



Accent Graphics
Publishing & Communications



7th International youth conference

"Perspectives of science and education"

10th May 2020

**New York
2020**

The 7th International youth conference “Perspectives of science and education” (May 10, 2020) SLOVO\WORD, New York, USA. 2020. 94 p.

ISBN 978-1-77192-518-1

The recommended citation for this publication is:

Busch P. (Ed.) (2020). Humanitarian approaches to the Periodic Law // Perspectives of science and education. Proceedings of the 7th International youth conference. SLOVO\WORD, – New York, USA. 2020. – Pp. 12–17.

Editor Lucas Koenig, Austria

Editorial board Abdulkasimov Ali, Uzbekistan
Aldieva Aynura Abduzhalalovna, Kyrgyzstan
Arabaev Cholponkul Isaevich, Kyrgyzstan
Zagir V. Atayev, Russia
Akhmedova Raziya Abdullayevna
Balabiev Kairat Rahimovich, Kazakhstan
Barlybaeva Saule Hatiyatovna, Kazakhstan
Bestugin Alexander Roaldovich, Russia
Boselin S.R. Prabhu, India
Bondarenko Natalia Grigorievna, Russia
Bogolib Tatiana Maksimovna, Ukraine
Bulatbaeva Aygul Abdimazhitovna, Kazakhstan
Chiladze George Bidzinovich, Georgia
Dalibor M. Elezović, Serbia
Gurov Valeriy Nikolaevich, Russia
Hajiyev Mahammad Shahbaz oglu, Azerbaijan
Ibragimova Liliya Ahmatyanovna, Russia
Blahun Ivan Semenovich, Ukraine
Ivannikov Ivan Andreevich, Russia
Jansarayeva Rima, Kazakhstan
Khubaev Georgy Nikolaevich
Khurtsidze Tamila Shalvovna, Georgia
Khoutyz Zaur, Russia
Khoutyz Irina, Russia
Korzh Marina Vladimirovna, Russia
Kocherbaeva Aynura Anatolevna, Kyrgyzstan
Kushaliyev Kaisar Zhalitovich, Kazakhstan
Lekerova Gulsim, Kazakhstan
Melnichuk Marina Vladimirovna, Russia
Meymanov Bakyt Kattoevich, Kyrgyzstan
Moldabek Kulakhmet, Kazakhstan

Morozova Natalay Ivanovna, Russia
Moskvin Victor Anatolevich, Russia
Nagiye Polad Yusif, Azerbaijan
Naletova Natalia Yurevna, Russia
Novikov Alexei, Russia
Salaev Sanatbek Komiljanovich, Uzbekistan
Shadiev Rizamat Davranovich, Uzbekistan
Shahhutova Zarema Zorievna, Russia
Soltanova Nazilya Bagir, Azerbaijan
Spasennikov Boris Aristarkhovich, Russia
Spasennikov Boris Aristarkhovich, Russia
Suleymanov Suleyman Fayzullaevich, Uzbekistan
Suleymanova Rima, Russia
Tereschenko-Kaidan Liliya Vladimirovna, Ukraine
Tsersvadze Mzia Giglaevna, Georgia
Vijaykumar Muley, India
Yurova Kseniya Igorevna, Russia
Zhaplova Tatiana Mikhaylovna, Russia
Zhdanovich Alexey Igorevich, Ukraine

Proofreading

Andrey Simakov

Cover design

Andreas Vogel

Contacts

Premier Publishing s.r.o.
Praha 8 – Karlín,
Lyčkovo nám. 508/7, PSČ 18600
1807-150 Charlton st.East,
Hamilton, Ontario, L8N 3×3 Canada

Email:

pub@ppublishing.org
info@accentgraphics.ca

Homepage:

ppublishing.org
accentgraphics.ca

Material disclaimer

The opinions expressed in the conference proceedings do not necessarily reflect those of the SLOVO\WORD, Accent Graphics Communications & Publishing or Premier Publishing s.r.o., the editor, the editorial board, or the organization to which the authors are affiliated.

The SLOVO\WORD, Accent Graphics Communications & Publishing or Premier Publishing s.r.o. is not responsible for the stylistic content of the article. The responsibility for the stylistic content lies on an author of an article.

© SLOVO\WORD

© Accent Graphics Communications & Publishing

© Premier Publishing s.r.o.

All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the Publisher.

Typeset in Berling by Ziegler Buchdruckerei, Linz, Austria.

Printed by Premier Publishing s.r.o., Vienna, Austria on acid-free paper.

Section 1. History and archaeology

*Bolotova Ulyana Vladimirovna,
candidate of Philosophical Sciences, assistant professor
of Department of History and Philosophy
of Law of the Institute of service, tourism and design (branch)
FGAOU VO "North-Caucasus Federal University" in Pyatigorsk*

*Bondarenko Natalia Grigorievna,
Doctor of Philosophical Sciences, Professor,
the Head of History and philosophy of law
of the Institute of service, tourism and design (branch)
FGAOU VO "North-Caucasian Federal University" in Pyatigorsk*

*Arakelyan Inna Seryanovna,
Senior Lecturer of the Department of History and philosophy of law
of the Institute of service, tourism and design (branch) FGAOU VO
"North-Caucasian Federal University" in Pyatigorsk*

*Kryukova Lyudmila Vasilievna,
candidate of Historical Sciences, assistant professor
of Department of History and Philosophy of Law
of the Institute of service, tourism and design (branch) FGAOU VO
"North-Caucasus Federal Universit" in Pyatigorsk*

*Yanukyan Madlena Bagratovna,
candidate of Pedagogical Sciences, assistant professor
of Department of History and Philosophy of Law
of the Institute of service, tourism and design (branch) FGAOU VO
"North-Caucasus Federal University" in Pyatigorsk
E-mail: 425257@mail.ru*

MOUNTAIN ELITE IN SEARCH OF A COMPROMISE BETWEEN STATE INTERESTS AND ETHNIC PATRIOTISM

*Болотова Ульяна Владимировна,
кандидат философских наук, доцент кафедры истории
и философии права Института сервиса, туризма и дизайна
(филиал) ФГАОУ ВО «Северо-Кавказский
федеральный университет» в г. Пятигорске*

*Бондаренко Наталья Григорьевна,
доктор философских наук, профессор, зав. кафедрой истории
и философии права Института сервиса, туризма
и дизайна (филиал) ФГАОУ ВО «Северо-Кавказский федеральный
университет» в г. Пятигорске*

*Аракелян Инна Серьяновна,
старший преподаватель кафедры истории и философии права
Института сервиса, туризма и дизайна (филиал) ФГАОУ ВО
«Северо-Кавказский федеральный университет» в г. Пятигорске*

*Крюкова Людмила Васильевна,
кандидат исторических наук, доцент кафедры истории и философии
права Института сервиса, туризма и дизайна (филиал) ФГАОУ ВО
«Северо-Кавказский федеральный университет» в г. Пятигорске*

*Янукян Мадлена Багратовна,
кандидат педагогических наук, доцент кафедры истории и философии
права Института сервиса, туризма и дизайна (филиал) ФГАОУ ВО
«Северо-Кавказский федеральный университет» в г. Пятигорске
E-mail: 425257@mail.ru*

ГОРСКАЯ ЭЛИТА В ПОИСКАХ КОМПРОМИССА МЕЖДУ ГОСУДАРСТВЕННЫМИ ИНТЕРЕСАМИ И ЭТНИЧЕСКИМ ПАТРИОТИЗМОМ

Закономерный интерес Российского государства к Северному Кавказу был обоюдным. Народы региона также были заинтересованы в налаживании прочных и выгодных для них связей с могучей державой. Россия исторически выступала в качестве покровителя местных племен, во многом нейтрализовала неблагоприятную внешнеполитическую конъюнктуру, в частности агрессивные устремления Крымского ханства, персидскую и османскую экспансию. Недаром к русским государям устремлялись многочисленные посольства с просьбой о принятии в подданство. Вместе с тем, специфика местных реалий не позволяла безболезненно включить регион в состав многонационального государства. Разный уровень социально-экономического и политического развития северокавказских народов, специфичная ментальность делала их достаточно конфликтной средой, весьма трудно воспринимавшей внешнее воздействие. Главной головной болью для российской администрации стала горская набеговая практика, которая приобрела черты настоящей индустрии¹. Это был и институт социализации, и способ добывания средств, смириться с которым империя не могла. Кроме того, внутри самих горских обществ существо-

¹ Блиев М.М., Дегоев В.В. Кавказская война. – М.: «Росет», 1994. – С. 109–146.

вали серьезные противоречия, были свои лидеры, которые стремились к доминированию над соседями, а потому вмешательство России в эти споры болезненно сказывалось на их взаимоотношениях с нею.

Даже дальновидным представителям горской элиты, ратовавшим за сближение с русскими, непросто было отказаться от традиционного мировоззрения, базирующегося на этническом патриотизме, и проникнуться общегосударственными интересами, которые зачастую расходились с привычными оценками и стереотипами. Это приводило к мучительному поиску компромисса, взаимоисключающим поступкам, смене политических ориентиров, которые можно найти в биографиях горских деятелей той поры.

Здесь хотелось бы отметить одну незаурядную личность – Федора Александровича Бековича-Черкасского. Он вел свой род от Эльмурзы, брата сподвижника Петра Великого Давлет – Гирея Бекмурзина (после крещения – Александр Бекович-Черкасский), одного из «образованнейших людей своего времени и отличных способностей»¹. Свое первоначальное образование этот князь получил в Кизляре. В дальнейшем его отправили в Тифлис, где он постигал персидский, арабский, татарский и латинский языки. Впрочем, по словам современников, это был, прежде всего, и в первую очередь, воин, который не обременял себя излишними знаниями. Вот, что писал о нем близко знавший его В. С. Толстой: «Все образование князя Бековича состояло в том, что он чисто говорил по-русски и на том же языке писал хорошим почерком, остальное его воспитание было до мелочей всецело черкесское, почему и жизнь его была совершенно азиатского пошиба. Он не имел привычки все свободное от службы время заниматься чем-либо умственным. Всегда и всюду окруженный своими узденями, – которые, в сущности, были его командирами, – подвластными ему князьями, гостями, приезжими из других племен, день проводили в пустой болтовне, осмотре и пробах оружия, которым туземцы обвешались; иногда случалось, что подвластные князя Бековича приезжали для судебных разбирательств взаимных тяжб; но князь Бекович не был в состоянии вести какой-либо неслужебный и назидательный общественный разговор, никогда не брал в руки какую-либо книгу или газету, не имел понятия о картежной игре; в пище и употреблении вина был крайне воздержан; политические его воззрения и мышления ограничивались Кавказскими вопросами»².

Кавказские власти поручали князю Бековичу выполнение самых разнообразных задач, направленных на поддержание мирных условий жизни в Кабарде, где ему приходилось выступать посредником-поручителем

¹ Опышко О.Л. По тропам истории. – Нальчик: Эльбрус, 1990. – 214 с.

² Толстой В. С. Характеристики русских генералов на Кавказе / Публ. [вступ. ст. и примеч.] В.М. Безотосного // Российский Архив: История Отечества в свидетельствах и документах XVIII–XX вв.: Альманах. – М.: Студия ТРИТЭ: Рос. Архив, 1996. – Т. VII. – 211 с.

в конфликтных ситуациях. Институт поручительства играл заметную роль в общественной жизни кабардинцев. На поруки брались люди за самые различные поступки. Были случаи, когда лица, давшие присяги, вводились в заблуждение теми, за кого поручались, и за это подвергались крупным штрафам. Неудивительно поэтому, что люди нередко отказывались давать присяги по каким-либо делам, ибо ручательство иногда оборачивалось значительными сложностями для поручителя. Подобного рода положение сильно мешало правосудию, и от князя Бековича начальство требовало склонять к поручительству известных среди кабардинцев людей¹.

Положение дел осложнялось тем обстоятельством, что институт поручительства заключал в своей основе определенные, трудно преодолимые в условиях господства традиционных отношений, препятствия. Поручаться мог равный в сословном отношении за равного себе, или представитель высшего сословия – за представителя низшего сословия. В силу данных условий найти подходящего случаю поручителя не всегда удавалось даже князю Бековичу.

Ф.А. Бекович-Черкасский хотел видеть свой народ просвещенным, а потому для «возведения кабардинцев на степень благородного образования» предлагал открыть в Нальчике училище для обучения детей русскому и арабскому языкам. Обучавшихся за казенный счет детей необходимо, по мнению Бековича-Черкасского, было изолировать от влияния своих непросвещенных соотечественников, и отпускать домой не чаще одного раза в месяц. С окончанием училища «отсылать их в высшие в России училища, а после завершения учебы в оных позволить возвращаться на родину, предоставив преимущественно пред прочими право к занятию различных в Кабарде должностей. Это было бы примером для высшего сословия, которое пожелает обучать впредь своих детей в светских школах...»². Срок обучения предполагалось установить в три года. Переписка по вопросу об открытии школы в Нальчике затянулась, хотя были составлены проект школьного здания и смета необходимых расходов.

В Петербурге посчитали предложение князя Бековича несколько преждевременным, но учли существующую общественную необходимость и распорядились «принимать туземное юношество в полковые и батальонные школы при войсках Кавказского корпуса». Предлагалось этот опыт распространить и на весь Северный Кавказ. Служба в армии и обучение в кадетских корпусах оставались основной формой подготовки местных кадров, хотя такое положение уже не удовлетворяло потребностям края.

Его отношение к Кабарде и России можно охарактеризовать словами – Любовь и Долг. Здесь есть кажущееся противоречие, но это переходящие

¹ Акты, собранные Кавказской археографической комиссией / Под ред. А.П. Берже. – Тифлис, 1878. – Т. VII. – 872 с.

² РГВИА. Ф.1268. Оп.2. Д.781. Л.2 об.

друг в друга стороны единого целого. Любовь и Долг к родной Кабарде и нечуждой России сделались нерасторжимыми в его жизни и судьбе. При жизни Ф.А. Бекович-Черкасский подвергался нападкам «справа» и «слева». Нередко ему было тяжело сделать выбор между этническими соплеменниками, традицией и присягой российскому императору. Однако его поддерживало сознание того, что он делал необходимое и спасительное дело, что давало ему силы и подкрепляло веру в правоту выбранного пути.

Для представителей горской элиты, находившихся на российской службе, при всех их особенностях была характерна определенная раздвоенность в оценках происходящего на их малой родине. Являясь частью своего народа, они не могли быстро преодолеть характерный для региона изоляционизм, отречься от узких, местечковых ценностей. Но то, что отличало их от соплеменников – это интуитивное осознание исторической перспективы, которая открывалась перед народами Северного Кавказа после включения его в состав российского государства.

Судьба многих из них была трагичной, не понятые соотечественниками, не пользуясь доверием со стороны кавказской администрации, они, тем не менее, были связующим звеном между Кавказом и остальными народами многонациональной России. В этом их главная историческая заслуга. Вместе с тем никогда не оставлялась надежда на мирное решение проблемы, с помощью культурного воздействия, переговоров, экономической выгоды. Отсюда кажущаяся противоречивость, «метания» в поисках оптимальной модели взаимоотношений. И это не злой умысел царизма, как порой пытаются представить, а трудный поиск наиболее приемлемых форм общежития непохожих народов, которые в силу объективных обстоятельств должны были научиться жить вместе.

Естественно, что такая проблема могла быть решена только в том случае, когда она находила поддержку у местных племен. Естественно, далеко не сразу, и далеко не все жители Кавказа готовы были пойти на сближение с Россией. Такую историческую перспективу изначально могли оценить и воспринять представители горской элиты. Она традиционно принимает решения и ведет за собой общество. Именно привлечение элиты на свою сторону было необходимой, первоочередной задачей.

Список литературы:

1. Акты, собранные Кавказской археографической комиссией / Под ред. А.П. Берже. – Тифлис, 1878. – Т. VII. – 872 с.
2. Блиев М.М., Дегоев В.В. Кавказская война. – М.: «Росет», 1994. – С. 109–146.
3. Бейтуганов С.Н. Кабарда: история и фамилии. – Нальчик: Эльбрус, 2007 – С. 158–159.
4. Карданов Ч.Э. Путь к России: Кабардинские князья в истории отношений Кабарды с Российским государством в XVI–начале XIX века / Перевел с кабардинского В.Г. Кузьмин. – Нальчик: Эльбрус, – 2001. – 332 с.

5. Опрышко О.Л. По тропам истории. – Нальчик: Эльбрус, 1990. – 214 с.
6. Потто В.А. Кавказская война: В 5 т.; – Т. 2: Ермоловское время. – Ставрополь: Кавказский край, 1994. – 493 с.
7. РГВИА. – Ф.1268. Оп.2. Д.781. Л.2.
8. Толстой В.С. Характеристики русских генералов на Кавказе / Публ. [вступ. ст. и примеч.] В.М. Безотосного // Российский Архив: История Отечества в свидетельствах и документах XVIII–XX вв.: Альманах. – М.: Студия ТРИТЭ: Рос. Архив, 1996. – Т. VII. – 211 с.

Section 2. Information technology

*Bohdan Havano,
Department of Computer Engineering
Lviv Polytechnic National University, Lviv, Ukraine
E-mail: havano.bohdan@gmail.com*

*Oleksandr Tkachyk,
Department of Artificial Intelligence Systems
Lviv Polytechnic National University, Lviv, Ukraine
E-mail: adev.tkachyk@gmail.com*

*Hennadiy Kytsun,
Department of Computer Engineering
Lviv Polytechnic National University, Lviv, Ukraine
E-mail: HENNADIY.KYTSUN@cypress.com*

WEB-SERVER CROSS-SITE REQUEST FORGERY PROTECTION

Abstract. Cross-Site Request Forgery (CSRF) is an attack that allows a malicious user to spoof legitimate requests to server, masquerading as an authenticated user. This article provides methods how to protect server from this kind of attack by generating unique tokens and validating their authenticity with each submission using one-time pad encryption technique.

Keywords: web; server; protection; CSRF; cryptography; one-time pad.

1. Introduction

One of the most important things in development of web applications is security. Every solid development company has to worry about creation of secured websites and web applications. As code can't be secured and bug-free for 100%, development teams should do their best to make their applications as secured as possible. Detecting vulnerabilities should be a done at the very beginning of development and deployment, because further hacks could influence on financial and on company's status. That's why code security must be taken into mind to developers and should be kept there during all development processes.

2. Major web application authentication threats

Nowadays, developers are facing a bunch of authentication attacks. Let's take a look at few of them:

A. Brute-Forcing Accounts

Malicious program (or an attacker) can straightforwardly try to guess a username and password (login credentials). This easy hacking technique is named a brute-force attack, and works by next way: an attacker is trying to guess an email address, because it is usually used as the login. Same with the password, guessing repeatedly in a hope to find the right one. User's emails are mostly easy to find or steal, and passwords are often easy to guess¹.

In some cases, web servers might display some important information even when authentication failed. For example, when attackers submitted an email address and it isn't found in server's database, the application will respond with some error message, like "This e-mail address #{example@address.com} does not exist." Then he will be able to use another email combination and do further research in internet to finally find the correct one, so email will be present in the database. When the attacker finally found correct email, then he would be able to continue attempt to guess user's credentials, now it is password. It may be possible doing recovering it through the restore password page.

To avoid and prevent such kind of attacks, you might use a CAPTCHA after few not successful authentication tries. Also, for better server ion protection, developers may think about disabling accounts of user, whose email was used for several failed login attempts. For example, to such use it might be sent an email message with description, why his account is temporary blocked and details on how to prevent this block and restore the account. And, of course, developers might show simple default error message on failed login attempts, instead of showing important data about user's account and credentials, which may help an attacker to achieve success.

B. Account Hijacking

Of course, brute-forcing isn't the single possible way to hijack user's credentials and account. An attacker can also somehow steal a session cookie of a user — further victim. With such data. Attacker may change user's account credentials. The best solution to protect server from such type of attack is to protect the forgot password page from cross-site request forgery (CSRF) and require the password prior to changing any sensitive information².

An attacker may got access to a user's account using some sophisticated hacking methods, like XSS or CSRF. So, protecting web server from these attacks is very important, and we will tell more about one of these particular vulnerabilities — CSRF.

¹ Brute-force attack [Electronic resource]: Wikipedia. Free encyclopedia. — Access mode: URL: https://en.wikipedia.org/wiki/Brute-force_attack (accessed date: 09/01/2020).

² CSRF [Electronic resource]: Wikipedia. Free encyclopedia. — Access mode: URL: https://en.wikipedia.org/wiki/Cross-site_request_forgery (accessed date: 09/01/2020).

3. How do CSRF works

A CSRF attack happens when an attacker forges a malicious link that proceed some action on the target website on account of the victim-user (account should be loggen in the target website). This attack is executed automatically, so the victim-user doesn't understand what is going on and that it is an attack (Figure 1).

But, to proceed CSRF attack, the attacker should put the forged link in some place or web-application where the victim is usually visiting. So, attackers put such kind of links on different webistes like: forums, social boards, advertising, blogs, and so on.

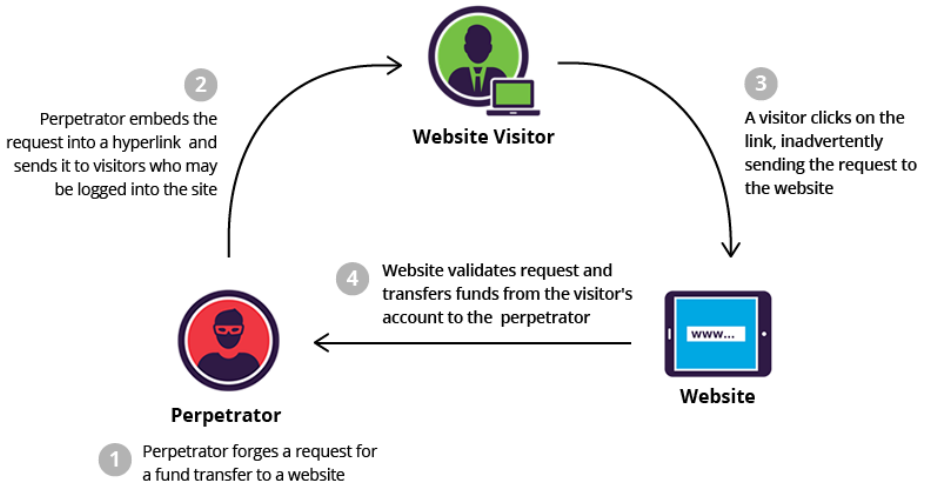


Figure 1. CSRF attack example

As example, let's imagine situation, when the user(victim) has logged in to a payment website while browsing a social website. The browser downloads webpage, which includes the forged link, created by attacker. In this case, the CSRF attack happens: now attacker can use user's forged credentials, and for example steal user's money and sent them to his own account.

There are a lot of different solutions how to protect web server against CSRF attacks. Developers should understand when GET and POST requests must be. GET requests don't need CSRF protection because they don't provide any important information which can't be public and accessible to any user.

4. One-Time Pad technique

In Information technology, in particular in cryptography context, one-time pad technique is defined as special system that is used for secured information sharing using private authentication tokens. This token is generated randomly and is used to encrypt senders message. Afterwards, when message is received by server. It is going to be decrypted. Decryption arrives with a

special matching key which is stored only on server and with one-time pad. The advantage of this method is that all received messages, that are encrypted by one-time pad technique, theoretically are secured from being broken by analyzing an accessed messages. Every encrypted message is unique by itself and has no coherence to any other encryption, even next one. That is why no patterns can be detected.

However, a one-time pad is facing one major problem. Server should have an access to the encryption key that is used for encrypting the clients message. The main difficulty is how to keep both of the keys secured or how to get the encryption key safely to decrypt the message¹.

