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Section 1. Materials science

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IMPACT OF COMPLEX PROCESSING ON THE PHOTOCATALYTIC PROPERTIES OF TITANIUM DIOXIDE

Abstract. Complex treatment of titanium dioxide nanopowders was carried out and the effect of this processing on its photocatalytic properties was studied. Complex treatment included the decoration of nanopowders grains surfaces with cobalt clusters and subsequent heat treatment in vacuum. The study of the properties of these nanopowders showed that the absorption of light in the ultraviolet region increases after decorating, however, it remains almost unchanged in the visible region. After additional heat treatment in a vacuum, a strong increase was observed in absorption spectra in the visible area. Studies of the photocatalytic efficiency of complex treated nanopowders with the use of methylene blue solutions showed a strong increase in the efficiency of these photocatalysts towards to solar radiation. There was also studied the disinfection properties of the suspension of these nanopowders.

Keywords: modern materials, nanotechnology, photocatalysts.

Introduction

The rapid growth of the global population and industrialization has led to a concomitant increase in environmental pollution and depletion of energy resources. It becomes crucial to find ways: 1) to mitigate pollution to provide a clean and safe environment for humans; and 2) to provide a renewable, sustainable, and ecologically valid energy source.

The production and application of photocatalytic nanopowders are considered the most promising direction for resolving the abovementioned two current global problems. With the help of photocatalysts, it is possible to decompose water into oxygen and hydrogen using solar energy. The final product combustion of hydrogen will be water again [1]. By photocatalysis, the destruction of

organic particles in the water, bacteria and viruses [2] etc. is also possible.

Nowadays a topical problem that hinders the widespread use of photocatalysis in practice is its low efficiency in terms of solar energy conversion; consequently, the main task facing this field is to increase the efficiency of the photocatalytic reaction. Therefore, intensive studies are currently underway to improve the effectiveness of photocatalysts [1, 3–6].

To explain the reasons for the low efficiency of the reaction, it is necessary to briefly consider the phenomenon of photocatalysis. It is initiated by the absorption of a photon by a semiconductor nanoparticle. If the resulting energy of this photon is equal to or greater than the band gap of the semiconductor, it produces electron-hole (e^-/h^+) pairs. The gap width of the

stable photocatalysts currently available is quite large (more than 3 eV), therefore, only ultra-violet rays of the sun participate in the catalytic reaction. The share of these rays is about 4% in the solar radiation spectrum. The necessary energy for water dissociation is 1.23 eV. The energy of corresponding photons is situated in the visible (red) part of the spectrum. Therefore, one of the ways to improve the catalytic reaction efficiency is to increase the contribution of the visible part of the light spectrum of the sun in the photocatalytic process.

Created electron-hole pairs could reach the surface of TiO_2 particles and act as either an electron donor or acceptor for molecules in the surrounding media, hence increase redox reactions in it (Figure 1) [7].

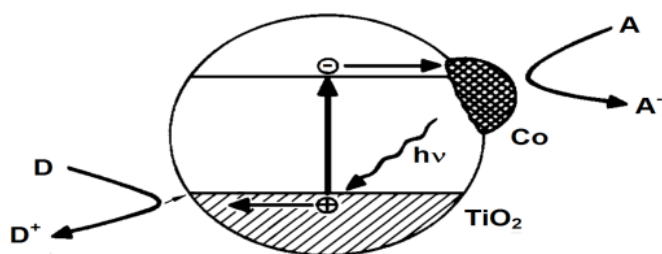


Figure 1. Electron-hole pair production in cluster-deposited particles of TiO_2 powder under the effect of sunlight quanta and their interaction with surrounding molecules

However, the photo-induced charge separation in bare photocatalytic particles has a very short life duration because of these charges' fast recombination. Consequently, a significant part of the charges generated by the light does not have time to participate in the reaction. Therefore, the second way for increasing photocatalytic reaction efficiency is to prevent hole-electron recombination. For this purpose, it is used the method of placing clusters (co-catalysts) of different substances on the surface of nanoparticles, which will capture electrons and holes and reduce recombination (Figure 1) [8].

Because photocatalysis reaction takes place on the surface of the photocatalysts, they are used in the form of nanopowders to increase the surface area and therefore the reaction rate. The thin photocatalytic films are used also to obtain self-cleaning surfaces,

e.g. to create lamps that do not attach soot in automobile tunnels, smart window glasses, etc. [9].

Results and discussion

In studies, the so-called P_{25} powders (mixture of 86% anatase-modified TiO_2 and 14% rutile-modified TiO_2) were used, the size of the grain was 30 nm, the purity of the powder was 99%, the manufacturer was PlasmaChem, Berlin.

The photocatalytic particles were suspended in distilled water. Although the absorption of the pure water investigated over the entire spectral range appears to be low, absorption spectra of the powder suspensions were nevertheless recorded with distilled water in the reference compartment of the DU8200 spectrophotometer. Particle concentration was 5 mg P_{25} in 600 mL water in order to optimize the ratio of absorption to scattering.

A vacuum furnace VA16 with a maximum temperature of 1300 °C was used for thermal processing. We equipped the furnace with an additional liquid nitrogen trap to improve the vacuum so that the vacuum during thermal processing was 10^{-5} mmHg.

The untreated P_{25} absorption spectrum was initially measured. Absorption **is increased** towards the short waves and it reaches a maximum in the ultraviolet area (Figure 2, curve 1).

Then cobalt clusters were deposited on the surface of P_{25} nanoparticles. Coating of the P_{25} nanoparticles by Co clusters was carried out using original technology for the deposition of metallic clusters on fine powders developed at the Andronikashvili Institute of physics [10; 11]. The technology is electroless and inexpensive. Since it proceeds at non-high temperatures (75–80 °C), it does not generate changes in the properties of the substrate material, nor in the clusters themselves. The technology was adapted to the deposition of cobalt nanoclusters on TiO_2 .

Cobalt clusters deposition on the P_{25} nanograins surfaces and their percentage were recorded with a scanning electron microscope (SEM) VEGA3 equipped with EDS of Oxford Instruments.

As a result of the cluster deposition, the absorption increased in the ultraviolet region, but the photocatalyst was not sensitized to visible light (Figure 2, curve 2). However, the picture changed dramatically after of heat treatment of these decorated powders at a temperature of 700 °C for 8 hours. Specifically, light absorption sharply increases in the visible area (Figure 2, curve 3).

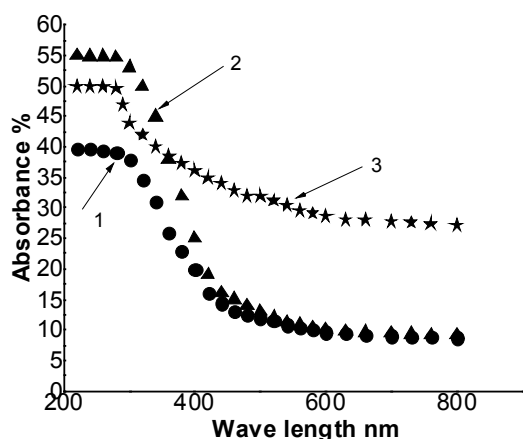


Figure 2. Exchange of the absorption spectra of the P_{25} during complex treatment: 1 – Absorption spectra of the P_{25} before complex treatment, 2 – absorption spectra of the P_{25} after deposition of the Co clusters, 3 – absorption spectra of the P_{25} after heat treatment in the vacuum during 8 hours at the temperature 700 °C

We suggest that this is caused by the diffusion of cobalt atoms in the volume of titanium dioxide nanoparticles, which leads to the emergence of impurity levels and modification of the energy gap of the P_{25} photocatalyst. This is confirmed by the fact that nothing like this happens during the processing in a similar mode of undecorated with clusters P_{25} nanoparticles.

Figure 3 shows the results of the investigation of the photocatalytic activity of the P_{25} before and after complex treatment. Methylene blue solution has been used to evaluate the photocatalytic activity towards organic compounds [12]. By changing the methylene absorption peak in this solution at 665 nm wavelength, methylene degradation has been observed. Three quartz vessels with equal amount of methylene

blue solution were used for the experiment. The concentration of the solutions was 4.5 mg/L. The first vessel contained only a solution of methylene blue while the second vessel contained the solution of methylene blue with a P_{25} powder without treatment and the third vessel contained the same solution of methylene blue but with a P_{25} powder decorated with Co clusters and treated thermally in a vacuum. These three vessels were placed under the summer sunlight at 30 °C.

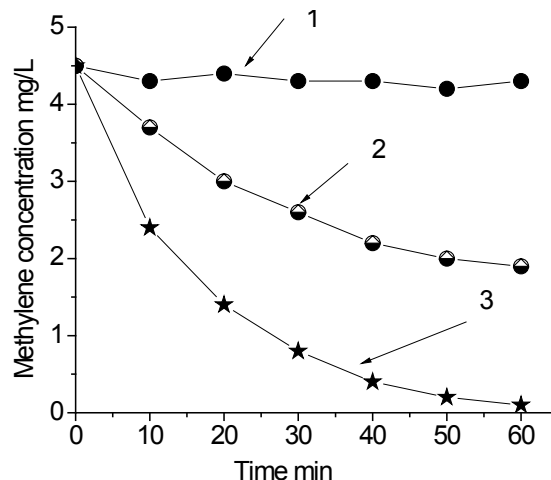


Figure 3. Exchange of the photocatalytic efficiency of the P_{25} during complex treatment: 1 – methylene degradation in pure methylene solution, 2 – methylene degradation in methylene solution with untreated P_{25} , 3 – methylene degradation in methylene solution with complex treated P_{25}

After every 10 minutes of solar irradiation, the 4ml methylene blue solution from the vessels was placed in the spectrophotometer cuvette and the concentration of methylene blue was determined in the solution using methylene absorption peak value at 665 nm wavelength. The spectrophotometer was pre-calibrated and the methylene concentration dependence on the absorption peak value was known. The experiments showed (Figure 3) that the concentration of methylene remained almost unchanged in the vessel without the P_{25} nanopowder (curve 1), whereas the concentration of methylene gradually decreased in the vessels containing the P_{25} , and this happened much faster in the vessel containing

complex treated P_{25} (curve 3) than in the vessel with untreated P_{25} (curve 2).

A phenomenon should be also noted, which was observed in the covering of solid surfaces, including glasses, with a suspension of P_{25} nanoparticles previously decorated with cobalt clusters and then treated thermally in a vacuum. After such surfaces dry, they have protective properties from dust. This suggests that the photocatalyst nanoparticles that

remain on the surface use water molecules from the air for photocatalytic decomposition of dust particles. **This property of covered surfaces retained for several months.**

In addition, it was observed that the said surfaces decomposed the dry particles of the methylene powder poured on them. This suggests that they can destroy bacteria and various harmful gases in the air and therefore improve air purity in the room.

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Section 2. Medical science

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DEVELOPING THE FORMULATIONS OF THE COMPOSITIONS FOR ACNE SPOT TREATMENT

Abstract: Acne vulgaris is a chronic recurrent disease of the sebaceous-follicular apparatus with localization in the areas of face, back, chest, and sometimes buttocks. The literature indicates that great numbers of the world's population aged between 18 and 25 years suffer from this disease. Persons of all races and members of either gender are affected by this disease. Disease does not directly threaten the life, but it can significantly impede the patient's social adaptation and requires both treatment and psychological assistance. The treatment has to be started at an early stage of the disease, and besides, without affecting the regions of skin that do not contain the acne elements.

The purpose of this study was to develop cosmeceuticals for acne spot treatment in the form of creams and solutions, using biologically active substances mostly of natural origin.

The compositions of creams and solutions have been developed in several versions for acne spot treatment, the biologically active part of which consists of substances mainly of plant and natural origin. All the developed versions are not allergic and show a sufficiently high medicinal activity.

Keywords: Acne vulgaris, kerato-regulating effect, Tea tree, bioavailability.

Introduction

Acne vulgaris is one of the most widespread chronic recurrent diseases of the sebaceous-follicular apparatus with localization in the areas of face, back, chest, and sometimes buttocks. The literature indicates that great numbers of the world's population aged between 18 and 25 years suffer from this disease [1–3]. Persons of all races and members of either gender are affected by this disease. Disease does not directly threaten the life, but it can significantly impede the patient's social adaptation and requires both treatment and psychological assistance. One of the difficulties in treatment is that it is impossible to ensure the absence of aggravations, since predisposition to acne disease is coded genetically, and even if the steady remission is achieved, the recurrence of certain causes (predisposing factor) can lead to the development of disease. It is advisable to control the process in a timely manner, excluding the possibility of aggravation, often resulting in cosmetic defects that significantly impede the patient's social adaptation. The earliest changes with acne consist in pathological hyperkeratinization of the follicular epithelium and the microcomedone-forming follicular canal obturation. Later it develops to a clinically visible closed ("white head") or open ("black head") comedone. Changes in the epidermis and dermis in inflammatory forms of acne are associated with irregular acanthosis, hyper- and parakeratosis, polymorphic cell perifollicular infiltration, pronounced by disorganization of connective tissue. After clinical resolution of inflammatory elements in the dermis, changes remain the same in the form of hairy-glandular or pilosebaceous units "clamped" in connective tissue, foci of granulomatous inflammation, and the formation of

cystic cavities, which may be a source of the recurrence of the inflammatory process in the future. It is all related to the appropriateness of including anti-inflammatory, absorbing and regeneration-stimulating agents in therapy. Overproduction of sebum plays a complementary role in the pathogenesis of acne. The increase in sebum production usually correlates with the disease severity, as this reduces the concentration of linolenic acid, which is a predisposing factor for follicular hyperkeratosis; moreover, the sebaceous matter is also a substrate for the reproduction of *Propionibacterium acnes* (*P. acnes*).

The American Academy of Dermatology defines the initial 1st and 2nd degrees of the acne severity, as 1st degree – comedones (open and closed), up to 10 papules; and 2nd degree – comedones, papules, up to 5 pustules.

Usually, it is recommended to apply methodology that includes at some stage the use of a topical method of treatment – peeling (with ascorbic acid, alpha and beta hydroxyl acids), as well as the use of drugs that reduce sebaceous activity (for example, drugs containing vitamin A), elimination of the bacterial background, in particular gram-negative *Propionibacterium acnes*, *Staphylococcus epidermidis*, *Staphylococcus aureus*, which may be involved in the development of the inflammatory response [4].

For daily facial cleansing treatment, it is recommended to use gels with kerato-, sebo-regulating and anti-inflammatory effects. For example, the preparations containing thermal waters: Effaclar lines (La Roche-Posay) and Clearance curative cosmetics lines (Avene), as well as Merck Exfoliac, Sebium Bioderma and so on. One of the options for topical acne treatment is antibiotic therapy. However, there are

not uncommon the cases of *P. acnes* non-response, with temporary side effects such as diarrhea, gastrointestinal upsets, and a high risk of pseudomembranous colitis. Benzoyl peroxide has a pronounced antibacterial effect, but it can cause significant dryness of the skin, and the contact irritant dermatitis. Retinoids are also similarly characterized by side effects. Consequently, in recent years, more frequent use has been made of the preparations in the form of cosmeceuticals [5–9], which contributes to a gentler and more effective treatment. Medical and cosmetic products should be non-comedogenic, and they should not cause dryness and irritation. The drugs used in patients with acne should actively adsorb sebum without disturbing the balance of lipids and ceramides, the water-lipid mantle; they should effectively moisturize the skin due to the substances used in the compositions of the bases of creams, and have a kerato-regulating effect. For example, Avene Clearance K Cream-gel contains 0.1% salicylic acid – Beta hydroxy acid and 2% lactic acid, which enhance the kerato-regulating action of glycolic acid; Topicrem AK Emulsion Active has sebum-regulating (zinc gluconate 1%), keratolytic (lactic acid ester 10%), and antibacterial (myristyl PCA 1%) effects. TOPICREM AC Compensating Moisturizing Cream contains glycerin, beeswax, allantoin and so on.

To date, there are widely used the agents applied point-by-point to the problematic skin areas, contributing to their early recovery, as it helps to fight off bacteria that cause acne – Ciracle Anti-Blemish Spot-X, Ciracle Anti-Blemish Spot-X Cream. They also soothe the skin, reduce the secretion of sebum, prevent the emergence of the skin tightness and post-acne scars, and eliminate skin redness. The most widely used in the composition are: tea tree oil – an antiseptic that has antifungal, antiviral, anti-inflammatory, bactericidal, and wound-healing effect, capable of removing the pus from the inflamed micro-areas; lactic acid, that regulates the functioning of sebaceous glands, preventing the acne manifestations, and has antimicrobial and anti-inflammatory

effect and moisturizes the skin; glycolic acid accelerates skin cell renewal, removes dead skin particles and can increase the content of hyaluronic acid in the skin; salicylic acid, which has an anti-inflammatory, exfoliating and keratolytic effect, and has a strongest antibacterial effect, is effective in treating acne, dissolves sebum in pores, and accelerates skin regeneration. The therapeutic effect of mandelic acid is weaker than that of glycolic acid, but the irritating effect is also less pronounced. In addition, its bactericidal effect makes it advisable to use mandelic acid as part of combined peelings for the treatment of acne. Chlorhexidine is a medicinal substance, the antiseptic, in the finished dosage forms, it is used in the form of bigluconate (Chlorhexidini bigluconas), and it is also used as a topical antiseptic and disinfectant. The composition of such products also includes jojoba oil, peppermint oil, licorice extracts, extracts of aloe vera, Japanese sophora and *Centella asiatica*, orange peel oil, allantoin and panthenol, vitamin E, sulfur, allantoin, eucalyptus oil, chamomile extract, camphor, bisabolol, clay (absorbs excess sebum), polyhydroxy acids, and wax micro-particles.

For Sebo-regulating action, there are used the preparations, which include zinc and sulfur. Zinc inhibits the action of the enzyme 5-alpha-reductase, which leads to reducing sensitivity of the androgen-dependent receptors, and it also plays an important role in skin regeneration, has an anti-inflammatory, astringent, drying, antiseptic and adsorbing effect, prevents hyperkeratosis and comedone formation, and also forms a protective barrier against the impact of irritating factors. Sulfur has the anti-inflammatory, antiseptic and adsorbent effects, has keratoplastic and antimicrobial properties, and it is part of the amino acids that are involved in the synthesis of the antioxidant glutathione.

The purpose of this study was to develop the remedy for acne spot treatment at the initial stage of the disease in the form of creams and solutions, using biologically active substances mostly of natural origin.

Results and their discussion. An emulsion base, when producing creams, contained: distilled monoglycerides (which are both an emulsifier and a stabilizing substance), cetyl palmitate (with its properties, it is an analogue of animal spermacet), stearin (an emulsifier and stabilizer), Carbomer 940 (stabilizer, gelling agent), methyl and propyl esters of gallic acid, and desalted water.

Substances of plant and natural origin were mainly used as biologically active components, for example in the first version:

1. Salicylic acid 2%, 2. Lactic acid 3%. 3. Glycolic acid 3%. 4. Mandelic acid 3%. 5. Dry extract from aloe leaves 2%. 6. Dry extract of chamomile flowers 2%. 7. Eucalyptus essential oil 0.5%. 8. Tea tree essential oil 2%. 9. Chlorhexidine bigluconate 0.05%. 10. Medical sulfur 4%. 11. Zinc acetic acid mixed with zinc oxide (in equal amounts) 1%. 12. Sea buckthorn oil 3%.

Taking into account the individual peculiarities of the patients and the incompatibility of salicylic acid and resorcinol in the cream formulation, a similar amount of resorcinol is used in the second version of cream instead of salicylic acid.

Creams have been studied according to [10]. A physical form is an indiscrete mass that does not contain impurities. The color is white with a yellowish-reddish tinge. It smells like a fragrance component. A mass fraction of water and volatile substances is not less than 75%. The stability of the emulsion was determined in accordance with GOST 29188.3 (State Standard). When determining the colloidal stability after centrifugation in the test tubes, no separation of water or oil phases is observed. When determining the thermal stability, after the aging of cream in a test tube at a temperature of 40–42 °C, no separation was observed as well for 24 hours.

Additionally, the following studies were conducted: the spread test was carried out according to the methodology [11]; measurement of the diameters of the formed spots (45–55 mm) showed that cream must be quite easily applied onto the skin, which is

confirmed by the test on a group of volunteers (the authors of the article).

The osmotic properties of cream were studied on a dialysis model in a glass tube with a diameter of 30 mm, one end of which was closed by a dialysis cellophane film 0.40 mm thick. The temperature during the experiment was 37 °C. The value of osmotic activity as a percentage of the initial weight of cream was determined in 4 hours.

Investigation of bioavailability was carried out using the method of diffusion in a 10%-gelatin within 24 hours at a temperature of 37 °C. Results indicate that the values of both osmotic activity and bioavailability meet the necessary requirements.

The stability time of creams was determined by their aggregative stability and the absence of mold. These parameters remained unchanged during 1.5 years of storage of samples at a temperature of 18–20 °C. According to manual observations, the developed cream is well absorbed without leaving oily sheen on the skin, and besides, it softens, moisturizes and improves skin suppleness and elasticity, and normalizes fat balance. When spreading a cream within 5 days onto the inner flexura of the elbow joint of the volunteers twice a day, no allergic reactions were observed.

The formulation of solutions has also been developed in two versions. In the first version:

1. Salicylic acid 2.0%, 2. Lactic acid 3%. 3. Glycolic acid 3%. 4. Almond acid 5%. 5. Dry extract from aloe leaves 2%. 6. Eucalyptus essential oil 0.05%. 7. Tea tree essential oil 2%. 8. Chlorhexidine bigluconate 0.05%. The solvent is a 90%-ethyl alcohol.

