHF in the investigated Caucasian population.

Jolana

Despite the lack of precise knowledge of signaling pathways of all components integrated in clock machinery, it has been experimentally proven on mammals that mutations in the “core clock genes” may lead to changes in circadian rhythmicity, disturbance of sleep-wake cycles and also affecting heart control and blood pressure [10,11]. Period 3 (Per3), one of the key components of the negative limb of human clock system, the member of Period protein family, first described in *Drosophila* [12], was recently associated with metabolic dysfunctions. According to the functional studies, deletion of Per3 in mice, has a mild influence on circadian activity [13]. However, in humans several mutations in Per3 have been described as affecting sleep homeostasis and mood disorders [14-17]. Among the most surveyed Per3 polymorphisms in the last five years is the biallelic length change near the putative phosphorylation site of exon 18, which is composed of 4 or 5 indirect repeats. Numerous studies have linked this VNTR polymorphism to overall control of autonomic balance during sleep and wake cycles and indirectly to cardiac autonomic control [2,18-20].

However, little is known regarding exact clock mechanism in cardiovascular biology. While circadian rhythms in the heart have not yet been characterized at the transcriptional level, several studies show clock genes have are important in myocardial contractile function and metabolism. Experiments in this area, conducted to date, involve mostly manipulations of the light-dark cycle of mice clock mutants and their influence on myocardial functions [21, 22]. Possible imbalance or impairment in clock mechanism within the cardiomyocyte may alter the cardiac metabolism and function and thus increase the susceptibility of cardiovascular

diseases. Therefore, we have chosen Per3 gene and decided to investigate the differences in allelic representation of VNTR polymorphism among subject with chronic heart failure (CHF).