In some cases one-time pads are being used in one physical location. During the process they are separated and contains some information about the keys in this technique. The key that works in one-time pad technique calls a secret key or private token as if it is compromised, all messages that are encrypted by that key will be easily decrypted.

One time pads made significant contribution for secret messaging between commands during World War II and when Cold War era started. During the era of Internet, the problem of saving and transfer private tokens gone after the invention of public keys (Figure 2).

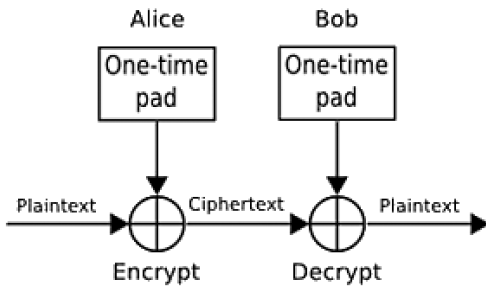


Figure 2. One-Time pad usage

By default all one-time pads are creating via generation of a random string of symbols (characters) and numbers. This string should be as long as message that is going to be sent or even longer. The string with containing symbols should be generated in total random. For example, one of the methods of creating random string is to use a 'lottery machine' and pull random balls that are numbered or marked with alphabet values or it can be created by computer program.

¹ One-Time pad [Electronic resource]: Wikipedia. Free encyclopedia. — Access mode: URL: https://en.wikipedia.org/wiki/One-time_pad (accessed date: 09/01/2020).

String is saved to the pad (in our case it can be any devise). That pad is provided to anyone who wants to send the message or receive it. In most cases a pad can be displayed as a collection of some important keys. They may contain an information about when this key is going to be expired or when it was used.

When the message is ready and is going to be sent, the client has to use already generated private token to encrypt all characters in the message. Every character consists of bits (in most cases characters has eight bits of total length) and all of them are completely “OR’ed” with the analogue bits that are stored in the secret key. Under the hood, the basic algorithm of the encryption is the XOR operation. Some more complicated algorithms are frequently combined with some other algorithms, for example MD5 or other one. Those algorithms have very high percentage of security because the message is being masked by very complicated algorithm. It means that only the sender and receiver can decrypt the message.

Once the one-time pad is used, it can’t be reused. If it is reused, someone who intercepts multiple messages can begin to compare them for similar coding for words that may possibly occur in both messages.

5. Algorithm of CSRF Protection

To protect your server against CSRF attacks, developer should provide two components. Thus, one of them is a unique token, which may be included into website’s HTML layout. Second one is the same token, but it should be stored in session cookies. When a client makes a non GET request, then the CSRF token is taken from the HTML layout and is sent in this request.

We need to store randomly generated encrypted token in session (Fig. 3).

```
session[:_csrf_token] ||= SecureRandom.base64(AUTHENTICITY_TOKEN_LENGTH)
```

Figure 3. Generated token storing in session

Now cryptography will take part. The method which inserts token into session cookie, also should return that token to another method, were it will be prepared to inserting into HTML, and here we take some precautions. Note that we also have to encrypt the token that goes into the session cookie.

As a first step, this method generates a one-time pad that will be used for encrypting the token. A one-time pad is a cryptographic technique. So we should use a randomly-generated key to encrypt a plaintext token of the same length, and requires the key to be used to decrypt the message (Fig. 4).

```
one_time_pad = SecureRandom.random_bytes(AUTHENTICITY_TOKEN_LENGTH)
encrypted_csrf_token = xor_byte_strings(one_time_pad, raw_token)
masked_token = one_time_pad + encrypted_csrf_token
Base64.strict_encode64(masked_token)
```

Figure 4. Preparing token for HTML

A “one-time” pad has its name because: each key is used for a single message, and then discarded. So we implement this by creating a new one-time pad for each new CSRF token, then uses it to encrypt the plaintext token using the XOR bitwise operation. The one-time pad string is prepended to the encrypted string, then Base64-encoded to make the string ready for HTML (Figure 5)¹.

Next step is decryption and verification on server side. When a client sends a request to server, the CSRF token is sent along with the request, taken from the HTML. Also, it can be used and sent as the X-CSRF-Token HTTP header.

We don’t need to verify HEAD or GET requests, for example. AS a request can pass the token in params or as a the X-CSRF-Token HTTP header, server should match at least one of those tokens to the token from session cookie. Now server should inverse an encryption method to check if token is valid — to match both tokens (Figure 6).

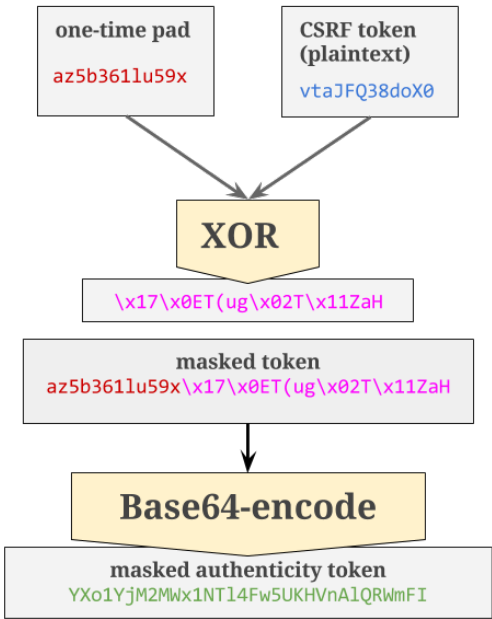


Figure 5. Algorithm for creating masked token for inserting into HTML

¹ Base64 [Electronic resource]: Wikipedia. Free encyclopedia.— Access mode: URL: <https://en.wikipedia.org/wiki/Base64> (accessed date: 09/01/2020).

```

def valid_authenticity_token?(session, encoded_masked_token) # :doc:
  # ...
  begin
    masked_token = Base64.strict_decode64(encoded_masked_token)
  rescue ArgumentError # encoded_masked_token is invalid Base64
    return false
  end

  if masked_token.length == AUTHENTICITY_TOKEN_LENGTH
    # ...

  elsif masked_token.length == AUTHENTICITY_TOKEN_LENGTH * 2
    csrf_token = unmask_token(masked_token)
    compare_with_real_token(csrf_token, session) ||
      valid_per_form_csrf_token?(csrf_token, session)
  else
    false # Token is malformed.
  end
end

```

Figure 6. Method to validate received token

First, server need to take the Base64-encoded string and decode it to end up with the “masked token”. From here, we unmask the token and then compare it to the token in the session. Before `#unmask_token` can decrypt the token, server has to split the masked token into two parts: the one-time pad, and the encrypted token itself. Then, it XORs the two strings to finally produce the plaintext token (Figure 7).

```

def unmask_token(masked_token) # :doc:
  one_time_pad = masked_token[0...AUTHENTICITY_TOKEN_LENGTH]
  encrypted_csrf_token = masked_token[AUTHENTICITY_TOKEN_LENGTH..-1]
  xor_byte_strings(one_time_pad, encrypted_csrf_token)
end

```

Figure 7. Decrypting received token

As last step, server has to compare both tokens. If they match — request is authorized.

Conclusion

In this article was described algorithm of CSRF protection in web-server. To describe methods of this algorithm we used Ruby language as example. This algorithm uses one-time pad encryption technique. It works through comparison of stored token (on server side) with received one from client side.

Using this algorithm keep your server protected from CSRF attacks and is easy to develop and improve.

References:

1. One-Time pad [Electronic resource]: Wikipedia. Free encyclopedia. – Access mode: URL: https://en.wikipedia.org/wiki/One-time_pad (accessed date: 09/01/2020).
2. CSRF [Electronic resource]: Wikipedia. Free encyclopedia. – Access mode: URL: https://en.wikipedia.org/wiki/Cross-site_request_forgery (accessed date: 09/01/2020).
3. Brute-force attack [Electronic resource]: Wikipedia. Free encyclopedia. – Access mode: URL: https://en.wikipedia.org/wiki/Brute-force_attack (accessed date: 09/01/2020).
4. Base64 [Electronic resource]: Wikipedia. Free encyclopedia. – Access mode: URL: <https://en.wikipedia.org/wiki/Base64> (accessed date: 09/01/2020).

Section 3. Linguistics

*Loshchynova Inna Sergeevna,
PhD in Philological Sciences, Senior Lecturer,
Department of Language Training State Institution
“Dnepropetrovsk Medical Academy
of the Ministry of Health of Ukraine”
E-mail: averami@gmail.com*

SOCIAL AND CULTURAL ADAPTATION OF INDIAN STUDENTS WHILE STUDYING THE COURSE “RUSSIAN AS A FOREIGN LANGUAGE”

*Лоцинова Инна Сергеевна,
к.ф.н., старший преподаватель кафедры языковой подготовки
государственного учреждения
«Днепропетровская медицинская академия
Министерства здравоохранения Украины»
E-mail: averami@gmail.com*

СОЦИАЛЬНО-КУЛЬТУРНАЯ АДАПТАЦИЯ СТУДЕНТОВ-ИНДУСОВ ВО ВРЕМЯ ИЗУЧЕНИЯ КУРСА «РУССКИЙ ЯЗЫК КАК ИНОСТРАННЫЙ»

За последние годы в украинских высших учебных заведениях значительно возросло количество индийских студентов. Индия является второй страной после Китая, граждане которой в основном получают образование за рубежом. Большинство индийских студентов в Украине получают медицинское образование. Образование в медицинской школе в Индии для обычной семьи слишком затратно – 10–15 тысяч долларов. В Украине студент-иностранец платит за год около 3 тыс. долларов. К тому же наша страна привлекает индусов своим климатом и расположением. Ведь чем дальше человек отъезжает от дома, тем выше у него мотивация, больше шансов стать ответственным и самостоятельным.

Важным фактором качественного и успешного обучения иностранных студентов является их адаптация к особенностям проживания в чужой стране. Существуют различные формы адаптации, например:

физиологическая, психологическая, культурная, социальная и др. Находясь в незнакомой стране, иностранцы часто погружаются в ностальгию, страдают от стрессов и одиночества в новой среде. Для предотвращения такого состояния преподаватели должны всячески помогать студентам-иностранцам пройти процесс психологической и социально-культурной адаптации, способствовать их вовлечению в социальную и культурную жизнь нового сообщества, адекватному взаимодействию с ее представителями. Процесс адаптации может проходить быстрее или медленнее, что непосредственно влияет на качество жизни иностранцев и на их успехи в учебе. Одной из существенных проблем адаптации является языковой барьер. Поэтому преподаватель иностранного языка, с которым в начале своего обучения студенты знакомятся, становится для них одновременно советчиком и воспитателем.

Прежде всего, изучение любого иностранного языка начинается с овладения определенным лексическим минимумом. Это дает возможность студентам использовать язык как средство общения в соответствующих ситуациях и обеспечивает достижение коммуникативной цели на определенном этапе. Преподаватель должен формировать этот минимум с учетом коммуникативных потребностей своих студентов. Для пополнения активного словарного запаса эффективным, по нашему мнению, является использование ролевых игр, а также ситуативных задач, которые могут быть связаны с будущей профессией студентов. Чтение также является действенным средством обогащения словарного запаса. Тематика текстов при этом определяется коммуникативными потребностями, которые соответствуют стандартным языковым ситуациям, например: «Магазин, продукты питания», «Больница, аптека, лечение», «Город, где я учусь», «Погода», «Календарь и время», «Знакомство», «Внешность», «Гардероб», «Особенности характера и поведения», «Путешествия» и другие.

Преподаватели кафедры языковой подготовки еженедельно посещают индийских студентов в общежитиях, проводят с ними беседы на интересные их темы по организации учебного процесса, быта, а также активного отдыха. Для достижения необходимого уровня овладения русским языком кафедра языковой подготовки Днепропетровской медицинской академии проводит с индусами страноведческие экскурсии. Перед каждой экскурсией студенты получают необходимую информацию о той или иной достопримечательности, читают комментарии о незнакомых понятиях или реалиях. После экскурсии проводятся обсуждения, студентам предоставляется возможность рассказать аналогичную информацию о своей родине. Подобная работа, по нашему мнению, стимулирует учебно-познавательную деятельность студентов-иностранцев. Коллектив кафедры также привлекает эту талантливую нацию к участию в литературных вечерах, концертах, различных культурных мероприятиях. Большое значение для адаптации студентов имеет их вхождение в социокультурное про-

странство України, знакомство з її історією, культурою, національними традиціями.

В результаті такої роботи прискорюється процес виробки навиків речової діяльності, підвищується ефективність навчання, стимулюється пізнавальна діяльність студентів, направлена на самостійне удосконалення в вивченні російської мови. Успешному оволодінню іноземною мовою супроводжує об'єднання аудиторної і внеаудиторної роботи, являючої важливою складовою навчально-виховного процесу.

Список литературы:

1. Лещенко Т. О. Пізнання України як способу соціалізації іноземних студентів / Т. О. Лещенко, В. Г. Юфименко // Мовні дисципліни в контексті розвитку сучасної вищої школи: матеріали Всеукр. дист. наук.-практ. конф. з міжнар. участю. – Харків, 2014. – С. 179–180.
2. Туркевич О. Вивчення лексики української мови на текстовій основі у процесі навчання української мови як іноземної / О. Туркевич // Теорія і практика викладання української мови як іноземної: зб. наук. праць. – Львів, 2007. – Вип. 2. – С. 201–204.

Section 4. Pedagogy

*Paluch Marek,
Associate Professor,
University of Rzeszow (Poland)*

*Malikowski Radosław,
PhD, University of Rzeszow (Poland)
E-mail: radmal@vp.pl*

THE IMPORTANCE OF ART IN THE EDUCATION OF CHILDREN AND ADOLESCENTS

Abstract. Art and culture in the educational process of children and adolescents play the important role. The possibilities of a specific interaction of culture and art are noticed in the corrective and therapeutic activities. Self-education is the process of shaping human innovation through participation in culture.

Keywords: culture, art, education, upbringing, therapy, work.

Introduction

Changes taking place in Poland bring many risks for human individuals, but also condition the development of the modern human who has to face the need to build a new system of values and modernize the existing ones. Unemployment, poverty, crime, addiction – including alcoholism, drug addiction, corruption, homelessness, aggression- those are some pathological phenomena occurring in everyday social reality. These problems translate into individual families, which has a negative impact on the development of children and youth. Many students have educational problems, which are a direct consequence of the negative changes. In recent times, school counselors indicate an increase of children and adolescents with various personality disorders such as emotional disorders, aggression, hyperactivity, low resistance to physical and mental effort, fearfulness, depression, etc. Living in a rush in addition to poor material conditions causes stressful situations. Fear, anxiety are serious problems experienced especially by children from families where social crisis for various reasons is especially sharp. One of the ways to minimize these negative effects among students, therapeutic and corrective actions should be introduced to the educational process where art will play an important role as an integral part of culture and a tool to create change.

1. Art in the corrective and therapeutic interactions.

Nowadays violence and aggression at school is a problem which is primarily faced by the teachers. The fear that teachers feel towards aggressive students creates helplessness, and the use of punishment, reprisals against students with such behavior does not bring any change. Very often it only deepens the undesirable behavior¹. Redl F. believes that students are characterized by at least three types of aggression:

- frustrating aggression which has a source in the family home;
- aggression born in the school environment;
- aggression which is a reaction to the internal state of a child.

Therefore, there is a need to take all necessary actions for example correction of behavior by eliminating aggression so as to:

- remove from educational environment all stimuli causing reactions of anger, fear, preventing from meeting important needs – the aim is to eliminate the motivation which causes aggression;
- take action leading to the modification and adjustment of pupils attitudes that lead them to aggressive behavior;
- modify situations shaping aggressive habits;
- develop pupils' ability to resolve stressful situations rationally and raise the level of tolerance for frustration states;
- try to change the direction of behavior occurring among children².

Horbowski A. believes that every student should be aware that an effective method of treatment is often the encounter with art. Therapy through art or art therapy has already had significant achievements in psychological and psychiatric therapy. However, art is often forgotten in psychotherapeutic activities³.

Słowik P. writes that the using art for therapeutic purposes may be helpful when working with children, especially having a personality disorder or other mental abnormalities. We can talk here about passive and active psychotherapeutic interaction⁴. A major role in the process of changing attitudes plays pedagogical therapy. Corrective and compensatory activities on the one hand are targeted to improve dysfunction (correction), on the other hand their goal is to support the developing well functions so that they can either support disturbed functions or can replaced or compensated⁵. In the therapy we can use art therapy – artistic

¹ Poraj G. Aggression at school – the study of primary school children in the region of Lodz [in:] Threats to the education and socialization of young people and the possibilities to overcome them] (Eds.) Sołtysiak T., Bydgoszcz, 2005. – P. 245.

² Mountain S. Methodology of rehabilitation, – Warsaw, 1985.

³ Horbowski A, Culture as an counteracting factor against aggression [in:] Culture as an element of the new educational strategy. Essays and sketches, Paluch M., Horbowski A., Szmyd K., – Krakow 1999. – P. 62–73.

⁴ Słowik P. Art as the possibility of psychotherapeutic influence on a child, [in:] Kida J., (eds.) Art and the world of the child, Rzeszow 1996. – P. 403.

⁵ Skorek E.M. Pedagogical therapy, practical issues and suggestions for activities, – Kraków, 2010.

activities, theater, reading and music. Psychotherapist or educator may freely choose the appropriate type and form of art, which by its specificity affects the pupil. Stimulating the imagination during contacts with art encourages a child to adopt the attitude of truth, honesty, frees them from aggression, makes children consider their behavior. Please note that the use of creative activity such as plastic in art therapy promotes mental and manual development in a student (painting, sculpting, molding or weaving). We should also refer to music (music therapy). In this case, playing an instrument and composing can induce empathy or unloading the tension of attention deficit hyperactivity disorder. The schools have recently created drama clubs, where students play their roles who through “role playing” take appropriate assessments and feel valued.

Wojnar I. pointed out that through art people can express themselves completely, can better develop and understand their problems, own lives, and the world in which he lives becomes more understandable and accessible¹. The impact of art on the human is subjected to his personal experience. Art as means of aesthetic sensitivity training should become an important part of the educational process².

It should be emphasized that the ability to conduct educational activities including art depends on the teacher's preparation. Therefore, in the teaching process universities should pay more attention to the introduction of art in education programs.

2. Self-education as an important part of education in the field of cultural education

The modern man should have a comprehensive educational and self-creative competencies. These are the features of an innovative person. An important element in the educational process is self-education. At the core of the treatment of self-education as a process of formation of a modern man, lies the fact that he is an autonomous and sovereign individuality to himself and others. A man is the entity developing through the whole life. Self-study may be a factor in cultural education. As pointed out by A. Tyszka culture problems are usually combined with psychological mechanisms of learning, starting with the language, model of behavior, ways of thinking, value systems. Those are cultural components of personality that are becoming premises of cultural activity³.

Horbowski A. writes that, participation in culture is a complex and difficult process, requiring from an individual particular knowledge and skills. Its essence is to investigate the cultural values, get to know them, be influenced by them, introduce them into a system of individual values, reconstruct, process and create new ones”. The above quoted author believes that due to complexity of participation in culture there is a need to educate individuals and social

¹ Wojnar I. Aesthetic education [in:] Pedagogy (eds.) Suchodolski B., – Warsaw, 1985.

² Ibid.

³ Tyszka A. Participation in culture. The diversity of lifestyles, – Warsaw, 1971.

groups – children, youth and adults to participate in culture – education to culture¹. The ability to self-education is an indispensable element also of an adult human who is above the age limits.

In the educational process of children and adolescents such habits should be created they want to develop, through self-education, their talents and participate in activities or cultural and educational events.

W. Okoń and J. Półturzycki treat self-directed learning as a process of forming an adult. The first of these authors concluded that „self-education can be a realization of the ideal personality... it is the acquisition of general culture, and within it some knowledge and some forms of behavior, or professional culture depending on the type of profession performed by a person². Such a treatment of self-education extends its range of content to all areas of human cultural activity. It introduces the process of formation of the human personality in the circle of participation in cultural issues. Półturzycki J. looked at self-education not only like on the educational process, he also found that it is a specific style of life also including cultural activities of a person. He writes that „self-study is both the educational and lifestyle process characterized by active learning of the world and ourselves, improving not only the personality in all sectors of education and upbringing but also improving socio-moral, ethical, and physical health. The main factor and self-educational need is the education activity resulting from the independence when it comes to planning and taking educational activities for ourselves and the social environment, in all the areas of life and culture”³. Self-education is therefore an important part of understanding art and culture by a man. Consequently it can be assumed that self-education is a factor of cultural education. Self-study may be a factor in the approximation of the culture in the context of participation in culture.

A modern man is mobile, able to use their knowledge in a rapidly changing world. It is worth noting that today we are dealing with a highly dynamic social development, which includes changes taking place in the course of human life in the scope of his self-knowledge and interactions with others⁴. Appropriate educational treatment and the social educational system influences human development in many areas of operation – with particular emphasis on the emotional, personality, interpersonal and moral development. In addition, education and its components is a set of transmitting values which have to set the direction and meaning of human life. Any contact with the goods and social values shapes certain personality dispositions which is the purpose of the development of an individual human being. All educational activities are a factor in individual and social changes. Educational activity, as Brzezińska A. stated, is always an intervention in “an individual

¹ Horbowski A. Cultural education as a socio-educational system, – Rzeszow, 2000. – P. 40–41.

² Półturzycki J. Didactics for adults, – Warsaw, 1991.

³ Ibidem.

⁴ Sternberg R.J. Introduction to Psychology, – Warsaw, 1999.

reality (in the private world of a person, his images of the world and the images of himself, his own implicit theories explaining the functioning of the world and the person's place in it), in the social reality (in the cultural world of meaning) being the valuable context for the development of the individual reality"¹.

Spasowski W. considered self-study very widely and, what should be emphasized, as one of the levels of educational activities, the author has developed the own concept of individual self-teaching. He accepted that, „Self-education is a natural need felt by every rich soul striving for perfection, to know the truth, to progress[...] It is the highest level and most perfect method in the field of human education”².

Self-education is therefore an important element of the educational competence of the modern man. The self-educational ability, learning is a factor supporting development of the person. It contributes to strengthening of personal competence and creating new ones, it modifies and strengthens also interpersonal, social and organizational skills, contributes to modifying and shaping new realization competencies³.

Education and school is expected to be able to shape appropriate attitudes in children and adolescents, free from violence and any prejudice that may be undesirable and harmful to individuals and society. Cultural education strategy, in the context of the threats to a modern man, is a socio-educational action that can bring the desired results. The significant role of cultural education in the development of the individual is proved by the fact that culture, art is an enrichment and affirmation of life. Experiencing culture and art is a personal act, it is the experience and imagination, creates new opportunities for education. Creative participation in culture at the same time means creating new values and personal experience of the permanent, existing values, thus it is expressed in a new synthesis between action and personal experience as well as in the and expressive attitude to culture⁴. Through education and cultural education the desire to self-education should be induced in a person. The idea of preparing children and young people to participate in culture stems from the need to prepare the person to live in culture which he creates and uses. Thus, it can be stated that the purpose of cultural education is to prepare a person for cultural values in during the individual life of every human being. Cultural education should shape the person's attitude towards culture, learn the ways of life in the world of values⁵.

¹ Brzezińska A. Psychology of upbringing [in:] Psychology v.3 (Strelau J. eds.) Academic handbook Gdańsk in 2000. – P. 233.

² Spasowski W. Principles of self-education, – Warsaw, 1959. – P. 19.

³ Paluch M. A man in the changing society, – Sanok, 2007. – P. 43.

⁴ Paluch M. A child as a subject of actions within the cultural education [in:] Paluch M., – Horbowski A., – P. 538.

⁵ Szmyd K. Culture as new element of the education strategy. Essays and sketches, – Kraków, 1999. – P. 60.