In the second version, based on the above, a similar amount of resorcinol was used instead of salicylic acid. The stability of the solutions was assessed according to the following parameters: physical form – a transparent liquid, color – with a slight yellowish-brownish tinge, smells like ethyl alcohol and tastes with a little sour like ethyl alcohol, pH is not more than 6.5.

According to manual observations, the solutions were quickly absorbed, without leaving the marks on the skin, and normalizing fat balance. When applying

solutions in an amount of up to 3 ml. no allergic reactions were observed on the inner flexura of the elbow joint of the volunteers twice a day within 5 days. The cream and solutions are applied directly to separate inflammatory foci, soothe the skin, relieve itching, reduce skin redness, and accelerate the healing process.

Conclusion. The compositions of creams and solutions have been developed in several versions for acne spot treatment, the biologically active part of which consists of substances mainly of plant and natural origin. All the developed versions are not allergic and show a sufficiently high medicinal activity.

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ANALYSIS OF THE DEGREE OF IMMUNE DISORDERS AND THE APPLICATION OF IMMUNOCORRECTORS IN DISEASES OF THE DIGESTIVE SYSTEM

Abstract. This article provides a detailed analysis of a large set of data, including a comprehensive assessment of the immune status in 340 patients with acute and chronic inflammatory diseases of the digestive system (IDDS). The aim of the work was to carry out the degree of impairment and to analyze the degree of immune disorders (DID) in patients with PID. In the course of studies of the immune status, it was found that in patients with IDDS, general mechanisms of the development of DID were noted: 1st or 2nd degree.

As a result of the conducted immunotherapy, the results of treatment were effective in patients with pancreatitis when using thymogen and thymoptin in combination with traditional treatment; for gastric ulcer and duodenal ulcer, for cholecystitis, immunomodulators of domestic production were used: immunomodulin and timoptin, as well as T-activin. After using the above immunopreparations, we were able to significantly increase the work of the T-component of the immune system, as well as stabilize the functioning of the B-component of the immune system in patients with IDDS.

Keywords: digestive system, acute, chronic, gastric ulcer, duodenal ulcer, pancreatitis, cholecystitis, cholecystopancreatitis, immunity, immunodeficiency, immune system, immunocorrective therapy.

It is known that the pathology of the organs of the digestive system (ODS) occupies a large share in the structure of the total morbidity of the population of Uzbekistan, approximately 7.0% of the total population and does not tend to decrease [4; 5].

The gastrointestinal tract (GITt) is part of the human immune system. The advances in immunology over the past decade have made it legitimate to assert the leading role of the immunological and non-specific reactivity of the organism in the course of a number of diseases.

With ODS diseases, certain changes in the quantitative and qualitative parameters of the body's immune system occur. The study of the body's immune

system helps to determine the severity of the patient's condition and provide adequate treatment [6].

For a doctor of any specialty, knowledge of medical immunology is absolutely necessary, since their application provides a solution to the issues of immunodiagnostics, disease prognosis, objective control over the effectiveness of therapy, and also reveals fundamentally new, pathogenetically grounded approaches to the treatment of diseases by immunocorrecting effects.

Rehabilitation of immune disorders, repair of disturbed links of the immune system ate and does not lead to a full achievement of normal values, it leads at least to an increase in the parameters of the

immune system, to an increase in the duration of the remission period in the clinic, as well as to a decrease in the number of relapses and complications [6; 7].

To date, it has been established that in the etio-pathogenesis of a number of acute and chronic diseases of the ODS lies a dysfunction of the immune mechanisms. In recent years, there has been an increased interest of clinicians and researchers in the problem of studying immune processes in diseases of ODS [7].

The issues of rehabilitation of the immune system in various diseases with the help of immunomodulatory drugs currently do not require substantiation and therefore are the most urgent. This problem is undeniable, since ODS diseases are accompanied by immunodeficiency states.

The last decade has seen the birth of a new medical industry – immunopharmacology. Its main task is the pharmacological correction of breakdowns in the immune system using immunoactive agents aimed at stimulating or suppressing the function of cells involved in the immune response. Immunotropic biologically active substances that can integrally increase a normal or decreased immune response are often called immunostimulants (Petrov R. V., Khaitov R. M., 1998–2020).

Immunological correction of disorders of the immune system leads, if not to the achievement of recovery, then to the development of clinical remission and a decrease in the risk of complications.

The success of immunoactive therapy is associated not only with the emergence of new drugs, but also with the rational use of already known agents in combination with well-developed methods of pathogenetic and etiologic treatment.

It should be noted that immunological correction in most cases does not replace, but complements the basic therapy usual for each pathology.

The rationale for carrying out immunocorrective therapy is the results of clinical and immunological studies.

Currently, clinical immunology with the aim of repairing immune disorders that mainly occur sec-

ondarily – these are secondary immunodeficiency states (SIDS) – has in its arsenal a wide range of pharmacological drugs with immunocorrective action (Khaitov R. M., 2000–2021).

Developed over the past 40 years, modern tests for assessing all parameters of the immune system can reveal and fix subtle mechanisms of damage in the immune status in patients with both acute and chronic inflammatory diseases of the digestive system (IDDS).

Moreover, a modern approach is needed in an objective assessment of the nature, target and degree of immune disorders. To do this, researchers use different formulas to assess the degree of immune disorders (DID) [1].

The aim of this work was to provide an analysis of DID in patients with IDDS.

Materials and methods. A detailed analysis of a large data set was carried out, including a comprehensive assessment of the immune status in 340 patients with acute and chronic IDDS for 12 years (from 2008 to 2019) on the basis of the problem laboratory of the Bukhara State Medical Institute named after Abu Ali ibn Sino.

We used monoclonal antibodies from Sorbent-Service LLC (Russia) to characterize cellular immunity [3]. The characterization of the humoral link of the immune system, including the determination of Ig 3 classes, was performed by applying the method of double immunodiffusion in a gel according to Mancini G. [2].

The parameters of the immune system were studied twice: before and after 1 month. after immunocorrective therapy (IT).

Results and discussion. According to the formula developed by A. M. Zemskov and others [1], it is possible to determine and evaluate the SIN. We studied the immune system in 340 patients with various gastrointestinal pathologies (GIT).

These include gastric ulcer and duodenal ulcer, pancreatitis of acute and chronic genesis, acute and chronic forms of cholecystitis, as well as

cholecystopancreatitis. In patients with IDDS, the general mechanisms of development of DID were noted: 1st or 2nd degree, and it should be emphasized that in the immune system in patients such processes occur that are directly opposite in nature and direction: the functions of some components are depressed (for example, often fixed the immunodeficiency of the T- and B-components of the immune status, as well as subpopulations of T-lymphocytes that had inductor-effector function – Th and Ts), and the work of others, on the contrary, increased (the tension of the functioning of the humoral component of the immune system was determined; high production of IgG, IgA and CIC).

There was also a decrease in the level of natural killer cells – NK, a parameter of phagocytic activity of neutrophils. The role of immune mechanisms is central in detecting disorders in the functioning of the immune system in patients with IDDS, since they directly and indirectly, in combination with inflammatory reactions, cause the destruction of organs and tissues.

We revealed the fact that in pancreatitis, gastric ulcer and duodenal ulcer there is a significant decrease in T-suppressors (Ts), which is, apparently, the main criterion for the development and formation of immunopathological reactions. This fundamental conclusion posed a problem for us to search for innovative methods of immunocorrective therapy for secondary immunodeficiency states and diseases in IID [6–10].

An ideal immunostimulant/immunocorrector should be capable of immunoremediation. It should, first of all, activate Tx, reduce the depressive effect of T-suppressors. To solve this problem, we used immunocorrectors based on peptides/hormones of the thymus (T-activin (Russia), immunomodulin (Uzbekistan), Thymoptinum (Uzbekistan), thymogen (Russia). other pathologies, they have immunocorrective and immunomodulatory effects.

As a result of IT, the results of treatment were effective in patients with pancreatitis when using thymogen and thymoptin in combination with traditional treatment; in case of gastric ulcer and 12-duodenal ulcer, with cholecystitis, immunomodulators of domestic production were used: immunomodulin and timoptin, as well as T-activin (Russia) [6–10].

After using the above immunopreparations, we were able to significantly increase the work of the T-component of the immune system (from 32% to 72%), as well as stabilize the functioning of the B-component of the immune system in patients with IDD [5–12].

Summarizing the results of the studies, we can come to the conclusion that IDDS can be characterized as multidirectional shifts in the immune system of patients. At the same time, a significant immunodeficiency of the cellular component of the immune system was revealed, as well as tension in the work of the humoral link. The immunopreparations used by us in IDDS had efficacy, therapeutic and immunomodulatory effects.

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Section 3. Sociology

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THE PROBLEM OF COEXISTENCE IN AZERBAIJANI AND ARMENIAN SOCIETIES: HISTORICAL AND CONTEMPORARY REALITIES

Abstract. The article analyzes the problem of coexistence in Azerbaijani and Armenian societies in the context of historical and contemporary realities. In Azerbaijan, which supports the policy of multiculturalism, important issues such as ensuring ethnic diversity, protecting the environment of mutual respect and tolerance, peaceful coexistence and security of ethnic and religious groups are always in focus. Unfortunately, countries like Armenia do not have such an experience, and the creation of a mono-ethnic society there is seen as a solution to possible ethnic conflicts.

Keywords: poly-ethnic, citizen, coexistence, integration.

The insidious policy of Tsarist Russia against Azerbaijan since the 19th century resulted in the resettlement of Armenians to the ancient Azerbaijani lands of Yerevan, Zangazur, and Karabakh, and the deportation of the local Muslim-Turkish population from those territories. After the well-known “Turkmenchay Treaty of 1828”, a province was established for Armenians resettled in the territory of Nakhchivan and Irevan khanates of Northern Azerbaijan. Later, Armenians from Gajar Iran and the Ottoman Empire were relocated en masse to the territories inhabited by only 25.000 Armenians. As a result of this continuous resettlement process, the Republic of Armenia was established in the lands of Western Azerbaijan.

The Armenian side, which makes groundless claims regarding the lands historically belonging to Azerbaijan, including Karabakh, always falsifies historical facts. Historical facts show that even after the resettlement of Armenians to the territory

of Karabakh, the ethnic composition of the region was still evident with the majority of the Muslim-Turkish population. “The Russian-Iranian, Russian-Ottoman wars, as well as the tsarist colonial policy in Karabakh, which came under Russian rule after 1805, caused people to leave the region. As a result of the Russian resettlement policy, a large number of Armenian families were brought and settled in Karabakh. It is known that 390 Armenian families were settled in Shusha in 1805” [1, 70].

Tsarist Russia’s resettlement policy continued later on as well. “According to the census conducted by the Russians in Karabakh 12.000 families and about 60.000 people lived there in 1810. According to that list, 9.500 (79%) families of the population of Karabakh are shown to be Azerbaijanis, and 2.500 (21%) families are depicted to be as Armenians and Russians”. The census conducted by the Russians in 1823 showed that 155 of the 642 villages of Karabakh be-

longed to Armenians and 487 to Azerbaijanis. In these villages, a total of 18,563 families were comprised of 14,618 (78%) Azerbaijanis and 3,945 (21.2%) families, while population of Karabakh was considered as 91% Azerbaijanis, 8.4% Armenians [2, 46].

Prior to the establishment of the Armenian state, the local Muslim-Turkish population was started to be deported from the lands of Western Azerbaijan. However, after the establishment of the Armenian state, this process intensified. The process of deportation of the local Muslim-Turkish population in Western Azerbaijan mainly covered the following 4 stages.

1st stage 1905–1906 years

2nd stage 1918–1920 years

3rd stage 1948–1953 years

4th stage 1988–1991 years.

The number of Azerbaijanis deported from Armenia, which pursued the policy of “Armenia without Turks” was about 500,000. As a result of the occupation of the Upper Karabakh region of Azerbaijan by Armenia, the displacement of up to one million of our compatriots can be noted as the 5th stage of ethnic cleansing.

Armenians make up 98.1% of the population of the Republic of Armenia, which carries out ethnic cleansing in stages. Armenian Orthodoxy remains the main religion in the country.

Table 1. – Ethno-demographic landscape of Armenia (2019)
(according to Armenian sources) [3, 176]

Nationality	Population	Percentage
Armenian	2 mil 900 min	98,1%
Yazidis	35272	1.17%
Russian	11862	0.39%
Greek	900	0.03%
Ukrainian	1176	0.04%
Kurdish	2131	0.07%
Georgian	974	0.02%
Belarussian	214	
Polish	124	
Jews	127	
German	33	

Apparently, Armenia, distinguished by its mono-ethnicity, has become a «leader» among the world countries. Adhering to the fictitious idea of a “Greater Armenia”, the Armenian state established in the lands of Western Azerbaijan continued to make and implement new territorial claims against neighboring countries. It should be noted that a new conflict arose as a result of Armenian separatism in the Upper Karabakh region of Azerbaijan in 1992–1993, and 20% of the territory of the Republic of Azerbaijan had been occupied by Armenia. As a result, up to one million Azerbaijanis had been expelled from the region and became IDPs. Azerbaijan re-captured oc-

cupied lands in the II Karabakh war, which began on 27 September 2020 and lasted for 44 days.

Azerbaijan example of coexistence

For many centuries, people belonging to different ethnic minorities have lived in peace and security in Azerbaijan. This multicultural, polyethnic and tolerant heritage still continues in Azerbaijan today.

The geographical position, climate, geopolitical significance of the territory of Azerbaijan, conditioned the settlement of historically different ethnic groups and religious denominations here. “Azerbaijan, which has received its share of Eastern wisdom and Western rationality, as a society has always lived in multicultural

and tolerant values, not in these names, but in other concepts of the same nature. From this point of view, if multiculturalism is the coexistence of all religions, nations, national minorities and cultures in society within the framework of tolerant relations, then Azerbaijan is an exemplary multicultural country” [4, 217]. For this reason, peoples with different beliefs have lived side by side peacefully in this area for centuries, contributing to the formation of multicultural values and a tolerant heritage. After the restoration of Azerbaijan’s independence in the 1990s, the transformation of multiculturalism into a state policy and the establishment of appropriate state institutions ensured the preservation and development of its historical heritage.

Coexistence is the most effective way of life against ethnic-religious separatism, which requires a tolerant environment. Tolerance means allowing every member of society to freely realize their economic, political, spiritual and cultural potential. From this point of view, today’s Azerbaijan is an exemplary place. Here the principles of tolerance are reflected both in the legislation and in the cultural way of life of the people. Here, secular power and state-religion relations are based on mutually beneficial activity. At present, the creative activity in our country, which «prioritizes the political and economic course and creates a solid economic basis for sustainable development of the country, is complemented by the great work done to preserve, develop and convey our cultural and spiritual values to the world community. All this, on the one hand, serves the comprehensive and harmonious progress of Azerbaijan, and on the other hand, allows it to make greater contributions to inter-civilizational dialogue and cooperation.

According to Article 25 of the Constitution of the Republic of Azerbaijan, the state expresses equality and respect for the rights and freedoms of all citizens, regardless of race, nationality, religion, language, ethnic origin and other differences. Restrictions on the rights and freedoms of citizens on the basis of race, religion or ethnicity are strictly prohibited. According to Article 44 of the Constitution, “everyone has

the right to preserve their nationality; no one can be obliged to change his or her nationality” [5].

The Azerbaijan Republic Constitution Article 21 (“State language”) II part dictates: “I. The state language of the Republic of Azerbaijan is the Azerbaijani language. The Republic of Azerbaijan ensures the development of the Azerbaijani language. II. The Republic of Azerbaijan shall ensure the free use and development of other languages spoken by the **population**” [6].

Article 11 of the Law on Culture speaks of support for the development and protection of national culture. It is noted here that the state guarantees the development and protection of the national culture of the Azerbaijani people, including national minorities living in the country. Article 6 of the Law on Education and Article 3 of the Law on the State Language state that education may be provided in the languages of national minorities. Article 45 of the Constitution (“Right to use the mother tongue”) states:

“I. Everyone has the right to use their mother tongue. Everyone has the right to be educated in any language and to be creative.

II. No one can be deprived of the right to use their mother tongue” [7].

The Decree of the President of the Republic of Azerbaijan dated September 16, 1992 “On state support for the protection of the rights and freedoms of national minorities and ethnic groups living in Azerbaijan, protection of languages and cultures” provides for further improvement of relations with national minorities and increasing their role.

In addition to these legal guarantees of local legislation, Azerbaijan has acceded to a number of other international laws, including:

a) “UN Convention on the Elimination of All Forms of Racial Discrimination”;

b) “UN Convention on the Prevention and Punishment of Apartheid”; and

c) “UN Convention on the Punishment of Genocide” to which Azerbaijan acceded on May 31, 1996 [8].

Azerbaijan has joined as a partner to the Framework Convention for the Protection of National Minorities since 2000. The implementation of the provisions of this international agreement was assessed on the basis of the Azerbaijani authorities and other sources of information during the visit of the members of the Consultative Committee on the Framework Convention to the country from April 3 to March 30, 2003. This resulted in the May 2003 Opinion and the relevant decision of the Committee of Ministers. The Opinion and Resolution identified strong points in the implementation of the Framework Convention in Azerbaijan.

National minorities and ethnic groups take up 9.4% of Azerbaijan's population. Namely, out of country's population 2.2% – Lezgins (178.000 people), 1.34% – Russians (119.300 people), 1.35% – Armenians (120.7 thousand people), 1.26% – Talysh (101.8 thousand people), 0.10% – Jews (8.9 thousand people), 0.07% – Kurds (8.1 thousand people), 0.56% – Avars (50.9 thousand people), 0.02% – Khynaligs (3.2 thousand people), 0.43% – Mesheti Turks (43.3 thousand people), 0.25% – Tatars (30 thousand people), 0.24% – Ukrainians (29 thousand people), 0.12% – Sakhyrs (10.9 thousand people), 0.11% – Georgians (9.5 thousand people), 0.03% – Udins (3.1 thousand people) and other ethnic groups [9]. It is worth mentioning that Azerbaijani Turks feature more than 90% of population.

In Azerbaijan, national minorities are fully guaranteed the opportunity to establish their own national cultural centers, associations and other organizations. At present, there are dozens of national-cultural centers operating in Azerbaijan. Out of them «Unity» society, Russian community, Slavic cultural center, Azerbaijan-Slavic cultural center, Azerbaijan-Israel community, Ukrainian community, «Ronai» Kurd cultural center, «Samur» Lezgin national center, Tat cultural center, Mountain Jews community, European Jews (ashkenazi) community, Georgian Jews community, Jews Women Humanitarian Society, Azerbaijan-Tatar community, «Tuqan tel» Tatar cultural society, «Yashlig» Ta-

tar cultural center, Crimean Tatars «Crimea» Society, Georgian community, Azerbaijani Georgians Humanitarian Society, Ingiloy Community, Chechens cultural center, Ahiska Turks «Homeland» community, Ahiska Turks «Sona» Society, Talish cultural center, Avar Society, Germans' «Kapelhaus» cultural society, Udin cultural center, Udins' «Orain» cultural center, «Poloniya» Polish cultural center, «Mada» Talish international Association, «Avesta» Talish Association, «Budug» cultural center, Sakhur cultural center and others.

Club-type amateur societies, national and state theaters, amateur associations and interest clubs operate in areas where national minorities are densely populated. Examples are the Lezgi State Theater in Gusar, the Georgian National Theater in Gakh, and Talysh folk groups in Astara and Lankaran.

Dozens of newspapers and magazines are published in the language of national minorities, and their radio and television programs are broadcast. The republican radio station broadcasts state-funded programs in Kurdish, Talysh, Georgian, Russian and Armenian languages. The local radio station in Balakan broadcasts in Avar, and Khachmaz in Lezgi and Tat. At the same time, local television broadcasts in Lezgi language in Gusar and Khachmaz districts. Newspapers are published in Baku in Russian, Kurdish, Lezgi and Talysh languages. Among them are the Lezgi and Kurdish newspapers 'Samur' and 'Dengi Kurd', as well as the 'Aziz' newspaper published by the Jewish Sokhnut Society.

National minorities are also widely represented in the state structures of the Republic of Azerbaijan. In areas where national minorities are densely populated, their representatives play a leading role in local government and other state structures. Persons belonging to national minorities are represented in the Parliament of Azerbaijan, as well as in the Cabinet of Ministers, the Constitutional Court, the Central Election Commission, law enforcement agencies and other government agencies.

It is obvious that Azerbaijan pursues a multicultural policy to regulate ethnic relations, and this is

reflected in the moral and material support provided by the state to various ethnic groups. The state seeks to integrate them into society without ethnic, religious, linguistic or cultural discrimination.

The state itself is the most interested party in the integration of people of different religions into society in Azerbaijan. There are a number of denominations in Azerbaijan. About 90% of Azerbaijan's population is Muslim. About 10% believe in other religions or are non-believers.

First of all, it should be noted that religion has a high social and cultural prestige in Azerbaijan. Today, there are 1.802 mosques, 11 churches and 6 synagogues in the country. The functioning of 525 Islamic and 34 non-Islamic religious communities in Azerbaijan is a clear example of tolerance [10].

It is mentioned in paragraphs 1–3 of Article 18 of the Constitution of the Republic of Azerbaijan adopted in 1995: religion is separate from state; all religious beliefs are equal before the law; promotion and propagation of religions (religious movements) that degrade human dignity or contradict the principles of humanity are prohibited. Article No 48 states: Everyone has the right to freedom of conscience, to practice any religion alone or in association with others, or not to believe in any religion, and to express and disseminate his or her beliefs in relation to religion [11].