Horbowski A. writes that, „Cultural education is identified with an education for culture, introduces a range of activities shaping the ingredients of a particular culture, its norms and values [...] The significant role of cultural education in the development of the human being is clearly proved by the fact that culture is a certain set of values defining the meaning of life in a certain way”¹.

It should be emphasized that the man lives in the social space, which contains elements of culture. The task for a teacher as an organizer of cultural activities is to show the factors that help a person understand the fact that cultural education certainly supports the cultural development of the individual, covers the whole life of a man from the birth to the old age. Cultural education activates individuals, groups and communities and creates the foundations for self-fulfillment and creativity. Modern education should expose the man and his well-being – welfare of the individual is going to be a social welfare. Focusing of all socio-educational activities is the main goal of a democratic country and democratic education, which should ensure optimal conditions for the existence and development of the citizens.

The particular importance for a man in all conditions is therefore education, which by means of appropriate processes and impacts, is able to change people. Educating students in the field of social pedagogy should be supervised and directed to know the social reality in which we live. The ability to create theoretical and practical socio-educational process is the foundation of education².

References:

1. Brzezińska A. Psychology of upbringing [in:] Psychology v.3 (Strelau J. eds.) Academic handbook – Gdańsk in 2000.
2. Horbowski A. Cultural education as a socio-educational system, – Rzeszow, 2000.
3. Horbowski A. Culture as an counteracting factor against aggression [in:] Culture as an element of the new educational strategy. Essays and sketches, Paluch M., Horbowski A., Szmyd K. – Krakow, 1999.
4. Hurlock E.B. Child Development, Translation by Hornowski B., Lewandowski K. Rosemann B., (eds.) Rosemann B., Tyszkowa M., – Warsaw, 1985.
5. Mountain S. Methodology of rehabilitation, – Warsaw, 1985.
6. Okoń W. Introduction to general didactics, – Warsaw, 1995. 1971.
7. Paluch M. A child as a subject of actions within the cultural education [in:] M. Paluch, Horbowski A.
8. Paluch M. A man in the changing society, – Sanok, 2007.

¹ Szmyd K. Culture as new element of the education strategy. Essays and sketches, – Kraków, 1999. – P. 60.

² Paluch M., Chominska L. Social pedagogy. A human in the system of socio-educational activities. The selected issues, – Kamianets-Podilskyi 2012.

9. Paluch M. Chominska L. Social pedagogy. A human in the system of socio-educational activities. The selected issues, – Kamianets-Podilskyi, 2012.
10. Półturzycki J., Didactics for adults, – Warsaw, 1991.
11. Poraj G. Aggression at school – the study of primary school children in the region of Lodz [in:] Threats to the education and socialization of young people and the possibilities to overcome them (eds.) Sołtysiak T., Bydgoszcz, 2005.
12. Redl F. Aggression in the classroom, *Today's education* 58, 1969.
13. Skorek E. M., Pedagogical therapy, practical issues and suggestions for activities, – Kraków, 2010.
14. Słowik P. Art as the possibility of psychotherapeutic influence on a child, [in:] Kida J., (eds.) Art and the world of the child, – Rzeszów, 1996.
15. Spasowski W. Principles of self-education, – Warsaw, 1959.
16. Sternberg R. J. Introduction to Psychology, – Warsaw, 1999.
17. Szmyd K. Culture as new element of the education strategy. Essays and sketches, – Kraków, 1999.
18. Tyszka A. Participation in culture. The diversity of lifestyles, – Warsaw, 1971.
19. Wojnar I. Aesthetic education [in:] Pedagogy (eds.) Suchodolski B., – Warsaw, 1985.
20. Wojnar I. Contents of the parental influence of art [in:] Suchodolski B., (eds.) Pedagogy, – Warsaw, 1985.

Section 5. Food processing industry

*Tursunbaeva Sholpan Arystanbekovna,
PhD doctoral student,
Almaty technological University
E-mail: sh.tursunbaeva@bk.ru*

*Iztayev Auyelbek Iztaevich,
Director Of the research Institute of food technologies,
doctor of technical Sciences, Professor, academician of NAS,
Almaty technological University
E-mail: auelbekking@mail.ru*

*Magomedov Magomed Gasanovich,
doctor of technical Sciences, Professor, Voronezh State University
of engineering technologies VSUIT
E-mail: mmg@inbox.ru*

*Yakiyayeva Madina Asatullaevna,
PhD Deputy Director of the research
Institute of food technologies, Almaty technological University
E-mail: yamadina88@mail.ru*

THE PHENOMENON OF BAKING DIGNITY BASED ON THE ASSESSMENT OF PHYSICAL AND BIOCHEMICAL INDICATORS OF VARIOUS CLASSES OF SOFT WHEAT

The main task of the food industry is to produce high-quality food, including bakery products-the main and traditional products in our country. The quality of bread is determined by the quality of the raw materials used and, above all, flour and water, as the main raw materials. In bakery technology, water determines the flow of colloidal, biochemical and microbiological processes in semi-finished bakery products, affecting their properties and ultimately the quality of bakery products.

In recent years, bread is considered as a functional food product, through which a person receives the biologically active compounds he needs. Based on the research of both Kazakh and foreign scientists, for the development of a wide range of bakery products, including for dietary nutrition, promising and more practical are the technologies of bread production using innova-

tive methods to improve quality. Each of the dough components enriches the finished bread with certain substances that are useful for humans, and in General the product acquires a preventive orientation. The natural ratio of the natural raw materials of food nutrients contributes to the increase in the nutritional value of products and their better assimilation.

For Kazakhstan, which has a large agricultural potential, the production and preservation of harvested grain is of the most important strategic importance¹.

In accordance with the purpose of research the following tasks were solved:

- Study of changes in the properties of wheat grains of different classes;
- Research on the influence of wheat on the quality of bakery products.

The following research objects were used for experimental research: samples of soft wheat grains of classes 3, 4 and 5, and non-class wheat. These samples are ground in a laboratory mill unit. The samples of baked bread from whole wheat of the above-mentioned classes.

The Organoleptic (color, smell, taste, crunch) and physico-chemical and mechanical (humidity, quantity and quality of gluten, grain size, ash content, metal impurities, pest infestation of grain stocks, mass fractions of fat, protein, fiber and amino acids, as well as nature, vitreous) indicators were determined in wheat grain and finished flour.

In the finished bread, humidity, acidity, porosity, as well as shape stability and specific volume were determined.

The study was carried out on the basis of Almaty Technological University, research laboratory for assessing the quality and safety of food products, baked goods, the finished bread was performed at the laboratories of the Department “Technology of bakeries and processing productions”.

Smell, taste and crunch were determined according to NS27558–87. To determine the smell, about 20 g of flour was poured on clean paper, warmed with breath, and then the smell was examined. In order to enhance the sensation, the flour in the glass was poured with hot water, after which the smell was determined. In addition, the taste and crunch can be assessed by chewing 1–2 loaves of flour, weighing about 1G each. The flour color was determined by comparing the test sample with the established samples.

The flour humidity was determined by the accelerated method according to NS9404–88 by drying 5 g of the suspension in a drying Cabinet of the SESH-3M brand. Drying in the Cabinet was carried out for 40 minutes at a temperature of $(130 \pm 2)^{\circ}\text{C}$. Humidity was expressed as a percentage, for which the weight of evaporated moisture is multiplied by 20 when 5g is suspended.

The content of raw gluten was controlled according to NS27839–88 by a standard method, i.e. by the amount of gluten washed from a dough kneaded

¹ Paschenko L.P. Technology of bakery products / L.P. Paschenko, I.M. Zharkova. – Moscow: Koloss, 2008. – 389 p.

from 25 g of flour and 13 ml of tap water at 180 C. The content of raw gluten was expressed as a percentage of the mass of flour.

The quality of raw gluten was determined by measuring its elastic-elastic properties according to NS27839–88. The method provides for the measurement of elastic-elastic properties of raw gluten on the IDK-1 device. The measurement results were expressed in conventional units of the device and, depending on their values, gluten is assigned to the appropriate quality group.

For fineness of grinding according to the requirements of NS27560–87, laboratory sieves with a diameter of 20 cm shells were used for manual sieving. The sieves' numbers corresponded to the state Standards established for the flour variety under study. The remainder on the upper sieve, as well as the passage through the lower sieve, was weighed on technical scales and expressed as a percentage of the weight of the taken hitch.

Metallomagnetic impurities were measured using a magnet in a flour weight of 1 kg (National standard 20239–74). All metallomagnetic particles were weighed and measured on a grid with 0.3 mm divisions. Pest infestation of grain stocks was established according to NS27559–87. The essence of the method is to isolate insects and mites by sifting on sieves and visually detecting live individuals.

The ash content of flour was determined according to with NS27494–87 using an accelerator-nitric acid and expressed as a percentage.

The mass fraction of protein was determined according to NS10846–64, the fat content was determined according to NS29033–91, the mass fraction of fiber was carried out by the Wendi method. The mass fraction of amino acids was determined according to M-04–38–2009. The vitreous content of wheat grains was determined on a diaphanoscope according to NS10987–76, the grain nature on a liter purka according to NS10840–64, and the mass fraction of 1000 grains according to NS10842–89.

Results of studies of samples of soft wheat for organoleptic indicators meet the requirements for soft wheat flour (table 1).

Table 1. – Organoleptic indicators of wheat flour quality

Indicator	Wheat out of class	Class 3 wheat	Class 4 wheat	Class 5 wheat
Color	White	White	White with a creamy tint	White with a grayish tinge
Smell	Typical of normal flour, without the smell of mold, mustiness and other foreign odors			
Content of mineral impurities	Typical of normal flour, without sour, bitter and other foreign tastes			

There were also conducted studies of the mechanical properties of grain (grain nature), as well as pest infestation, the content of metal impurities. The content of metal impurities and pest infestation were not detected. The grain content of all samples was 765–770 g/l, which is the norm for wheat.

Determination of the vitreous content of wheat samples showed that class 3.4 grain samples were vitreous with some partially vitreous grain content, in contrast to class 5 wheat and non-class wheat, which had more powdery grains.

The following table shows the physical and biochemical parameters of wheat flour samples.

Table 2. – Physical and chemical indicators of wheat flour quality

Indicator	Tax rate	Wheat out of class	Class 3 wheat	Class 4 wheat	Class 5 wheat
Humidity,%	14.0–15.0	12.6	12.7	12.7	12.8
Mass fraction of protein, not less than%	14.0	12.4	13.17	11.02	11.26
Mass fraction of fat,%	16–3.2	1.74	1.62	1.14	1.16
Mass fraction of fiber,%		8.4	8.7	10.41	9.8
Mass fraction of ash,%	0.55	1.36	1.42	1.37	1.11
Mass fraction of gluten, not less%	28.0	21.57	24.76	22.94	19.77
Gluten quality according to IDK-1, unit of the device	20–100	74	76.1	72.5	73.3

The quality of bread products depends on the quantity and quality of gluten flour. Gluten in the bakery industry performs two main functions: it is a plasticizer, that is, it serves as a kind of lubricant that gives the mass of starch grains fluidity, and a binder that connects the starch grains into a single test mass. The first property of gluten allows you to form the dough, the second to keep the shape given to the dough. The uniqueness of gluten consists in the fact that the gluten frame formed when pressing the dough, which holds the mass of starch grains¹.

The results show that the amount of gluten in the control sample, class 3 wheat corresponds to the norm, in contrast to the samples of class 4 wheat, where the amount of gluten is 2 times higher than the norm and in class 5 wheat, where this indicator is lower.

¹ Hlebinfo.ru [Electronic resource]: site of professional bakers and confectioners. – Mode of access: URL: <http://hlebinfo.ru>

The quality of gluten shows that the readings of all samples are normal and approximately the same. This is due to the formation of hydrogen bonds between oppositely charged active centers of individual protein molecules due to active micro clusters and disulfide bonds as a result of the oxidation of sulfhydryl groups under the influence of peroxide compounds of processed wheat, which strengthen the protein structure and reduce the activity of proteolysis' enzymes¹.

The results obtained showed a slight improvement in the elastic properties of the gluten samples, a decrease in humidity and hydration capacity, and an increase in the content of dry gluten compared to wheat outside the class.

An important indicator of flour is its ash content. Ash content, due to its sharp unevenness in the component parts of the grain, is of great production importance as a means of controlling the grinding process and the quality of flour. The ash content of flour and its color is affected by the ash content of the grain.

As a result of the research, the ash content of only 3 classes of wheat can be considered, although reduced, but the norm. The remaining samples as a result of this process began to have increased ash content, i.e. an increased content of mineral substances.

Fiber, despite the fact that it is not digested by the body, plays an important role in digestion, providing mechanical movement of food through the gastrointestinal tract. The results showed that the control sample and class 3 and 5 wheat have good indicators, in contrast to class 5 wheat, where the fiber content is too high².

The protein content of wheat in all samples is below the norm, but the most acceptable result is class 3 wheat. The fat content in all samples, except for class 4 wheat, is normal. The best result again has wheat class 3.

The change in the indicators of physical and biochemical properties of grain is probably due to the dissociation of molecules with the formation of reactive compounds and the formation of more micro clusters from wheat associates with an increase in the duration of its processing.

Coarse grinding (granulometric composition, size of flour particles) it has a significant effect on the physical, structural and mechanical properties of dough and finished bread. Other things being equal, the size of flour particles within 150 ... 400 microns does not significantly affect the quality of bread. Very large particles of grits, the size of 400 ... 500 microns, do not have time to fully absorb moisture during the dough mixing and retain their individuality. The size of flour from soft wheat varieties was assessed according to NS by going through silk sieves No. 43/35.

¹ URL: [http://Harvard.edu//The Nutrition source. Fiber](http://Harvard.edu//The%20Nutrition%20source.Fiber) (article about the role and content of fiber in food).

² Ibid.

Since the quality of bakery products depends not only on the properties of raw materials, but also to a large extent on the rheological properties of semi-finished products, it was advisable to study the influence of wheat on the rheological properties of the dough.

Based on the results obtained from wheat grains, it was advisable to study its influence on the quality of bread. The quality of bakery products was judged by physical and chemical parameters: humidity, acidity, porosity, as well as by shape stability and specific volume. Preparation of the test was carried out in a non-stick way (table 2).

Table 2.– Influence of wheat of different classes on the quality of bread

Samples	Quality indicators of bread				
	Forms abutment resistance,%	Specific volume bread, cm ³ /g	Humidity, %	Acidity,hail.	Porosity,%
Wheat out of class	0.40	3.20	41	2.8	71
Class 3 wheat	0.50	3.60	41	2.8	80
Class 4 wheat	0.47	3.51	41	2.8	79
Class 5 wheat	0.45	3.44	40	2.8	77

For all experimental samples of bread, compared with a sample of wheat outside the class, an increase in the form stability index from 0.40% to 0.50% (in the third class of wheat), the specific volume index to 3.6 cm³/g (in the third class of wheat) and porosity from 72 to 80% was revealed (table 2).

The results obtained are due to the strengthening of gluten and changes in the rheological properties of the test.

An increase in the specific volume of wheat samples of classes 3, 4 and 5 by 125, 117.5 and 112.5% and porosity by 112.6, 111.2 and 108.4%, respectively, was found, due to an increase in the plasticity of the test and an improvement in the lifting force of yeast.

Summing up, we can say with confidence that class 3 wheat, as well as semi-finished and ready-made bread made from whole wheat of different classes has the best indicators. Thus, it is possible to recommend for further study wheat and products with its participation for further research.

In General, all the wheat samples can be referred to the recommended ones, since they have increased mechanical, organoleptic, and physical and biochemical parameters equal to the wheat sample outside the class.

Thus, the results of the research showed that wheat of the studied classes had an impact on the properties of raw materials, semi-finished products and contributed to improving the quality of bakery products and improving their quality.

It can also be recommended to start research on these wheat samples using cavitations technology of grain processing to improve the quality of bakery products and can also be innovative and promising in the technology of bakery products and be an alternative to the use of quality improvers of finished bread.

The Department Of technology of baking and processing industries of Almaty Technological University is currently developing a research direction related to the study of various methods of cavitations' effects on wheat grain in order to improve the quality and improve the quality of bakery products.

References:

1. Paschenko L.P. Technology of bakery products / L.P. Paschenko, I.M. Zharkova. – Moscow: Koloss, 2008. – 389 p.
2. Hlebinfo.ru [Electronic resource]: site of professional bakers and confectioners. – Mode of access: URL: <http://hlebinfo.ru>.
3. Tsyganova T.B., Gakova O.A. Improving the quality of bakery products products based on regulation of water properties // bread Making of Russia. – No. 1. 2012. – P. 20–21.
4. URL: <http://Harvard.edu> // The Nutrition source. Fiber (article about the role and content of fiber in food).

Section 6. Technical sciences

*Alashbayeva Liliya Zhanabaevna,
Doctoral student,
Faculty of food production,
Almaty technological University
E-mail: orken-lilia@mail.ru*

*Shansharova Dinara Aitbaevna,
Doctor of Technical Sciences,
Faculty of food production
Almaty technological University
E-mail: dinara.shansharova@mail.ru*

*Kenzhekhojayev Makhamedkali,
Condote of technical sciences,
Faculty of Technology Dumaty University
E-mail: k-mahamed@mail.ru*

*Mynbayeva Aizhan,
Faculty of Technology
Dumaty University condote of technical sciences
E-mail: mab_g@mail.ru*

*Zhamalova Dinara,
Candidate of agricultural sciences
Kostanay Engineering and Economics University*

PHYSICO-CHEMICAL PROPERTIES OF WHOLE- WHEAT BREAD MADE USING CABBAGE EXTRACT (BRASSICA OLERACEA)

Cabbage (*Brassica oleracea*) belongs to the cruciferous family, different types of cabbage show great differences in terms of size, shape, and color of leaves and head structure¹. Due to its antioxidant, anti-inflammatory and antibacterial properties, cabbage is widely used in folk medicine to alleviate the

¹ Amit Jaiswal, Nissreen Abu-Ghannam, Shilpi Gupta. A Comparative Study on the Polyphenolic Content, Antibacterial Activity and Antioxidant Capacity of Different Solvent Extracts of *Brassica Oleracea* Vegetables /School of Food Science and Environmental Health. 12.2011. – 1 p.

symptoms associated with gastrointestinal disorders (gastritis, peptic ulcer, and irritable bowel syndrome), as well as in the treatment of small cuts and wounds and mastitis¹, since cabbage juice contains vitamin U. This vitamin has a cytoprotective effect on the mucous membrane of the stomach and duodenum, increasing its protective capabilities².

The main components of cabbage are carbohydrates, which make up almost 90% of dry weight, where about one third are dietary fiber and two-thirds are low molecular weight carbohydrates. Other characteristic components are glucosinolates. Glucosinolates are known to have antibacterial, antifungal, and antitumor activity³. The study found that glucosinolates are effective against various types of cancer, such as breast, lung and colon cancer. Glucosinolates can decompose to form isothiocyanates and nitriles in plants during treatment by the endogenous myrosinase enzyme (thioglucoside glucohydrolase) or in the gastrointestinal tract by commensal microflora⁴.

Most consumers prefer bread and bakery products from varietal flour, rather than whole-grain flour, because their texture properties are less attractive. It is known that whole-grain flour (WGF) is processed from grain that is not purified from the outer layers of the endosperm, germ and shell. Varietal flour is a product with a high content of carbohydrates, causing difficulty in the functioning of the gastrointestinal tract, obesity and other diseases. The choice of introducing whole grain flour in the production of bakery products is associated with the peculiarities of the chemical composition and the degree of its effect on the human body⁵. However, bran in whole-grain flour affects the quality of bread and bakery products. To meet consumer health needs, a variety of bread and bakery products with various additives are expanding⁶.

The purpose of this study is to improve the quality of whole-wheat bread with the addition of cabbage juice.

¹ Eunyoung hong, Gun-Hee kim. Anticancer and Antimicrobial Activities of β -Phenylethyl Isothiocyanate in *Brassica rapa* L. / Food Sci. Technol. Res., 14 (4), 2008. – P. 377–382.

² Кароматов И.Д., Мусаева Р. Медицинское значение капусты / Электронный научный журнал «Биология и интегративная медицина» 2017. – № 1 (январь).

³ Komal Talreja, Archana Moon. *Brassica oleracea*: phytochemical profiling in search for anticancer compounds / international Journal of life science and pfarma research. – Vol. 4. Issue 4/OCT-DEC2014.

⁴ Activity of *Brassica oleracea* Leaf Juice on Foodborne Pathogenic Bacteria.

⁵ Белокурова Е.В., Маслова В.А. Прогнозирование и варьирование показателей качества мучных кулинарных изделий с внесением цельнозерновой пшеничной муки / Качество и безопасность продуктов питания. Пищевая промышленность, 6. 2017. – 26 с.

⁶ Parvane Saneei, Ahmad Esmaillzadeh, Whole-Grain Intake and Mortality from All Causes, Cardiovascular Disease, and Cancer: A Systematic Review and Dose-Response Meta-Analysis of Prospective Cohort Studies / Article in Advances in Nutrition. – November 2016; 7: 1052–65; doi:10.3945/an.115.011635.

Object of research:

To obtain whole-grain flour, winter red wheat “Daulet” with a protein content of 12.2 obtained by the Kazakh Research Institute of Agriculture and Plant Growing (Kazakhstan, Almaty) was used.

As ingredients, we used a liquid extract of white cabbage (*Brassica oleracea*), drinking water per SS2874, table salt following SS13830, pressed baker’s yeast per SS171 with a lifting force of not more than 70 min.

Research Methods:

The determination of physicochemical analyzes was carried out according to the following Ss: SS27842–88. Wheat flour bread; SS21094–75. Bread and bakery products. Method for determining moisture; SS5670–96. Bakery products. Methods for determining acidity, SS5669–96. Bakery products. Method for determining porosity; SS5672–68. Bread and bakery products. Methods for determining the mass fraction of sugar; SS5668–68. Bakery products. Methods for determining the mass fraction of fat.

The physical properties of bread (volume, specific volume, height, width, length, density, weight, maximum diameter) were determined in the device “BVM bread meter – L370LC (Tex Vol Sweden).” The system is fully computerized and controlled via the command menu. The laser sensor moves in a semi-circle around a rotating, measurable product.

The rheological properties of bread (elasticity, extensibility, elasticity and baking strength) were determined on an alveograph-consistory-log NG (Chopin).

Recipes for preparing whole-grain wheat bread, that is, combinations using cabbage juice with different percentages when converted to solids. Cabbage juice contains 2% dry matter. Combinations of cooking bread are shown in (table 1).

Table 1. – Variant combinations of test samples
(calculation conducted per 1000 g of flour)

Name of raw materials	Raw material consumption (% by weight of flour), by options					
	B ₀ , the control	B ₁₋₁ (3% CE)	B ₂₋₂ (5%)	B ₃₋₃ – (7%)	B ₄₋₄ – (10%)	B ₅₋₅ – (12%)
Whole Grain Flour	100	100	100	100	100	100
Pressed yeast	2.5	2.5	2.5	2.5	2.5	2.5
Table salt	1.5	1.5	1.5	1.5	1.5	1.5
Vegetable oil	3	3	3	3	3	3
Cabbage Extract (CE)	–	150	250	343	490	637
Water	According to the calculation, based on the humidity of the test 49%					

Results

The results of the analysis of the physical properties of whole-grain bread samples are shown in (table 2).