According to the Law of the Republic of Azerbaijan "On Religious Freedom", everyone has the right to determine and express their attitude to religion and to exercise this right; religious organizations must be registered by the government to use bank accounts, rent property, and generally operate as legal entities; the state education system is «separate» from religion (Article 6). As can be seen, the state-religion relations in Azerbaijan are regulated by laws that contain the essence of religious values and create conditions for everyone to freely express their religious beliefs.

Conclusion

Thus, based on our scientific research on the history and current state of the problem of coexistence

in Azerbaijani and Armenian societies, we can note some results:

- Armenia has become one of the few countries that supports ethnic-religious separatism, carries out ethnic deportations on its territory and, as a result, is characterized by mono-ethnicity;

- Azerbaijan has managed to preserve and develop its polyethnic landscape, and here representatives of religious denominations of different ethnic groups have equal rights and freedoms;

- Fascist, nationalist and racist ideologies are supported by the state in Armenia;

- In Azerbaijan, multiculturalism has become a state policy and a way of life. Every ethnic group in the country has the opportunity to develop its language, folklore and culture;

- Armenian state failed to host major forums promoting coexistence, intercultural dialogue, citizenship;

- Azerbaijan has become a venue for major forums promoting the dialogue of cultures and civilizations;

- In Armenia, religion, moving away from its humanistic nature, in fact unites with Armenian nationalism and serves the realization of the fictitious idea of «Greater Armenia»;

- In Azerbaijan, religion-state relations are developing in the desired direction, and religion preserves its humanistic nature;

- There is an atmosphere of intolerance in religious, ethnic, etc fields in Armenia. Armenian society is characterized by intolerance.

- Azerbaijan has an environment of religious tolerance that can serve as an example to most countries in the world.

- Destroying, insulting or armenianizing historical monuments, religious temples and mosques in Armenia is an integral part of state policy.

- Preservation of historical monuments, churches, synagogues and other religious temples in Azerbaijan and their transmission to future generations is supported by state policy.

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Section 4. Physics

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INVESTIGATION OF SIZE QUANTIZATION IN A GYROTROPIC SEMICONDUCTOR

Abstract. The problem of the energy spectrum and wave function of electrons in the subbands and the valence band of tellurium is considered theoretically with allowance for size quantization.

Keywords: energy spectrum, quantum well, wave function, dimensional quantization.

Recently, optical transitions between levels in a dimensional quantized well (DQW), which are used in infrared photoconverters [1], have attracted considerable attention. For semiconductors with a simple zone, the calculation of interlevel transitions for an DQW of an arbitrary potential was carried out earlier in [2; 3]. At the same time, the interlevel optical transitions in the DQW of hole conduction are of interest because of the nonzero absorption for light of arbitrary polarization, which have practical application [4]. A theoretical

study of this type of problem is made difficult by the complexity of the band structure of a semiconductor.

In particular, in [5–7] such a problem was solved numerically in the case of a rectangular DQW with a fixed thickness. However, even a small variation of the thickness or depth of the DQW can greatly change the final result, which makes it difficult to analyze intermediate calculations. In [8], on the basis of the perturbation theory, analytical expressions were obtained [9]. The energy spectrum of the holes was studied, and

the intersubband absorption of polarized radiation in an infinitely deep semiconductor quantum well was studied. The calculations were carried out in the Luttinger – Cohn approximation [10; 11] for semiconductors with a zinc blende grating.

However, a theoretical study of dimensional quantization in a potential well grown on a semiconductor base with a complex zone, one subzone of which has a “hump-like structure” (for example, n-GaP or p-Te) remains open, to which the present work

Note that the study of a number of phenomena, in particular optical or photovoltaic effects in a dimensionally quantized well, requires knowledge of the energy spectrum and wave functions of electrons.

For a quantum well with a potential $U(z)$, we represent the effective Hamiltonian of electrons in p -Te in the form

$$\hat{H} = \hat{H}_0 + \sum_{\alpha=x,z} A_{\alpha} \sigma_{\alpha}, \quad (1)$$

where $\hat{H}_0 = Ak_{\perp}^2 + Bk_z^2$, $A_x = \Delta$, $A_z = \beta k_z$ and it is assumed that the phases of the function are chosen so that the coefficient at is real, 2Δ is the spin-orbit splitting of the valence band at the point $M(P)$ of the Brillouin zone).

Then choosing the dimensional quantization axis and assuming that from (1) we have

$$\hat{H} = \hat{H}_0 + \hat{R}_2 k_{\perp}^2, \quad (2)$$

where

$$\hat{H}_0 = \Delta \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix} + B \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \hat{i}^{-2} \frac{\partial^2}{\partial z^2} + \beta_V \begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix} \hat{i}^{-1} \frac{\partial}{\partial z} + U(z), \quad \hat{R}_2 = A \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} k_{\perp}^2, \quad (3)$$

$k_{\perp}^2 = k_x^2 + k_y^2$, A, B, β_V are band parameters p -Te, $\vec{k}_{\perp} = k_{\perp} (\sin \varphi, \cos \varphi)$ is the two-dimensional wave vector directed along the interface

$$\begin{aligned} \mu_{\xi}^{(1)} = 0, \mu_{\xi}^{(2)} &= \langle \hat{\chi}_{\xi}^{(0)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(0)} \rangle, \\ \mu_{\xi}^{(3)} &= \frac{1}{3} \left[\langle \hat{\chi}_{\xi}^{(1)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(0)} \rangle + 2 \langle \hat{\chi}_{\xi}^{(0)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(1)} \rangle + 2 \langle \hat{\chi}_{\xi}^{(1)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(0)} \rangle + 4 \langle \hat{\chi}_{\xi}^{(1)} | \hat{W}_0 | \hat{\chi}_{\xi}^{(1)} \rangle \right], \\ \mu_{\xi}^{(4)} &= \frac{1}{4} 2 \left(\langle \hat{\chi}_{\xi}^{(0)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(2)} \rangle + \langle \hat{\chi}_{\xi}^{(2)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(0)} \rangle + \langle \hat{\chi}_{\xi}^{(2)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(0)} \rangle + \right. \\ &\quad \left. + \langle \hat{\chi}_{\xi}^{(0)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(2)} \rangle + \langle \hat{\chi}_{\xi}^{(1)} | \hat{R}_2 | \hat{\chi}_{\xi}^{(1)} \rangle \right). \end{aligned} \quad (9)$$

The unperturbed energy levels $E_{\xi}(0)$ and the wave function of electrons $\psi_{\xi}^{(0)} = \begin{bmatrix} \psi_2^{(0)} \\ \psi_1^{(0)} \end{bmatrix}$ in the subbands M'_{ξ} ($\xi = 2, 1$) of the conduction band in p -Te are determined from the following matrix differential equation

$$\hat{H}_0 \hat{\psi}_{\xi}^{(0)} = \hat{E}_{\xi} \hat{\psi}_{\xi}^{(0)}, \quad (4)$$

where $\hat{E}_{\xi} = \begin{bmatrix} \tilde{E}_2 & 0 \\ 0 & \tilde{E}_1 \end{bmatrix}$. Then we have

$$\left\{ \frac{\Delta}{2} \begin{bmatrix} \psi_3^{(0)} \\ -\psi_1^{(0)} \end{bmatrix} - \frac{\partial^2}{\partial z^2} \begin{bmatrix} A_3 \psi_3^{(0)} \\ A_1 \psi_1^{(0)} \end{bmatrix} + U(z) \begin{bmatrix} \psi_3^{(0)} \\ \psi_1^{(0)} \end{bmatrix} \right\} = \begin{bmatrix} \tilde{E}_3 \psi_3^{(0)} \\ \tilde{E}_1 \psi_1^{(0)} \end{bmatrix} \quad (5)$$

For nonzero values of the two-dimensional wave vector k_{\perp} of the energy spectrum and the wave function of current carriers, one can expand in a series in k_{\perp} , i.e.

$$\hat{E}_{\xi}(k, z) = \hat{E}_{\xi}(k_{\perp} = 0) + \sum_{\nu} \frac{1}{\nu!} \frac{\partial^{\nu} \hat{E}_{\xi}}{\partial k_{\perp}^{\nu}} \bigg|_{k_{\perp}=0} k_{\perp}^{\nu} = \sum_{\nu=0}^{\infty} \mu_{\xi}^{(\nu)} k_{\perp}^{\nu} \quad (6)$$

and

$$\begin{aligned} |h, N, \pm\rangle &= \hat{\psi}_{\xi}(k, z) = \psi_{\xi}(0, z) + \\ &+ \sum_{\nu} \frac{1}{\nu!} \frac{\partial^{\nu} \hat{\psi}_{\xi}}{\partial k_{\perp}^{\nu}} \bigg|_{k_{\perp}=0} k_{\perp}^{\nu} = \sum_{\nu=0}^{\infty} \hat{\chi}_{\xi}^{(\nu)} k_{\perp}^{\nu} \end{aligned} \quad (7)$$

Тогда имеем As indicated in [3, 8], the relationship between the coefficients from equation (6) and functions $\chi_{\xi}^{(\nu)}$ from (7) at the same ξ are related by

the relation $\left\langle \frac{\partial \hat{H}}{\partial k_{\perp}} \right\rangle_{\xi} = \frac{\partial E}{\partial k_{\perp}}$, where means averaging over the state. ξ Then we have

$$\left\langle \frac{\partial \hat{H}}{\partial k_{\perp}} \right\rangle_{\xi} = \frac{\partial E}{\partial k_{\perp}} = 2 \langle k_{\perp} \hat{R}_2 \rangle_{\xi} = \sum_{\nu=1}^{\infty} \nu \mu_{\xi}^{(\nu)} k_{\perp}^{\nu-1} \quad (7)$$

Substitution of (2) and (3) in (7) gives

$$|2k_{\perp} \hat{R}_2| \left(\sum_{\nu=0}^{\infty} \hat{\chi}_{\xi}^{(\nu)} k_{\perp}^{\nu} \right) \bigg|_{\xi} = \sum_{\nu=1}^{\infty} \nu \mu_{\xi}^{(\nu)} k_{\perp}^{\nu-1}. \quad (8)$$

Whence equating terms of the same order in the two-dimensional wave vector of electrons in both sides of Eq. (8), we have

Now let us determine $\widehat{\chi}_\xi^{(0)}$ from the equation: $[\widehat{H}_0 - E_\xi(0)]\widehat{\chi}_\xi^{(0)} = 0$, where the unperturbed $E_\xi(0)$ energy levels and ψ_ξ wave functions are determined from two independent stationary Schrödinger equations

$$\begin{cases} \Delta\psi_1^{(0)} - B\frac{\partial^2\psi_2^{(0)}}{\partial z^2} - \beta_V i\frac{\partial\psi_2^{(0)}}{\partial z} + [U(z) - \tilde{E}_2]\psi_2^{(0)} = 0, \\ \Delta\psi_2^{(0)} - B\frac{\partial^2\psi_1^{(0)}}{\partial z^2} + \beta_V i\frac{\partial\psi_1^{(0)}}{\partial z} + [U(z) - \tilde{E}_1]\psi_1^{(0)} = 0. \end{cases} \quad (10)$$

From the latter, the following equation can be obtained

$$\frac{\partial^2\psi_+^{(0)}}{\partial z^2} - \kappa_E^2\psi_+^{(0)} + i\kappa_{\beta_V}\frac{\partial\psi_-^{(0)}}{\partial z} - i\kappa_\Delta^2\psi_-^{(0)} = 0, \quad (11)$$

where it was assumed that $U(z) = U_0 = \text{const}$ and the following designations were drawn: $\psi_\pm^{(0)} = \psi_2^{(0)} \pm i\psi_1^{(0)}$, $\kappa_E^2 = \frac{1}{B}(U_0 - \tilde{E})$, $\kappa_\Delta^2 = \frac{\Delta}{B}$, $\kappa_{\beta_V} = \frac{\beta_V}{B}$.

Note that the solution of equation (11) can be carried out in three approximations, which are analyzed in more detail below.

1-approximation. Let both the real and imaginary components of equation (11) be equal to zero separately. Then we have

$$\begin{cases} \frac{\partial^2\psi_+^{(0)}}{\partial z^2} - \kappa_E^2\psi_+^{(0)} = 0, \\ \frac{\partial\psi_-^{(0)}}{\partial z} - \frac{\kappa_\Delta^2}{\kappa_{\beta_V}}\psi_-^{(0)} = 0, \end{cases} \quad (12)$$

whence we immediately obtain that

$$\psi_-^{(0)} = C_1 \exp\left(\frac{\kappa_\Delta^2}{\kappa_{\beta_V}}z\right),$$

$$\psi_+^{(0)} = D_1 \exp(\kappa_E z) + D_2 \exp(-\kappa_E z), \quad (13)$$

where $\kappa_E^2 = \frac{1}{B}(U_0 - \tilde{E})$, $\kappa_\Delta^2 = \frac{\Delta}{B}$, $\kappa_{\beta_V} = \frac{\beta_V}{B}$, C_1, D_1, D_2 are unknown coefficients determined from the boundary condition of the problem under consideration.

2-approximation. We seek the solution of equation (11) in the form

$$\psi_+^{(0)} = D \exp(\kappa z), \quad \psi_-^{(0)} = D^* \exp(\kappa^* z). \quad (14)$$

Then, assuming that $D = \text{Re}(D) + i\text{Im}(D) = D_{re} + iD_{im}$ and substituting (14), we obtain

expressions connecting the real and imaginary parts of the coefficient D :

$$D_{im} = i \cdot \frac{\left[(-\kappa^2 + \kappa_E^2) + i(-\kappa^* \kappa_{\beta_V} + \kappa_\Delta^2)\right]^2}{(-\kappa^2 + \kappa_E^2)^2 + (-\kappa^* \kappa_{\beta_V} + \kappa_\Delta^2)^2} D_{re}.$$

Whence it can be seen that if the value is real, then $D_{im} = -2 \frac{\varsigma_{re}}{\varsigma_{re}^2 + 1} D_{re}$, if the value is imaginary,

then $D_{im} = -2 \frac{\varsigma_{im}}{\varsigma_{im}^2 + 1} D_{re}$, where $\varsigma_{re} = (-\kappa^2 + \kappa_E^2) / (-\kappa \kappa_{\beta_V} + \kappa_\Delta^2)$, $\varsigma_{im} = (\kappa^2 + \kappa_E^2 - \kappa \kappa_{\beta_V}) / \kappa_\Delta^2$.

3-approximation. From the system of equations (10) we have the following relation, which connects the functions $\psi_2^{(0)}$ and $\psi_1^{(0)}$:

$$\psi_1^{(0)} = \frac{B}{\Delta} \frac{\partial^2\psi_2^{(0)}}{\partial z^2} - \frac{1}{\Delta} [U(z) - \tilde{E}_2] \psi_2^{(0)} + i \frac{\beta_V}{\Delta} \frac{\partial\psi_2^{(0)}}{\partial z}. \quad (15)$$

After some transformation, we have equations for $\psi_2^{(0)}$

$$\begin{aligned} & -\frac{\partial^4\psi_2^{(0)}}{\partial z^4} + \frac{1}{B} \left(U_0 - \tilde{E} - \frac{\beta_V^2}{B} \right) \frac{\partial^2\psi_2^{(0)}}{\partial z^2} + \\ & + \frac{1}{B^2} \left\{ \Delta^2 - (U_0 - \tilde{E}_2)^2 \right\} \psi_2^{(0)} = 0. \end{aligned} \quad (16)$$

It can be seen from (20) that in this case, three cases can also be analyzed:

1-case, i.e. when a microparticle is in a pit, i.e. $U_0 = 0$. Then (16) takes the form

$$\frac{\partial^4\psi_2^{(0)}}{\partial z^4} + \aleph_1^2 \frac{\partial^2\psi_2^{(0)}}{\partial z^2} - \aleph_0^4 \psi_2^{(0)} = 0. \quad (17)$$

where $\aleph_1^2 = B^{-1}(\tilde{E} + B^{-1}\beta_V^2)$, $\aleph_0^4 = B^{-2}(\Delta^2 - \tilde{E}^2)$.

The solution to equation (17) can be represented as

$$\psi_2^{(0)} = \sum_{v=1,2,3,4} B_v \cdot \exp(\alpha_v \cdot z), \quad (18)$$

where $\alpha_1 = -\alpha_3 = \aleph_-$, $\alpha_2 = -\alpha_4 = i\aleph_+$, $\aleph_\pm = \sqrt{\frac{1}{2} \left[\pm(\aleph_1^2) + \sqrt{(\aleph_1^2)^2 + 4\aleph_0^4} \right]}$. Since $\alpha_1 > 0$, $\alpha_3 < 0$,

therefore, in (20) we can assume that $B_1 = 0$, i.e.

$$\begin{aligned} \psi_2^{(0)} = & B_2 \cdot \exp(i\aleph_- \cdot z) + B_3 \cdot \exp(-\aleph_+ \cdot z) + B_4 \cdot \\ & \cdot \exp(-i\aleph_- \cdot z). \end{aligned} \quad (19)$$

It can be seen from the last relations that the first term is exponentially decaying, and the last two terms are oscillating.

To determine the values B_3, B_2, B_4 , we use the following boundary conditions: $\psi_2^{(0)}(z=0) = \psi_2^{(0)}(a) = 0$. Then we have

$$B_3 = B_2 \left\{ -1 + \frac{[\exp(2i\aleph_- \cdot a + \aleph_+ \cdot a) - \exp(-\aleph_+ \cdot a) - 2i \sin(i\aleph_- \cdot a)] \exp(-\aleph_+ \cdot a)}{2[ch(\aleph_+ \cdot a) - \cos(\aleph_- \cdot a)] \exp(-\aleph_+ \cdot a)} \right\}.$$

2nd case. Let be $U_0 \neq 0$. Then we transform equation (18) as

$$\frac{\partial^4 \tilde{\psi}_2^{(0)}}{\partial z^4} - \wp_1^2 \frac{\partial^2 \tilde{\psi}_2^{(0)}}{\partial z^2} - \wp_2^4 \tilde{\psi}_2^{(0)} = 0, \quad (20)$$

where

$$\wp_0^4 = \frac{1}{B^2} \left\{ \Delta^2 - (U_0 - \tilde{E}_2)^2 \right\},$$

$$\wp_1^2 = \frac{1}{B} \left(U_0 - \tilde{E} - \frac{\beta_V^2}{B} \right).$$

Then the solution to the last equation will be defined as

$$\tilde{\psi}_2^{(0)} = \bar{B}_3 \cdot \exp(-\bar{\alpha}_1 \cdot z) + \bar{B}_2 \cdot \exp(\bar{\alpha}_2 \cdot z) + \bar{B}_4 \cdot \exp(-\bar{\alpha}_2 \cdot z), \quad (21)$$

where

$$\bar{\alpha}_1 = -\bar{\alpha}_3 = \sqrt{\frac{1}{2} \left[(\wp_1^2) + \sqrt{(\wp_1^2)^2 + 4\wp_0^4} \right]},$$

$$\bar{\alpha}_2 = -\bar{\alpha}_4 = i \sqrt{\frac{1}{2} \left[-(\wp_1^2) + \sqrt{(\wp_1^2)^2 + 4\wp_0^4} \right]}. \quad (22)$$

Here, expressions $\bar{\alpha}_m$ ($m=1, \dots, 4$) and \bar{B}_m ($m=2, 3, 4$) are defined as α_m ($m=1, \dots, 4$) and

$$C_4 = -C_2 \cdot \frac{[\exp(2i\kappa_+ \cdot a + \kappa_- \cdot a) - \exp(-\kappa_- \cdot a) - 2i \sin(\kappa_+ \cdot a)] \exp(-\kappa_- \cdot a)}{2[ch(\kappa_- \cdot a) - \cos(\kappa_+ \cdot a)] \exp(-\kappa_- \cdot a)},$$

$$C_3 = C_2 \left\{ -1 + \frac{[\exp(2i\kappa_+ \cdot a + \kappa_- \cdot a) - \exp(-\kappa_- \cdot a) - 2i \sin(\kappa_+ \cdot a)] \exp(-\kappa_- \cdot a)}{2[ch(\kappa_- \cdot a) - \cos(\kappa_+ \cdot a)] \exp(-\kappa_- \cdot a)} \right\}.$$

Thus, it was shown that the dimensionally-quantized spectrum of electrons in a semiconductor, the conduction band of which consists of two subzones, between which there is an energy gap, consists of a set of dimensionally quantized levels that do not intersect each other due to the presence of an energy gap. Expressions are obtained for the wave functions and energy spectra of electrons for different cases, differing from each other by relations for the characteristic wave vectors, which, in turn, depend on the band pa-

$$B_4 = -B_2 \cdot \frac{[\exp(i\aleph_- \cdot a) - \exp(-\aleph_+ \cdot a)]}{[\exp(-i\aleph_- \cdot a) - \exp(-\aleph_+ \cdot a)]},$$

B_m ($m=2, 3, 4$) where the following replacements should be made: $\wp_1^2 \leftrightarrow \aleph_1^2$, $\wp_0^4 \leftrightarrow \aleph_0^4$.

Resonant case, i.e. when $(U_0 - \tilde{E}_2) = 0$ $U_0 = \tilde{E}$. Then equation (16) takes the form

$$\frac{\partial^4 \tilde{\psi}_2^{(0)}}{\partial z^4} + \aleph_{01}^2 \frac{\partial^2 \tilde{\psi}_2^{(0)}}{\partial z^2} - \aleph_{00}^4 \tilde{\psi}_2^{(0)} = 0, \quad (23),$$

whose solution takes the form

$$\tilde{\psi}_2^{(0)} = C_3 \cdot \exp(-\kappa_- \cdot z) + C_2 \cdot \exp(i\kappa_+ \cdot z) + C_4 \cdot \exp(-i\kappa_+ \cdot z), \quad (24)$$

$$\text{where } \kappa_{\pm} = \frac{1}{\sqrt{2}} \left[\pm \aleph_{01}^2 + (\aleph_{01}^4 + 4\aleph_{00}^4)^{1/2} \right]^{1/2}, \aleph_{01} = \frac{\beta_V}{B},$$

$$\aleph_0^4 = B^{-2} (\Delta^2 - \tilde{E}^2).$$

It can be seen from the last relations that in this case, too, the first term in relation (24) exponentially decays, and the last two terms are oscillating.

Using boundary conditions of the type $\tilde{\psi}_2^{(0)}(z=0) = \tilde{\psi}_2^{(0)}(a) = 0$, it is easy to obtain the relations by which the unknown C_2, C_3, C_4 coefficients are determined

rameters of the semiconductor and on the energy gap between the subbands of the conduction band.

In conclusion, we note that this problem can be solved by the perturbation theory method, where we can consider as a perturbation the terms in the effective Hamiltonian containing k_{\perp} , where it is necessary to expand the energy spectrum and the wave function of electrons in a two-dimensional wave vector. This case requires separate consideration, to which the following message will be devoted.

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Section 5. Philology and linguistics

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EPONYMS IN PAEDIATRIC DENTAL MEDICINE

Abstract. The article studies the eponyms used in Paediatric Dental Medicine as they are used in textbooks and clinical practice in both Bulgarian and English. The contrastive study aims at identifying the main manners of eponym formation in both languages and to outline the differences and similarities in their usage.

Keywords: eponyms, paediatric dental medicine, Bulgarian, English.

In the field of medicine every alteration in the general condition of the body, every new disease and every new symptom should be described by its discoverer and must be given a name. There are several ways for naming new findings and most of them date back to the very beginning of the development of medicine as one of the most important sciences nowadays. The biggest part of medical terms are words from Greek and Latin origin. Others, based on contemporary words, are also found in medical terminology. Still others bare the name of their founder, and these names are called eponyms.

The issue on the use of eponyms has been discussed by various authors. Nieradko-Iwanicka defined an eponym as “a person, place or thing after whom or after which something is named” [8, 56–57]. Although the definition is quite broad and allows

for unwanted reference to “cultural, social, national, regional, professional or ethnic group” as the World Health Organisation claims [10]. Therefore, the definition Yale et. al. proposed is more appropriate and specific. They define a medical eponym as “an honorific term bestowed to an individual(s) who identified or discovered a disease, sign, symptom, syndrome, test, finding, anatomical part, or designed a device, procedure, view, treatment, classification, prediction rule, principle, or algorithm. Thus, medical eponyms include those aspects which involve patient care or applications of care. Since the term connotes respect and honors a person’s accomplishment(s), any name proven without a reasonable doubt to be associated with racial, fascist, or anti-Semitic beliefs or behaviors or other inhuman atrocities against people or society should be expunged from literature and usage”

[11]. Of course, the issue whether eponyms should or should not be used is still debatable, although specialists continue to use them widely in medicine mainly because the shortness and exactness of these terms facilitate their work.

At present, there are more than 20000 medical eponyms which makes it difficult for the contemporary physician to know them all and use them. Thus, special eponymic textbooks have been written and, in the USA, a compulsory part of medical education is the knowledge and ability to use several thousand eponyms [1]. That is why special attention should be paid to them from a linguistic point of view and principles of their formation should be identified and described as well.

The main issue, examined in the present text, is the eponyms in Bulgarian medical terminology and more specifically those used in paediatric dental medicine. The textbooks used in the excerpt of the eponyms used in paediatric dental medicine are the English textbooks *Handbook of Paediatric Dentistry* by A. Cameron and R. Widmer and *Paediatric Dentistry* by R. Welbury. The comparison with the Bulgarian terms was based on material excerpted the Bulgarian textbooks *Clinical Paediatric Dentistry* by M. Peneva et al. and *Prevention of Oral Diseases – a Textbook of Paediatric Dental Medicine* by M. Peneva et al.

The list with preferred Bulgarian medical terms, based on the proper names of their discoverers, does not claim to be full and complete. The aim of the research made is to examine different manners of term-formation and comparison between the Bulgarian and English terms. The paper contains some of the most popular terms that are given as examples. In all of them the surname of the person who discovered and described the disease is an example of terminologisation.

These eponyms together with those medical terms, playing the role of their synonyms, are presented in the text with their Bulgarian and English equivalents and are also classified according to the special features of their construction. The classifica-

tion follows the one proposed by Petkova [5]. The authors of the present article agree completely with it and use it as a basis for classification of eponyms in Paediatric Dental Medicine. The eponyms are divided into two major groups – monobasic terms and compound terms.

I Monobasic terms

This group is presented by two subgroups- eponyms, formed by the means of conversion, and eponyms, created by the combination of a root (usually the personal name of the discoverer) and a suffix.

1. By conversion

- Паркинсон (*coll.*)(*Bul.*), Parkinson's (E);
- алцхаймер (*coll.*)(*Bul.*), Alzheimer's (E);
- ходжкин(*coll.*)(*Bul.*), Hodgkin's (E)

Eponyms of that kind are typical for Bulgarian and English terminology but are used in every-day speech between specialists and non-specialists. And all these eponyms are examples of determinologisation.

II Compound terms

It is important to highlight the fact that this differentiation is typical only for the Bulgarian medical terminology. The English variant is represented by the possessive form of the name of the founder.

1. The first subgroup includes compound terms containing an adjective, derived from a personal name by adding the suffix “-ов, -ова, -ово”, and a common noun.

- Ван дер Валсови сили (Bul.); Van der Waals force (E.)
- Търнерова дисплазия/ търнеров зъб (Bul.); Turner's hypoplasia/ Turner's Tooth (E.)

2. The second subgroup includes compound terms containing a common noun, the preposition “на” (it expresses possession) and a personal name.

- Ерупция на Капоши (Bul.); Kaposi varicelliform eruption(E.);
- Афти на Микулич(Bul.); Mikulicz's ulcers/ Mikulicz's aphthae (E.)
- Афтоза/ синдром на Бехчет (Bul.); Behçet's aphthosis/ disease/syndrome(E.)

3. The third subgroup includes compound terms containing a common noun, the preposition “*по*” (meaning in accordance with the method/model of) and a personal name.

- Схема по Le Geros (Bul.); Scheme according to Le Geros
- подповърхностна деминерализация по Морено и Зарадник (Bul.);
- Subsurface demineralization according to Moreno and Zahradnik (E.)
- кариозна лезия по Силвърстоун (Bul.); Carious lesion according to Silverstone (E.)

What is noticeable in the groups of eponyms used in paediatric dental medicine is that the largest group in Bulgarian is comprised by the compound eponyms from the second subgroup (compound terms containing a common noun, the preposition “*на*” (it expresses possession) and a personal name.) e.g. *ерупция на Kaposi*/ *афтоид на Pospis-chill-Feyrter*/ *афти на Mikulicz*. What is even more noticeable is that the authors of the Bulgarian textbooks wrote the personal names of the scientists in the Latin script probably to avoid misunderstanding in the process of transliteration/ transcription of the names. This is yet another issue in the use of eponyms in Bulgarian. The latter trend is observed in most journal articles and textbooks in Bulgarian – personal names are rarely transliterated/ transcribed in medical context.

Another common trend in the use of eponyms in Bulgarian medical and paediatric dental medical context is the examples from the third subgroup of compound eponyms (containing a common noun, the preposition “*по*” (meaning in accordance with the method/ model of) and a personal name). The trend is explained by the need of specialists to use and describe procedures/ methods/ studies/ research by the name of the authors that elaborated on the above mentioned entities. For example, *анестезия*

по Вайсбрем (*Weissbrem's anesthesia technique*) is a compound term for all steps in a procedure for applying an anesthesia and the eponym facilitates explanation, teaching and performing the procedure. Of course, these eponyms are more commonly used both in English and Bulgarian by specialists speaking the two languages.

The English terminology system is a homogeneous one. In the construction of its compound terms one and the same model could be recognized, i.e. a possessive form of a personal name (formed by adding “*s*” to it) and a common noun are put together. However, since 1974, National Institutes of Health has recommended refraining from using possessive eponyms [2]. In addition, the World Health Organization in 2004 and the American Medical Association in 2007 advocated for eliminating the possessive form [10, 3] which presents another dilemma related to the use of eponyms.

Eponyms also have historical significance and through them respect is paid to some of the most famous physicians in the history of medicine since the antiquity to present day.

Eponyms in Bulgarian medical terminology could be presented by a single word (a monobasic term) or by a collocation (a compound term), but in both cases a personal name is the main part of them. In the first case, the anthroponym plays the role of a stem [4, 324]. Different suffixes with their own meaning are added to the stem and by that pattern of word-formation various terms appear. But this is not a productive model. More creative is the prototype when the anthroponym is a part of a compound term. This is true only for the Bulgarian terminological system where two subgroups could be distinguished in accordance with the ways of their formation. Even synonymy between phraseological units, which are representatives of these two subgroups, is observed.

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Section 6. Philosophy

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SOMEREQUIREMENTS FOR THE DEVELOPMENT OF CREATIVE CAPACITY OF THE CREATIVE COMMUNITY OF THE VIETNAM PEOPLE'S TEAM LEVEL

Abstract. Creative capacity of the commanding officer the division of the Vietnam People's Army is a combination of endogenous factors, ensuring that the commanding officers of the commanding staff at the divisional level can find new contents, measures, new and appropriate ways of applying and handling them. flexible and effective management of military situations arising in training, combat and military force building, meeting the requirements of tasks according to assigned positions and responsibilities. This process requires solving the requirements of the dialectical relationship between the objective conditions and the subjective factors of each commanding officer at the divisional level.

Keywords: of the article: creative ability, officer, Vietnamese people's army.

The staff commanding officer at the divisional level of the Vietnam People's Army is a constitutive part of the contingent of staff commanding officers, and at the same time a major component of the contingent of divisional-level officers, trained in accordance with the provisions of law. specialized in commanding and consulting, with ranks from lieutenant to lieutenant colonel, hold positions from platoon leader to battalion commander or equivalent, take charge of military work in detachments, directly command, manage and organize subordinate units to perform tasks according to their positions and responsibilities assigned.

In order for each commanding officer at the divisional level to promote well their role in performing the central political task in the unit, it is required that they be fully equipped with sufficient qualifications and theoretical knowledge, military, practical expe-

rience needed. In addition, the creative potential of each individual must be mobilized in handling practical situations of military operations in the unit. This is a process of positive, proactive, purposeful, and normative influence of the subjects in order to increase and develop the quality of all aspects, the elements constituting the creative capacity of the commanding officer. Detachment level, enabling them to find new contents and measures and flexibly and effectively deal with arising military situations, meeting the requirements of responsibilities and tasks in each historical period determined.

Currently, under the strong impact of the fourth industrial revolution, the rapid development of high-tech war forms, followed by a change in the content and methods of combat of the armed forces. Organizations, military forces, ... That practice sets forth the contents of building a strong army, capable of

firmly defending the socialist Vietnamese Fatherland in all situations. It is required that each commanding officer at the divisional level must continue to be trained and trained to improve all aspects, especially the creative ability to meet the requirements of the task. The correct identification of new requirements for the development of creative abilities of the commanding officers of the detachment in the current conditions will provide an important theoretical basis, ensuring the development of creative capacity of this contingent of officers in the right direction, with high efficiency. These requirements are expressed specifically as:

Firstly, follows developing the creative capacity of the current squadron-level staff commanding officers must be systematic, comprehensive, focused, focused, and appropriate effective, efficient. This is one of the basic requirements, reflecting a comprehensive, systematic view but with a focus and focus, in order to ensure the quality and effectiveness of developing the creative capacity of the commanding officers of the senior staff current team.

The required content requires that each subject in the process of developing the creative capacity of the current squadron-level commanding officer must grasp a comprehensive perspective, with a central focus in determining the content of development. Creative capacity of the commanding officer of the detachment level. Because the fact shows that the formation and comprehensive development of the basic elements constituting the creative capacity of the commanding officer of the commanding staff at the divisional level is not an arbitrary development process, but a process of long-term, continuous, systematic, and comprehensive, in accordance with the requirements of practice. Thus, the creative capacity of the commanding officer of the divisional staff has a comprehensive and solid development. Accordingly, it is necessary to pay attention to the comprehensive development of constitutive factors, such as: knowledge, skills, thinking methods, will beliefs, and other personality, mental and physiological qualities. Espe-

cially, in-depth knowledge and skills on commanding and advising and fostering and developing them dialectical thinking methods.

During the implementation process, it must be carried out regularly and continuously, under the direct leadership of the Party committees and commanders at all levels. At the same time, well promote the role of relevant organizations and forces, ensuring high synchronization and unity from leadership, direction to implementation organization. In each period, the unit's tasks and requirements require the unit to regularly review, supplement, complete and plan the contingent of commanding officers to advise the division, to meet well in terms of quantity and quality, especially creative ability, to ensure the good completion of all assigned tasks. In addition, it is necessary to regularly conduct a preliminary review and draw experience for this development process in order to comprehensively review and evaluate the current state of knowledge development, thinking methods, personality qualities, The mind and physiology constitute the creative capacity of the commanding officer of the commanding staff at the divisional level. From there, there are suitable and effective solutions.

Second, developing the creative capacity of the current squadron-level staff commanders must adhere to the realities, requirements, tasks and unique characteristics of each officer. This requirement requires that in the process of developing the creative capacity of the commanding officers of the divisional staff, they must closely follow the characteristics, properties, requirements and tasks of each grassroots unit in the military zones and armies. unions, armed forces... according to structure, organization, payroll, functions and tasks. Seeing the specificity of each unit, each type of officer, especially in units and forces advancing towards modernity; units stationed in strategic, key, remote and remote areas; the units are directly ready to fight, fight, on duty to protect the sovereignty of the sea, islands, borders, airspace, ... to determine the content, development measures in accordance with the character-

istics, requirements, The mission of each unit in the areas where it is stationed.

In the process of implementing impact measures, attention must be paid to the psychological, physiological, age, health, qualities and aptitudes of each officer. In addition, it is necessary to identify the contents and solutions to develop the creative capacity of the current contingent of officers, and it is necessary to see certain differences in age, military age, military rank, and working position of the officers them, etc. Only then can the creative capacity of the commanding officer at the divisional level be developed effectively. Practice shows that, any unit that masters the characteristics of mind, physiology, age, health, qualities and aptitudes of the commanding officer of the divisional level, where the conduct of creative capacity development create their new efficiency and quality. On the contrary, any unit that disregards research, clings to psychophysiology, health, and officers' qualities, there easily leads to a development process that is mechanical, imposed, method, method. inappropriate, wasting time and effort, the development process efficiency is not high.

Third, developing the creative capacity of the current squadron-level commanding officers must aim at improving the quality and efficiency of performing their duties and tasks, meeting the requirements of the task in the current situation new. The creative capacity of the commanding officers at the divisional level is always closely linked with the performance of their duties and responsibilities. The more tasks an officer has, the more types of capacity and creativity he has, the more dominant he is, the faster and more optimal the performance of the task will be. Practice shows that, in any unit or unit, the more actively the commanding officer at the divisional level is actively involved in performing many different tasks and under different conditions, the easier their creativity will be reveal, develop.

On the other hand, in the current new situation, the world and the region have many complicated, unpredictable and unpredictable changes. Peace and

cooperation are still a big trend, but nationalism, extremism, local conflicts, ethnicity, religion, territorial and resource disputes are major challenges that threaten stability and development in a number of national areas, etc. Accordingly, the roles and responsibilities of the commanding officer at the divisional level need to well define their own responsibilities and tasks, always strive to strive and forge practice, attach their creative ability to fulfill their assigned responsibilities and tasks. For each detachment-level commanding officer in the process of developing his or her own creative capacity, on the one hand, it must be associated with the requirements and tasks of the unit, properly assessing the position and role of each aspect., each activity aims to set out the correct management and command methods and methods.

Fourth, developing the creative capacity of the current squadron-level staff commanding officers must be associated with promoting the positivity and self-discipline of the detachment-level commanding officers and the synergy of the teams. Organizations and participating forces. The effectiveness of the creative capacity development of the commanding officers of the detachment is the result of the process of education and training from both sides, organizations and individuals. Because each organization or force has an unequal position and role, it directly or indirectly affects the process of developing the creative capacity of the commanding officer of the divisional level. In any respect, all of them are directed towards the common goal of increasing the content of elements constituting creative capacity such as their knowledge, thinking methods, personality qualities, and psychophysiology; at the same time transformed in the direction of developing the creative capacity of the commanding officers of the detachment to become more and more solid and perfect, to meet the requirements of practical military operations in agencies and units in the current situation new.

It can be seen that developing the creative capacity of the commanding officer of the commanding staff at the divisional level is both an important and

urgent task, as well as a fundamental and long-term problem. This process sets forth requirements on the relationship between objective conditions and subjective factors that require each subject participating in this process to pay attention to solving. In particular, special attention should be paid to the development of the knowledge system, commanding and advisory skills, scientific, flexible, and flexible think-

ing methods along with political, ethical, and willful qualities other psychological and physiological qualities for each commanding officer at the divisional level. Thoroughly grasping and well implementing the above-mentioned basic requirements will ensure that the creative capacity of the commanding officers at the divisional level is constantly developing, meeting the requirements and tasks in the new situation.

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Section 7. Economics and management

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THE SAVING CULTURE AND FINANCIAL GOALS OF POPULATION IN GEORGIA

Abstract. In the present scientific article, based on the latest literary sources and rich factual data, such important issues of financial education as the culture of population saving and financial goals are discussed.

The research has established that interest-free loan from friends and bank loan prove to be the most widely-used loan sources by the Georgian respondents, with 42% of people borrowing interest-free from a friend, and 39% borrowing from a bank. In terms of popularity, bank loan is followed by pawnshop loan (18%), payday loan (12%), and MFI loan (11%).

The research also revealed that 57% of the population has at least one financial goal, while 41% does not set financial goals at all. It is noteworthy that most of the population is concerned with meeting immediate, indispensable expenses and is not likely to set longterm or high-cost goals; the most widespread financial goals for the Georgian population are: covering current loan liabilities (28%), buying food (25%), and paying for utilities (24%).

The data obtained through this research is highly useful for setting approximate baseline and benchmarks within the frames of the National Strategy for Financial Education, and for developing financial literacy programs.

Keywords: Financial Education, Financial literacy, Financial well-being, Financial Decisionmaking, Financial Stability, Culture of Saving, Financial Goal.

Introductions: In recent years, Financial literacy has been widely recognized as an essential skill for financial well-being. Therefore, questions related to financial education take an increasingly central part of policy discussions globally. Georgia is no exception to this development; financial literacy is understood as a prerequisite for sound financial decisionmaking, and financially literate individuals are seen as informed consumers, contributing to overall financial stability.

Of particular importance among the results of financial education is the culture of saving and financial goals of the population. This scientific article is dedicated to the study of this issue.

Within the framework of the research, 1100 respondents (age: 18+) were interviewed by face-to-face survey method across the country. A stratified cluster sampling method was used. The selection was made according to the regions and the type of settlement. Sampling points were selected in proportion to the population; adults were randomly selected in households based on the „last birthday principle (adults who had the birthday most recently were chosen as respondents). The fieldwork was conducted between April 1 and April 25, 2020.

In addition to basic frequency analysis, this research includes factorial analysis and the statistical analysis using the Affinity Index.

Results and discussion: The research revealed that, during the last year, 37.9% of the respondents saved money in some way, and for this purpose, they addressed 1.7 loan sources on average. 23.4% of the respondents have not saved money at all during the last year. 28.1% of the population saves money at home, 13.8% gives money to a family member for saving, 9.8% builds up a balance of money in their current account, 7% is paying money into a saving account, while 6.8% saves in informal way, e.g. plays “lottery”.

There is an important link between saving culture, on the one hand, and income and financial education levels on the other. Respondents with higher financial education and income levels save

more actively, and increasingly use more formal methods of saving.

Saving at home mostly characterizes the segment whose household monthly income is up to 550 GEL. The most active savers are those whose monthly household income is 901 GEL and up. Unsurprisingly, formal methods of saving, such as saving at a bank or saving by buying investment products (stocks, shares), are also linked with higher income.

It is likely that the lower-income segments mostly save smaller amounts of money and for shorter periods, which influences their decision to save money at home or with family members; in this case, money remains easily accessible.

Financial knowledge, as well as overall financial literacy scores are higher among those, who use formal saving methods, i.e. save by buying financial investment products, save money on a current account, or pay money into a savings account. It must be noted that due to the underdevelopment of capital markets and investment activities, saving money via investment products is not particularly widespread in Georgia.

Saving methods vary based on the employment status. In particular, the self-employed population mostly saves money on a current account, or by buying property, such as gold or livestock. Those in paid employment (excluding the self-employed segment) mostly save money on a current account, using informal methods of saving (e.g. playing “lottery”), buying investment products, or paying into a savings account. Saving money using formal methods is not particularly popular among housewives, retired persons, and those looking for a job. Retired population and those looking for a job most commonly save by giving their money to family members, while housewives typically save at home or using informal methods of saving.