Table 2. – Physical properties of bread baked using different percentages of cabbage juice

Product Names	Volume	Specific volume	Length	Width	Height	Density	Weight	Max D
B ₀	603.6	1.7245	142.6	90	86.3	0.5798	350	95.9
B ₁	645.4	1.7801	147.3	90.2	92	0.5562	359	97.5
B ₂	672.3	1.7966	151.5	90.6	99.6	0.5952	400	100.3
B ₃	708.7	2.1092	158.8	90.2	92.9	0.4741	336.0	110.7
B ₄	936.5	2.3099	161.1	90.9	115.2	0.4324	405.2	125.2
B ₅	718.8	1.6580	159.0	90.0	92.7	0.6924	493.0	110.6

The results of the analysis of the physical properties of whole-grain bread samples showed that the specific volume in the control variant of whole-grain bread B₀ (bread baked without the addition of cabbage juice) was 1.7245, while the bread samples B₁, B₂, B₃, and B₄ increased in proportion to the increase in the amount of cabbage juice and varied from 1.78801 to 2.3099 cm³/g, but in option B₅ the specific volume sharply decreased and amounted to 1.6580 cm³/g. B₄ bread sample had the highest value of 2.3099 cm³/g. The specific volume of bread is an indicator of the internal structure of bread crumbs. A higher specific volume is associated with a more porous crumb and softer texture.

The volume of bread, the height, width and length of the bread was proportionally changed in terms of the volume of bread.

The density of the bread sample in the control variant B₀ was 0.5798, and for the samples, B₁, B₂, B₃, and B₄ the bread density decreased depending on the increase in the amount of cabbage juice and varied from 0.5798 to 0.4324, but in the variant B₅ the bread density increased sharply and amounted to 0.6924. Sample B₄ had the lowest value of 0.4324.

The maximum diameter of the object may be the result of a lower ability to retain gas in the substituted dough due to dilution of the gluten content and destruction of the gluten and starch matrix and subsequent loss of gas during baking (Rubel et al. 2015).

The results of the analysis of physicochemical indicators of samples of whole-grain bread baked using various percentages of cabbage juice are shown in (table 3).

The results of the analysis of the physicochemical properties of whole-grain bread samples showed that the moisture content in the control version of B₀ bread was 49,40, and in the experimental bread samples the humidity decreased depending on the increase in the amount of cabbage juice and varied from 49,40 to 48,40.

Table 3.– Physico-chemical characteristics of the studied bread

Product Names	Crumb moisture%	Acidity. degrees	Porosity. %
B ₀	49.40	4.8	53.3
B ₁	49.30	4.6	53.7
B ₂	48.51	4.8	54.4
B ₃	48.46	4.9	55.0
B ₄	48.40	4.9	55.3
B ₅	48.40	5.1	53.1

Humidity depends on the strength of the bread recipe and, to a certain extent, is related to nutritional value, since the proportion of nutrients decreases with increasing humidity.

The acidity of the bread sample in the control variant B₀ was 4,8, and there was no significant change in the experimental samples. But analyzing the data, one can see how it increases depending on the increase in the amount of cabbage juice and varied from 4,6 to 5,1.

Acidity is to some extent characterized by the taste of bread. Insufficient and overly sour bread tastes.

The porosity of bread shows the percentage of pore volume to total crumb volume. The porosity of bread is associated with its digestibility. Well-loosened bread with an even fine thin-walled porosity is easily chewed and soaked in digestive juices and therefore is more fully absorbed.

Conclusion

The specific volume, height, weight, and maximum diameter of the bread increased to sample B₄, and in B₅ they lowered again. As the volume of bread increased, the density of bread decreased. However, bread samples that were checked for breadth did not show significant changes.

Comparison of the physical and physicochemical properties of whole-grain wheat bread (control) and prototypes with different percentages of cabbage juice showed that bread with cabbage juice had a significantly higher rate compared to the control variant. Therefore, adding a certain dosage of cabbage juice to whole wheat flour can not only increase the nutritional value of bread but also positively affect the quality of bread.

When comparing in all respects the physical and physicochemical properties of finished products from the studied materials, sample B₄ has the best performance. The noted high values of physicochemical indicators confirm that bread samples can satisfy consumer needs as the main food product.

*Aralbayev Nurbek,
Almaty Technological University, Almaty, Kazakhstan
E-mail: aa_nurbek@bk.ru*

*Dikhanbayeva Fatima,
Almaty Technological University, Almaty, Kazakhstan
E-mail: fatima6363@mail.ru*

*Serikbayeva Assiya,
Kazakh National Agrarian University, Almaty, Kazakhstan
E-mail: serikbayeva@yandex.kz*

*Yusof Yus Aniza,
Universiti Putra Malaysia, Selangor, Malaysia
E-mail: yus.aniza@upm.edu.my*

*Chang Lee Sin,
Universiti Kebangsaan Malaysia, Selangor, Malaysia
E-mail: leesin@ukm.edu.my*

DETERMINATION OF SOME PHYSICAL PROPERTIES OF DRY SHUBAT

Abstract. Shubat – is a fermented camel's milk obtained by lactic acid fermentation. The obtaining shubat powders were evaluated by their physical properties, such as: density, water activity, moisture content, hygroscopicity, water solubility index and water absorption index. Depending on the drying method used, the obtaining shubat powders showed different physical properties. Freeze-dried shubat powder had higher bulk density (0.825g/cm^3), water activity (0.544), moisture content (6.22%), and hygroscopicity (25.16%) than spray-dried shubat powder (0.722g/cm^3 , 0.221, 2.59%, and 14.06%, respectively). Water solubility index of dry shubat were as follows: spray dried samples – 75.22%, freeze-dried samples – 61.42%. Water absorption index of powders showed similar results.

Keywords: camel milk, shubat, powders, freeze drying, spray-drying.

Introduction

Camel milk is mostly white and opaque, has a sweet and specific taste, but sometimes it can be salty. Changes in taste depend on the type of feeding and availability of drinking water by camel. The average value of the pH of camel milk is 6.56, and the average density is 1.029^1 .

Shubat – is a lactic acid drink, produced from natural camel milk as a result of lactic acid and alcoholic fermentation. At the beginning of the season, in the

¹ Aralbayev N., Dikhanbayeva F., Serikbayeva A., Yus A.Y. Comparative study of amino acid composition of camel milk and camel milk powder // Vestnik KazNRTU, – Almaty, 2019. – Vol. 5(135). – P. 416–421.

absence of a good shubat, a special starter is made for fermenting camel milk, which includes three kinds of microorganisms: *Lactobacillus casei*, *Streptococcus thermophilus* and the *Torula* yeast with a ratio of yeast to lactic acid bacteria 2:1. Usually camel milk is fermented with 10% leaven. As a result of the vital activity of a specific microflora, complex biochemical processes take place in camel milk. The composition of the shubat is significantly different from that of the original camel milk. Shubat contains 2.8–3.8% protein, most of which is casein¹.

Milk powder is a product obtained by the removal of water from whole milk, usually fat percent of whole milk powder is minimum 26% and maximum 40%, for partially skimmed milk powder minimum 1.5% and maximum 2.5%. For all types of milk powder water content ranges from 3–5%². Under any circumstances water percent of milk powder should not exceed 5%. In the present day the three principal processes for the manufacture of milk powder are spray drying, drum drying and freeze-drying. The drying technologies applied in the present work were spray drying and freeze-drying.

Milk powder is frequently used for convenience in applications for transportation, handling, processing, and for product formulations. Powders possess physical and functional properties, including powder structure, particle size distribution, powder density, bulk density, particle density, occluded air, interstitial air, flowability, rehydration (wettability, sinkability, dispersibility, solubility), hygroscopicity, heat stability, emulsifying properties, glass transition temperature, water activity, stickiness, caking, and even scorched particles³. These parameters determine the quality, terms and conditions of storage of the milk powder.

The main purpose of this study was to determine some physical properties of shubat powder obtained by spray drying and freeze-drying, which were density, moisture content, water activity, water solubility index, water absorption index, and hygroscopicity. The study of these physical and functional parameters will serve to obtain a rapidly soluble dry shubat with a long shelf life.

Materials and methods

Materials. Shubat was made from milk *Camelus dromedaries* from the camel farm «Daulet-Beket» LLP, located in Akshi, Almaty region, Kazakhstan. For transportation of samples used a cooling container. Then it placed in a refrigerator (4 ± 1 °C) before used.

Preparation of freeze-dried shubat powder (FDSP). Prepared 50 ml plastic flasks, poured into them 20 ml of sample (chilled shubat) and put into a freezer (maintained -22 ± 1 °C for 36 hours). Pre-frozen samples of shubat were

¹ Serikbayeva A.D. New probiotic products from camel milk // Bulletin of the Innovative University of Eurasia, 2009. – Vol. 4. – P. 85–87.

² Spreer E. Milk and Dairy product Technology, 1995. – P. 111–114.

³ Oldfield D., Singh H. Functional properties of milk powder / In: Onwulata C, editor. Encapsulated and powdered foods, – New York, N.Y., CRC Press, 2005. – P. 365–86.

transferred to a vacuum freeze-dryer (Scanvac CoolSafe, Denmark). The parameters were set as follows: temperature inside the condenser was -108 ± 1 °C, the pressure in the vacuum pump was $4 \cdot 10^{-4}$ mbar, and the drying time was 24 hours. The FDSP was collected in a plastic container and placed in a refrigerator for further analysis at 4 ± 1 °C.

Preparation of spray-dried shubat powder (SDSP). Prepared 1000ml glass bottle, poured into them one liter of sample (chilled shubat) and a magnetic stirrer was placed (at minimum speed). Spray drying of shubat was carried out using a mini spray dryer (Buchi mini Spray Dryer B-290, Switzerland). The parameters were set as follows: inlet temperature – 150 °C, aspirator – 50%, feed rate – 30 ml/min, spray gas – 30 mm. This condition produced outlet temperature of approximately 94 ± 2 °C. The SDSP was collected at the bottom of collection vessel to an amber glass bottle and placed in a desiccator at room temperature (25 ± 1 °C) prior to analysis.

Analysis of powder

Tap density (ρ_t). The tap density was determined according to the international standard ISO 3953 (1993) by pressing the measured shubat powder mass to a state where no further volume reduction was observed¹. This measurement was carried out on a density tester (Micromimetics GeoPyc 1360, USA). The tap density tester stopped automatically when the equilibrium volume was reached and gave values of tap density and volume².

Bulk density (ρ_b). The bulk density was determined by measuring the mass of the shubat powder sample at specified volumes. Each sample was carefully poured without sealing into a dry graduated cylinder of 25ml volume, weighed and recorded data³. The bulk density value was determined by the following formula:

$$\rho_b = \frac{m}{V} \text{ (g/sm}^3\text{)} \quad (1)$$

where ρ_b is the bulk density of the sample, g/sm³; m is the mass of the sample, g; V is the volume of the sample in a graduated cylinder, sm³.

Water activity. Water activity of the shubat powder was determined on a digital water activity indicator (Model 3TE, Aqualab, WA). Approximately 2g of sample was weighed into a cup and placed in a water activity meter. The water activity of the sample was determined at room temperature 25 ± 1 °C.

¹ Stephenson R. Mutual solubilities: water-cyclic amines, water-alkanolamines, and water-poluamines // Journal Chemical Engineering Data, 1993. – Vol. 38(4). – P. 634–637.

² Guerin E., Tchoreloff P., Leclerc B., Tanguy D., Deleuil M., Couarraze G. Rheological characterization of pharmaceutical powders using tap testing, shear cell and mercury porosimeter // International Journal of Pharmaceutics, 1999. – Vol. 18(1). – P. 1–7.

³ Amidon G.E., Secreast P.J., Mudie D. Particle, powder and compact characterization. Developing solid oral dosage forms: Pharmaceutical theory and practice // Elsevier Science and Technology, Oxford, United Kingdom, 2009. – P. 163–186.

Moisture content. Moisture content of the shubat powder was determined using a moisture analyzer (A&D MX-50, USA), which determines up to 0.01% moisture. The measurement was repeated 5 times for each sample of shubat powder and the arithmetic mean value was derived.

Water solubility index (WSI). WSI of the samples was determined according to the procedures described by Kha et al¹. Approximately 2.5g of the sample was poured into a 50ml graduated tube, added 30ml of distilled water and mixed on a vortex mixer (ZX4, Velp Scientifica, Italy). The tube was then placed in a water bath (37 °C) for 30 minutes. After incubation, the resulting mixture was centrifuged at 3500 rpm for 30 min (Model 4200, Kubota, Tokyo, Japan). The resulting liquid phase was poured into a pre-dried and weighed glass Petri dish. Then it put in a convection oven for drying at 105 °C for 24 hours (ED23, Binder GmbH, Germany). After this the Petri dish was removed from the oven and placed in a desiccator. The cooled Petri dish with sample residues was re-weighed until constant weight was obtained. The residue is a solubilized powder and the weight of the residue of the initial sample weight is expressed as a WSI, which is determined by the following formula:

$$WSI = \frac{m_2}{m_1} \times 100\% \quad (2)$$

where *WSI* is the solubility index in water, %; m_1 is the initial mass of the sample, g; m_2 – weight of the residue after drying, g.

Water absorption index (WAI). After centrifugation and separation of the liquid phase, the resulting precipitate was weighed. WAI was calculated as the weight of the precipitate relative to the initial weight of the sample, which is determined by the following formula:

$$WAI = \frac{m_3}{m_1} \times 100\% \quad (3)$$

where *WAI* is the water adsorption index, %; m_1 is the initial mass of the sample, g; m_3 is the mass of the precipitate after centrifugation, g.

Hygroscopicity. Hygroscopicity is the ability of a powder to absorb moisture from the environment. 1g of the shubat powder was weighed in a previously dried and suspended glass Petri dish and placed in a closed desiccator at room temperature (25 ± 1 °C). The relative humidity of the medium inside the desiccator was $75 \pm 2\%$, which was maintained by 150ml of saturated NaCl solution². A digital hydrometer (Pro's Kit, NT-113, USA) was used to monitor the parameters. After seven days, the samples were taken out and weighed.

¹ Kha T.C., Nguyen M.N., Roach P.D. Effects of spray drying conditions on the physicochemical and antioxidant properties of the Gac (*Momordica cochinchinensis*) fruit aril powder // Journal of Food Engineering, 2010. – Vol. 89. – P. 385–392.

² Labuza T.P. Moisture sorption: Practical aspects of isotherm measurement and use // American Association of Cereal Chemists, St. Paul, Minnesota, 1984. – P15–19.

Hygroscopicity was calculated as the difference in weight between the initial and final sample per 100g of dry matter (g/100 g) using the formula below¹.

$$H = \frac{(m_2 - m_1) \times 100}{m_1 \times \left(\frac{100 - w}{100} \right)} \quad (4)$$

where H is hygroscopicity, %; m_1 is the initial mass of the sample, g; m_2 is the final mass of the sample, g; w is the moisture content in the sample, %.

Results and discussion

According to the results of studies, tap density of FDSP was higher than the tap density of SDSP, and the bulk density, on the contrary, are lower (Table 1). This is due to the different moisture content of shubat powder samples. According to Suleiman et al², bulk density was affected by the type of drying, spray-drying produced heavier powder with higher bulk density and true density. Also value of the bulk density of powders depends on the particle size and the intensity of the force between them. A change in these properties can lead to a distortion of the bulk density. But as regards the tap density, method of drying did not affect to the results of shubat powder.

Water activity for FDSP was almost two times higher (0.522) than the value of water activity of a SDSP sample (0.221). This means that the SDSP will have a longer shelf life, since the less free water in the product, the less the probability of growth of microorganisms in it³. It means that the type of drying affects to the value of water activity of the shubat powder. Products with a water activity of less than 0.6 are considered microbiologically stable, respectively, based on the results obtained, both samples are resistant to microbial growth and spoilage during storage⁴.

Along with the water activity, moisture content is one of the important functional parameters of milk powder. The data in table below show that the sample of FDSP contains more moisture than the sample of SDSP. According to

¹ Tonon R.V., Brabet C., Hubinger M.D. Influence of process conditions on the physicochemical properties of acai (*Euterpe oleracea* Mart.) powder produced by spray drying // *J Food Eng.*: 2008. – Vol. 88. – P411–418.

² Sulieman A.M.E., Elamin O.M., Elkhaila E.A., Laleye L. Comparison of physicochemical properties of spray-dried camel's milk and cow's milk powder // *International Journal of Food Science and Nutrition Engineering*, 2014. – Vol. 4(1). – P. 15–19.

³ Chomanov U., Shingisov A. Improving the technology of vacuum-freeze drying of koumiss and shubat, Almaty, 2016. – P. 39–43; Ohba T., Takahashi K., Igarashi S. Mechanism of insoluble material formation in spray dried whole milk powder, Sopporo, Sopporo Research Laboratory, 1989. – P. 91–108.

⁴ Betts G., Cook S., McLean B., Betts R., Sharpe T., Walker S. Scientific review of the microbiological risks associated with reductions in fat and added sugar in foods // *Food Standards Agency*, 2006. – P. 51–55; Simatos D., Blond G. The porous texture of freeze dried products / In: Goldblith S.A., Rey L., Rothmayr W.W. *Freeze-drying an advanced food technology*, – New York, Academic Press, 1975. – Vol. 1. – P. 401–411.

CODEX STAN207–1999 (Standard for milk powder and dry cream) the moisture content of milk powder must be less than 4%. It means that the SDSP sample meets the requirements of the standard and was better than the FDSP sample. Since the same raw material was used, this shows the dependence of the moisture content parameter on the kind of drying method.

According to the Table 1, it can be seen that water solubility of SDSP sample (75.22%) is a bit more than the FDSP sample (61.42%), and the absorption properties – opposite, slightly less (121.34% and 156.23% respectively). The water solubility of food powders is influenced by various factors, such as particle size, moisture content, degree of dispersion, drying parameters, etc. It was found that the interaction of proteins and fats affects the solubility of milk powder in water¹. According to Ohba et al.², it has been found that increasing the fat content of a milk powder above 26% leads to a sharp increase in the insoluble material, so the water solubility of skimmed milk powder is generally better than that of whole milk powder.

The hygroscopicity of a milk powder is its equilibrium moisture content after being exposed to air humidity under given conditions. This is the most important indicator on which the shelf life of the product depends. The hygroscopicity of the food powder is explained by the high content of amorphous sugar (lactose) in its composition³. This parameter depends on the drying method, and according our results the hygroscopicity of FDSP sample (25.16%) was higher almost twice than SDSP sample (14.06%). It means that the SDSP sample has a longer shelf life than the FDSP sample.

Table 1. – Some physical properties of dry shubat

Sample	Tap density, g/cm ³	Bulk density, g/cm ³	Water activity	Moisture content, %	WSI, %	WAI, %	Hygroscopicity, %
FDSP	0.825	0.293	0.544	6.22	61.42	156.23	25.16
SDSP	0.722	0.502	0.221	2.59	75.22	121.34	14.06

Conclusion

The physical properties of shubat powder obtained by freeze-drying and spray drying are analyzed. The results showed that the physical parameters of the shubat powder depend on the choice of the drying method. The tap density of the FDSP was higher than the SDSP, but the bulk density, were less. Water

¹ Buma T.J., Henstra S. Particle structure of spray-dried milk products as observed by a scanning electron microscope // Netherlands Milk and Dairy Journal, 1971. – Vol. 25. – P. 75–80.

² Ohba T., Takahashi K., Igarashi S. Mechanism of insoluble material formation in spray dried whole milk powder, Sopporo, Sopporo Research Laboratory, 1989. – P. 91–108.

³ Simatos D., Blond G. The porous texture of freeze dried products / In: Goldblith S.A., Rey L., Rothmayr W. W. Freeze-drying an advanced food technology, New York, Academic Press, 1975. – Vol. 1. – P. 401–411.

activity value of shubat powder after freeze-drying was approximately twice as large as spray drying. The moisture content of FDSP was higher by 40% than of SDSP sample. WSI of FDSP were lower than the SDSP. This is due to the smaller particle size of the latter. The determination of hygroscopicity showed that the index of FDSP was less around by 55% than SDSP. During the all analysis, five replicates were used.

Shubat powder is highly desirable since it possess long shelf life, requires relatively low transportation cost and storage capacity and the product can be distributed over a wide area. After reconstitution, shubat powder can be used as a fresh shubat, while retaining its nutritional and medicinal properties. According our studies production of shubat powder can be manufactured using both of methods, but regarding the physical properties spray drying method is preferable.

References:

1. Amidon G.E., Secreast P.J., Mudie D. Particle, powder and compact characterization. Developing solid oral dosage forms: Pharmaceutical theory and practice // Elsevier Science and Technology, Oxford, United Kingdom, 2009. – P. 163–186.
2. Aralbayev N., Dikhanbayeva F., Serikbayeva A., Yus A.Y. Comparative study of amino acid composition of camel milk and camel milk powder // Vestnik KazNRTU, – Almaty, 2019. – Vol. 5(135). – P. 416–421.
3. Betts G., Cook S., McLean B., Betts R., Sharpe T., Walker S. Scientific review of the microbiological risks associated with reductions in fat and added sugar in foods // Food Standards Agency, 2006. – P. 51–55.
4. Buma T.J., Henstra S. Particle structure of spray-dried milk products as observed by a scanning electron microscope // Netherlands Milk and Dairy Journal, 1971. – Vol. 25. – P. 75–80.
5. Chomanov U., Shingisov A. Improving the technology of vacuum-freeze drying of koumiss and shubat, – Almaty, 2016. – P. 39–43.
6. Guerin E., Tchoreloff P., Leclerc B., Tanguy D., Deleuil M., Couarraze G. Rheological characterization of pharmaceutical powders using tap testing, shear cell and mercury porosimeter // International Journal of Pharmaceutics, 1999. – Vol. 18(1). – P. 1–7.
7. Kha T.C., Nguyen M.N., Roach P.D. Effects of spray drying conditions on the physicochemical and antioxidant properties of the Gac (*Momordica chinchinensis*) fruit aril powder // Journal of Food Engineering, 2010. – Vol. 89. – P. 385–392.
8. Labuza T.P. Moisture sorption: Practical aspects of isotherm measurement and use // American Association of Cereal Chemists, St. Paul, Minnesota, 1984. – P. 15–19.
9. Ohba T., Takahashi K., Igarashi S. Mechanism of insoluble material formation in spray dried whole milk powder, Sopporo, Sopporo Research Laboratory, 1989. – P. 91–108.

10. Oldfield D., Singh H. Functional properties of milk powder / In: Onwulata C., editor. Encapsulated and powdered foods, – New York, N.Y., CRC Press, 2005.– P. 365–86.
11. Serikbayeva A.D. New probiotic products from camel milk // Bulletin of the Innovative University of Eurasia, 2009.– Vol. 4.– P. 85–87.
12. Simatos D., Blond G. The porous texture of freeze dried products / In: Goldblith S.A., Rey L., Rothmayr W.W. Freeze-drying an advanced food technology, – New York, Academic Press, 1975.– Vol. 1.– P. 401–411.
13. Spreer E. Milk and Dairy product Technology, 1995.– P. 111–114.
14. Stephenson R. Mutual solubilities: water-cyclic amines, water-alkanolamines, and water-poluamines // Journal Chemical Engineering Data, 1993.– Vol. 38(4).– P. 634–637.
15. Sulieman A.M.E., Elamin O.M., Elkhailifa E.A., Laleye L. Comparison of physicochemical properties of spray-dried camel's milk and cow's milk powder // International Journal of Food Science and Nutrition Engineering, 2014.– Vol. 4(1).– P. 15–19.
16. Tonon R.V., Brabet C., Hubinger M.D. Influence of process conditions on the physicochemical properties of acai (*Euterpe oleraceae* Mart.) powder produced by spray drying // J Food Eng.: 2008.– Vol. 88.– P. 411–418.

*Iztayev Auyelbek,
Doctor of technical sciences, professor,
Almaty technological university, Almaty, Kazakhstan
E-mail: auelbekking@mail.ru*

*Ludek Hrivna,
professor – Department of Food Technology,
Mendel university in Brno, Brno, Czech Republic
E-mail: ludek.hrivna@mendelu.cz*

*Yakiyayeva Madina,
PhD, Almaty technological university, Almaty, Kazakhstan
E-mail: yamadina88@mail.ru*

*Zhakatayeva Altynay,
Doctoral student, Almaty technological university,
Almaty, Kazakhstan
E-mail: a.jan.1990@mail.ru*

*Zhanabaeva Asel,
Second-year graduate student,
Kazakh national agrarian university, Almaty, Kazakhstan
E-mail: bayanerzhanova74@mail.ru*

NEW METHODS FOR PROCESSING RAW SUGAR PRODUCTS TO ENSURE ITS SAFETY

Sugar is one of the main socially necessary daily food products. Currently, 95% of sugar in Kazakhstan is produced from imported raw sugar and only 5% from domestic raw materials – sugar beets. Kazakhstan's high import dependence on sugar significantly reduces the country's economic security in food products.

Sugar beet is a highly productive crop plant that provides raw materials for the industrial production of sugar and other products.

Sugar beet is currently the main source of sugar in Kazakhstan, providing about 55–58% of its consumption.

In the process of processing sugar beets, in addition to sugar, molasses and beet pulp are obtained. Molasses is a raw material for the production of organic acids, yeast, alcohol and feed. In the production of sugar, defecation li South-East of Kazakhstan is the main region of sugar production in Kazakhstan, as its soil and climatic conditions are fully consistent with the biological requirements for the growth, development, and accumulation of sugar beet crops.me or defecate, which is a valuable lime fertilizer, is also obtained as a by-product.

In the zone of southeast Kazakhstan, the main areas of sugar beets and sugar factories are concentrated. In the period of the sixties and eighties of the last century, up to 4.0–5.2 million tons of beets were grown in Almaty, Zhambyl

and Taldykorgan regions. Due to the construction of new irrigation systems and the reconstruction of existing ones, the areas of irrigated lands were increased, on which seven- and eight-field beet crop rotations were introduced and developed; beet-growing farms received new agricultural machinery; existing sugar factories were reconstructed and new ones built.

This year, 6856 hectares of sugar beets were sown in seven beet-growing areas of the Almaty region, harvesting has now been completed, only 240.0 thousand tons have been harvested, 205 thousand tons delivered to the sugar factory. The average yield was 352 kg/ha. After processing, sugar output is expected to be about 22 thousand tons, the need of the population of the region will be provided by its own sugar. This is the first time in the years of sovereign Kazakhstan¹.

At the moment, in our republic there are no modern techniques and technologies for processing sugar beets that provide long-term safe storage. Therefore, this problem is very urgent for Kazakhstan sugar factories.

We have developed a combined technology for the destruction of mold and yeast of sugar beet with an increase in its biological value for long-term storage. It is produced by an ion-ozonator production line, combined and combined with electrical circuits by two units, an ozonator unit and a synthesizer of positive oxygen ions, which synthesizes positive and positive ozone synthesized ions, as well as their mixtures, namely, an ion-ozone mixture of positive polarity of the electric current.

This is done this way:

- for long-term storage of sugar beets, we set up the ion-ozonation production line for ozone synthesis within the permissible concentrations in compliance with the established exposure in time, while giving the sugar be
- ion-ozone processing of sugar beets can be carried out in collars, wagons, in specialized warehouses, as well as in other storage rooms for sugar beets. For experimental and research work, tanks for ion-ozone processing are used.

We have processed and obtained the results of sugar beets of the Merken sugar factory of the first degree of infection. The results are shown in (table 1).

Based on the analysis and comparison of the values, it is possible to recommend generalizing operating parameters of ozone treatment time – 15 min, pressure 4 at, ozone concentration of 6 g / m³, which leads to the death of sugar beet microorganisms infected with the first degree of infection.

¹ URL: <https://agropk.by/itma/khranenie-sakharnoy>. Storage of sugar beets. January 22, 2018; Sapronov N.M. Sugar beet harvesting and storage: organizational, technological innovations / N.M. Sapronov, A.N. Morozov, V.N. Tsukanov [Text] // Sugar. 2007. – No. 8. – P. 24–30; Islamgulov D.R., Ismagilov R.R., Bikmetov I.R. Doses of nitrogen fertilizers and technological qualities of root crops // J. Sugar beet. 2013. – No. 3. – P. 17–19.

Table 1. – Results of full-factor experiments of type 2¹ – sugar beets of the Merken sugar factory – 1 degree of charge

Nº Experience	x_0	x_1 – concentration ozone g/m ³	x_2 – time ozone treatment, min	x_3 – Excess pressure, ati	y_1 – Mold, CFU/g	y_2 – Yeast CFU/g
1	+	6	15	4	2	Not detected
2	+	3	15	4	3	Not detected
3	+	6	5	4	10	Not detected
4	+	3	5	4	5	Not detected
5	+	6	15	2	3	Not detected
6	+	3	15	2	4	Not detected
7	+	6	5	2	14	Not detected
8	+	3	5	2	7	Not detected

References:

1. URL: <https://agropk.by/itma/khranenie-sakharnoy>. Storage of sugar beets. January 22, 2018.
2. Sapronov N. M. Sugar beet harvesting and storage: organizational, technological innovations / N. M. Sapronov, A. N. Morozov, V. N. Tsukanov [Text] // Sugar. 2007. – No. 8. – P. 24–30.
3. Islamgulov D. R., Ismagilov R. R., Bikmetov I. R. Doses of nitrogen fertilizers and technological qualities of root crops // J. Sugar beet. 2013. – No. 3. – P. 17–19.

¹ Islamgulov D. R., Ismagilov R. R., Bikmetov I. R. Doses of nitrogen fertilizers and technological qualities of root crops // J. Sugar beet. 2013. – No. 3. – P. 17–19.

*Koval Vadym,
Student, Chemical Engineering faculty,
National Technical University of Ukraine
“Igor Sikorsky Kyiv Polytechnic Institute”
E-mail: iamvadymkoval@gmail.com*

METHODS FOR MEASURING VISCOSITY OF NEWTONIAN LIQUIDS

Viscosity is the property of a liquid or gas to resist deformations or movements of their parts relative to each other.

Two methods are used to measure the viscosity of liquids:

1) based on the Stokes law through the determination of the rate of immersion or ascent of a spherical solid in a liquid. This method is used in cases of highly viscous liquids, since it is valid only for the slow motion of a solid in a laminar flow around;

2) through the determination of the rate of flow of fluid from the capillary or small hole. This method is universal and easier to execute.

Several different devices are used to measure viscosity by determining the rate of fluid outflow. Flowing cup viscometer¹ consists of a reservoir and a set of nozzles. The viscometer measures the viscosity, which is expressed in seconds of the expiration time. A variation of a flow cup viscometer is a submersible viscometer with a handle that allows rapid testing to determine viscosity. The disadvantage of such measurements is that empirical formulas that are approximate are used for conversion to absolute units of viscosity.

Capillary viscometers are based on forced or free (due to gravitational forces) flow of the system under investigation through various forms of capillaries. A standard viscometer of this type is a U-shaped glass tube, the wide elbow of which extends to the bottom. The other knee contains a capillary soldered inside and ends at the top with a ball that goes into a wider tube. Under the ball and above it there are two marks that limit a certain volume².

To conduct studies on a U-shaped viscometer, it is necessary to measure the passage time between the upper and lower marks when the fluid expires. The kinematic viscosity of the liquid in this case will be equal to the product of this time by the constant of the viscometer C . Each standard set has nine viscometers, the diameters of the inner capillaries of which vary between 0.34–5.5 mm, which corresponds to $C = 0.003\text{--}30 \text{ cSt/s}$.

¹ Вискозиметрия для определения условной вязкости лакокрасочных материалов. Технические условия: ГОСТ 9070–77. – [Введ. 1977–01–01]. – М.: Изд-во стандартов, 1994. – 10 п. – (Межгосударственный стандарт).

² Вискозиметрия капиллярные стекланные. Технические условия (с изменениями N1, 2): ГОСТ 10028–81. – [Введ. 1983–01–01]. – М.: FGUP «Standartinform», 2005. – 14 п. – (Межгосударственный стандарт).

The disadvantage of a U-shaped viscometer is that it is more complicated than the previous ones and has limitations in use.

To measure the viscosity of liquids, it is necessary to improve the design of viscometers so as to simplify the experiments. It is also necessary to achieve the possibility of directly calculating the physical characteristics of liquids from the results of experiments.

References:

1. Вискозиметрия для определения условной вязкости лакокрасочных материалов. Технические условия: GOST 9070–77. – [Введ. 1977–01–01]. – М.: Изд-во стандартов, 1994. – 10 p. – (Межгосударственный стандарт).
2. Вискозиметрия капиллярные стекланные. Технические условия (с Изменениями N1, 2): GOST 10028–81. – [Введ. 1983–01–01]. – М.: FGUP «Стандартинформ», 2005. – 14 p. – (Межгосударственный стандарт).

*Nurgozhina Zhuldyz Kanatovna,
Doctoral student, Faculty of food production
Almaty technological University
E-mail: juldyz_900@mail.ru*

*Shansharova Dinara Aitpaevna,
Associate Professor, Faculty of food production,
Almaty technological University
E-mail: dinara.shansharova@mail.ru*

*Zhanabayeva Karina Kusmanovna,
Senior lecturer
Kostanay state University named A. Baitursynov
E-mail: karoline-91@mail.ru*

*Zhamalova Dinara Bulatovna,
Candidate of Agricultural Sciences
Kostanay state University named A. Baitursynov
E-mail: tashdinara@mail.ru*

*Maxutova Dana Bagdatovna,
Master of technical sciences, Senior coordinator
Independent agency for quality assurance in education
E-mail: d1190a@mail.ru*

*Sottnikova Viera,
Doctor Ing., PhD,
Mendel university, Faculty of AgriSciences,
E-mail: viera.sottnikova@mendelu.cz*

GRAIN MIX WITH BIOACTIVATED GRAIN AND PLANT COMPONENTS IN THE DEVELOPMENT OF TECHNOLOGY FOR BREAD OF INCREASED NUTRITIONAL VALUE

Modern man is deficient in vitamins, minerals, and dietary fiber. The quality of food has a decisive influence on the duration of life and the maintenance of an active state of a person. The use of domestic raw materials as an ingredient in the recipe of bakery products in the context of the economic crisis is one of the urgent tasks facing enterprises. In this regard, special attention is drawn to the technology of bakery products using raw materials of domestic production. The purpose of the study was to develop a technology for the production of bakery products of increased nutritional value in an accelerated manner.

The use of various types of plant-based fortifiers improves the organoleptic and physico-chemical properties of bread, improves its nutritional value, intensifies the technological process of bread preparation, and creates a new range of therapeutic and prophylactic bread. Currently, grain crops are widely

used in solving this problem. Special attention should be paid to bioactivated grains, otherwise called sprouted. In the bioactivated grain, due to the process of grain germination, difficult-to-digest compounds pass into simpler ones, and an additional amount of vitamins, amino acids, minerals, and easily digestible carbohydrates is formed. Such properties of bioactivated grain lead to the fact that baking with the use of bioactivated wheat grain is a promising and new technology in the baking industry. Due to the composition and well-thought-out formulation, grain bread becomes the most important source of dietary fiber, vitamins, trace elements, amino acids, and the nutritional and biological value of this bread exceeds all traditional bread varieties.

The purpose of our research is to study the influence of grain and vegetable raw materials on the quality of bread and the development of bread "Kopzhassar" of increased nutritional value using a grain mixture of bioactivated wheat and corn grains and vegetable raw materials.

The following grains rich in essential nutrients, including antioxidants, polyunsaturated fatty acids (especially omega-3) were selected for more effective enrichment of the finished bread: bioactivated wheat grain and flax. It was also used rye flour Wheat flour grade 1, salt and rye sourdough spontaneous fermentation. The following powders of dry hawthorn and dzhigida were used as vegetable components to enrich the finished bread with nutrients, give it taste and color properties, and according to some information¹, for the sake of prolonging the shelf life.

These berries are high in minerals, antioxidants and vitamins. They are widely distributed in Kazakhstan and have a number of therapeutic and preventive properties that can positively affect the cardiovascular, immune, and digestive systems of the body, normalize blood pressure, and improve brain activity.

The leaven was used in a mass fraction of 20%. Wheat grains were bioactivated as follows: cleaning from impurities, washing, soaking, germination at a temperature of 24–25 °C for a duration of 24 hours. These modes were chosen by us due to previous researchs².

¹ Kizatova M., Pronina Yu.G., Nabieva Z.S., Nurgozhina Zh.K., Gumarov B. Increase in nutrition and biological value of white bread with use of the grain mix "Omega-6" Bulletin of the national Academy of Sciences of the Republic of Kazakhstan, – No. 5. September-October, 2019. – Almaty, – P. 70–77; Papadimitriou K., Zoumpopoulou G., Georgalaki M., Lexandraki V., Kazou R., Tsakalidou E. Innovations in Traditional Foods Woodhead Publishing, 2019. – 339 p; Huzin F.K., Kanarkaya Z.A., Ivleva A.R., Gematdinova V.M. Perfection of technology of production of bakery products on the basis of crushed sprouted wheat grain. Vestnik VGUIT [Proceedings of VSUET]. 2017. – Vol. 79. – No. 1. – P. 178–187. (in Russian).

² Sanna M., Fois S., Falchi G., Campus M., Roggio T., Catzeddu P. Effect of liquid sourdough technology on the pre-biotic, texture, and sensory properties of a crispy flatbread Food Science and Biotechnology June 2019. – Vol. 28. – Issue 3. – P. 721–730; Clément H., Prost C., Chiron H., Ducasse M.B., Valle G.D., Courcoux P., Onno B. The effect of organic wheat flour by-products on sourdough performances assessed by a multi-criteria approach Food Research International. – Vol. 106. – April, 2018. – P. 981.

Organoleptic, physical and chemical parameters (humidity, acidity, content of micro- and macronutrients, vitamins), as well as bread volume were studied. The research was conducted on the basis of research centers and laboratories of Almaty technological University. The shelf life of ready-made bread was also studied.

Was developed the bread recipe “Kopzhasar” with the use of grain mixtures, where the percentage of grain mixture in the bread recipe was 5, 15, 25 and 35%. The quality of the obtained bread samples was investigated in comparison with the control sample. The recipe for grain bread of increased nutritional value is shown in the following table.

Table 1. – dough Recipe for grain bread “Kopzhasar”

Name of indicators	Control	Grain bread with a grain mixture content:			
		5%	15%	25%	35%
Wheat flour 1 grade. g	100	100	100	100	100
Rye sourdough. g	50	50	50	50	25
Salt. g	3.5	3.5	3.5	3.5	3.5
Water. ml	Calculation using the formula				
Grain mix. g	0	12.5	37.5	62.5	87.5

The dough for bread was prepared by a batch process using a rye leaven. The dough was kneaded for 15 minutes until a homogeneous mass was formed, then the kneaded dough was put on fermentation for 1.5–2 hours. Forms with the test were subjected to final proofing in a thermostat at a temperature of 36–38 °C and relative humidity of 70–75% for 45 minutes. Baking was carried out in the oven at a temperature of 190–200 °C for 35–40 minutes. Baked products were cooled and 6 hours after baking, a comparative analysis of the organoleptic and physico-chemical parameters of baked bread was performed.

The organoleptic evaluation of baked bread samples is presented in table 2 below. The indicators were evaluated on a 5-point scale, where 5 is the highest score, the assessment was conducted in an independent group of people aged 20–50 years. Also, studies were conducted on the physical, chemical and rheological parameters of the obtained samples of grain bread of increased nutritional value “Kopzhasar”. (table 3).

Table 2. – Organoleptic evaluation of grain bread with a grain mixture content in different percentages compared to the control

Name of indicators	Control	Grain bread with a grain mixture content:			
		5%	15%	25%	35%
1	2	3	4	5	6
Flavour	5	4	5	5	4

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
Smell	4	4	5	5	5
Surface color	5	5	5	5	4
The crumb color	5	5	5	5	4
Crumb structure	5	5	5	4	4
Porosity	5	4	5	4	3

Table 3. – Physico-chemical, rheological parameters of the obtained bread samples, per 100 g of product

Name of indicators	Control	Grain bread with a grain mixture content:			
		5%	15%	25%	35%
Acidity, deg	1.6	1.8	2.0	2.6	3.5
The protein content, g	5.6	6.0	6.3	6.6	7.0
Carbohydrate, g	35.8	37.2	49.0	49.4	51.6
The contents of dietary fibers, g	8.0	8.6	10.0	11.4	13.1
Content of macro-and microelements, mg	47.0	50.0	57.0	59.7	61.1
– calcium	49.0	57.1	64.4	70.1	75.0
– magnesium	150.0	158.1	167.0	170.4	186.3
– phosphorus	3.7	4.1	6.0	6.9	7.3
– iron					
The content of vitamins, mg	0.14	0.23	0.35	0.44	0.51
– B ₁	0.03	0.05	0.07	0.08	0.1
– B ₂	4.4	4.8	5.4	6.8	7.0
– E					
The volume of bread, cm ³	570	570	600	560	520

According to the results obtained, an increase in the content of the grain mixture affects the crumb structure and porosity, making them worse. The color of bread and crumb also changes. Studies have shown that with an increase in the mass fraction of the grain mixture, the nutritional value and acidity of bread increases, but the rheological and organoleptic indicators decrease. Thus, the content of dietary fiber due to the grain mixture rich in them, increases in comparison with the control sample by 48.34%, protein by 25%, carbohydrates by 44.13%. So important for full-fledged energy production, glucose assimilation, transmission of nerve signals, building of bone tissue, magnesium becomes more by 53.06%, vitamin E by 59.09%.

Special attention deserves to grain bread with a grain mixture content of 15%, since this type was the most optimal in terms of organoleptic, physico-chemical and rheological parameters. Let's look in more detail at the photo of the crumb of control bread and grain bread of increased nutritional value with a content of 15% of the grain mixture (figure 1). It shows that the portion of bread crumb with a 15% content of grain mixture remains attractive to the consumer, with many small pores, visible inclusions of grain mixture. Bread with the use of bioactivated grains, vegetable raw materials and rye sourdough was also attractive in terms of shelf life. So, after 24 and even 48 hours after baking, the bread retained its attractiveness, the crumb remained soft, with a good crumb. Safety began to deteriorate after 60 hours, finally deteriorated after 96 hours. This is due to the increased humidity of bioactivated grains and the increased acidity of rye flour and rye sourdough, and the addition of hawthorn berries and dzhigida.



Figure 1. Photo of the crumb of the developed grain bread in comparison with the control, where: a) control; b) grain bread of increased nutritional value with a content of 15% of the grain mixture

Thus, to obtain products with increased nutritional value, the optimal solution is to add a grain mixture with bioactivated wheat grains, flax and hawthorn berries and dzhigida. As a result of the research, a rational method for preparing bread from a grain mixture with bioactivated grains has been developed, which is characterized by increased nutritional value, attractive organoleptic and rheological properties, and can be stored for a long time.

References:

1. Kizatova M., Pronina Yu.G., Nabieva Z.S., Nurgozhina Zh.K., Gumarov B. Increase in nutrition and biological value of white bread with use of the grain mix "Omega-6". Bulletin of the national Academy of Sciences of the Republic of Kazakhstan, – No. 5. – September-October, 2019. – Almaty, – P. 70–77.

2. Papadimitriou K., Zoumpopoulou G., Georgalaki M., Lexandraki V., Kazou R., Tsakalidou E. Innovations in Traditional Foods Woodhead Publishing, 2019. – 339 p.
3. Huzin F.K., Kanarkaya Z.A., Ivleva A.R., Gematdinova V.M. Perfection of technology of production of bakery products on the basis of crushed sprouted wheat grain. Vestnik VGUIT [Proceedings of VSUET]. 2017. – Vol. 79. – No. 1. – P. 178–187. (in Russian).
4. Sanna M., Fois S., Falchi G., Campus M., Roggio T., Catzeddu P. Effect of liquid sourdough technology on the pre-biotic, texture, and sensory properties of a crispy flatbread Food Science and Biotechnology. June 2019. – Vol. 28. – Issue 3. – P. 721–730.
5. Clément H., Prost C., Chiron H., Ducasse M.B., Valle G.D., Courcoux P., Onno B. The effect of organic wheat flour by-products on sourdough performances assessed by a multi-criteria approach Food Research International – Vol. 106. – April, 2018. – 981 p.

Section 7. Philology

*Aliaga Safaraliev Sadri,
Dissertant of the Faculty of Philology
at Ganja State University
E-mail: kema.isa@inbox.ru*

POETICS OF THE QUANTITATIVE SUFFIX IN THE AZERBAIJANI LANGUAGE

Abstract. In the Azerbaijani language, the grammatical expression of quantity is mainly given by the suffixes -lar (-lär) [lar, ler]. It is true that in grammatical sources the plural -lik (-lik, -luq, -luk) (grassy, meadow, rocky, garden, shrub, etc.) indicates the quality -li (-li, -lu, -lu) (grassy, watery, salty, woody, woody), as well as in the first person plural -ıq (-ik, -uq, -ük) (people, many, united, go), -ız (-iz, -üz, -uz) (our father, our mother, you go, you know) such suffixes are also interpreted as grammatical means of quantity¹.

Keywords: grammatical elements, quantitative suffixes, style, poetry, melody.

Introduction: Relevant studies have been conducted on the creation of poetry in Azerbaijani linguistics using phonetic, lexical and syntactic means. However, there is practically no serious research on the poetics of grammatical elements. Only in some cases can one come up with ideas and thoughts about the stylistic features of grammatical elements, which also include more stylistic issues than poetry. Of course, the fact that language units are used in a stylistic sense is accepted without exception. However, stylistic functionality does not always coincide with poetics. As poetics has its own variant of expression and quality of development. Commenting on this question for the first time, A. Demircizade observed a repetition, which is one of the necessary conditions for the emergence of poetics, and took it into account not as an embodiment of pietism, but as a manifestation of stylistic synonyms. In this regard, A. Demircizade writes: “The stylistic capabilities of morphological

¹ Abdullaev G. Modern Azerbaijani language. In 4 parts, II part, – Baku, Science and Education, 2013. – P. 40; Aslanov A. Negative and quantitative categories in the Azerbaijani language. Azarb. Published by the Academy of Sciences of the USSR, – Baku, 1963. – P. 69–78; The style of the Azerbaijani literary language. – Baku, Science, 1970. – P. 38; Belchikov Yu. A. Stylistics and speech culture. – Moscow, ed. URAO, 2000. – P. 229. – P. 240–246; Buslaev F. I. About teaching the native language. – Moscow, ed. Librcom, 2010. – P. 107.

units should be measured and selected, first of all, on the basis of the degree of synonymy in terms of their semantic features. In stylistic morphology, as well as in stylistic vocabulary, morphemes are studied both from the point of view of synonymy, and from the point of view of stylistic stratification, a new stylistic rigidity”¹. Although this idea of A. Demirchizade was put forward within the framework of the style of morphological elements, it is not difficult to see traces of morphological poetry and the paths leading to it. In other words, this idea is of particular interest from the point of view of the further development and direction of research on poetics. In this sense, the consistent development of the quantitative suffix in the sentence quoted in the book “The style of the Azerbaijani literary language” can be considered as an example of poetics inside the sentence: “They were laid out on the tables: all kinds of bread, cakes, pakhlava, halva”. (J. Mamedguluzade)². Agamusa Akhundov, a prominent linguist, also explained such examples in the context of stylistics, as representations of artistic information were mainly interpreted around stylistic issues. Using the example of a repetition of the quantitative suffix given by Jalil Mammadguluzade, A. Akhundov concludes that the excellent traditions of the language of Jalil Mammadguluzade are reflected not only in the language of images, but also in the language of the author³.