It is interesting to analyze saving methods based on the respondents' occupation. Using financial investment products is the most popular among those in top management (incl., legislators and government officials). Specialist-professionals mostly save money on a current account and on a savings

account. Specialists and assistant professionals commonly save using informal methods of saving, such as playing the “lottery”. Service and retail personnel, as well as craftsmen, save on a savings account and give money to family members for saving; however, unlike craftsmen, service and retail personnel have not been actively saving over the last year. Lastly, non-qualified workers mostly save by buying live-stock, gold, or other property.

If we analyze saving habits based on how long a household would be able to meet its expenses without borrowing or changing standard living conditions (e.g. moving house) in case of income loss, we can see that the ability to withstand the loss of income is normally associated with good saving skills. 64% of those who state that they could withstand income loss from 3 to 6 months have been saving in some way over the past year. Those who state that they would be able to do so for less than one month have the poorest saving habits.

Having financial goals can be generally seen as a sign of proper financial awareness, as well as mindful saving and spending habits. According to the study results, 57% of the Georgian population has at least one financial goal; by contrast, 41% of the surveyed audience has no financial goals at all.

The overall financial literacy score of the segment that has at least one financial goal equals to 62.1 (out of 100). By contrast, financial literacy score of the segment with no financial goals amounts to mere 54.5 points, suggesting, once again, that setting financial goals is associated with relatively high financial literacy.

The most widespread financial goals in Georgia are covering current loan liabilities (28%), buying food (25%), and paying for utilities (24%). This indicates that most of the population is concerned with meeting immediate, indispensable expenses and is not likely to set long-term or high-cost goals. The respondents also set the goals of buying or renovating a home (21%), buying a car (19%), and receiving education (16%). As it appears, starting a new business is not a very widespread financial goal in the country.

A typical person in Georgia has on average 2 financial goals. The number of financial goals is significantly above average in Kvemo Kartli, Imereti and Samegrelo, and very low in Adjara, Guria and Mtskheta-Mtianeti.

It is interesting that the number of financial goals does not vary by employment and gender parameter; however, there is a weak but negative correlation between the number of financial goals and age. More specifically, the higher the age of an individual, the lower the number of financial goals he/she has. 21% out of those who have at least one financial goal have undertaken no concrete actions to reach it. 31% of those with a financial goal cut back on spending, 22% looked for new/additional work, and only 15% prepared a plan of action to meet his/her financial goals. Further, 14% saved or invested money, and 12% identified a source of new credit.

From among the surveyed audience, those with at least one financial goal have undertaken on average 1 out of 10 actions to meet their goal. In the regional profile, the number of actions undertaken for achieving financial goals is highest in Kvemo Kartli – 1.8 actions and the lowest in Tbilisi – 1.2 actions.

There is a weak correlation of this variable with age; in particular, the number of actions undertaken is above average in 18–19 and 29–40 age group, and is significantly below average in 70+ age group.

To analyze thoroughly what the respondents with financial goals have in reality done in order to achieve their goals, the factorial analysis of their actions was performed. A simple frequency analysis provides us only with information on which actions are the most popular across the population; by contrast, factorial analysis helps find correlation between actions that people undertake, and interpret the results. Thus, the purpose of the factorial analysis is not to establish frequencies, but to study the nature of the respondents' behavior.

Within the frames of the factorial analysis of the actions undertaken in order to reach finan-

cial goals, 6 of the most popular actions in the population were divided into 3 groups, or, factors

(Table 1). Such grouping has quite an interpretable nature.

Table 1. – Factorial analysis of actions taken to achieve financial goals

Highlights	1st group: Weak- ened self financially	2nd group: Tried to generate more	3rd group: Became mo- bilized, made savings
Prepared an action plan	.218	-.020	.554
Increased credit card or loan repayments	.720	-.002	.134
Saved or invested money	-.199	-.021	.739
Looked for new/different/additional work	.079	.666	-.291
Identified a source of credit	.068	-.779	-.368
Cut back on spending	.462	.348	-.200
Something else, namely: Sold a personal belonging	.640	-.021	-.026

The 1st group, or factor, created with factorial analysis (“Weakened self financially”) unites those actions that result in limiting/weakening existing financial conditions of the respondent, in particular: increased credit card or loan repayments; Cut back on spending; sold a personal belonging. This grouping tells us that in order to achieve his/her financial goal, a person fully uses existing resources and makes adjustments in own financial conditions in order to release disposable financial resources for reaching financial goals.

The 3rd group created through factorial analysis (“Tried to generate more”) unites the following two actions: prepared a plan of action, and saved or invested money. The third group has a “remedy searching” structure; a typical respondent in this group can make full use of existing resources for achieving his/her financial goals without significantly altering current financial conditions. He/she develops an action plan and gradually puts aside some money in order to achieve own goals.

Lastly, the 2nd group consists of one action only: looked for new/different/additional work. This action differs significantly from those united under 1st and 3rd groups: while the respondents in the 1st and the 3rd groups distribute existing financial resources (even though these groups have different approaches),

the respondents in the 2nd group leave existing financial conditions intact and prefer to find a new job, as a new source of income, in order to reach their goals. It is noteworthy that the respondents in the 2nd group refuse to borrow in order to achieve financial goals.

To sum up, factorial analysis revealed the nature of actions undertaken by the respondents to reach financial goals, and divided the population with financial goals into three groups, or factors. However, this method of analysis does not tell us what fraction of the population belongs to each factor. To answer this question, we conducted a cluster analysis, which, in its turn, revealed, that almost half of the population (47%) is united in the 3rd group – “Became mobilized, made savings”.

Those respondents who undertook actions weakening their current financial conditions/resources (increased credit card or loan repayments, cut back on spending, or sold a personal belonging) in order to achieve their financial goals, received the highest financial literacy scores by all three indicators: knowledge, behavior and attitude – in total, 13.4 points on a 21-point scale. Interestingly, the remaining two groups received identical financial behavior scores, yet different attitude, knowledge and the overall financial literacy scores (Table 2).

Table 2. – Clusters in the context of financial education

Clusters	Knowledge score (max: 7)	Behavior Score (max: 9)	Attitudes score (max: 5)	Financial literacy score (max: 21)
Weakened self financially Increased credit card or loan repayments Cut back on spending Sold a personal belonging	4.9	5.5	3.0	12.4
Tried to generate more Looked for new/different/additional work	4.9	5.3	3.0	13.2
Became mobilized, made saving Prepared a plan of action Saved or invested money	4.7	5.3	2.8	12.3
Total (within the entire population)	4.5	5.0	2.8	12.3
Total (within those having a financial goal)	4.8	5.3	2.9	13.0

Conclusion: The research found, that interest-free loan from friends and bank loan prove to be the most widely-used loan sources by the Georgian respondents, with 42% of people borrowing interest-free from a friend, and 39% borrowing from a bank. In terms of popularity, bank loan is followed by pawnshop loan (18%), payday loan (12%), and MFI loan (11%). In general, middle-income households prove to be the most active borrowers, followed by higher-income households.⁴ Interest-free loan from a friend/family is the most popular amongst low- to middle-income respondents and thus, it is likely that such loans are predominately given in small amounts. It is noteworthy that none of the formal loan sources are particularly popular in the low-income segment (with monthly income of up to 550 GEL). Further, household loan exposure generally increases in proportion with the improvement of education levels,

employment, and economic status; to illustrate, 55% of those with university education, and 68% of the employed population have a loan in a household, while the same can only be said about 43% of those with incomplete secondary school education and 44% of the unemployed persons.

It is also interesting, that 57% of the population has at least one financial goal, while 41% does not set financial goals at all. The research revealed that the respondents with financial goals received higher financial literacy scores than the respondents without financial goals. It is noteworthy that most of the population is concerned with meeting immediate, indispensable expenses and is not likely to set long-term or high-cost goals; the most widespread financial goals for the Georgian population are: covering current loan liabilities (28%), buying food (25%), and paying for utilities (24%).

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IMPROVEMENT OF THE EFFICIENCY OF STATE MANAGEMENT ON ETHNIC GROUP CULTURE ASSOCIATED WITH SUSTAINABLE DEVELOPMENT IN MOUNTAINOUS PROVINCES IN THE NORTH OF VIETNAM

Abstract. The northern mountainous area has the home of the largest number of ethnic groups in Vietnam. The history of ethnic groups in this area is associated with the process of reclamation, establishment of sovereignty, enforcement of sovereignty and protection of sovereignty of the northern border territory of Vietnam, share everything in the process of conquering nature, fighting against the common enemy together, and protecting the labor results. Over thousands of years living together, building common values, contributing to the formation of a rich, diverse Vietnamese culture imbued with national identity. The state management in general and the state management of ethnic group culture in particular have been carried out synchronously by local authorities throughout the past time, contributing to preserving and developing the cultural values of ethnic groups, contributing to socio-economic development, and improving the lives of the people. In the new context, the state management on ethnic group culture associated with sustainable development in the region needs to be further enhanced with synchronous solutions.

This article focuses on researching and clarifying related issues in order to improve the efficiency of state management of ethnic group culture in association with sustainable development in the northern mountainous provinces of Vietnam.

Keywords: efficiency, state management, ethnic group culture, sustainable development.

1. Introduction

The Northern mountainous area includes 15 provinces: Ha Giang, Cao Bang, Lao Cai, Bac Kan, Lang Son, Tuyen Quang, Yen Bai, Thai Nguyen, Phu Tho, Bac Giang, Lai Chau, Dien Bien, Son La, Hoa Binh, Quang Ninh. This is an especially important strategic area in terms of socio-economy, national defense, security and foreign affairs, and plays a decisive role in the ecological environment of the Northern region. Besides, this is considered an area with great potential for hydropower, agriculture, animal husbandry, forestry, etc., which is favorable for the economic development of the country. The north-

ern mountainous area is the home of more than 30 different ethnic groups such as Kinh, Thai, Muong, Hmong, Dao, Tay, Nung, Kho Mu, Cong, La Ha, La Hu, Lao, Hoa, Mang, Cao Lan... According to investigated data on population and housing in 2019, the whole area has a natural area of 100.965 km² and a population of 12,532,081 people (of which the Kinh ethnic group has 5.495.484 people and other ethnic groups have 7,037,317 people) [1, P. 54].

With many ethnic groups living together, this place is considered an area with the richest and most diverse cultural identity in the country. Although it has undergone thousands of years of construction

and development, the culture of ethnic groups in the Northern mountainous region always keeps its own distinct identity, each ethnic group has its own culture, but common characteristics of their culture are a combination in harmony with nature, high community character, depending on the gods and having profound human values, from the way of eating, dressing, staying, traveling to the religious life, culture, art and architecture... creating a very separate area with Thai people's Xoe dance, Hmong people's Khen dance, Then singing, Si, Lon of the Tay, Nung...

In order to promote the cultural values to become a resource in socio-economic development, at the same time deeply grasp the Party's viewpoint on "Developing an advanced Vietnamese culture imbued with national identity... to make culture closely linked and permeated into the entire social life, becoming a solid spiritual foundation, the endogenous strength of development to ensure the association between the economic development, building and rectifying the Party and improving the culture – the spiritual foundation of the society; creating a comprehensive and sustainable development of the country" [3, p. 75–76]. Therefore, in recent years, localities of the Northern mountainous region have strengthened the state management of ethnic group culture associated with socio-economic development towards sustainable development.

2. Research methods

To carry out this study, on theoretical basis, the author has based on the point of view of the Communist Party of Vietnam on culture in general and ethnic group culture in particular and based on policies, Vietnamese law on culture and ethnic group culture. In terms of scientific research methods, this article uses the sources of documents and the author's perception through the process of field research... by means of ethnographic fieldwork, tourism study with basic techniques such as observation, interview, photography, and at the same time, using the scientific method inherited from the previous authors.

In addition, the article also uses materials, data, and perceptions obtained by collecting, analyzing, and summarizing reports from departments, agencies, and localities in the area to give an objective view of the state management on ethnic group culture associated with economic development in the northern mountainous area.

3. Study results

3.1. *The role of state management on ethnic group culture in the current period*

State management on ethnic group culture is the management of a field that plays an important role in ensuring fairness in creativity and cultural enjoyment of the ethnic group community in Vietnam. It should avoid taking advantage of cultural activities to incite division of the great national unity, or turn traditional cultural products into common goods for profit exploitation.

State management on ethnic group culture also aims to increase cultural values, bring benefits to the community and the country, but still ensure the specific values of each ethnic community. On the other hand, state management on ethnic group culture is also the use of effective and appropriate measures (laws, institutions, policies, plans, etc.) to honor the cultural values of each ethnic community, increasing the resistance of the culture of each ethnic group from the invasion of foreign cultural factors that threaten the existing good cultural values [4, P. 184].

In the past years, before the strong development and the influence of the market mechanism, the process of international integration and the fourth industrial revolution have had a strong impact on the culture in general and the culture of the ethnic groups in particular. Therefore, the state management of ethnic group culture plays an increasingly important role, reflected in the following contents:

Firstly, the stable, sustainable and equal development of ethnic group culture. The State, with its planning, promulgation and organization of implementation of legal norms and policy systems, will ensure the goals of cultural development. Cultural policies,

including ethnic group culture, include the creation, preservation and promotion of cultural values. And it also raises the self-consciousness of each ethnic group in preserving cultural values.

Secondly, the State's role in regulating cultural activities of ethnic groups. The position and role of culture has been established by the assessments and views of our Party and State towards culture in general and ethnic group culture in particular. Accordingly, culture is really the driving force and goal of development. Only the State with a comprehensive management function, through a system of policies, laws, organizational apparatus and effective tools, can establish that important role of culture [4, P. 191].

Thirdly, the role of supporting ethnic group culture. Culture is diverse and rich, which is the creative product of many different individuals, communities and ethnic groups. In the context of traditional cultural values, non-profit cultural fields are facing many risks and challenges, the State's participation in management will play the role of "midwife" for cultural activities and creation, especially in the field of conservation and promotion of traditional cultural values, cultural values of ethnic groups and specific cultural values.

Fourthly, the role of controlling and regulating cultural activities of ethnic groups. Due to the nature of the culture, this field is very easily exploited. Especially in the context of integration towards modernization, cultures have penetrated into the culture of ethnic groups, putting traditional cultural values in many challenges. It is necessary to have the right orientations for ethnic group cultures in order to both preserve and develop traditional values with national identity, while actively purifying new suitable values for the development of the country.

Fifthly, the role of development of ethnic group culture. Culture belongs to the category of society, movement, change and development according to the general laws of the society. However, culture cannot be allowed to develop spontaneously. The role of the State is to orient the development of culture,

to build mechanisms and methods for that development. On the one hand, it helps culture to participate in the integration process firmly, exploiting cultural advantages in both material and spiritual aspects; On the other hand, it preserves traditional cultural values so as not to be affected from the negative effects of the development. State management on ethnic group culture must affirm the fundamental position and driving force of ethnic group culture in its general development and ascent. State management on ethnic group culture contributes to orienting and adjusting the development of culture, thereby affecting the goals and activities of culture.

Sixthly, state management on ethnic group culture contributes to orienting and adjusting the cultural development of ethnic groups, to realize the Party's cultural and artistic undertakings and guidelines. For a development policy or guideline, no matter how correct it is, the ineffective implementation and implementation process will affect the political system and the ascent of an entire nation. Culture is associated with people, so it also contains fluctuations. State management on ethnic group culture is the way to ensure stability for the development of this field. Among the core objectives for state management on ethnic group culture, the goals of ensuring fairness for the needs of creative activities and cultural enjoyment is an important and challenging goal. Through a system of policies, programs, plans and management activities, the State will bring the Party's guidelines and policies into life, meeting the set core goals.

3.2. State management on ethnic group culture associated with sustainable development in the Northern mountainous area

Throughout history, since its inception, our Party and State have always attached great importance to the task of building and developing Vietnamese culture and people, with emphasis on improving the efficiency of state management on culture in general and improving the efficiency of state management on ethnic group culture in particular. In recent years, the

Party Committee and local authorities in the northern mountainous area have advocated that the development of culture and tourism must be associated with local economic development, selectively and in line with customs and practices of ethnic groups with the integration into the international community. Strengthening the quality of cadres and renovating the management mechanism, ensuring rich and effective activities according to the orientation of the State... Improving the quality and efficiency of cultural and artistic activities, creating conditions for literary and artistic creation activities to meet the people's enjoyment needs. Therefore, over the past time, the state management on ethnic group culture has achieved many results, namely:

Firstly, the Party committees and authorities at all levels in the Northern mountainous area have thoroughly grasped and concretized the guidelines and resolutions of the Party and the State's laws on building and developing Vietnamese culture and people imbued with national identity, the contents of state management on ethnic group culture, policies on preserving and promoting cultural values of ethnic groups into specific plans and action programs. The localities have issued resolutions and schemes on economic, cultural and social development, directed functional branches to research and develop topics and schemes, in which special attention is paid to development of ethnic group culture, such as: The plan of the Department of Culture, Sports and Tourism of Lai Chau province on inventory and preparation of traditional cultural value preservation list of 13 ethnic groups in the province; Strategy "Preservation and development of folklore of ethnic groups in Yen Bai province until 2020"; Plan "Preservation and development of ethnic group culture in Tuyen Quang province in the period 2016–2020"; The plan on preserving, restoring and promoting the typical Hmong ethnic culture in Ha Giang province"; Plan "Development, preservation and promotion of cultural identity of Lao Cai ethnic groups"; Plan on preserving, translating, exploiting and promoting the

cultural heritage of ancient Thai books in Son La province... In addition to plans, the cultural authorities also coordinate with localities in the province to review festivals, folk songs and dances of different ethnic groups to have a plan for restoration and conservation. In general, the plans and topics have basically carried out the inventory and assessment of the current status of tangible and intangible cultural heritage in the area, carried out the collection for preservation of culture, folklore of the ethnic groups.

As a result, the policy system on ethnic group culture has been gradually improved, creating conditions for improving the efficiency of state management on ethnic group culture, and actively protecting the rights and obligations of the people, profoundly impacting the cultural life of the country.

Secondly, the preservation, restoration and promotion of tangible and intangible cultural values of ethnic groups have been carried out by the localities with important results. Up to now, Lai Chau province has collected over 31,000 artifacts, including nearly 1,900 national cultural artifacts, made inventory and list of intangible cultural heritage of 13 ethnic groups in the community; jointly organized to open 13 classes for teaching intangible culture of ethnic groups. Collecting and preserving folk knowledge of two ethnic groups (Dao and Ha Nhi); 6 folk songs and dances of ethnic groups: Thai, Si La, Lu, Hmong, Ha Nhi, Dao; Restoring 16 festivals of ethnic groups, and at the same time maintaining and organizing 40 festivals every year [9]. According to the total heritage inventory data in Yen Bai province, there are over 1,200 cultural heritages, of which more than 700 tangible cultural heritages and over 400 intangible cultural heritages" [11]. Famous heritages and festivals of Yen Bai province are known as: *Pang Cang Traditional house and Ancient Village* of Hmong people in Suoi Giang; *Vieng Cong ancient village* of Thai ethnic group in Hanh Son (Van Chan); *Ngoi Tu ancient village* of Cao Lan ethnic group, Vinh Kien commune (Yen Binh), ... In 2020, the Ministry of Culture, Sports and Tourism selected 7 traditional fes-

tivals of ethnic groups that need to be restored, preserved. In which, there were 5 festivals in the Northern mountainous area, including: Traditional festival of the Lao ethnic group (Dien bien province); Traditional festival of La Chi ethnic group (Quang Binh district, Ha Giang province); Traditional festival of Nung ethnic group (Hoang Su Phi district, Ha Giang province); Traditional festival of Thai ethnic group (Yen Bai province); Traditional festival of Shi La ethnic group (Lai Chau province).

Thirdly, the organizational system of the management apparatus on ethnic group culture has been increasingly completed and consolidated, gradually improving management capacity, innovating management methods, promoting the development and limiting the negatives in the cultural and artistic life of ethnic groups. Inter-sectoral coordination between the cultural sector and related sectors such as tourism, industry and trade, planning – investment, traffic – transportation ... to promote tourism, call for investors to participate in investment and projects to support and develop socio-economy in a sustainable manner in localities has been effectively implemented such as the construction project of Hoa Binh Lake National Tourist Area, Hoa Binh province until 2035 with an area of about 52,200 ha, destinations: Fansipan Legend, Topas Ecologe, Ham Rong, Cat Cat ... and 5-star hotels such as Hotel de la coupole – Mgallery by sofite, Silk Path, Pao's Sa Pa (Lao Cai) ...

Fourthly, the management and organization of festivals in the localities have had positive changes, gradually coming into order. Festival activities take place solemnly, safely and economically, along with many cultural activities, sports and exciting folk games attracting a large number of people and tourists. Festivals with violent practices that do not match the trend of the times have transformed the form of ritual practice.

In addition to activities to preserve and promote traditional cultural values, localities have opened cultural tourism routes “come back to the origin” to exploit the advantages of cultural tourism, serve the

local economic development and well organize traditional cultural festivals of ethnic groups. According to the data of the cultural industry, on average, each locality takes place over 40 folk festivals at historical and cultural relics each year. Many annual traditional festivals take place in districts, towns and cities with many rich and diverse activities, becoming a beauty in the cultural activities of the people. In particular, in 2019, Yen Bai province held a great show to set a Guinness Vietnam record in Nghia Lo town, with the participation of thousands of actors, artists, etc., to introduce the unique traditional culture tradition of Thai ethnic group in Muong Lo area, attracting a large number of domestic and foreign tourists.