In some studies of Russian linguistics, the rhythmic features and emotional diversity expressed by the repetition of grammatical elements are interpreted from the point of view of style and are explained as figurative means⁴. Two main features of poetry can be observed due to the repeated use of the suffix-lar (-lär) [lar, ler] in the literary texts of the Azerbaijani language. The first is the reuse of a quantitative suffix in a sentence, and the second is the use of this suffix in combination with numerical words. Reusing a quantitative suffix in words within a sentence gives the impression that it is used to describe an indefinite plural and add a quantitative suffix to a specific plural.

On the other hand, the reuse of the quantitative suffix at both points enhances artistic information, including pathos and rhetoric, while ensuring rhythm, harmony and tone. All this creates an image as a characteristic feature of creativity within popular poetry. It is interesting that the consistent and repeated use of the quantitative suffix in words is observed in oral folk examples, which clearly evoke the most subtle impression of the spirit of the people: “With this sword you suck out the blood of khans, lords and pasha. With this sword, enemies, enemies, old enemies will try the strength of your hand. With this sword you will destroy the fortresses, destroy the caravans”⁵.

¹ Abdullaeva S. Language of Azerbaijani fairy tales and epics. – Baku, Science, 1998. – P. 181–184.

² Akhundov A. Problems of language and style. – Baku, Youth, 1970. – P. 246.

³ The style of the Azerbaijani literary language. – Baku, Science, 1970. – P. 38.

⁴ Belchikov Yu. A. Stylistics and speech culture. – Moscow, ed. URAO, 2000. – P. 17.

⁵ Abdullaeva S. Language of Azerbaijani fairy tales and epics. – Baku, Science, 1998. – P. 552.

The sentences revive the emotional impression, thanks to the consistent development of the suffix -lar (-lər) [lar, ler] as part of homogeneous members, the reader has an exhaustive understanding of the inner world and the nature of the artistic image:

Where did you stay, gentlemen beks, aghs, khans, people¹.

Weak, incompetent and idiots were pleased with their position, thus, expressed their words and the words of their heart to the oak tree to lead a quiet and silent life, instead of complaining about injustice (A. Valiev, Shadow, p. 34).

The suffix -Lar (-lər) [lar, lehr] is developed in parallel and gives the impression of abundance, excess, greatness of the described event, object and situation: A deprived father left a good condition: several crops, several horses, what's the difference, a lot of money. (J. Mamedguluzade, stories about the village of Danabash, p. 47).

Conclusion: Since the suffix -lar (-lər) [-lar, -ler] can participate in most language paradigms, its medium of artistic information is also wide. Of course, the suffix -lar (-lər) [-lar, -ler] cannot create a poetic scale in the entire field of activity. Their poetic creation is usually observed in sequential enumerations, including in parallel combinations. Poetry arising from the repeated use of quantitative suffixes in sentence structures, which provides a great guarantee for the perception and mastery of meanings and their concepts. Therefore, poetic descriptions, the source of which is spoken language, are increasingly used as a methodological tool, especially in literary texts.

Summary

In the Azerbaijani language, the grammatical expression of quantity is given by the suffix -lar (-lər) [-lar, -ler]. In linguistic literature, some considerations are also advanced regarding the expression of the grammatical expression of quantity by other suffixes.

Reuse of these elements creates an emotional effect, on the one hand, rhythm, harmony, tone, pathos and rhetoric – on the other. While emotions serve stylistic diversity separately, they provide a multifaceted revival of poetic scope when used in harmony with important attributes of poetics.

References:

1. Abdullaev G. Modern Azerbaijani language. In 4 parts, II part, – Baku, Science and Education, 2013. – 308 p.
2. Abdullaeva S. Language of Azerbaijani fairy tales and epics. – Baku, Science, 1998. – 232 p.
3. Akhundov A. Problems of language and style. – Baku, Youth, 1970. – 103 p.
4. Aslanov A. Negative and quantitative categories in the Azerbaijani language. Azərb. Published by the Academy of Sciences of the USSR, – Baku, 1963. – 42 p.

¹ The style of the Azerbaijani literary language. – Baku, Science, 1970. – P. 89.

5. The style of the Azerbaijani literary language. – Baku, Science, 1970. – 356 p.
6. Belchikov Yu.A. Stylistics and speech culture. – Moscow, ed. URAO, 2000. – 160 p.
7. Buslaev F.I. About teaching the native language. – Moscow, ed. Librcom, 2010.

Section 8. Philosophy

*Bolotova Ulyana Vladimirovna,
candidate of Philosophical Sciences, assistant professor
of Department of History and Philosophy of Law of the Institute
of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk*

*Bondarenko Natalia Grigorievna,
Doctor of Philosophical Sciences, Professor,
the Head of History and philosophy of law of the Institute
of service, tourism and design (branch) FGAOU VO
“North-Caucasian Federal University” in Pyatigorsk*

*Martynenko Marina Valentinovna,
candidate of Pedagogical sciences, assistant professor,
of Department of History and Philosophy of Law
of the Institute of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk*

*Yanukyan Madlena Bagratovna,
candidate of Pedagogical Sciences, assistant professor.
of Department of History and Philosophy of Law
of the Institute of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk*

*Kryukova Lyudmila Vasilievna,
candidate of Historical Sciences, assistant professor,
of Department of History and Philosophy of Law
of the Institute of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk
E-mail: 425257@mail.ru*

SOURCES AND INFLUENCE OF MODERN PHILOSOPHY

*Болотова Ульяна Владимировна,
кандидат философских наук, доцент кафедры
истории и философии права
Института сервиса, туризма и дизайна (филиал) ФГАОУ ВО
«Северо-Кавказский федеральный университет» в г. Пятигорске*

*Бондаренко Наталья Григорьевна,
доктор философских наук, профессор, зав. кафедрой
истории и философии права
Института сервиса, туризма и дизайна (филиал) ФГАОУ ВО
«Северо-Кавказский федеральный университет» в г. Пятигорске*

*Мартыненко Марина Валентиновна,
кандидат педагогических наук, доцент кафедры
истории и философии права
Института сервиса, туризма и дизайна (филиал) ФГАОУ ВО
«Северо-Кавказский федеральный университет» в г. Пятигорске*

*Янукян Мадлена Багратовна,
кандидат педагогических наук, доцент кафедры истории
и философии права Института сервиса,
туризма и дизайна (филиал)
ФГАОУ ВО «Северо-Кавказский
федеральный университет» в г. Пятигорске*

*Крюкова Людмила Васильевна,
кандидат исторических наук, доцент кафедры
истории и философии права Института
сервиса, туризма и дизайна
(филиал) ФГАОУ ВО «Северо-Кавказский
федеральный университет» в г. Пятигорске
E-mail: 425257@mail.ru*

ИСТОКИ И ВЛИЯНИЕ ФИЛОСОФИИ МОДЕРНА

В Новое время цивилизационной особенностью Запада становится идея Прогресса, когда «современное» или «новое» заведомо лучше «прошедшего». Начало модернистской философии совпадает с началом особого этапа в истории европейской философии – философии Нового времени. Философия Нового времени существенно отличается от античной и средневековой и по своему содержанию, и по методологическим принципам, и по характеру тех проблем, которые оказываются в центре внимания. Это, разумеется, не значит, что философия совсем теряет связь с прежней традицией, но она по-своему интерпретирует эту традицию, расставляя новые акценты.

Рождение нового типа сознания связано с процессом секуляризации. С движением Реформации и затем Контрреформации, с бурным развитием городов, открытием Нового Света, возрастанием роли денежного хозяйства и предпринимательства, то есть становлением капитализма, а также с созданием нового типа науки – экспериментально-математического естествознания. Процесс секуляризации начинается в Европе примерно

в XV веке. А в XVI–XVII вв. углубляется и расширяется. Все большую самостоятельность по отношению к церкви и религии приобретает не только социально-политическая и экономическая, но и духовная жизнь – философия, наука, искусство. Философия осознает себя автономным, независимым от Откровения знанием о Боге, мире и человеке. Происходит смена мировоззренческих ориентиров.

Становление новоевропейской культуры отмечено рождением того феномена, который впоследствии получит название «духа капитализма» и первые ростки которого, связаны, прежде всего, с увеличением денежного запаса. Благодаря этому человек, по словам В. Зомбарта, «приучается к чисто количественному воззрению на мир»¹. Отмеченные процессы сопровождаются появлением нового типа человека – человека с развитым и рефлексированным индивидуальным сознанием. Сознание собственной силы и таланта, гордость, честолюбие, самоутверждение отличают человека на заре Нового времени. В этот период, как никогда прежде, возрос интерес к человеческому существу во всем многообразии его проявлений. Выше всего гуманисты ценят уникальность и своеобразие человеческого индивидуума.

Исключительно важную роль в формировании философии и науки Нового времени сыграла Реформация, которая внесла существенные перемены в общую духовную атмосферу и хозяйственную жизнь Западной Европы, протестантизм выступил с критикой католической церкви с характерным для нее принципом иерархии. Поскольку космическая иерархия в средние века осмыслялась с помощью философии и физики Аристотеля, то именно Аристотель стал предметом ожесточенной критики со стороны протестантских богословов. На него особенно обрушивались пиетисты, считавшие учение греческого философа источником католической неблагочестивости. И Лютер, и Кальвин, критикуя схоластику, видели в Аристотеле главного виновника того интеллектуализма, который, по их мнению, едва ли не вытеснил веру в католической церкви.

Противопоставление веры и знания, характерное для протестантизма, привело к сознательному стремлению ограничить сферу применения разума миром «земных вещей», поскольку трансцендентный Бог, по убеждению протестантских богословов, есть исключительно предмет веры, а не знания. Под «земными вещами» понималось, прежде всего, практически ориентированное познание природы. Разум стал ориентироваться на сферу практической деятельности: ремесла, хозяйства, политики. Применение разума в практической деятельности тем более поощрялось, что сама эта сфера, с точки зрения реформаторов, приобретает особо значение, труд теперь выступает как своего рода мирская аскеза. Этим фактом об-

¹ Зомбарт В. Этюды по истории развития современного экономического человека. – М., 1004. – С. 238.

условливается признание особой ценности технических и научных изобретений, которые способствуют облегчению труда и стимулируют материальный прогресс.

Именно в этих условиях возникает экспериментально-математическое естествознание, у истоков которого стояли Кеплер, Галилей, Кавальери и др. Новая наука оттеснила метафизику на задний план, создав особый – сциентистский – способ мышления и жизненной ориентации, по сей день определяющий характер европейской культуры и индустриально-технической цивилизации, ставшей теперь всемирной. По словам немецкого философа Г. Ромбаха, «точная наука есть философия Нового времени»¹.

В период зарождения модерна именно наука главным образом определяла как общественное сознание, так и общий облик новоевропейской цивилизации. Этот факт становится особенно очевидным в контексте еще одной особенности этой цивилизации, вызванной к жизни именно развитием науки. Речь идет о технике, по своему характеру отличающейся от той, которая была в восточных обществах, в античности и в средневековье. Возникшая в союзе с экспериментально-математическим естествознанием, техника больше всего повлияла на особенности того типа цивилизации, которую принято называть индустриальной. «Современная техника, – пишет немецкий философ С. Мозер, – это автономное образование истории Нового времени, так же как наука и искусство. Она не есть просто сумма отдельных методов. Скорее, последние суть проявления этого автономного и универсального процесса»². Связь между экспериментально-математическим естествознанием и техникой – глубинная, органическая: само рождение механики невозможно для преодоления непереходимого для античности и средних веков рубежа между естественным, с одной стороны, и техническим, искусственным – с другой. В виде эксперимента техника глубоко проникает в саму науку. В этой связи реальность, изучаемая новым естествознанием, – это не просто природная, но конструируемая реальность, создаваемая в значительной мере с помощью технической аппаратуры. Как отмечает академик В. С. Степин, техническая аппаратура – приборные установки – входят в качестве конститутивного момента в ту систему объектов, которые изучаются наукой. «В разных формах эксперимента такого рода объекты изготавливаются искусственно. К ним относятся в первую очередь приборные установки, с помощью которых проводится экспериментальное исследование... Вполне правомерно рассматривать объекты природы, включенные в экспериментальную ситуа-

¹ Rombach H. Substanz, System, Struktur; Freiburg; München, 1965. – 1: Die Ontologie des Funktionalismus und der philosophische Hintergrund der modernen Wissenschaft. – P. 149.

² Moser S. Kritik der traditionellen Technikphilosophie // *Techné, Technik, Technologie*. Pulloch die München, 1973.

цию, как «квазиприборные» устройства независимо от того, получены они искусственным путем или естественно возникли в природе независимо от деятельности человека... В эксперименте взаимодействующие фрагменты природы всегда выступают в функции приборных подсистем»¹. В свою очередь полученные таким образом достижения науки открывают неограниченные возможности для развития техники.

Все эти особенности новоевропейской культуры вызвали к жизни и новую ориентацию философии. Если в средние века она выступала в союзе с теологией, а в эпоху Возрождения – с искусством и гуманитарным знанием, то начиная с XVII века она опирается, главным образом, на науку. Поэтому для понимания проблем, которые стояли перед философской мыслью рассматриваемой эпохи, надо принять во внимание специфику нового типа науки о природе, особенности которой закладывались именно в этот период, и которая существенно отличается от естествознания античности и средних веков. И поскольку наука занимает ведущее место в мировоззрении новоевропейской эпохи, то и в философии на первый план выходят проблемы теории познания – гносеологии, хотя первоначально гносеология еще обосновывается с помощью онтологических предпосылок.

В теории знания модернизм означает новую концепцию философии и науки. Классическая философия стремилась стать теорией бытия. Модерн совпал с разочарованием в ее претензиях на умозрительное постижение принципов мироздания. Модернистская философия – это теория познания, а не бытия. Новая концепция науки заключалась в ее ориентации на математику, практику, технику, опыт и эксперимент. Отказ от умозрительного рационализма в пользу эмпиризма дополнился новой архитектурой знания. Частные науки не выводятся из «первой философии», но развиваются сами благодаря опыту и эксперименту, гипотезам и обобщениям, проверке и практическому применению. Философия по-прежнему нужна, но уже как теория познания и учение о научном методе. Она полностью отказалась от исследования бытия, передав его для изучения частным наукам. Природа, общество и человек как главные объекты познания породили семейства естественных, социальных и гуманитарных наук. Бытие оказалось философской категорией, а не научным термином.

Особое значение в модернистской мысли приобретает идея поступательного развития, т.е. прогресса. Это и прогресс в области знаний (научный прогресс), и прогресс в области умений (технический прогресс). Идея эволюции оказала колоссальное влияние на мировоззрение модерна. Декарт и Лейбниц, Кант и Лаплас стремятся показать, как образуется и эволюционирует Вселенная. Ламарк и Дарвин развивают идеи эволюции в области биологии. Природа определяется как эволюционирующий

¹ Степин В. С. Теоретическое знание. – М., 2000. – С. 151–152.

феномен, развивающийся от хаоса к порядку через последовательность незначительных изменений, происходящих естественным путем. Такая модель позволяет обойтись без допущения грандиозного и сверхъестественного вмешательства, что делает эволюционизм предпочтительнее креационизма. Идея эволюции предполагает: 1) движение от простого к сложному в природе (в физике, химии, биологии и космологии); 2) движение человека и общества от природы к свободе (от мира необходимости к царству свободы или от материального к духовному). Принятие данной идеи радикально изменило антропологическую доктрину. Оба прежних подхода – теологический (человек есть творение) и метафизический (человек есть разумное существо) – подвергаются существенному переосмыслению. Человек остается творением, но не личного Бога христианской религии, а безличной природы и, в известном смысле, творцом самого себя. Ведь эволюция человека – плод коллективных усилий рода homo sapiens. Креационизм подменяется естественнонаучным пантеизмом. Природа с ее разумностью, наделяется творческой энергией лишь метафорически. Да и сам человек допускается в соавторы самого себя, наряду с естественным отбором и закономерностями развития общества.

Таким образом, можно говорить о том, что эпоху модерна породил не один, а множество проектов будущего – это Реформация, Контрреформация, барокко, Просвещение, идея эмансипации в немецкой классической философии и марксизме.

Список литературы:

1. Зомбарт В. Этюды по истории развития современного экономического человека. – М., 1004. – 238 с.
2. Лютер М. Время молчания прошло // Лютер М. Избранные произведения 1520–1526. – Харьков, 1984. – 68 с.
3. Степин В.С. Теоретическое знание. – М., 2000. – С. 151–152.
4. Rombach H. Substanz, System, Struktur; Freiburg; München, 1965. – 1: Die Ontologie des Funktionalismus und der philosophische Hintergrund der modernen Wissenschaft. – 149 p.
5. Moser S. Kritik der traditionellen Technikphilosophie // Techne, Technik, Technologie. Pulloch die München, 1973.

*Bolotova Ulyana Vladimirovna,
candidate of Philosophical Sciences, assistant professor,
of Department of History and Philosophy of Law of the Institute
of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk*

*Bondarenko Natalia Grigorievna,
Doctor of Philosophical Sciences, Professor,
the Head of History and philosophy of law of the Institute
of service, tourism and design (branch) FGAOU VO
“North-Caucasian Federal University” in Pyatigorsk*

*Vasileva Inna Anatolievna,
candidate of Sociological Sciences, assistant professor,
of Department of History and Philosophy of Law
of the Institute of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk*

*Belovodova Svetlana Evgenyevna,
candidate of Psychological sciences, the associate professor,
of Tourism and Hotel Business of the Institute of service,
tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk*

*Tolchinskaya Tatyana Ilinichna,
candidate of Historical Sciences, assistant professor,
of Department of History and Philosophy of Law of the Institute
of service, tourism and design (branch) FGAOU VO
“North-Caucasus Federal University” in Pyatigorsk
E-mail: 425257@mail.ru*

CRITICAL THINKING AS A METHOD OF EXPLAINING SOCIO-CULTURAL REALITY IN THE CONDITIONS OF A CHANGING WORLD

*Болотова Ульяна Владимировна,
кандидат философских наук, доцент кафедры истории
и философии права Института сервиса, туризма и дизайна
(филиал) ФГАОУ ВО «Северо-Кавказский федеральный
университет» в г. Пятигорске*

*Бондаренко Наталья Григорьевна,
доктор философских наук, профессор, зав. кафедрой истории
и философии права Института сервиса, туризма и дизайна
(филиал) ФГАОУ ВО «Северо-Кавказский федеральный
университет» в г. Пятигорске*

*Васильева Инна Анатольевна,
кандидат социологических наук, доцент кафедры истории
и философии права Института сервиса,
туризма и дизайна (филиал) ФГАОУ ВО «Северо-Кавказский
федеральный университет» в г. Пятигорске*

*Беловодова Светлана Евгеньевна,
кандидат психологических наук, доцент кафедры туризма
и гостиничного дела Института сервиса, туризма и дизайна
(филиал) ФГАОУ ВО «Северо-Кавказский федеральный
университет» в г. Пятигорске*

*Толчинская Татьяна Ильинична,
кандидат исторических наук, доцент кафедры истории
и философии права Института сервиса, туризма и дизайна
(филиал) ФГАОУ ВО «Северо-Кавказский федеральный
университет» в г. Пятигорске
E-mail: 425257@mail.ru*

КРИТИЧЕСКОЕ МЫШЛЕНИЕ КАК СПОСОБ ОБЪЯСНЕНИЯ СОЦИОКУЛЬТУРНОЙ РЕАЛЬНОСТИ В УСЛОВИЯХ ИЗМЕНЯЮЩЕГОСЯ МИРА

В современных условиях мировоззренческие представления органично связаны с критическими размышлениями о ценностях и жизненных установках личности. Кто мы, какого наше место в мире, в чем смысл и предназначение человека, какими ценностями должна руководствоваться личность в принятии решений – это вопросы, к которым обращается философия. Философ размышляет о мироздании в целом, о вечности и бесконечности природы, о сущности человека и его разуме, о смысле жизни. Современная философия является обобщением философской мысли человечества, которая базируется на теоретических достижениях, созданных в лоне отдельной национальной культуры. Идейной основой современной философской мысли является ее обращенность к практике.

Вхождение в культуру становится эффективным при условии знания и видения самих принципов жизни, смыслов и значений культуры, способов организации культурного пространства и свободного движения в этом пространстве. Поэтому важным является углубление самого знания о культуре, которое дает возможность человеку успешно действовать в культурном бытии¹.

¹ Конев В. Мир культуры и мир бытия (о парадигмах философского сознания) // Высшее образование в России. 2001. – № 6. – С. 66.

Анализ особенностей современной эпохи характеризует ее как крайне противоречивую. Уже на уровне обыденного сознания осмысление современности обнаруживает следующую антиномию, выраженную в вопросе: «современность – как принуждение или как свобода?»¹. С одной стороны, современность ассоциируется со свободой независимых суждений и самостоятельного выбора, от безоговорочного авторитета традиций. Динамизм, мобильность, предприимчивость, как характерные черты современности, являются следствием этой свободы. С другой стороны, современность предстает совокупностью жестких стандартов-императивов, несоблюдение которых карается отлучением от нее и поражением в формальном или неформальном статусе. Принудительность современности проявляется в том, что разумность этих стандартов не ставится под сомнение, хотя их критическое осмысление предполагается наличием духа свободы.

Понятие глобализации описывает процессы и события в современном мире, которые сегодня по существу являются беспредельными и бесконтрольными, носят незапланированный, непредвиденный, спонтанный и случайный характер. С неопределенностью в жизнь человека приходят другие ценности. Когда человек не уверен в завтрашнем дне, он стремится получить моментальное, сиюминутное удовольствие от настоящего мгновения. Это приводит к фрагментаризации жизни человека, к дроблению ее на отдельные эпизоды. Каждый эпизод является самодостаточным, никак не связанным с прошлыми заслугами человека и не влияющим на будущее; он должен проживаться, оставляя глубокое ощущение быстротечного мгновения. Императивность и универсальность нравственных традиций опирается на авторитет общественного мнения, получает идеальное выражение в общих фиксированных представлениях о том, как следует поступать. Долговечность, прочность и исключительная устойчивость – характерные черты моральных традиций. Многие из них, будучи сугубо историческим продуктом, порождением своего времени, пережили целые исторические эпохи, не подвергшись сколько-нибудь существенным изменениям, хотя нередко их подлинный смысл и вызвавшие их причины навсегда утрачены².

Процессы глобализации, ориентированные на распространение однородных культурных образцов, на создание единого мирового пространства, приводят к стиранию границ между различными культурами, к абстрагированию от национальных особенностей и традиций. Человек, становясь частью «всемирного бытия людей», часто оказывается в ситу-

¹ Капустин Б.Г. Современность – как принуждение или как свобода // Вопросы философии. 2003. – № 4. – С. 19–39.

² Болотова У.В. Изменяющийся образ общества: традиционные ценности и научно-технический прогресс. Россия и Европа: связь культуры и экономики: Материалы X международной научно-практической конференции. – Прага, Чешская республика: Изд -во WORLD PRESS s.r.o., 2014. – С. 207.

ации ответственности за это бытие. В ситуации кардинального выбора, когда от твоего решения зависит будущая жизнь, перед человеком встает проблема выбора; каким культурным ценностям отдать предпочтение? На какие критерии ориентироваться, чтобы совершить правильный выбор?