The strengthening of state management on ethnic group culture in combination of preservation and promotion of ethnic group culture and tourism development in localities has obtained many positive results. In the period 2016–2020, Lao Cai tourism achieved impressive results, tourism gradually become a “breakthrough” stage in economic development of Lao Cai province. The average growth rate of tourists to Lao Cai was 22.6%/year (twice as much as in the period 2010–2015), the total number of tourists to Lao Cai in 2019 reached 5.1 million, the total revenue from tourism reached VND19,200 billion. Tourism business developed in both quality and quantity, many hotels, resorts and tourist attractions met high standards. In 2020, anticipating the effects of the Covid-19 pandemic, Lao Cai soon proposed many solutions to stimulate demand and restore tourism, so that by the end of June 2021, the total number of tourists to Lao Cai reached over 2 million, the revenue was about VND9,000 billion [6] or in Tuyen Quang province, in 2020, the total number of tourists to Tuyen Quang was estimated at 1.7 million, the estimated revenue of the whole industry was VND1,500 billion [7].

However, besides the achieved results, the state management on ethnic group culture associated with sustainable development has some limitations as follows:

Firstly, although the Party committees and authorities at all levels have had correct awareness of the role of state management on ethnic group culture associated with sustainable development, a part of the people and Party committees at all levels are not fully aware, leading to the low level of attention and low efficiency. In particular, the propaganda in the people, especially in ethnic groups, has not been focused on preserving cultural heritage. Some contents that need urgent conservation, such as: languages, folklore compositions, indigenous knowledge of ethnic groups, have not been fully paid attention, leading to low conservation efficiency. Lao and Kho Mu people in Pa Thom, Muong Loi, Phu Luong (Dien Bien district, Dien Bien province), Hmong people (Phung Sang, Tuan Giao, Dien Bien); Thai people in Chieng Mai (Mai Son, Son La) or Giay people in San Thang commune (Lai Chau city, Lai Chau province) are asked about the history of the people, the history of the place of residence or the practices of ethnic group culture and have no satisfactory answers (Author interviewed during fieldwork).

Secondly, the ethnic cultural heritage has not been well exploited in socio-economic development, especially in sustainable development. Culture is considered as an important resource in socio-economic development, as a capital source in development strategies. The historical and cultural relics, scenic spots, ethnic group culture... have become important resources in tourism economy, such as: Sapa, Lac village... However, the implementation of the socio-economic development projects in ethnic group areas in localities still lack the “involvement” of participants: managers, project owners, experts and communities that are benefited or disadvantaged from projects. The state of national cultural identity of many ethnic groups has been seriously lost. Ethnic groups in Mon – Khmer language group such as Khang, Mang, Kho Mu ... are in danger of being “Thaiized”. Ethnic groups in the border areas with China are at risk of being “sinicized”, ... And ethnic groups in urban areas and along roads are at

risk of “Kinhized”. Ha Nhi people in Y Ty (Lao Cai) and Muong Te (Lai Chau) give up their traditional costumes and wear the costumes of Ha Nhi people (China) made of industrial fabrics. Similarly, Hmong people on the northern border also abandon their handmade clothes to buy clothes whose materials were manufactured with Chinese industrial methods. Good artisans of traditional music have disappeared, young people rarely know how to use instruments left by their ancestor, many young people do not know a folk song or tune. Therefore, the relationship between heritage conservation and socio-economic development has not been harmoniously and satisfactorily resolved.

Thirdly, the training and fostering human resources for culture development has not been paid attention, not focused on educating awareness about ethnic cultural heritage in socio-economic development for ethnic groups. According to the study, the perception of the value of ethnic cultural heritage in the socio-economic development of the ethnic groups themselves is still not very comprehensive. For example, in Noong Luong commune, Dien Bien district, Dien Bien province in 2017, in a family with three generations of witch-doctor and teacher, no one in the present generation knows Thai. The family does not allow children to study Thai characters, Thai language and culture, because learning Thai characters, being good at Thai culture could not give them money. In Kho Mu area in Pa Xa Xa and Xa Cuong villages (Pa Thom commune, Dien Bien district, Dien Bien province), only 1–2 old people in the village of 70 or 80 years old know the history of the settlement, ancestor worship, village worship, animist beliefs... of their ethnic group.

Fourthly, the attraction of social resources to participate in the conservation of cultural values is still weak and has not been invested strongly enough; there is no mechanism to attract large-scale investment; Therefore, there has not been a breakthrough, the operating budget is still low compared to the demand, especially for the district and commune levels.

The above limitations contribute to reducing the effectiveness and efficiency of the state management on ethnic group culture associated with sustainable development, requiring local authorities to have appropriate solutions to overcome this problem.

4. Discussion

In terms of geopolitics, economy, security and defense, the Northern mountainous area is a strategic area, adjacent to neighboring countries such as China and Laos, so the exchange, adaption and transformation of ethnic group culture in localities are very diverse and complex. Therefore, the state management on ethnic group culture, preservation and promotion of the cultural values of local ethnic groups associated with sustainable development is a necessary and urgent task.

In order to improve the effectiveness of state management on ethnic group culture associated with sustainable development, in the coming time, the local authorities in the Northern mountainous area should well implement the following solutions:

Firstly, continue to effectively implement the guidelines of the Party, the policies of the State, the Resolutions and Decisions of the Party Committee and the provincial government on the conservation and promotion of the ethnic group culture to attract tourists and contribute to sustainable development, including: Directive No. 36-CT/TW, dated June 25, 1998, of the Ministry of Politics “On strengthening the environmental protection in the period of industrialization and modernization of the country”; Strategic Orientation for Sustainable Development in Vietnam (Vietnam’s Agenda 21) promulgated together with the Prime Minister’s Decision No. 153/2004/QĐ-TTg, dated August 17, 2004; Vietnam’s sustainable development strategy for the period 2011–2020 approved by the Prime Minister under Decision No. 432/QĐ-TTg dated April 12, 2012 and the National Action Plan to implement the Agenda 2030 for the sustainable development promulgated under Decision No. 622/QĐ-TTg, dated May 10, 2017 of the Prime Minister; Resolu-

tion of the 9th Conference of the Central Committee of the Party, term XI (Resolution No. 33-NQ/TW) dated June 9, 2014 on building and developing Vietnamese culture and people to meet requirements on sustainable development of the country; Decision No. 1270/QĐ-TTg dated July 27, 2011 of the Prime Minister approving the Plan “Preservation and development of the culture of Vietnam’s ethnic groups until 2020”; ... At the same time, building appropriate mechanisms and policies in the state management on ethnic group culture, conservation and development of traditional cultural values. Strengthen the management of the cultural sector, create a favorable environment for the development of culture in accordance with the law. Have a policy to attract resources for the conservation and sustainable development of culture.

Secondly, promote propaganda to create a strong change in awareness and consciousness of all cadres, public servants, public employees, workers and people in the localities about conservation... then promote regional tourism development... contribute to socio-economic development in a sustainable direction. Besides, it is necessary to improve the quality and efficiency of cultural and artistic activities, create conditions for cultural activities to meet the people’s enjoyment needs. At the same time, promote the socialization of cultural activities; create mechanisms, increase investment in building cultural institutions to serve cultural activities from the province to the grassroots.

Thirdly, promote and widely introduce detailed planning of cultural works and key tourist areas of the province to call for investment. Focus on investing in the traditional cultural heritages of ethnic groups in order to create the unique characteristics of each province. In addition, develop publications to introduce culture and tourism, build large advertising billboards on the mass media to widely propagate among local people as well as nationally and internationally.

Fourthly, organize and open training courses on cultural skills for ethnic group culture workers in various forms. For example, coordinate with schools

to train service professions arising during the implementation process. Increase investment in training and regular professional development for cultural cadres at commune and ward levels, pay special attention to cultural cadres in remote, ethnic group areas and cultural cadres in village. At the same time, there are appropriate remuneration policies for cultural cadres.

Fifthly, strengthen cooperation in cultural development with provinces in the region as well as provinces nationwide; fully participate in regional and national cultural events, as well as well organize traditional cultural festivals of ethnic groups. Promote cooperation between provinces in the

northern mountainous area, facilitate coordination and exchange of information, and introduce ethnic group culture to people and organizations at home and abroad.

5. Conclusion

It can be seen that improving the efficiency of state management on ethnic group culture associated with sustainable development not only increases budget revenues for localities, improves both material and spiritual lives of the people, but also helps to preserve and develop the traditional values of ethnic groups in the northern mountainous area. Therefore, in the coming time, the local governments need to well and synchronously implement the above solutions.

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ETHNOMANAGEMENT AS A SCIENTIFIC DIRECTION

Abstract. The article is devoted to an overview of the purposeful study of various nations and nationalities within the framework of various sciences, which has been conducted for a long time. The authors consider the features of the historical development of different nationalities and their gradual transformation into general laws and regularities of the functioning of ethnic groups. According to the authors, this determines the economic, social, demographic, and environmental factors of the existence of ethnic groups. The authors believe that the analysis of the relationship between ethnic and socio-economic processes, the study of national characteristics of economic behavior, plays an important role in this. Studying this problem, the authors distinguish several points of view.

Keywords: Ethno-management, ethno-economics, national models of management.

Purposeful study of various nations and nationalities within the framework of various sciences has been carried out for a long time. Along with the features of the historical development of different nationalities, the general laws and patterns of the functioning of ethnic groups are gradually revealed, and the economic, social, demographic, and environmental factors of their existence are determined. The analysis of the relationship between ethnic and socio-economic processes, the study of national characteristics of economic behavior, played an important role. When studying this problem, several points of view are distinguished.

The following approach can be seen in the teachings of M. Weber: one of the most important ele-

ments of the existence of an ethnos – ideology (in the works of M. Weber, it is primarily about Protestant ethics) – largely determines the level of development of the economy and industrial relations. As various studies show, the truth, as they say, lies in the middle.

In particular, the analysis of the so-called traditional oriental societies evidenced this where, as you know, the psychology of the peoples living in them is characterized by extreme conservatism, because of which they perceive innovations with great difficulty. By the way, even in orthodox Marxism, it is possible to single out the concept of the Asian mode of production, which, despite the economic determinism characteristic of this form of Marxism, essentially stated the

decisive role of Asian traditions and Eastern psychology in the process of their influence on the nature and level of development of production relations. Thus, it is more expedient, in our opinion, to look not for the root cause in the chain of “productive forces – production relations – ethnos”, but to study the interaction and mutual influence of various components of this chain.

In particular, the study of the influence of national psychology on the economy and vice versa is of great importance. So, already J. M. Keynes noted that the peculiarities of national psychology exert a noticeable influence on behavior in the sphere of economics. In his main scientific work “The General Theory of Employment, Interest, and Money,” he wrote that the British, for example, invest mainly for the sake of expected income, while Americans, investing capital, are guided mainly by expectations of an increase in its value (i.e. show an increased propensity for speculation and are less inclined to predict the expected actual income).

Many researchers also identify features of national psychology that are characteristic of other ethnic groups and seriously affecting the state of the economy, for example, for Russians, such as communality, statehood, and paternalism, which largely determine the inertial component of the market reforms carried out in our country lately. In turn, the German buyers of printed material are extremely picky about its quality, so the printing houses there use the highest quality printing technology. One of the forms of manifestation of the historical and national psychological characteristics of the Japanese is life-long hiring and restrictions on the dismissal of workers. Such a system is formed insofar as the Confucian teaching is the ideological basis of their way of life. In this regard, Japanese firms are very cautious in hiring new employees and actively automating production. There are many more examples of such mutual influence of traditions and national psychology on the efficiency of the functioning of the socio-economic system. The need to integrate economics and psychology has led to the fact that for several decades

such a scientific direction as economic psychology has been developing very productively. However, if it is necessary to study the relationship between the functioning of an ethnos and social reproduction, it is completely insufficient to remain only within the framework of economic psychology, since national psychology is only one of the elements of ethnic groups, which, in addition, differ from each other in traditions, customs, ideology, culture, etc.

Considering that “ethnos” is a broader concept than “national psychology”, along with economic psychology, it is advisable to develop such a scientific direction as ethno-economics. Within the framework of the new direction, it will find a solution to the problem of determining the ratio of ethnic and economic processes and relations, which will reveal ethnic features of economic behavior, including a market adaptation of different nations and nationalities. In other words, ethno-economics is the science of the relationship and mutual influence of traditions, customs, culture, psychology, ideology, religious views of various ethnic groups on the development of productive forces and production relations. As we can see, this definition, in comparison with orthodox Marxism, from the very beginning rejects the universality and obligatory primacy of economic processes in relation to ethnic ones. We can cite a huge number of examples where the role of the root cause is not economic phenomena, but the characteristics of an ethnic group. Considering the increasing influence of ethnic processes on the functioning of various elements, sides, and aspects of modern society, such new scientific disciplines as ethno-politics, ethno-pedagogy, ethno-sociology, ethno-geography, ethno-psychology, and several others become clear [2; 3]. Ethno-economics can also be defined as the science of the socio-economic characteristics of the behavior of various ethnic groups, which also does not contradict the above definition of this science.

In the specialized literature, there are other approaches to defining the essence of ethno-economics as a new scientific direction. Basically, these approaches are associated with the understanding of

ethno-economics as a science about the development of national industry, especially about the revival and development of folk crafts that once flourished, but were largely lost in the second half of the twentieth century for various reasons.

In recent decades, various national, ethnic models of management have been intensively studied in management theory. This process is being implemented in the conditions of a no less intensively developing new scientific direction, called “ethno-economics”. In this regard, and also taking into account the fact that the management system is the most important part of the economic system as a whole, the process of studying various national management models, in our opinion, by analogy, it is advisable to call “ethno-management”.

A surge of serious interest in the analysis of ethnonational management models first occurred in the 1980s, when the Japanese economy became the second most industrially developed economy in the world, second only to the United States. The success of the post-war development of the Japanese economy was so striking that we dubbed it the “Japanese miracle” – in terms of growth rates, the Japanese economy significantly surpassed the American economy. This is evidenced by the following facts: if in 1950 Japan’s GDP was over 30 times less than that of the United States, then in 1985 this lag was reduced to 2 times, which shows a much higher level of labor productivity growth in the Japanese economy, compared to the American one.

The rapid development of the Japanese economy in the post-war period aroused great interest in the model of Japanese management, in the features of which many experts rightly saw as the main reason for Japanese success. As a result, in the 1980s, many professional managers recognized that the Japanese model of management was at least as good as the American model.

A management model is usually understood as a set of ideas and approaches that underlie the organization’s management system. One of the most important factors that influenced the formation of the

Japanese model is the religious factor, namely the influence of Confucianism and Buddhism on the social psychology and culture of the Japanese. It is safe to say that this factor is one of the most important in the formation of a more general Asian model of governance. The fact is that in the management system of a number of Asian countries there are many similar features and characteristics, in addition to Japan, this is South Korea, and Taiwan, and partly China. The main distinguishing feature of the Japanese (Asian) model of management is collectivism, as opposed to individualism, which is the basis of the American model of the management system [5].

The Japanese philosophy of personnel management is based on the principles of collectivism, consensus, politeness, paternalism, as well as a tradition of respect for elders. The main reason for Japan’s success in the post-war period is seen in the management model it uses, focused on the human factor, in which business ethics are of great importance and, above all, the interests of not an individual employee, but of a team are taken into account. In this regard, the principles of recognition and respect for a person by others are in the foreground here; determining the place and role of each employee in the team, as well as the primary consideration of social factors, when remuneration for work is perceived through the prism of social needs.

Thus, the foundation of Asian management is the creation of friendly and efficient working teams based on the use of a combination of formal factors of organizing production with informal ones. As a result, both in Japan and in South Korea, firms provide not only income to their employees, but also give them the opportunity for self-development and self-expression. This is manifested, in particular, in the functioning of “Quality Mugs”, which include workers, managers, and heads of companies. In Japan, “Quality Mugs” have been operating since the 60s of the twentieth century, and the result of their functioning is the introduction of many technological, organizational innovations. They reward Quality Mugs for success in work, for minimizing interruptions in work, and for

the practice of on-time delivery. This allows you to get rid of bulky warehouse space and allows you to achieve a high level of discipline of company personnel and effective logistics changes. One of the most important positive aspects of using the Asian model is a flexible approach to building a management structure, as well as the use of informal control procedures, including group control. This led to the fact that back in the 80s of the last century, for the first time in history, a matrix organizational and management structure was used at Toyota. This fact became the starting point for the widespread in the world of a new type of organizational and management structures – organic instead of mechanical, which until that time were the main ones. Increasingly, leading European companies are adopting Japanese management experience. Thus, the German company Porsche, on the brink of ruin, turned to Japanese specialists for help. As a result, over 3 years, because of the use of innovations in warehouse logistics, several auxiliary premises disappeared and 30% reduced the territory of the plant – all this allowed the company to significantly reduce costs and overcome the crisis.

The most important basis of the Asian management model is the patriarchal attitude of employees to the firm as to a large family, in which the company's leaders are "parents" and take care of their subordinates – "children". "Children" reciprocate. This is because of the enormous influence of Confucianism and Buddhism on the social psychology of many Asian nations and peoples (Japanese, Koreans, Chinese, etc.) [6].

A consequence of the patriarchal attitude towards the firm is such features of the Japanese model as:

- using the consensus method at meetings of managers when making management decisions;
- the presence of a common dining room for managers and workers;
- morning exercises for company employees;
- work mode in uniform;
- relatively slow progress in the service, which depends not so much on individual results as on the

results of the work of the entire team in which this employee works.

The most important features of the Asian model are also informal relationships between managers and subordinates:

- Promotion by seniority and work experience; remuneration depending on the length of service and academic performance in the group;
- Achieving harmony in the group and group achievements; long-term employment;
- Provision of a retirement benefit to all family members of the employee upon retirement;
- The practice of life-long employment, used mainly in large enterprises. It is estimated that life-long employment provides employment for 30 to 40% of all workers in the country, and since the late 1980s, Japan has operated a re-hiring system that employs people of retirement age.

Thus, due to the specificity of a number of Asian countries, largely due to a peculiar worldview, permeated by the influence of Confucian and Buddhist religious and ethical concepts, it was impossible to use the Western model of the system of management of economic organizations in them, which is why it became necessary to form their own specific management models. Typical features of the Asian management style:

- Trust of partners to each other; understanding of the joint contribution to the development of the company;
- Slow frame rotation;
- Widespread use of the system of long-term development plans of the company;
- Striving to improve the level of training on the basis of continuous learning and advanced training;
- The presence of interfirm relations is based on trust and interpersonal relationships between company leaders [7].

The peculiarities of the Asian model of management are manifested, for example, in the way of conducting business negotiations, when, unlike the American style of management, Japanese business-

men, in order to achieve mutual understanding and trust, first discuss various issues of a general nature, gradually approaching the very essence, i.e. to solving business problems. This approach is largely related to the way Japanese businessmen and their counterparts from Arab countries conduct business negotiations. However, in the Arab states, this process is seriously influenced by the position of Islam on the attitude towards women as being inferior to men (in accordance with the tenets of the Islamic religion) [8]. In this regard, in these countries, as a rule, they are very reluctant to deal with businesswomen, especially if the latter are not married (there are cases when European or American companies had to recall their highly qualified female specialists working in Islamic states).

In addition to the Japanese, Asian, Islamic models of management, the English, German, and especially the American models are widely known – the latter, along with the Japanese, is considered the standard of the management system for economic structures. The most important features of American management include individual responsibility and individual decision-making process; individual control by the management; promotion and remuneration based on individual results. In addition, the features of the American management model also include a quick and predominantly formalized assessment of labor results and accelerated promotion, the use of clear control procedures, and formalism in the system of relations between the manager and subordinates.

The American philosophy of human resources management is built on a tradition of competition and the promotion of individualism in workers. It is primarily focused on making a profit for the company, on the value of which the employee's personal income also depends. Individualism, a simple statement of goals and objectives, as well as the choice of evaluation criteria, high wages of personnel, encouragement of consumer values [9] characterized the American concept of managing economic systems.

Comparison of the above features and features of Japanese and American management models testi-

fies to practically opposite qualitative characteristics of these models. This is especially true of characteristics such as the collectivism of the Japanese model and the individualism of the American model. However, in fact, it would be more correct to argue that the Japanese model involves not only considering the results of the team's activities but also assessing the individual performance of individual employees through the prism of performing the team in which they work. This model considers individual performance, but only through the benefits to the team. Successful teamwork and performance metrics are the highest priority. Thus, group activity has become the primary form of a work of the already mentioned quality circles at industrial enterprises in Japan. If in 1965 there were 3.700 groups dealing with quality management problems, then at the beginning of the 21st century there were already about two million quality circles. It should be noted that the implementation of the principles of the work of the circles corresponds to the social and cultural traditions of the Japanese. The following principles are usually distinguished:

- Voluntariness (work in a circle should begin with those who are interested in it),
- Self-improvement (circle members must be ready for training),
- Mutual development (members of the circle should expand their horizons and cooperate with members of other circles),
- Universal participation (the goal of the quality circle is the full participation of all employees in quality management) [10].

Conclusion. In the USA and Europe, there are other traditions. Here, the solution of quality management issues, despite the desire to use the Japanese experience, remains the prerogative of scientists and designers. The similarity between the Japanese and American management models is that in both cases the focus is on the activation of the human factor, continuous innovation, diversification of goods and services, the separation of large enterprises, the development of small and medium-sized enterprises,

moderate production decentralization, and the development and implementation of long-term strategic plans. It is important to note that both models solve similar problems, however, many experts believe it is the Japanese model that is most competitive in modern conditions. However, it is still widely used and the American model of management. They often resort to ordering in agreeing on decisions at negotiations, and in this case, unlike the Japanese, they do not make long digressions, but immediately go to the very essence of the issue. When negotiating, the primary goal of which is to agree, one of the most important conditions in compliance with all laws and regulations and not the benefit and agreement between partners. Therefore, the American negotiating delegation must include an allowed representative who may decide, as well as a lawyer. An important difference between the American model of management and the Japanese is also its focus on short-term employment, therefore, employees of American companies lack loyalty to the company and

work (recall that the Japanese, especially in life-long employment, the situation is exactly the opposite). As a result, for Americans, the norm is not only a transition from one company to another on average every 8–10 years but also a significant change in the type of activity and business, up to moving to another region of the country and choosing a different profession.

In addition to the American model, the study of the features of the English and German management models is of considerable interest. These models have many common, similar features, which makes it possible to speak of a more general Western European model of management. The following features characterize this control system: a) the one-man command of the head when deciding; b) differentiation of business and personal relationships; c) lack of dedication among employees.

Distinctive features of man-management are high discipline, a long process of innovation and modernization of production, foresight of management policy.

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Section 8. Science of law

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THE MORALITY OF LAW ENFORCEMENT AGENCIES (POLICE, PROSECUTOR'S OFFICE, KPK) IN MONEY LAUNDERING WITH THE ORIGIN OF THE CORRUPTION

Abstract. Money laundering and Corruption are classified as extra-ordinary crime that must be eradicated. Eradication of corruption should always be a priority agenda of the government to overcome. In handling must be carried out by some agencies that have the authority about it. In Indonesia, law enforcement in corruption among the Police, the Prosecutor's office and the Corruption Eradication Commission which has been formulated in the Law Number 31 year 1999 on Eradication of Corruption Jo Law Number 20 Year 2001 and Law No. 8 of 2010 on the prevention and eradication laundering money right at the 26 different kinds of criminal origin where one of them is corruption. The morality of the law enforcement Police Prosecutor's office and the Corruption Eradication Commission should create harmony because basically three institutions that has the authority respectively. The three institutions each umbrella the law is the Law. Although in fact the Corruption Eradication Commission as one of the law enforcement in a criminal money laundering with the origin of the corruption will take over the functions and tasks of the Police and the Prosecutor's office to conduct an investigation, the investigation and the prosecution in matters korupsi tertentu. Constraints faced in creating the morality of good law enforcement officers in criminal acts of corruption, including from the legal factors, namely the presence of laws and regulations that are considered to overlap so that the pull of the authority, because it is considered the legislation is over-lapping (overlap).

Keywords: Morality, Corruption, Money Laundering.

Introduction

Money laundering with the origin of the corruption is a classic problem that has long existed. Corruption in Indonesia is currently still being one of the causes of the decline of the economic system in Indonesia, which occurs in systemic and extends to not only detrimental to the financial condition of the state but has also violated the rights of the social and economic society widely.

Corruption and money laundering, or on the contrary has become a global problem between countries, belonging to the transnational crime even on the implications of bad multidimensional economic losses and the financial state, then corruption can be classified as extra ordinary crime that must be eradicated. Eradication of corruption should always be a priority agenda of the government to overcome in serious and urgent as well as part of a program to restore the confidence of the people and the international world [1].

In order to improve the economic growth of a country is concerned, is no exception Indonesia. A variety of policy in the form of legislation in the form of: TAP MPR No. XI/MPR/1998 on the Implementation of the State That is Clean, Free of Corruption, Collusion, and Nepotism; Law No. 28 of the year 1999 on the Implementation of the State That is Clean, Free of Corruption, Collusion, and Nepotism 6; Law Number 31 year 1999 Jo Law Number 20 year 2001 on the Eradication of Criminal Acts of Corruption; Law Number 30 year 2002 on the Commission for the Eradication of Tindakan Corruption; and a Special Court for Corruption. The establishment of the two institutions is one of the efforts conducted by the government and the legislature in the eradication of criminal acts of corruption. Law No. 7 of 2006 on the Endorsement of the United Nations Convention Againsts Corruption 2003 as well as Law No. 8 of 2010 On the prevention and eradication of money laundering [2].

With the number of the issuance of laws and regulations related to the eradication of corruption,

not instantly make the corruptor be afraid to commit criminal acts of corruption, but the most important is how the implementation/operationalization/implementation of all regulations in combat money laundering with the origin of corruption in Indonesia. As expressed by the Muladi that criminal law enforcement is not done only on the settings in a law, but also should be applied and implemented in the community [3].

Therefore it is no exaggeration when corruption and money laundering is a criminal offence which is chronic and difficult to heal, resulting in handling must be carried out by some agencies that have the authority about it. In practice it turns out that's not as easy as it is written in the legislation. Because in practice, either already happened or a new predicted would happen, it turns out that the implementation of the work of the KPK hit a lot of problems. These problems, among others, is a relationship of coordination between the KPK and the Police and the Prosecutor's office as a sub system of the Integrated Criminal Justice and also the task danperanan KPK itself as a super body. In order to rebuild public confidence in the role of dancitra institutions the judiciary and law enforcement agencies such as the Police, the Prosecutor's office, and the Corruption Eradication Commission, then one of the mechanisms in the sub system of criminal justice that the investigation and prosecution, it is necessary to be empowered in a more optimal [4].

The Morality Of Law Enforcement Agencies (Police, Prosecutor's Office, KPK) In Money Laundering With The Origin Of The Corruption.

Satjipto Rahardjo, among others, stated "the Law can not upright by itself, that means not being able to embody his own values and his will stated in the regulations of the law. The law will lose its meaning if it is not enforced. In other words, the law is not able to perform its main function when not enforced".

According to Sudarto in the field of criminal law enforcement is supported by a complementary tool and regulations are relatively more complete than

law enforcement in other fields. The apparatus in question here is the police, the prosecutor's office of the court and the institution of execution of the criminal, while the regulations are said to be more complete is between the other provisions of the Law of Criminal procedure, the Law on Judicial Power, the Law on Police of the Republic of Indonesia and the Law on the Prosecutor's office of the Republic of Indonesia [5]. Law Number 31 year 1999 as amended by Law Number 20 year 2001 on Eradication Corruption, also contains ideas or concepts that must be executed by law enforcement. As a policy that is rational, the enforcement of the Law on the Eradication of Criminal Acts of Corruption has 3 elements which are related to each other, namely the Law on the Eradication of Criminal Acts of Corruption as the product of Legislation, which will then be applied by law enforcement officials (Policy Application/Judicial) and implemented by the apparatus of the executive (Policy Executive/ Administrative). In other words, that in law enforcement, including enforcement or the eradication of criminal acts of corruption related legislative policy, policy, judicial, and executive policies as a whole. Corruption eradication efforts, it should have become a priority agenda of the entire activity of law enforcement [6].

The crime of money laundering and corruption at first seen as a crime of ordinary (Ordinary Crime), the international community, agreed to put the crime of corruption as an extraordinary crime (Extra Ordinary Crime). Exceptional circumstances that requires the presence of action and handling is incredible anyway. Exceptional handling is not means it can be out of the corridors of the rule of law. Because of the nature of the crime of corruption is an extraordinary crime so that the handling had to be extraordinary. Then the law enforcement in a criminal corruption comprised of Prosecutors, Police, and the KPK.

The position and function of the police has been regulated in Law Number 13 Year 1961 on the subject of the Police Power of the State. Based on Article

2 of Law Number 13 Year 1961 on the subject of the Police Power of the State is specified as follows [7]:

- a) Maintain order and ensure public safety;
- b) In the field of judicial conduct an investigation on a crime and a violation according to the provisions in the law of Criminal procedure Law and other regulations of the State;
- c) Oversee the flow-the flow of beliefs that may harm society and the State;
- d) Carry out special tasks given to him by a rule of the Country.

Along with the passing of the reform was born Law number 2 Year 2002 on the Indonesian national Police as a form of legitimacy to the independence of the police agencies [8]. The authority possessed by the police in the run the task the investigation of the provisions of Article 13 of the Law was also based on the Law of Criminal procedure applicable or RBG. In terms of the status of the police in the investigation authority is as an auxiliary prosecutor.

In addition to the authority as set forth in the code of criminal procedure the police also have the duty and authority as provided for in the legislation of other scattered, one of them is the Law Number 20 Year 2001 on the Eradication of Criminal Acts of Corruption as well as Law No. 8 of 2010 on the prevention and eradication of money laundering. That conduct authority investigation of criminal acts of corruption are still owned by the police even though the two institutions the investigation of others, namely the prosecutor's office and the KPK also has the authority [9]. The provisions of Article 11 of the Law No. 30 of 2002 on the KPK to mention that the Eradication of Corruption authorities conducting an investigation, investigation, and prosecution of criminal acts of corruption:

- a) Involving law enforcement officials, state officials, and other persons in connection with criminal acts of corruption committed by law enforcement officials or state officials;
- b) Got the attention of disturbing the public; and/or

c) Involves the loss of at least Rp. 1.000.000.000,00 (one billion rupiah).

Of such provisions can be seen that the authority conducting the investigation of money laundering by criminal corruption that can be done by the institution of police investigators is Related to the loss of at least Rp. 1.000.000.000,00 (one billion rupiah). Do not Get the attention which is disturbing the public; and/or, and not Involving law enforcement officials, state officials, and other persons in connection with criminal acts of corruption committed by law enforcement officials or state officials [10].

The provisions of the authority conducting the investigation, which is owned by Police investigators give firmness that in accordance with the Law Number 2 Year 2002 on the Indonesian national Police, the position of a police investigator in the case of the task of the investigation is the holder of the role of the main conducting the investigation against all criminal acts. However, the legislation provides for the restriction that it should still be paying attention to and does not reduce the authority possessed by the investigator in accordance with the regulations that already exist [11].

Other institutions which is the law enforcement in a criminal money laundering with the origin of the corruption is the attorney general. The prosecutor's office is a state agency implementing the power of the state in the field of prosecution as well as in a criminal corruption prosecutor's office is given the authority to conduct the prosecution, in addition kejaksaanpun given the authority to conduct investigations as the embodiment of the Law Commission of Corruption Eradication.

In the Legislation Numbers 16, 2004 on the Prosecutor's office of the Republic of Indonesia Article 2 of the Attorney general of Indonesia is a government agency that carries out the state power in the field of prosecution and other authorities under the Act. The prosecutor's office as the controlling process of the case (*Dominus Litis*), has a central position in law enforcement because of the prosecutor's only institu-

tion that can determine whether the matter pidanaani can be submitted to the court or not [12].

The powers and duties of the prosecutor's office provided for in Article 30 of Law No. 16 of 2004 on the Prosecutor's office of the Republic of Indonesia, namely:

- a) Conduct the prosecution;
- b) Carry out the determination of the judge and the verdict of the court which has obtained the force of law;
- c) monitoring the implementation of the verdict of the criminal on parole, the verdict of the criminal supervision, and decision off parole;
- d) Conduct an investigation of specific criminal acts under the law;
- e) Complete case files and it can perform additional checks before delegated to the courts in the implementation is coordinated with the investigator.

In the Explanation of Article 30 of Law No. 16 of 2004 on the Prosecutor's office of the Republic of Indonesia, explained that Kewewenangan in these terms is kewewenangan as set out for example is Law Number 26 Year 2000 on Human Rights Court and Law Number 31 Year 1999 on the Eradication of Criminal Acts of Corruption, as amended by Law Number 20 Year 2001. Law Number 30 Year 2002 on the Corruption Eradication Commission.

In the provisions of the act that the attorney general is given the authority of another that is doing the investigation of specific criminal acts. The authority of the prosecutor's office conducted the investigation of criminal acts of corruption together with the authority possessed by the investigators, the police and the KPK, with the provisions set forth in Article 11 of the Law No. 30 of 2002 on the Corruption Eradication Commission.

The functions of the KPK, as the Super agency Body of the institution of law enforcement corruption crime has been gaining justification of the juridical. So the presence of the KPK, generally tend to cause controversial in the practice of law enforcement corruption at the level of the field. Concerns

about the credibility of the KPK as a new institution is a natural thing, given in the hands of the body is the last hope for the eradication of corruption in Indonesia. Article 43 of Law No. 31 Year 1999 to mention that the duties and authority of the KPK is to conduct coordination and supervision, including conducting investigations, investigation, and prosecution in accordance with the provisions of the regulations. legislation yang berlaku.

The provisions of Article 6 of Law Number 30 Year 2002, set about the task performed by the KPK, namely:

- a) Coordination with the relevant authorities to do the eradication of criminal acts of corruption;
- b) Supervision of the competent authority conducting the eradication of criminal acts of corruption;
- c) Conduct investigations, investigation, and prosecution of criminal acts of corruption;
- d) Do the actions of the prevention of corruption; and
- e) monitor the implementation of the state government

The tasks carried out by the KPK then the Commission was given the authority to:

- a) In carrying out the task of supervision, the KPK is authorized to conduct surveillance, research, or review of the agency that runs the tasks and responsibilities related to the eradication of criminal acts of corruption, and agencies in carrying out public services.
- b) In carrying out the authority of the then KPK authorities also took over the investigation or prosecution of the perpetrators of criminal acts of corruption that is being done by the police atau kejaksaan.
- c) In the event the KPK took over the investigation or prosecution, the police or prosecutor's office shall submit the suspect and all the case files and evidence and other necessary documents in a maximum of 14 (fourteen) working days from the date of receipt of the request of the Corruption Eradication Commission.

d) the Submission referred to in paragraph (3) is done with the make and sign the minutes of the ceremony so that all the duties and authority of the police or the prosecutor's office at the time of submission of the switch to the Corruption Eradication Commission.

On the other hand, the role of law enforcement institutions, such as the Police, the Prosecutor's office, and the Court is reduced, because in the last time is the authority with the Police, Prosecutors and the General Court. However, since the release of Law Number 30 Year 2002 on the Corruption Eradication Commission, the crime of corruption, in certain size (over 1 billion) is the jurisdiction of the competence of the KPK.

The complexity of the crime of corruption let alone the continued money laundering impossible can find a way out with only a partial approach. In terms of international law, in addition to corruption as an extraordinary crime due to the abuse of authority (abuse of power) that has destabilized the joints of the life of the state. The urgency of the establishment of the KPK, through the Law Number 30 year 2002 on the Corruption Eradication Commission is expected to realize a just and prosperous society and a prosperous society based on Pancasila and the 1945 constitution.

The position of the KPK as the institution of the law who want therefore has the authority more credible and professional Law Number 30 year 2002 on the Corruption Eradication Commission.

Functional relationship and coordination between the Prosecutor's office and Police department with the KPK can be clearly seen in the translation of the Article 6 of Law Number 30 Year 2002 as already referred to above. In the article look how big the role, duties and powers of the KPK in the eradication of criminal acts of corruption. Furthermore, for this is explained dalam Penjelasan General of Law Number 30 Year 2002, the KPK:

- a) Can compile a working network (networking) a strong and treat the existing institutions as "coun-

terpartner” choice so that the eradication of corruption can be implemented efficiently and effectively;

b) do Not monopolize the duties and powers of inquiry, investigation, and prosecution;

c) Serve as a trigger and the empowerment of institutions that have been there in the eradication of corruption (trigger mechanism);

d) it Serves to supervise and monitor the existing institutions, and in certain circumstances can take over the duties and powers of investigation and prosecution (superbody) which is being implemented by the police and/or prosecutor’s office.

General explanation of this, it was concluded that the corruption eradication commission should make the Police and the Prosecutor’s office as a ‘counter partner’ choice so that the eradication of corruption can be implemented efficiently and effectively. This can be understood given the existence of the KPK did not get on these areas, especially the Counties and Municipalities. If the KPK conduct an investigation, the investigation and prosecution will result in the onset of various difficulties and swelling of the financing are very large. So for the investigation and prosecution conducted by the State Prosecutor or the Prosecutor’s office [13].

Similarly about the function KPK to not monopolize the investigation and prosecution as well as other functions, namely as a trigger and empowering institutions and the functions of the supervision and monitoring agencies who have been there, signaling that the functional relationship between the KPK with the Prosecutor and/or the Police will continue to provide a major role to both institutions earlier it is to carry out investigation and prosecution.

In addition, the Legislation also granted the requirements of the case that can be taken over by the KPK, namely:

a) Reports from the public about the corruption was not followed up;

b) The Process of handling corruption in protracted or delayed without reason that can be accounted for;

c) The Handling of corruption aimed at protecting the perpetrators of criminal acts of corruption is real;

d) The Handling of corruption contains elements of corruption;

e) Barriers to the handling of corruption due to interference from the executive, judicial, or legislative; or

f) Any other Circumstances which, according to the consideration of the police or the prosecutor’s office, the handling of corruption difficult to implement and can be accounted for.

In carrying out the task of the inquiry, investigation, and prosecution of criminal acts of corruption, the KPK the authority to conduct investigations, investigation, and prosecution of criminal acts of corruption:

a) Involving law enforcement officers, state officials and others that there was a relation to the criminal acts of corruption committed by law enforcement officials or state officials;

b) Got the attention of disturbing the public; and/or

c) Involves the loss of at least Rp. 1.000.000.000,00 (one billion rupiah)

The approach in the criminal justice system according to Ramli, Atmasasmita focuses on the coordination and synchronization, accompanied by the supervision and control of the use of power by the components of the criminal justice (police, prosecutors, courts and correctional institutions) and using the law as an instrument to strengthen The administration of justice. [14].

According to Bertalanffy, Kennct Building and Shorde and Voice that the legal system containing keintegrasian, regularity, integrity, organization, connectedness and dependence of the components to each other disertaadanya orientation on the purpose [15].

Although essentially the Corruption Eradication Commission which is the institution superbody that is regulated in Law Number 30 Year 2002 on the

Corruption Eradication Commission, but the KPK was on the limit in that case, the KPK during the run of the task and the authority, the KPK does not have the authority to issue warrants the termination of the investigation and prosecution of criminal acts of corruption. The judicial process against the criminal acts of corruption carried out by using the Law 31 Year 1999 on about the Eradication of Criminal Acts of Corruption, as amended by Law Number 20 Year 2001 on the amendment of Law Number 31 Tahun 1999 on the Eradication of Criminal Acts of Corruption, Law No. 30 of 2002 On the Corruption Eradication Commission and the Law No. 8 of 1981 On Criminal Law (criminal procedure code). Law Number 30 Year 2002 is the special provisions of the law of the court of criminal acts of corruption. While the criminal procedure code the provisions that are common in the law of criminal procedure in the courts of general jurisdiction. In practice, the third such Laws complement each other. It is expressly stated in Article 26 of Law No. 31 Year 1999, Article 38ayat (1) of Law Number 30 year 2002 and in Article 39 paragraph (1) and Article 62 of the Law Number 30 year 2002.

The provisions of the above signifies the entry into force of the legal principle of *lex specialis derogatlegi generalists*, because the provisions are not specified in the Legislation that are special to this (Law Number 31 Year 1999 and Law No. 30 of 2002) will continue to use the provisions in the legislation of a general nature (criminal procedure code). To it in terms specified by the Law Number 31 Year 1999 and Law No. 30 of 2002, then the same thing which is regulated in the criminal procedure code does not apply. But if it is not specified then the effect is the terms set forth in the code of criminal procedure. The exclusion of certain provisions through the use of the legal principle of *lex specialis derogat legigeneralis*.

Based on the foregoing, we can see that the morality of the law enforcement police prosecutor's office and the KPK should create harmony because

basically three institutions that has the authority respectively. The three institutions each umbrella the law is the Law. Although in reality the KPK as one of the law enforcement in a criminal corruption will take over the functions and tasks of the Police and the Prosecutor's office to conduct an investigation, the investigation and prosecution in cases of corruption particular.

The morality of law enforcement in a criminal corruption this did not materialize because of differences in the target of each institution so that the result of the selfishness of each institution

Constraints-What Obstacles Faced By Law Enforcement Agencies (Police, Prosecutor's Office, The KPK) As The Enforcement Of Law In The Handling Of Money Laundering With The Origin Of Corruption In Order To Achieve The Morality Of Good Law Enforcement Officers.

Conceptually, then, the essence and meaning of the law enforcement situated on the activities of harmonizing relationship values outlined in the rules of the steady attitude and acts as a summary of the translation of the value of the final stage, to create, to maintain and defend the peace of the association alive.

Robert B. Seidman stated that any action to be taken either by the role holder, the implementing agencies and lawmakers are always within the scope of the complexity of the social forces, cultural, economic and political and so on. All social forces always come to work in any attempt to enable the applicable regulations, implement the sanctions. (Satjipto, Raharjo;1981;31) Finally, the role of which is run by the institutions and legal institution that is the result of the operation of a wide variety of factors.

According to Soerjono Soekanto, that the main problem of law enforcement is actually located on the factors that may influence it, namely:

- a) Legal Factors (Laws).
- b) The Law Enforcement.
- c) The means or facilities that support law enforcement.

- d) Community.
- e) Cultural Factors.

The constraints in law enforcement corruption eradication In the practice of law enforcement corruption eradication of the Low commitment of the government towards the eradication of corruption and that the eradication of corruption is not a top priority of government policy, which reflects the weak political will of the government for the efforts to eradicate corruption.

Barriers the first deals with the laws and regulations. Laws and regulations concerning efforts to combat corruption have some weakness which is located on the substance of the legislation, both from the aspect of content and technical aspects of its implementation, thus allowing the occurrence of lameness in the eradication of corruption. Barriers that are both related with the lack of transparency of the executive and legislative branches to the various irregularities in the financial management of the country. The mechanisms for investigation against officials of the executive and the legislature also seem very bureaucratic, especially if it concerns the permission checks against the officials who indicated corruption [16].