В постоянно меняющихся условиях жизни люди перестают считать стабильность и длительность условиями нормального существования. Следствием данной переоценки ценностей является разрушение преемственности поколений, снижение значения семейных традиций и ценностей, обесценивание уз дружбы и партнерства. Человек видит в другом человеке не уникальную и неповторимую личность, а объект, необходимый для удовлетворения его потребностей. Современная культура весьма неоднозначна: она содержит как позитивные, так и негативные характеристики. Позитивным считается обретение человеком ранее невиданной свободы выбора. Современность предлагает человеку множество различных способов существования, стилей жизни, сообществ, дает возможность самостоятельно выбирать то, что является для него приемлемым, значимым, соответствует его интересам, целям, отвечает его вкусам. Возможность неограниченного выбора, а также возможность самого выбора свидетельствует о наличии свободы. Однако часто человек, находясь в ситуации выбора, совершает его неосознанно, руководствуется не всегда оправданными мотивами: прагматическими соображениями или установкой на оригинальность, новизну, игровую изобретательность. Таким образом, не обладая необходимыми знаниями, навыками критического суждения, человек не обладает самой способностью выбирать.

Уникальность современной культуры состоит еще и в том, что человек оказывается не перед проблемой выбора, а перед проблемой избытка выбора. Обратной стороной свободы является безразмерная свобода, доведенная до абсурда. Такая свобода крушит привычные нормы, освящает разнузданность, утрату элементарного стыда, деликатности и скромности, неестественное публичное выражение низменного субъективизма, инстинктов. Так, например, Д. И. Дубровский отмечает небывалый разгул иррационализма, абсурда, безответственности, который переживает современная Россия. Множество негативных тенденций искусственно насаждается телевидением, которое превращается в главный театр абсурда. На телевидении фабрикуются картинки реальности, выгодные «заказчику», и выдаются за действительную реальность с целью «размягчить» критические регистры нашего сознания и совершить подстановку в него желательной оценки, вывода. Человек по-прежнему понимается как разумное существо, но его разум представляется развитием таких естественных органов, как мозг и нервная система¹. Освобождение человека

¹ Болотова У. В. Философия модерна – истоки и влияние. «Инновационная наука». – Уфа: Научно-издательский центр «АЭТЕРНА», 2015. – Т. 1. – Выпуск № 3. – С. 188.

от манипуляций его сознания заключается в развитии критического мышления.

В своей основе любая культура имеет изначальный, первичный стержень, устойчивое ядро, содержащее традиции, ценности, идеи, установки, которые, несмотря на смену исторических эпох, сохраняются в неприкосновенности и в относительной неизменности. Эти «нормативные установки» определяют образ исторического существования, являются «лицом» культуры, указывая на ее своеобразие и отличие от других культур¹. Для современной культуры, определяемой как постмодернистская, характерна общая направленность тотальной критики. Критика культуры – необходимый аспект ее освоения и воспроизводства, ее повседневного существования как момента человеческой деятельности. Критика культуры становится важнейшим аспектом философского мышления. Критика культуры есть результат сложившейся способности к рефлексии, то есть способности превращать саму культуру в предмет осмысления самого субъекта, в предмет воздействия, изменения.

Философию можно рассматривать как высшее проявление критической способности человека. В связи с этим большое значение уделяется необходимости рационального обоснования. В атмосфере культурной неопределенности, нестабильности и изменчивости важной становится активная роль философии, выступающей в качестве особой формы социальной практики и критически осмысляющей способы существования общества и культуры. Философия с ее принципами свободного обсуждения, проблематизации служит гарантом свободы личности и общества.

Список литературы:

1. Болотова У.В. Изменяющийся образ общества: традиционные ценности и научно – технический прогресс. Россия и Европа: связь культуры и экономики: Материалы X международной научно – практической конференции. -Прага, Чешская республика: Изд-во WORLD PRESS s.r.o., 2014. – 207 с.
2. Болотова У.В. Философия модерна – истоки и влияние. «Инновационная наука». – Уфа: Научно-издательский центр «АЭТЕРНА», 2015. – Т. 1. – Выпуск № 3. – 188 с.
3. Болотова У.В., Бондаренко Н.Г. Проблема культурного самопознания и самоидентификации в традиционном и индустриальном обществах в генезисе социально-философской мысли. Научно-аналитический журнал «Инновации и инвестиции». – Москва, 2014. – Выпуск № 7. – 141 с.

¹ Болотова У.В. Бондаренко Н.Г. Проблема культурного самопознания и самоидентификации в традиционном и индустриальном обществах в генезисе социально-философской мысли. Научно-аналитический журнал «Инновации и инвестиции». – Москва, 2014. – Выпуск № 7. – С. 141.

4. Конев В. Мир культуры и мир бытия (о парадигмах философского сознания) // Высшее образование в России. 2001. – № 6. – 66 с.
5. Капустин Б.Г. Современность – как принуждение или как свобода // Вопросы философии. 2003. – № 4. – С. 19–39.

Section 9. Economics and management

*Abdullaev Z.A.,
PhD, Acting Associate Professor of "Finance"
Department of the Banking and Finance Academy
of the Republic of Uzbekistan
E-mail: zafarjon1808@mail.ru*

IMPOSING VALUE ADDED TAX ON FINANCIAL SERVICES

Abstract. This scientific article is devoted to the consideration of issues of taxation of financial services VAT, as well as determining the consequences of exempting financial services from VAT. The VAT exemption of banks' financial services does not comply with taxation principles and restricts the ability of banks to account for VAT incurred.

Keywords: bank, financial services, taxation, the VAT, VAT exemption, tax rate.

When considering the issues of imposing financial services on the VAT, it is important to distinguish between financial services purchased by businesses and consumers. Many economists have discussed the issue of including intermediary financial services into the VAT base. In particular, Grubert & Mackie (2000)¹ have pointed out that financial services are not included in the VAT base as key evidence that these types of services are not included in the consumer's utility function and that it is considered to be a form of investment. However, there is a consensus of opinions in the scientific literature that taxation of financial services should be assessed as consumption. Some authors have supported this position by emphasizing that creating value added and spending actual resources are used to provide financial services. Herewith, production efficiency theory clearly specifies that B2B transactions should not be subject to tax when using financial services. With the aim of tax avoidance interim financial transactions can be carried out in two basic ways: if the VAT is imposed on purchased financial services, the VAT paid on financial services should also be fully accounted for, regardless of whether the margin base price is accurate or not. If the VAT is not levied on transactions, then the VAT paid by financial intermediaries must be taken into account in full and, of course, at a zero rate.

¹ Grubert H. & Mackie J.B. Must financial services be taxed under a consumption tax? National Tax Journal, 53(n. 1), 2000. – P. 23–40.

Optimal taxation depends on the behavior of customers, as customers use financial services for private consumption over a period of time. For this reason, optimal taxation, first and foremost, depends on the efficiency of interim tax revenues and, secondly, the tax on financial services is connected with the increase of the volume services for one unit of consumption. If the state with the first issue is favorable, financial services for consumers should definitely be subject to taxation (Rousslang Donald J. 2002)¹. In addition, the point of view of Merrill Peter (2011)² is theoretically based on the fact that according to the technique, applied in other industries, imposing the optimal VAT on the financial services justifies necessity to levy the VAT on the financial services as well.

VAT exemption for financial services can cause several facts of non-compliance. First, financial institutions cannot deduct the VAT imposed on all non-financial transactions, this tax amount can be added to the cost of financial services, which implies that consumers are subject to taxation. Therefore, business entities using financial services make relatively higher payments. This results in excessive taxation of businesses, but absence taxation of households. Second, avoidance of non-refundable VAT is creating incentives for integration. In addition, Huizinga (2002)³ argues that the differences between exempted transactions and transactions which haven't been exempted represent the value of compliance and make taxation more complicated. According to the opinion of Huizinga, payment of the VAT on financial services makes a favorable impact on the demand for financial services by enterprises (reduces the interest rate on loans and provides loans for the VAT which is entering in the books). However, he mentions a negative impact on households (taxation leads to higher consumer prices). However, indirect taxation of financial services does not affect the size of the financial sector. As a rule, the VAT accounting mechanism does not influence the prices purchased by business entities that are registered as taxpayers. However, VAT exemption for financial services is not for banks or their customers, but for the next customer of customers. In this regard, the VAT exemption for financial services often happens due to technical reasons. In particular, many economist scholars have discussed in detail the application of VAT on financial services and noted that 3/2 of all financial services are based on margin, which complicates the introduction of the VAT invoices. However, there are certain ways to solve this problem, for example, in Germany, payment of the VAT on options for loans is an indication of the optimal methodology for

¹ Rousslang Donald J. "Should Financial Services Be Taxed Under a Consumption Tax? Probably". National Tax Journal, National Tax Association; National Tax Journal, June, – Vol. 55(2), 2002. – P. 281–291.

² Merrill Peter R. "VAT Treatment of the Financial Sector." Tax Analysts, 2011. – P. 163–185. URL: <http://www.taxanalysts.com/www/freefiles.nsf/Files>

³ Huizinga H. A European VAT on financial services? Economic Policy, 17(35), 2002. – P. 497–537.

taxation of margin-based financial transactions¹. According to the results of the research, the VAT exemption for financial services can lead to disproportions and non-compliances in the banking sector's costs and consumption of financial services and in tax cascades. Meanwhile it has been established that entire taxation of bank loans can lead to better (Yilmaz and Baydur, 2017)². From the point of view of Denis and Mihov (2003)³, it should be noted that major businesses usually have access to other convenient financing tools, such as capital, but most SMEs make their investments mainly through financing via major financial intermediaries, such as banks.

Probably, definitely there is no debate about the taxation of B2B transactions. The clear consensus is that these transactions should not be taxed and it can be achieved in two ways: through a full taxation regime or a zero rate imposed on B2B transactions. These two methods are equivalent to B2B transactions. In addition, according to the study, if there is a tax on corrective income, the expected results from full taxation of financial services may be even greater. Therefore, low-performing companies are out of the market, and capital is distributed only among high-performing companies. Economists have differing views on taxation of B2C transactions.

In general, the VAT exemption for financial services does not comply with the principles of taxation and restricts for banks the accounting of the VAT which is entered into the books, and results in a chain breakdown. This results in a infringing the essence of the VAT, which means that the tax exemption transforms this tax into a direct production tax. While there may be only consumers who cannot benefit from the VAT exemption, consumers are not advised to use too many financial services. Therefore, taxation of financial services at a zero rate may result in a reduction in VAT revenues, but losses in these revenues will be offset by increased banks' profits.

References:

1. Denis and Mihov (2003) on bond issue and firms size and Houston and James (1996) and Johnson (1997) on bank loans concentrating among small firms in the U.S.
2. Grubert H. & Mackie J.B. Must financial services be taxed under a consumption tax? *National Tax Journal*, 53(n. 1), 2000. – P. 23–40.
3. Huizinga H. A European VAT on financial services? *Economic Policy*, 17(35), 2002. – P. 497–537.

¹ Proposed to introduce the VAT on transactions in reliance upon Truncated Cash-Flow Method with Tax Calculation Account method developed by Satya and Morley (1997). Ernst and Young (1996) have considered this alternative approach.

² Yilmaz F. and Baydur I. VAT Treatment of Financial Institutions. Research Collection School of Economics. 2017. URL: https://ink.library.smu.edu.sg/soe_research/2033/

³ Denis and Mihov (2003) on bond issue and firms size and Houston and James (1996) and Johnson (1997) on bank loans concentrating among small firms in the U.S.

4. Merrill Peter R. "VAT Treatment of the Financial Sector." *Tax Analysts*, 2011. – P. 163–185. URL: <http://www.taxanalysts.com/www/freefiles.nsf/Files>
5. Rousslang Donald J. "Should Financial Services Be Taxed Under a Consumption Tax? Probably". *National Tax Journal*, National Tax Association; *National Tax Journal*, June, – Vol. 55(2), 2002. – P. 281–291.
6. Yilmaz F. and Baydur I. VAT Treatment of Financial Institutions. Research Collection School of Economics. 2017. URL: https://ink.library.smu.edu.sg/soe_research/2033

*Gëzim Simoni,
PhD Candidate, Branch manager
at Credins bank, Tirana, Albania
E-mail: gezim.simoni@yahoo.com*

BANKING SERVICES IN ALBANIA AND NEW DISTRIBUTION CHANNELS

Abstract. The development of information technology has brought major changes and is constantly transforming banking industry in Albania. Distribution of banking services via the internet is an indication of significant changes in the industry. From the study, it's found that, organizations in the banking services industry in Albania, based on the internet and information technology, have revolutionized the distribution channels. Electronic banking and internet banking together with traditional channels, are a new reality created by the organizations in the banking services industry in Albania.

Keywords: banking services, channel distribution, electronic channels.

1. Introduction

The banking services industry in Albania has changed dramatically as a result of information technology innovation. The Internet and information technology have brought new practices in terms of business development. The banking services industry, from traditional banking to the business unit, has created new practices regarding transactions and channels through which they can be processed. Electronic service delivery channels replaced traditional ones or provided other options for customers and the way in which they could perform banking transactions. All of this, based on new technology and the internet. In parallel with teller in the business unit, organizations in the banking industry offered a new electronic teller, automated teller machines. Electronic banking came as a new practice, a new and efficient channel for providing banking services, Costanzo C. (2000)¹. Meanwhile, in addition to electronic banking, internet banking was developed as a new business opportunity and as a new channel for providing banking services. E-banking has been considered an improvement by previous electronic distribution systems, giving new business opportunities to the banking industry, Ebling T. (2001)². Electronic banking and internet banking as a new distribution channel of banking services, has expanded its range of delivery channels for banking services by the organizations to answer the needs and growing demands of customers. However, internet banking is consolidating in Albania as a successful channel of delivery of banking services with a positive impact and bringing significant benefits to organizations in terms of reducing

¹ Costanzo C. Pioneer internet-only bank has a new strategy. American Banker, 19 May. 2000.

² Ebling T. The economics of online banking. Target Marketing, February, 2001. – 67 p.

the costs of providing banking services, promotion and positioning of services, targeting new customer segments. The impact and role of electronic banking and internet banking as a new channel of distribution of services in the banking industry in Albania is the focus of the study.

2. Research question

This study aims to give answer the question: How internet and technology innovation affects in the service delivery in the banking industry in Albania.

3. Methodology

Research methodology is based on treatment of the concept of services, distribution channels of banking services, distribution channels based on the internet and information technology, internet banking, through existing studies by well-known authors and scholars in the field. The second part is based on a search to see the impact of internet in the delivery of banking services in the context of Albania. This research was conducted in cooperation with seven commercial banks operating in Albania. The banking system in Albania currently consists of twelve commercial banks operating in the market. Alpha bank Albania, American Investment bank, Credins bank, United bank of Albania, First investment bank Albania, Intesa SanPaolo bank Albania, National commercial bank, OTP bank Albania, Procredit bank, Raiffeisen bank, Tirana bank, Union bank. Structured questionnaire was sent in the marketing department of five commercial banks that collaborated to conduct the study. During the current study structured questions are used to generate answers that serve as information or primary data whose analysis will help in achieving the goal of the study. The sample used in the study is elected in a nonprobability way. Are selected seven commercial banks which have the largest market share in the banking industry in Albania. Selection of banks included in the study was done in order that the sample to be more representative.

4. Literature review

Scholars in the field have provided some definitions related to the services. The good is an object, a tool, a thing, while the service is a work, a performance, an attempt (Berry L.L., 1984)¹. A service is an act or performance offered by one party to another. Although the process may be tied to a physical product, the performance is essentially intangible and does not normally result in ownership of any of the factors of production (Lovelock C.H., 1983)². A service is any act or performance that one party can offer to another that is essentially intangible and does not result in ownership of something, (Kotler & Keller, 2012)³. Services have many characteristics that distinguish them from physical

¹ Berry L.L. Services marketing is different, in: CH Lovelock (Ed.) Services Marketing Nee York: Prentice Hall. 1984.

² Lovelock C.H. Classifying Services to Gain Strategic Marketing Insights. Journal of Marketing, – Vol. 47. Summer, 1983. – P. 9–20.

³ Kotler P. and Keller K.L. Marketing Management, Upper Saddle River, NJ: Prentice Hall. 2012.

goods, (Gronroos, 2000)¹. Distribution channels are considered by researchers in the field as very important and critical to the success of organizations for the realization of their objectives. There are some definitions of the distribution channel, but that all converge in their role of making products or of services available to consumers. The development of information technology has enabled organizations to offer their services through internet based channels. Electronic marketing channels use the Internet to make products and services available so that the target market with access to computers or other technology that enable, can buy and complete the transaction by electronic interactive tools, (Rosenbloom, 1999)². Based on previous studies, (Mols, 1999)³, the ideal distribution channel is determined by what kind of services customers want and how much they cost, the way in which these services can be provided and the costs of alternative distribution channels. However, (Mols, 1999)⁴ supposes that two most important are, a segment based on internet banking and a segment of the bank branch. Most banks have multiple channels to serve their customers. Today the distribution channels have evolved, they can choose between the branches, contact centers, ATMs and online channels, portals and banks web.

5. New distribution channels

There are some definitions of the distribution channel, but that all converge in their role of making products or of services available to consumers. Customers have the choice of transacting business through, bank branches, mobile branches, ATM, internet banking, telebanking, mobile banking, P.O.S. The bank management is keen on implementation of delivery channels for various reasons, bank can deliver the services simpler, can deliver the services faster, can acquire new customers, can retain existing customers, can keep customers highly satisfied on the services provided, can lower operational costs and transaction processing costs, can have a wider customer base, can improve profitability. According to Seitz and Stickel⁵ distribution channels are the physical capacity to build contracts with customers in a systematic manner, to inform, advise and sell products and services”. Thanks to information technology through internet banking clients receive financial services without interruption regardless of whether the business units and branches of the bank at the time, the need for services are available based on hours of operation. Distribution channels indicate or offer products and services to buyers or users and are physical distribution channels such as warehouses, transport media and

¹ Grönroos C. Service Management and Marketing: A customer relationship management approach, 2nd Ed. England: John Eiley & Sons, Ltd. 2000.

² Rosenbloom B. Marketing Channels: A Management Viee. 6th edition. Dryden Press. Fort Eorth, TX. 1999.

³ Mols N.P. The Internet and banks' strategic distribution channel decisions, International Journal of Bank Marketing, 2000. – Vol. 17. – No. 6.

⁴ Ibid.

trade channels like distributors, wholesalers and retailers (Kotler, 2003)¹. Well, the Internet is what we call an electronic distribution channel. **Bank branches.** The distribution is made by the traditional counter. These are the appearance of the bank and the place where the customer meets the bank. Distribution takes place in the traditional form. It is the basic distribution channel for the banking system, being transformed several times with each change of technology. Today, many branches provide a more open style that is similar to the modern shopping experience for consumers. The branch is a distribution channel where the human factor plays a dominant role. **Mobile bank branches.** This channel represents a mobile banking branch with access to many of the tools and systems for processing customer requirements. Representatives of mobile sales and bank branches will continue to form part of the personal experience of customers. **Automated teller machine.** They are probably the first distribution channel offered to customers with an automated technology system for interaction with the bank for withdrawals and cash withdrawals. ATMs were quickly turned from a distribution ATM into a self-service banking channel. ATMs are an alternative to crowded tables at branches. Cash withdrawals at the bank were shifted from desks to ATMs and this transfer is encouraged by most banks from the lower prices for these services. This can reduce the waiting time at the branch. **Point of sale.** Sales point systems such as electronic fund transfer have been a common channel for some time, but these have recently undergone changes allowing consumers to use the point of sale as a means of attracting money. is a payment method that can be described as a distribution channel. POS is a system by which customers pay for services that only using a bank card. This system is widely used when buying, traveling, buying tickets. In a society where time is an important resource, there has been a huge demand from consumers for the most accessible distribution channels. **Internet banking.** Constantly continues to transform the ways in which business is developed. Internet banking channel is becoming more and more primary channel for carrying out all forms of financial transactions via personal computers, mobile devices and other developing technologies. Internet banking is a service provided by financial institutions based on the opportunity that gives you information technology. The Internet has quickly become an important channel for the distribution of a wide range of businesses. Through internet banking customers receive the necessary financial services regardless of time and place where they are, based on electronic distribution channels and opportunities they offer. **Mobile banking.** Mobile banking has already become one of the most important channels for the distribution of banking services. Permanent access, the ability at any time to receive timely information and to perform transactions, have determined the continuous upward trend of this channel of distribution of banking services. At the beginning, only some services were

¹ Kotler P. and Keller K.L. Marketing Management, Upper Saddle River, NJ: Prentice Hall. 2012.

available: account balance, information about exchange rates, loans. **Interactive response systems.** Interactive response systems achieve two goals: a) they act as a traffic filter for directing customer calls to the appropriate call center representatives, b) they provide an automated communication system for performing some financial transactions. **Call Center.** Call Center fulfill all types of customer requirements, contemporary ones have representatives equipped with access to both on-line and traditional systems, perform all the functions necessary to process customer requirements. Through the call center, all information is provided free of charge and a customer can choose from a wide range of services (information about accounts, payments, exchanges, application for a loan) **E-mail.** Email was originally used as a new distribution channel, however given the malicious attacks to get consumer credentials this form of communication is becoming obsolete. This distribution channel now operates on a cross-sectional basis of parallel information.

6. Conclusions

With the possibility given from the development of information technology and the Internet, for the realization of their objectives, banks in Albania are applying new strategies. One of these strategies applied is the offering of financial services not only through traditional channels but with a multichannel system. Continued growth of the Internet is changing how organizations in banking services in Albania develop their business activity. Advantages of the internet provide a wide range of opportunities for companies to find new ways to carrying out their business in order to cope with the increasing competition. The development of various technology-enabled modes of financial service distribution in banking industry in Albania has reduced the importance of the traditional branch network as a direct channel of distribution in banking industry. Electronic banking service distribution channels are increasingly becoming the main banking channels for performing all forms of financial transactions, through personal computers, mobile devices, and other emerging technologies. The study clearly shows that the distribution channels of banking services in commercial banks in Albania have changed, new distribution channels have developed along with traditional channels, enabled by the Internet and information technology.

References:

1. Berry L.L. Services marketing is different, in: CH Lovelock (Ed.) Services Marketing, – New York: Prentice Hall. 1984.
2. Centeno C. Adoption of Internet Services in the Enlarged European Union: 2003.
3. Costanzo C. 'Pioneer internet-only bank has a new strategy'. American Banker, 19 May. 2000.
4. Ebling T. 'The economics of online banking'. Target Marketing, February, 2001. – 67 p.

5. Grönroos C. Service Management and Marketing: A customer relationship management approach, 2nd Ed. England: John Wiley & Sons, 1st. 2000.
6. Kotler P. and Keller K.L. Marketing Management, Upper Saddle River, NJ: Prentice Hall. 2012.
7. Lovelock C.H. "Classifying Services to Gain Strategic Marketing Insights". Journal of Marketing, – Vol. 47. Summer, 1983. – P. 9–20.
8. Mols N.P. "The Internet and banks' strategic distribution channel decisions". International Journal of Bank Marketing, 2000. – Vol. 17. – No. 6.
9. Rosenbloom B. Marketing Channels: A Management View. 6th edition. Dryden Press. Fort Worth, TX. 1999.

Section 10. Science of law

*Botiakova Viktoriia Viktorivna,
postgraduate student, the Department
of Criminal law, Criminology, Civil and Commercial law
HEI "National Academy of Management"
E-mail: vbotyakova@ukr.net*

THE MOMENT OF AN END OF HUMAN LIFE AND ITS SIGNIFICANCE FOR CRIMINAL LIABILITY

Abstract. The article addresses the issue of determining the moment when a human life ends and its significance for criminal liability (in particular for crimes under article 139 of the Criminal Code of Ukraine). To this end, a number of regulatory acts relating to the subject of the research have been analysed. The definition of the moment when a human life ends is proposed by the author.

Keywords: end of life, death, criminal liability, neglect of a person under care.