The obstacles that the third deals with the morality of the moral law enforcement officers as well as the availability of facilities and infrastructure supporting their success in the efforts to eradicate corruption. The obstacles that the fourth deals with the problems of culture, where most people have looked at corruption as something that is commonly done

for generations, the strong culture are reluctant to implement a culture of shame [17].

The process of law enforcement by law enforcement agencies (police, prosecutors and judges), in particular with regard to the cause of corruption in these areas can be said to have undergone significant progress compared to previous years. This is indicated by the increasing number of corruption cases that can be revealed by the apparatus-the apparatus of law enforcement in the area. This success can not be separated from the role of the public and independent institutions which concentrated on efforts of law enforcement and combating corruption

Conclusions

1. The morality of law enforcement in a criminal corruption terformulasikan in the Legislation of the Eradication of Corruption where the investigator in a criminal corruption comprised of the Police, the Prosecutor's office and the KPK. The three institutions have qualifications authority respectively. So in the hope that such integration will be realized. But in fact the integration of law enforcement in the follow-pidan corruption did not materialize because of differences in the target of each institution so that the result of the selfishness and pull the authority of each institution.

2. Constraints faced by law enforcement in order to create a good integration in criminal acts of corruption, including from the legal factors, because it is considered the legislation is over-lapping (overlap), so there is a pull of authority between the three institutions.

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Review

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BOOK REVIEW CHUING PRUDENCE CHOU AND JONATHAN SPANGLER. CULTURAL AND EDUCATIONAL EXCHANGES BETWEEN RIVAL SOCIETIES COOPERATION AND COMPETITION IN AN INTERDEPENDENT WORLD (Singapore city, Singapore: Springer Publishers, 2018. 178 p. Hardcover: \$108.82. ISBN978-981-13-1547-3)

Abstract. This book show that cultural and educational exchanges are important and possible, not only for education but also a method that may help strengthen mutual understanding. In the midst of conflict or misunderstand, by increasing trust in each other, by creating sustainability of cultural and educational exchange activities to allow education to play a role in cultural exchanges the relationship building and reduce stress and to be valuable to those involved both directly and indirectly the editor of this book is Chuing Prudence Chou professor at Department of Education National Chengchi University Taipei, Taiwan and Jonathan Spangler from Asia-Pacific Policy Research Association and Taiwanese researchers, policy makers, operators and students in the education and public policies related to learning and human resources through writing articles with theoretical analysis. Impact of policy research through comparison and synthesize their experience in the process of comparative studies of case studies around the world.

Keywords: Cultural, Educational Exchanges, Rival Societies, Cooperation and Competition

Introduction

Education is the power of human development, society and the world. It is also a tool for creating exchange of relations between countries. Which this book helps to understand through theories from various thinkers and case studies of rival society in each country, help the reader to analyze synthesis insights phenomenon theory from the lesson such as competition problems

between Israel and Palestine, India and Pakistan, China and Taiwan, and Bosnia and Herzegovina.

Structure and content of the book

This book consists of an editor's preface followed, there are 9 case studies in the structure to enable readers to understand the global events of using education to participate in cultural and educational exchanges, starting from.

Chapter 1. By Jonathan Spangler Asia-Pacific Policy Research Association, Taipei, Taiwan. Beginning with an overview of the history of cultural exchanges and education between competing societies. Context for subsequent chapters this section presents an overview of the history and context of today's exchange.

Beginning with ancient Ideas before the birth of writing in human society such as through the inheritance of folk tales going through different eras into the academic formalization period. The development of formal academic understanding about exchanges related to culture and education such as conflict resolution and peace education to modern frameworks and the cultural exchange process and education plays an important role in facilitating public awareness and realize the positive and negative results, Emerging Issues technological advances and consistent effects of globalization and regional integration, two faces of exchanges with both positive and negative results, positive impacts bring understanding and improving relations between rival states and society.

In which this chapter brings basic knowledge and the concept of diversity of case studies regarding cultural exchanges and education in competing societies to increase the discussion about this complex issue, create awareness of the positive and negative effects.

In Chapter 2. By Darla K. Deardorff Executive Director of the Association of International Education Administrators Duke University, Durham, NC, USA.

This chapter begins at the individual level in the discussion of knowledge, skills and the necessary of attitudes resulting from these exchanges as explained by theories and competencies, including relating to intercultural competence, intercultural communication ability.

Due to intercultural learning is the cornerstone of cultural exchange with relevant theories as a basis for understanding the events in the next chapters (page 24–34). Whether the **competence theories** have a common conceptual framework is the intercultural

communicative competence model of Byram Culture (Byram 1997), which is often used in most European contexts and framework, ability to exchange while defining ideas, ability to communicate between cultures. It expands the concepts of communication ability discussed in research about foreign language learning and Deardorff's Intercultural Competence (2009). It's intercultural communication defined as behavior and appropriate communication within the response to differentiation in the rival society due to the core competency of cultural exchanges is important to be consistent with humanity in this chapter, we discuss the conflict competence the ability to overcome conflicts, reconciliation competence is the ability that begins with forgiveness, **intercultural theories** that are exchanged between rival societies through various theories (page 28–34) such as intercultural sensitivity as a basis for educational exchanges, contact hypothesis to promote understanding of human interaction. According to Allport (1979), challenge and support in order to learn to happen for each individual, there must be a balance between challenges and support in the learners experience, intensity factors that affect development and the adjustment of intercultural or cultural differences found (Paige 1993), the Stress-Adaptation-Growth Model is a model of the growth spiral adapted to stress to demonstrate adaptive processes, seven vectors of identity development which is useful for identity development, global citizenship education to enable students to take an active role in the encounter and solve global challenge, to be proactive supporters to a peaceful, patient, comprehensive and safe world. In the next theory, **the conflict resolution theories** such as conflict resolution stages focus on the development of interpersonal relationships that connect differences between those involved. Dual concern theory shows that conflicts must cause concern for themselves with concern for others, conflict transformation to deal with the causes of conflict by focusing on the basic principles, **peace education theories** have many theories in peace education that

are involved that play an important role in the pursuit of peace between individuals and society both positive and negative peace, peace education, peace building.

In Chapter 3. By Kyung-Ae Park School of Public Policy and Global Affairs, University of British Columbia, Vancouver, BC, Canada and Mark Bennett Deloitte LLP, Vancouver, BC, Canada, studied the role of educational exchanges with North Korea through the use of soft power, according to Joseph Nye (2004) in an alternative form of participation that is independent of the political process and for North Korea to accept and willing interpreter and receiver through knowledge sharing as a tool for participation and long-term influence. By educational institutions organized as a part to drive knowledge sharing through educational exchanges, allowing North Korean participants to access knowledge and concepts that much need this access can have an impact on the potential for further socialization, such as the dissemination of ideas and values. In this chapter, it shows that non-government actors, such as educational institutions, NGOs, are naturally effective in their influence and their expertise to begin sharing knowledge. They explore how sharing knowledge through educational exchanges with people and institutions in North Korea can act as a way to have a wider relationship with the outside world such as the use of the knowledge cooperation program a successful long-term academic exchange program established by the University of British Columbia and the University of North Korea (KPP) in exchange for knowledge training in business administration, economics in order to connect with the outside world. In this regard, strategies for knowledge sharing and effective participation with North Korea should be considered such as reconciling motivations, established mutually agreed goals, managing publicity strategically, maintaining flexibility successful knowledge sharing requires built-in flexibility, generating momentum for follow-up activities.

In Chapter 4. By Sara Clarke-Habibi Faculty of Education, University of Cambridge, Cambridge

conducted in-depth studies on cultural exchanges and secondary education in Bosnia and Herzegovina following the collapse of Yugoslavia, genocide, eradication and territorial disputes of the 1990s led to significant demographic changes for the relevant population, including Croats, Serbs and Bosnia and Muslims respectively, under the 50-year Yugoslav socialist movement after the war it was divided into majority Serb Republika Srpska and Bosnia-Croat Federation. There were tensions and competition between the skirmishes. Society is in a mono ethnic environment and strengthens social division.

In this context, the author assesses the positive impact and the negatives of the cultural and educational exchange experience of young people using Novelli's "4Rs" framework, Lopes Cardozo and Smith's (2015) with the following principles: recognition, redistribution, representation and reconciliation by using '4Rs' offering important frameworks for clearly explaining that the 'connections' between competitors indicate what is most appropriate. Properly understood each of the four dimensions has influence and reinforcement by creating cooperation and the exchange from mono ethnic to interethnic through governmental organization, educational institution, international organization.

In Chapter 5. By Itai Artzi Tel Aviv University, Tel Aviv, Israel studied in-depth insights from projects in Cyprus organized by the Dutch ComE (Communication Middle East) about participants from rival society in the Middle East by exchanging leads for Israeli Jews and Palestine from the West Bank and Palestinians in Israel come together to exchange for education in Cyprus through exchange studies. The dialogue in the form of a triangle between Jews – Israel, Palestinians, Israelis and Palestinians from occupied territories go through five units with the first topic reviewing the history of Israeli conflict and Palestine in brief. In the second topic and then will explain the theoretical background behind the discussion with empirical examples from the Palestinian Israeli conflict the third section introduces educa-

tional exchanges organized by ComE. After that, the fourth part presents and discusses the survey results divided into 3 issues, cultural awareness with the purpose of exchanging, cultural awareness across the effects of exchanges and cross-cultural perception of Palestinian identity. Fifth, some theoretical understanding of the effects of neutral exchanges on the interpersonal relationships of rival societies through surveys of participants that emphasize similarities and differences in perceptions about the identity of those involved.

This educational exchange the allowing participants to explore the complex relationships between personal stories. Country context considering the current political climate in Israel / Palestine, when methods of resolving conflicts do not appear such educational encounters unable to change the participant's wider political or economic conditions. Therefore, educational exchanges as described in this chapter. Will not directly affect the relationship between rival societies at the macro level. However, this chapter discusses the many microstructures that individuals from all groups show as a result of participation in exchanges which has helped to change the attitude and the feelings of the participants after exchange and describe exchanges as important educational experiences that help build mutual understanding.

In Chapter 6. By Dhananjay Tripathi Department of International Relations, South Asian University, New Delhi, India described the complexities of the relations between India and Pakistan that have been created, with the historical facts in Pakistani textbooks being one-sided and inaccurate. Avoiding historical reality in the production of Pakistani textbooks, there is an attempt to avoid reality in Pakistani textbook history. (page 104–108) such as focusing on Islam in the pursuit of identity support split with India promoting national unity by creating India as most Hindus (Ludden 2011) the Quest for a national identity presenting India as a divided society promotion of anti-Indian rhetoric discrimination against Muslims. Due to Pakistan as a new country must establish identity

their identity is separate from India to show that the division is a matter that allows the state to obtain the consent of the people to maintain unity and promote homogenization. In short, the state builds “an imaginary community” and use many media in this process. These concepts also emphasized the importance to establish the basic concepts of cross-cultural knowledge among the population and has a great influence on the perception of those who have studied one-sided concepts. These effects are more relevant when teaching about history and the culture of rival societies with a connected history and to support the political agenda of the state by producing enemies in the minds of Pakistani youth which is detrimental to the relationship between the two societies. At the same time, on the Indian side, all Indian texts have been refrained from strengthening religious hatred between Hindu believers and Islam but the challenge for texts in India is future changes that has to deal with complex subjects the textbooks in India have advanced topics such as racism, gender, inequality and caste oppression as well as poverty and class. In Indian society, conversations are avoided and there are still gaps for improvement.

In Chapter 7. By Chuang Prudence Chou Department of Education, National Chengchi University, Taipei, Taiwan, studied the experience of Chinese students studying at Taiwan universities, despite political competition and the ideology between China and Taiwan. But from studies show that cross-strait educational exchanges have increased mutual understanding and change people's attitudes on both sides with the assumptions of contact as a theoretical framework and was inspired by past cases in which cultural exchanges increase mutual understanding between rival states. The expanding educational exchanges across the channel Taiwan began accepting Chinese students and academics in the early 1990s, along with a policy to grant Chinese tourist visas. However, this has been done to date but there are still important conditions for Chinese students coming to study in Taiwan with “Three limitations and six prohibitions” (Lu 2017) (Table 1 page 119).

The author hypothesized the correspondence of Gordon Allport (1954), also known as “theory of contact between groups” (page 119–120) shows that contact between the two rival groups can promote tolerance and acceptance and understanding which will help reduce discrimination and prejudice and lay the foundation for more positive interpersonal relationships. According to Chen (2012), the ability of Chinese students to adapt to education in Taiwan has become the main focus of research in this area found that more dedicated Chinese students participate in activities organized by local students with Chinese students adapting to society and culture better while studying in Taiwan. Although not fully affecting each other but progress in satisfying Allport’s four conditions can still lead to desirable results for both societies. These cultural exchanges and education will lead to policy changes or broader influence on both societies in the long run.

In Chapter 8. By Jonathan Spangler Asia-Pacific Policy Research Association, Taipei, Taiwan and Timothy Spangler Director (Ret.), cooperative program for operational meteorology education and training (COMET), University Corporation for Atmospheric Research (UCAR), Boulder, CO., USA.

The meteorology plays an important role in human society especially the weather forecast affecting humans by exchanging meteorological studies acting as a medium for exchanges between rival societies. Although there is no diplomatic exchange, the exchange of meteorological education remains and has been carried out since the second world war (page 131) due to the popularity of the 3 main components as follows: (1) The universal importance of meteorological data (2) The multilateral efforts required for data collection and monitoring (3) The relatively apolitical nature of meteorological research.

These three important factors contributed to the role of meteorology as a medium for exchanging education between rival states which meteorology has been called “Fields that bring people from all over the world to come together”, which focuses on

the internationalization of meteorological data and creating a multilateral need for research gathering. In this chapter is a study through the case studies of Cuba-United States and China-Taiwan-United States, including Israel and Palestine. United States and Iran Which in the case of these studies. There is still a tendency that the continuing exchange of meteorological studies between people and rival state institutions and helping to act as a tool to further reduce tensions.

In chapter 9. By Phillip L. Henderson National Chengchi University, Taipei, Taiwan and Jonathan Spangler Asia-Pacific Policy Research Association, Taipei, Taiwan. Inter-state education and society is diverse in nature and can have a significant positive and negative impact. In this chapter the author has compiled lessons from previous chapters by studying through the case study in this book, revealing cultural exchanges and education has the potential to benefit the people involved in each society. Many chapters emphasize the role of exchanges in reducing tensions and creating constructive relationships between rival individuals and societies but still have significant challenges and risks that must be considered and this chapter also suggests strategies for success in use such as preparation, focusing at levels where feasible, third-party setting, promoting shared identities, utilizing existing institutional and personal connections, common objectives, flexibility and adaptability, focusing on long-term relationship building, targeting influential participants, considering media influence, Luck helps to study and cultural exchanges between rival states and societies have the capacity to be more positive.

Discussion

Strength in this book have laid the foundation for history, concepts, theories in the first two chapters so that readers can create a framework for the study of cultural exchange and education between competing states as well as each chapter is encouraged to consider both the positive effects and negatives of cultural exchanges and education between rival

societies which allows readers to be informed of the diversity of the case studies of cultural exchanges and studies and use the conceptual framework to understand the content in the discussion about the complex problems that arise in each country and also serves as the foundation for future research and the design of cultural and educational exchanges.

Weaknesses in this book regarding the organization of the topics in the second chapter that may create confusion in the theory from the font of large headings that are similar to subtopics. And in the explanation in the next chapter, there should be references to the theories used in the second chapter for readers to see examples of how to use them more clearly. Moreover case studies in the sixth chapter that is biased or not, for example from an Indian author, trying to create a conceptual framework for the reader to see that Pakistan is creating an image that India is an anti-Islamic country but at the same time, the details of the Indian side towards Pakistan did not mention much.

However, in terms of theoretical framework that has been written for the readers to think that they should add ideas about globalization such as the theory supporting globalization (Hyper-globalists). Globalization has a positive effect on the state and the state can resist the effects of globalization, such as Robert Gilpin (2003), which globalization has become beneficial to the nation because it allows towards the development of the country, Linda Weiss (2003), which emphasizes the role of the state to build wealth and protect society resulting in increased power in the infrastructure power, including the World Society Theory: WST is a theory that emphasizes the relationship between the state system and other global social developments. Which can understand and can visualize the connection of why some cases of studies can use cultural exchanges and studies to help, such as the case in North Korea that allows the University of British Columbia came in to want to get to know the concepts of international business administration. Although North Korea is a closed country

from the outside world, it cannot resist the trend of globalization or the migration of information which makes Chinese students coming to study Taiwan get to know each other and have a more positive trend in which sufficient theory is set up and included in academic principles there is an opportunity for readers to understand and connect the event.

Conclusion

The exchange programs in the context of rival states and societies with the aim of creating change that has a better trend but still be able to study in matters of cultural exchange and current education that has new educational issues arising in relation to cultural exchanges and education in competitor societies in the future used to study and exchanging cultures to eliminate rival states.

For example in the host country of Solomon and Kiribati between China and Taiwan, where China uses both the power of money to build infrastructure, lend, fund and use soft power in agricultural education. Provide scholarships to compete with Taiwan who has been providing agricultural education to these countries for a long time with great power and having a large amount in capital of China forcing a small country to abandon its alliance with Taiwan. And another example, the use of Peace Education Theories to help create peace through the education in the school between the Thai Buddhist and Thai Muslim in the three southern border provinces to maintaining a balance between "Negative peace" (non-violence) and "Positive peace" (justice Equality and rights in autonomy) to create lasting peace and long-term reconciliation.

This book is suitable for researchers, policy makers, practitioners and the stakeholders of this world that is needed to face competition and conflicts between rival states that help to see the overall picture more clearly and saw patterns in cultural exchanges and education in each of the more rival states. The analyzed combined in each chapter showing that exchanges have observed effects at both the individual and related institutions levels. In addition, exchanges have the ability to affect

broader social and political changes at the family, community, social or state level in some way both directly and indirectly. These impacts must depend on many factors, including duration, attitude, strategy, method.

By this book are still the issues worth studying and researching in order to build on and understand many issues that arise regarding cultural and educational exchanges now and in the future.

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Contents

Section 1. Materials science	3
<i>Nadareishvili Malkhaz</i>	
IMPACT OF COMPLEX PROCESSING ON THE PHOTO CATALYTIC PROPERTIES OF TITANIUM DIOXIDE	3
Section 2. Medical science	7
<i>Chubinidze Natia Zaurievna, Bashura Aleksandr Gennadievich, Abuladze Nino Bejhanovna, Gabunia Ketevani Ushangovna, Sulashvil Nodar Vakhtangevich</i>	
DEVELOPING THE FORMULATIONS OF THE COMPOSITIONS FOR ACNE SPOT TREATMENT	7
<i>Suleymanov Suleyman Fayzullayevich</i>	
ANALYSIS OF THE DEGREE OF IMMUNE DISORDERS AND THE APPLICATION OF IMMUNOCORRECTORS IN DISEASES OF THE DIGESTIVE SYSTEM	12
Section 3. Sociology	16
<i>Hasanov Agaselim Shamil oglu</i>	
THE PROBLEM OF COEXISTENCE IN AZERBAIJANI AND ARMENIAN SOCIETIES: HISTORICAL AND CONTEMPORARY REALITIES	16
Section 4. Physics	22
<i>Rasulov Voxob Rustamovich, Rasulov Rustam Yavkachovich, Eshboltaev Iqboljon Mamijonovich, Quchqarov Mavzurjon Xursanboyevich, Sultonov Ravshan Rustamovich</i>	
INVESTIGATION OF SIZE QUANTIZATION IN A GYROTROPIC SEMICONDUCTOR	22
Section 5. Philology and linguistics	27
<i>Zheleva Zlatina Petrova, Petrova Svetla</i>	
EPONYMS IN PAEDIATRIC DENTAL MEDICINE	27
Section 6. Philosophy	
<i>Nguyen Duc Hung</i>	
SOME REQUIREMENTS FOR THE DEVELOPMENT OF CREATIVE CAPACITY OF THE CREATIVE COMMUNITY OF THE VIETNAM PEOPLE'S TEAM LEVEL	31
Section 7. Economics and management	35
<i>Vanishvili Merab Mixailovich, Kokashvili Nanuli, Osadze Lali</i>	
THE SAVING CULTURE AND FINANCIAL GOALS OF POPULATION IN GEORGIA	35
<i>Tran Toan Trung</i>	
IMPROVEMENT OF THE EFFICIENCY OF STATE MANAGEMENT ON ETHNIC GROUP CULTURE ASSOCIATED WITH SUSTAINABLE DEVELOPMENT IN MOUNTAINOUS PROVINCES IN THE NORTH OF VIETNAM	41

<i>Chechelashvili Maia, Vardanyan Mikayel, Ptashchenko Liana</i> ETHNOMANAGEMENT AS A SCIENTIFIC DIRECTION	49
Section 8. Science of law	55
<i>Ariman Sitompul, Pagar Hasibuan, Mhd. Sahnan</i> THE MORALITY OF LAW ENFORCEMENT AGENCIES (POLICE, PROSECUTOR'S OFFICE, KPK) IN MONEY LAUNDERING WITH THE ORIGIN OF THE CORRUPTION	55
Review	64
<i>Polwasit Lhakard</i> BOOK REVIEW CHUING PRUDENCE CHOU AND JONATHAN SPANGLER. CULTURAL AND EDUCATIONAL EXCHANGES BETWEEN RIVAL SOCIETIES COOPERATION AND COMPETITION IN AN INTERDEPENDENT WORLD (Singapore city, Singapore: Springer Publishers, 2018. 178 p. Hardcover: \$108.82. ISBN978-981-13-1547-3)	64