In accordance with article 3 of the Constitution of Ukraine, the person, his or her life and health, honour and dignity, integrity and security are recognized as the highest social value in Ukraine¹. In the theory of criminal law, one of the controversial issues is the determination of the moment when a life of a human being ends. In the criminal law doctrine the moment of the end of human life is the time of irreversible death, particularly, it is associated with the beginning of irreversible disintegration of cells of the higher nervous system and, as a consequence, the termination of brain functioning². Let us consider the interpretation of the concept of "death", which gives the "Bolshaya Meditsinskaya Entsiklopediya" (Comprehensive Medical Encyclopaedia): the term "death" is defined as irreversible termination of vital activity of organism, inevitable natural end of existence of any living being with two main stages of death: 1) clinical death and; 2) biological death³. Clinical death is a reversible stage

¹ Конституція України від 28 червня 1996 року / Верховна Рада України. Відомості Верховної Ради України. 1996. – № 30. – 141 с.

² Кримінальне право України: Особлива частина – розділи I, II: Практикум: Навчальний посібник / В.Д. Гвоздецький та ін.; за заг. ред. В.К. Матвійчука. – Київ: КНТ, 2008. – С. 105.

³ Большая медицинская энциклопедия: в 30-ти т. АМН СССР / гл. ред. Б.В. Петровский. 3-е изд. – Москва: Советская энциклопедия. – Т. 23. Сахароза – Сосудистый тонус, 1984. – 544 с. с ил., 11 л. ил. – С. 448.

of death, which lasts several minutes after cessation of blood circulation and breathing; in particular, the reversibility of this stage depends on the extent of hypoxic changes in cerebral nerve cells, as well as the duration of a human being in clinical death under conditions of normothermia does not exceed 8 minutes, but under conditions of hypothermia the time in this state can increase¹. Biological death is an irreversible termination of physiological processes in cells and tissues of the body, during which resuscitation measures are unsuccessful².

According to part 2 of Article 52 of the Law of Ukraine “Fundamentals of the Ukrainian legislation on health protection” it is established that the moment of irreversible death of a person is the moment of death of his brain or his biological death Part 3 of Article 52 of this document indicates that brain death is established at the complete and irreversible termination of all its functions, which are registered on the working heart, as well as artificial ventilation of the lungs, and in accordance with Part 4 of Article 52 of the Law of Ukraine “Fundamentals of the Ukrainian legislation on health protection” health care workers on the basis of diagnostic criteria of biological death of a person, such as: irreversible termination of blood circulation and respiratory functions, the occurrence of early and/or late post-mortem changes, establish biological death³. Brain death is a state associated with total necrosis of the brain, as well as the first cervical segments of the spinal cord, during which cardiac activity and gas exchange are maintained by continuous artificial ventilation of the lungs, particularly, this state is the result of a stop of blood circulation in the brain, which occurs through a sharp increase in intracranial pressure and equalizing it with the systemic arterial pressure⁴.

Therefore, the moment of death of a human brain is equated to its biological death. It is noteworthy that brain death can develop due to primary damage from such factors as: a sharp increase in intracranial pressure, which causes cerebral circulation to stop as a result of severe brain injury, as well as spontaneous and/or other (traumatic) intracranial haemorrhage; brain infarction; brain tumour; closed acute hydrocephalus; open brain injury accompanied by mechanical damage to brain tissue; intracranial brain surgery; and secondary brain damage, which is the result of hypoxia of various genesis and is also characterized by cardiac arrest, termination or sharp deterioration of systemic blood circulation due to long-term shock⁵.

¹ Большая медицинская энциклопедия: в 30-ти т. АМН СССР / гл. ред. Б. В. Петровский. 3-е изд. – Москва: Советская энциклопедия. – Т. 23. Сахароза – Сосудистый тонус, 1984. – 544 с. с ил., 11 л. ил. – С. 448.

² Там же.

³ Основи законодавства України про охорону здоров'я: Закон України від 19.11.1992. № 2801-ХІІ / Верховна Рада України. Відомості Верховної Ради України. 1993. – № 4. – ст. 19.

⁴ Большая медицинская энциклопедия: в 30-ти т. АМН СССР / гл. ред. Б. В. Петровский. 3-е изд. – Москва: Советская энциклопедия. – Т. 23. Сахароза – Сосудистый тонус, 1984. – 544 с. с ил., 11 л. ил. – С. 453.

⁵ Про встановлення діагностичних критеріїв смерті мозку та процедури констатації

In accordance with the Order of the Ministry of Health of Ukraine “On Establishment of Diagnostic Criteria of Brain Death and the Procedure for Establishing the Moment of Human Death” of September 23, 2013 No. 821, registered with the Ministry of Justice of Ukraine on October 14, 2013 under No. 1757/24289, it is stated that brain death can be determined on the result of the carried out procedure of diagnostics of brain death based only on clinical diagnostic criteria or on the basis of clinical diagnostic criteria supplemented by one of the confirmation (instrumental) criteria¹.

It is necessary to differentiate clinical death from biological death, because during clinical death, despite the stop of breathing and blood circulation, the vital functions of the organism do not stop within a short time of life and the vital functions of the organism can be restored by resuscitation measures. In particular, in our opinion, the final moment of human life should be considered the moment of irreversible death by means of death of brain or biological death of human being that is connected with development of irreversible process of disintegration of cells of central nervous system.

The issue of determining the moment of an end of human life is extremely important not only for the theory of criminal law, but also for law enforcement activities, as well as for determining the crime of not providing assistance to a sick person by medical worker (Article 139 of the Criminal Code of Ukraine).

References:

1. Конституція України від 28 червня 1996 року / Верховна Рада України. Відомості Верховної Ради України. 1996. — № 30. — 141 с.
2. Кримінальне право України: Особлива частина — розділи I, II: Практикум: Навчальний посібник / В.Д. Гвоздецький та ін.; за заг. ред. В.К. Матвійчука. — Київ: КНТ, 2008. — 256 с.
3. Большая медицинская энциклопедия: в 30-ти т. АМН СССР / гл. ред. Б.В. Петровский. 3-е изд. — Москва: Советская энциклопедия. — Т. 23. Сахароза — Сосудистый тонус, 1984. — 544 с. с ил., 11 л. ил.
4. Основи законодавства України про охорону здоров'я: Закон України від 19.11.1992 № 2801-XII / Верховна Рада України. Відомості Верховної Ради України. 1993. — № 4. — ст. 19.
5. Про встановлення діагностичних критеріїв смерті мозку та процедури констатації моменту смерті людини: Наказ Міністерства охорони здоров'я України від 23.09.2013 року № 821, зареєстрований у Міністерстві юстиції України 14 жовтня 2013 року за № 1757/24289. URL: <https://zakon.rada.gov.ua/laws/show/z1757-13/> (дата звернення: 06.05.2020).

моменту смерті людини: Наказ Міністерства охорони здоров'я України від 23.09.2013 року № 821, зареєстрований у Міністерстві юстиції України 14 жовтня 2013 року за № 1757/24289. URL: <https://zakon.rada.gov.ua/laws/show/z1757-13/> (дата звернення: 06.05.2020).

¹ Ibid.

*Mersinaj Luljeta,
MSc in Law, Albanian National Chamber of Advocates
E-mail: mersinajluljeta@gmail.com*

THE UNITED NATION CONVENTION OF PERSONS WITH DISABILITIES AND THE ARTICLE 12 – EQUAL RECOGNITION BEFORE THE LAW

Abstract. The United Nation Convention of persons with Disabilities is an International treaty that articulates the rights of persons with disabilities. Specifically, States that become parties to the Convention agree to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity. The Convention is a paradigm shift in approaches to disability, moving from a model where persons with disabilities are treated as objects of medical treatment, charity and social protection to a model where persons with disabilities are recognized as subjects of human rights, active in the decisions that affect their lives and empowered to claim their rights.

Keywords: United Nation Convention, Person With Disability, Human Rights, Freedom, Protection

1. Introduction

The Convention on the Rights of Persons with Disabilities is an international human rights treaty of the United Nations intended to protect the rights and dignity of people with disabilities. Parties to the Convention are required to promote, protect, and ensure the full enjoyment of Human Rights by people with disabilities and ensure that they enjoy full equality under the law. The Convention has served as the major catalyst in the global movement from viewing people with disabilities as objects of charity, medical treatment and social protection towards viewing them as full and equal members of society, with human rights. It is also the only UN human rights instrument with an explicit sustainable development dimension. The Convention was the first human rights treaty of the twenty-first century¹.

The Convention follows the civil law tradition, with a preamble in which the principle that “all human rights are universal, indivisible, interdependent and interrelated” of the Vienna Declaration and Programme of Action is cited, followed by 50 other articles. Unlike many UN covenants and conventions, it is not formally divided into parts.

The CRPD, which entered into force on 3 May 2008, offers the opportunity for people with a disability to press governments for real change on the basis

¹ General assembly adopts groundbreaking convention, optional protocol on rights of persons with disabilities. URL: <https://www.un.org/press/en/2006/ga10554.doc.htm> (Accessed Date. 27.04.2020).

of rights accorded to them under the treaty. It adopts a new model considering persons with disabilities as full subjects of the law with clearly defined human rights, thus substituting the previous medical paradigm, as well as the social development model and the model based solely on non-discrimination principles. It incorporates elements of such understandings yet moves beyond them in the creation of a more comprehensive and integral framework. Because the treaty views disability as a result of the interaction between an inaccessible environment and a person, rather than an inherent attribute of an individual, it considers persons with disabilities as right holders capable of exercising such rights in an independent manner on the basis of equal citizenship. As one may derive from Article 1 of the Convention, more than the existence of persons with disabilities, there are disabling social structures, rules and practices¹

Also, the UNCRPD is, so far, the first and only of the nine core international human rights treaties to which the European Union (EU) is a party, and the first human rights treaty which the European Community, as it then was, was involved in negotiating and signing, alongside its Member States.

2. The Definition and Types of Disability

The Convention adopts a social model of disability, but does not offer a specific definition. The Convention's preamble explains that the Convention recognises:

“Disability is an evolving concept and that disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others”.

Another article states that “Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”².

The World Health Organization proposes the following definition of disabilities: “Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Disability is thus not just a health problem. It is a complex phenomenon, reflecting

¹ Human Rights of Persons with Disabilities in International and EU Law. URL: https://cadmus.eui.eu/bitstream/handle/1814/41985/WP_2016_01.pdf?sequence=1&isAllowed=y (Accessed Date 27.04.2020).

² Article 2 of the Convention on the Rights of Persons with Disabilities, was adopted by the United Nations General Assembly on 13 December, 2006 and came into force in 3 May 2008. URL: <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html/> (Accessed Date 28.04.2020).

the interaction between features of a person's body and features of the society in which he or she lives"¹.

Many people still feel confused about what types of disabilities are covered under the Rights of Persons With Disabilities. There are innumerable types of disabilities that can affect a human being. Some of these conditions are more common than others. Some of the types of disabilities are recognized by the government in order to provide disability benefits to the needy ones. Often people wonder what are the disabling conditions that are more prevalent. Here is the list of 21 disabilities:

Blindness, Low-vision, Leprosy Cured persons, Hearing Impairment, Locomotor Disability, Dwarfism, Intellectual Disability, Mental Illness, Autism Spectrum Disorder, Cerebral Palsy, Muscular Dystrophy, Chronic Neurological conditions, Specific Learning Disabilities, Multiple Sclerosis, Speech and Language disability, Thalassemia, Hemophilia, Sickle Cell disease, Multiple Disabilities including deaf-blindness, Acid Attack victim, Parkinson's disease².

3. What do we know about disability

Disability is part of the human condition almost everyone will be temporarily or permanently impaired at some point in life, and those who survive to old age will experience increasing difficulties in functioning. Disability is complex, and the interventions to overcome the disadvantages associated with disability are multiple and systemic varying with the context.

More than a billion people are estimated to live with some form of disability, or about 15% of the world's population (based on 2010 global population estimates). This is higher than previous World Health Organization estimates, which date from the 1970s and suggested around 10%.

According to the World Health Survey around 785 million (15.6%) persons 15 years and older live with a disability, while the Global Burden of Disease estimates a figure of around 975 million (19.4%) persons. Of these, the World Health Survey estimates that 110 million people (2.2%) have very significant difficulties in functioning, while the Global Burden of Disease estimates that 190 million (3.8%) have "severe disability". The equivalent of disability inferred for conditions such as quadriplegia, severe depression, or blindness. Only the Global Burden of Disease measures childhood disabilities (0–14 years), which is estimated to be 95 million (5.1%) children, of whom 13 million (0.7%) have "severe disability"³.

¹ Disabilities – WHO \ URL: <https://www.who.int/topics/disabilities/en/> (Accessed Date 29.4.2020).

² Rights of Persons With Disabilities Act, 2016 in – India. URL: <https://wecapable.com/rights-of-persons-with-disabilities-act-2016-india/> (Accessed Date 29.04.2020).

³ World Report On Disability. URL: https://apps.who.int/iris/bitstream/handle/10665/70670/WHO_NMH_VIP_11.01_eng.pdf;jsessionid=DB6AA640CC11BD0F0B1A5B09672A8854?sequence=1/ (Accessed Date 29.04.2020).

The number of people with disabilities is growing. This is because populations are ageing, older people have a higher risk of disability, and because of the global increase in chronic health conditions associated with disability, such as diabetes, cardiovascular diseases, and mental illness.

4. The Article 12 – Equal Recognition Before the Law and Legal Capacity

The right to equal recognition before the law had appeared in various forms in a number of international declarations and treaties prior to the adoption of the CRPD. However, it is clear that some of these treaties only envisioned the right as guaranteeing the right to equal standing before the law, rather than also including the right to be viewed as a legal actor who could enforce rights¹.

The recognition of legal capacity in Article 12 lies at the core of the UN Convention on the Rights of Persons with Disabilities (CRPD) and is key to the full and equal enjoyment of all human rights by persons with disabilities. The importance of self-direction is at the core of Article 12 with a clear move away from substitute decision-making to a requirement for support for the person with disabilities to make decisions and realise his/her will and preferences. This central position is warranted, as it reflects the urgent need for reform of laws affecting millions of people denied control over their own decision-making, often in a continuous cycle of disempowerment.

Article 12 (equal recognition before the law) of the UN Convention on the Rights of Persons with Disabilities lies at the heart of the Convention. It addresses recognition before the law, legal capacity and decisionmaking. Article 12, paragraphs 1 and 2, of the Convention requires States Parties to recognize persons with disabilities as individuals before the law, possessing legal capacity on an equal basis with others in all aspects of life. The Committee made it clear in its very first authoritative General Comment on legal capacity that mental capacity and legal capacity are different and distinct, but often conflated concepts. Legal capacity, according to Article 12, is an inherent right owed to everyone whereas mental capacity relates to a person's decision-making skills which varies from person to person and can often be subjective depending on how it is measured. The Committee pointed out that people with psychosocial disabilities are often denied legal capacity on the basis of a perceived or actual problem with their mental capacity or on the basis of their disability alone².

The General Comment on Article 12 of the CRPD defines Legal Capacity as follows: Legal capacity and mental capacity are distinct concepts. Legal capacity is the ability to hold rights and duties (legal standing) and to exercise these rights and duties (legal agency). It is the key to accessing meaningful

¹ Article 6 of the Universal Declaration of Human Rights (1949), Article 16 of the International Covenant on Civil and Political Rights (1966), Article 15 of the Convention on the Elimination of All Forms of Discrimination Against Women (1979). URL: <https://rm.coe.int/168070d7f5> (Accessed Date 29.04.2020).

² General comment on Article 12, Equal recognition before the law. URL: <https://digitallibrary.un.org/record/779679?ln=en/> (Accessed Date 29.04.2020).

participation in society. Mental capacity refers to the decision-making skills of a person, which naturally vary from one person to another and may be different for a given person depending on many factors, including environmental and social factors. Under article 12 of the Convention, perceived or actual deficits in mental capacity must not be used as justification for denying legal capacity. Globally and regionally, Article 12 is being recognized as a key component to achieving disability rights. Member States are encouraged to ensure that persons with disabilities gain full recognition before the law while ensuring effective access to justice on an equal basis with others. Key goals include i) member states should have successfully repealed or amended any guardianship and inheritance laws to protect the rights of persons with disabilities, ii) require political parties to have disability inclusive party policies and manifestos with a view to enhance political participation of the disabled, iii) promote and ensure disability inclusive reform and policy of the justice, law, and order sectors.

Legal capacity is also important because it has a huge impact on how other people (for example, service providers, public officials and members of the community) view persons with disabilities. If persons with disabilities are seen to be incapable of making any decisions about their own lives, negative stereotypes about disability are reinforced, yet these stereotypes are a significant barrier to the inclusion and participation of persons with disabilities in society.

5. Conclusions

The United Nations Convention on the Rights of Persons with Disabilities (CRPD), adopted in 2006, aims to promote, protect and ensure the full and equal enjoyment of all Human Rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity. It reflects the major shift in global understanding and responses towards disability. Article 12 recognises that “Persons with disabilities enjoy legal capacity on an equal basis with others in all aspects of Life”. Legal capacity refers to the dual concepts of legal standing (where the person who is recognised as a holder of rights) and legal agency where the person is recognised as being able to “create, modify or end legal relationships”.

References:

1. General assembly adopts groundbreaking convention, optional protocol on rights of persons with disabilities. URL: <https://www.un.org/press/en/2006/ga10554.doc.htm/> (Accessed Date.27.04.2020).
2. Human Rights of Persons with Disabilities in International and EU Law. URL: https://cadmus.eui.eu/bitstream/handle/1814/41985/WP_2016_01.pdf?sequence=1&isAllowed=y (Accessed Date .27.04.2020).
3. Article 2 of the Convention on the Rights of Persons with Disabilities, was adopted by the United Nations General Assembly on 13 December 2006, and came into force in 3 May 2008. URL: <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/>

- convention-on-the-rights-of-persons-with-disabilities-2.html/ (Accessed Date 28.04.2020).
4. Disabilities – WHO\\ URL: <https://www.who.int/topics/disabilities/en/> (Accessed Date 29.4.2020).
 5. Rights of Persons With Disabilities Act, 2016 in – India. URL: <https://we-capable.com/rights-of-persons-with-disabilities-act-2016-india/> (Accessed Date 29.04.2020)
 6. World Report On Disability. URL: https://apps.who.int/iris/bitstream/handle/10665/70670/WHO_NMH_VIP_11.01_eng.pdf;jsessionid=DB6AA640CC11BD0F0B1A5B09672A8854?sequence=1/ (Accessed Date 29.04.2020).
 7. Article 6 of the Universal Declaration of Human Rights (1949), Article 16 of the International Covenant on Civil and Political Rights (1966), Article 15 of the Convention on the Elimination of All Forms of Discrimination Against Women (1979). URL: <https://rm.coe.int/168070d7f5/> (Accessed Date 29.04.2020).
 8. General comment on Article 12, Equal recognition before the law. URL: <https://digitallibrary.un.org/record/779679?ln=en/> (Accessed Date 29.04.2020).

Contents

Section 1. History and archaeology	3
<i>Bolotova Ulyana Vladimirovna, Bondarenko Natalia Grigorievna,</i>	
<i>Arakelyan Inna Seryanovna, Kryukova Lyudmila Vasilievna,</i>	
<i>Yanukyan Madlena Bagratovna</i>	
MOUNTAIN ELITE IN SEARCH OF A COMPROMISE BETWEEN STATE INTERESTS AND ETHNIC PATRIOTISM	3
Section 2. Information technology	9
<i>Bohdan Havano, Oleksandr Tkachyk,</i>	
<i>Hennadiy Kytsun</i>	
WEB-SERVER CROSS-SITE REQUEST FORGERY PROTECTION	9
Section 3. Linguistics	17
<i>Loshchynova Inna Sergeevna</i>	
SOCIAL AND CULTURAL ADAPTATION OF INDIAN STUDENTS WHILE STUDYING THE COURSE “RUSSIAN AS A FOREIGN LANGUAGE”	17
Section 4. Pedagogy	20
<i>Paluch Marek, Malikowski Radosław</i>	
THE IMPORTANCE OF ART IN THE EDUCATION OF CHILDREN AND ADOLESCENTS	20
Section 5. Food processing industry	27
<i>Tursunbaeva Sholpan Arystanbekovna, Iztaev Auelbek Iztaevich,</i>	
<i>Magomedov Magomed Gasanovich, Yakiyaeva Madina Asatullaevna</i>	
THE PHENOMENON OF BAKING DIGNITY BASED ON THE ASSESSMENT OF PHYSICAL AND BIOCHEMICAL INDICATORS OF VARIOUS CLASSES OF SOFT WHEAT	27
Section 6. Technical sciences	34
<i>Alashbayeva Liliya Zhanabaevna, Shansharova Dinara Aitbaevna,</i>	
<i>Kenzhekhojayev Makhamedkali, Mynbayeva Aizhan, Zhamalova Dinara</i>	
PHYSICO-CHEMICAL PROPERTIES OF WHOLE-WHEAT BREAD MADE USING CABBAGE EXTRACT (BRASSICA OLERACEA)	34
<i>Aralbayev Nurbek, Dikhanbayeva Fatima, Serikbayeva Assiya,</i>	
<i>Yusof Yus Aniza, Chang Lee Sin</i>	
DETERMINATION OF SOME PHYSICAL PROPERTIES OF DRY SHUBAT	39
<i>Iztayev Auyelbek, Ludek Hrivna, Yakiyayeva Madina,</i>	
<i>Zhakatayeva Altyнай, Zhanabaeva Asel</i>	
NEW METHODS FOR PROCESSING RAW SUGAR PRODUCTS TO ENSURE ITS SAFETY	47

Koval Vadym

METHODS FOR MEASURING VISCOSITY OF NEWTONIAN LIQUIDS	50
---	----

*Nurgozhina Zhuldyz Kanatovna, Shansharova Dinara Aitpaevna,
Zhanabayeva Karina Kusmanovna, Zhamalova Dinara Bulatovna,
Maxutova Dana Bagdatovna, Sottnikova Viera*

GRAIN MIX WITH BIOACTIVATED GRAIN AND PLANT COMPONENTS IN THE DEVELOPMENT OF TECHNOLOGY FOR BREAD OF INCREASED NUTRITIONAL VALUE	52
--	----

Section 7. Philology 58

Aliaga Safaraliev Sadri

POETICS OF THE QUANTITATIVE SUFFIX IN THE AZERBAIJANI LANGUAGE.....	58
--	----

Section 8. Philosophy 62

*Bolotova Ulyana Vladimirovna, Bondarenko Natalia Grigorievna,
Martynenko Marina Valentinovna, Yanukyan Madlena Bagratovna,
Kryukova Lyudmila Vasilievna*

SOURCES AND INFLUENCE OF MODERN PHILOSOPHY	62
--	----

*Bolotova Ulyana Vladimirovna, Bondarenko Natalia Grigorievna,
Vasileva Inna Anatolievna, Belovodova Svetlana Evgenyevna,
Tolchinskaya Tatyana Ilinichna*

CRITICAL THINKING AS A METHOD OF EXPLAINING SOCIO- CULTURAL REALITY IN THE CONDITIONS OF A CHANGING WORLD.....	68
--	----

Section 9. Economics and management. 74

Abdullaev Z.A.,

IMPOSING VALUE ADDED TAX ON FINANCIAL SERVICES	74
--	----

Gëzim Simoni

BANKING SERVICES IN ALBANIA AND NEW DISTRIBUTION CHANNELS.....	78
---	----

Section 10. Science of law 84

Botiakova Viktoriia Viktorivna

THE MOMENT OF AN END OF HUMAN LIFE AND ITS SIGNIFICANCE FOR CRIMINAL LIABILITY	84
---	----

Mersinaj Luljeta

THE UNITED NATION CONVENTION OF PERSONS WITH DISABILITIES AND THE ARTICLE 12 – EQUAL RECOGNITION BEFORE THE LAW	87
---	----