

SOI: 1.1/TAS

DOI: 10.15863/TAS

ISSN 2308-4944 (print)

ISSN 2409-0085 (online)

№ 12 (68) 2018

Teoretičeskaâ i prikladnaâ nauka

Theoretical & Applied Science



Philadelphia, USA

**Teoretičkaâ i prikladnaâ
nauka**

**Theoretical & Applied
Science**

12 (68)

2018

International Scientific Journal

Theoretical & Applied Science

Founder : **International Academy of Theoretical & Applied Sciences**

Published since 2013 year. Issued Monthly.

International scientific journal «Theoretical & Applied Science», registered in France, and indexed more than 45 international scientific bases.

Editorial office: <http://T-Science.org> Phone: +777727-606-81

E-mail: T-Science@mail.ru

Editor-in Chief:

Alexandr Shevtsov

Hirsch index:

h Index RISC = 1 (66)

Editorial Board:

1	Prof.	Vladimir Kestelman	USA	h Index Scopus = 3 (38)
2	Prof.	Arne Jönsson	Sweden	h Index Scopus = 4 (21)
3	Prof.	Sagat Zhunisbekov	KZ	-
4	Assistant Prof.	Boselin Prabhu	India	-
5	Lecturer	Denis Chemezov	Russia	h Index RISC = 2 (61)
6	Senior specialist	Elnur Hasanov	Azerbaijan	h Index Scopus = 5 (9)
7	Associate Prof.	Christo Ananth	India	h Index Scopus = - (1)
8	Prof.	Shafa Aliyev	Azerbaijan	h Index Scopus = - (1)
9	Associate Prof.	Ramesh Kumar	India	h Index Scopus = - (2)
10	Associate Prof.	S. Sathish	India	h Index Scopus = 2 (13)
11	Reseacher	Rohit Kumar Verma	India	-
12	Prof.	Kerem Shixaliyev	Azerbaijan	-

ISSN 2308-4944



© Collective of Authors

© «Theoretical & Applied Science»

International Scientific Journal

Theoretical & Applied Science

The scientific Journal is published monthly 30 number.

Each issue, the scientific journal, with articles in the shortest time (for 1 day) is placed on the Internet site:

<http://T-Science.org>

Each author will receive your own copy of a scientific journal to published article, as well as the certificate.

The information in the journal can be used by scientists, graduate students and students in research, teaching and practical work.

International Scientific Journal
Theoretical & Applied Science



ISJ Theoretical & Applied Science, 12 (68), 390.
Philadelphia, USA



Impact Factor ICV = 6.630

Impact Factor ISI = 0.829
based on International Citation Report (ICR)

The percentage of rejected articles:



ISSN 2308-4944



Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHC (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 23.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Victor Aleksandrovich Melent'ev

Philosophy Doctor, senior research associate
Rzhanov Institute of Semiconductor Physics Siberian
Branch of Russian Academy of Sciences (ISP SB RAS)

melva@isp.nsc.ru

SECTION 4. Computer science, computer engineering and automation.

USE OF MELENTIEV'S GRAPH REPRESENTATION METHOD FOR DETECTION OF CLIQUES AND THE ANALYSIS OF TOPOLOGIES OF COMPUTING SYSTEMS

Abstract: The problem of comparison of the computing systems (CS) topologies is related with finding of maximum cliques in the CS graph. The solution of this task based on using of the representation of the graph offered by the Author is provided in this paper. Properties of projections of the complete graph and projections of cliques of general graph are formulated. The algorithm to identify the maximum clique of the given graph of the computing system and of its modifications corresponding to presented values of indices of reachability and fault-tolerance is described and illustrated by the examples.

Key words: graph's projection, clique graph, reachability of vertexes, topological scalability and topological fault-tolerance of computing systems.

Language: Russian

Citation: Melent'ev, V. A. (2018). Use of Melentiev's graph representation method for detection of cliques and the analysis of topologies of computing systems. *ISJ Theoretical & Applied Science*, 12 (68), 201-211.

Soi: <http://s-o-i.org/1.1/TAS-12-68-28> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.28>

ИСПОЛЬЗОВАНИЕ МЕТОДА МЕЛЕНТЬЕВА ПРЕДСТАВЛЕНИЯ ГРАФОВ ДЛЯ ВЫЯВЛЕНИЯ КЛИК И АНАЛИЗА ТОПОЛОГИЙ ВЫЧИСЛИТЕЛЬНЫХ СИСТЕМ

Аннотация: Проблема сопоставления топологий вычислительных систем (ВС) связана с поиском наибольших клик в графе ВС. В работе представлено решение этой задачи, основанное на использовании предложенного Автором описания графа. Сформулированы свойства проекций полного графа и проекций клик произвольного графа. Описан и проиллюстрирован примерами алгоритм выявления наибольшей клики в заданном графе ВС и в его модификациях, соответствующих заданным значениям показателей достижимости и отказоустойчивости.

Ключевые слова: проекция графа, клика графа, достижимость вершин, топологическая масштабируемость и топологическая отказоустойчивость вычислительных систем.

Введение

Разнообразие используемых в построении суперкомпьютеров топологий интерконнекта обусловило необходимость выбора и создания топологий на основе сопоставления ясных критериев, непосредственно демонстрирующих влияние топологии на достижение конечной цели создания суперкомпьютера – на повышение его вычислительной мощности до значений, требуемых для актуализированного решения определенного круга задач с присущими им объемами обрабатываемых данных и алгоритмами.

Традиционно используемые в сопоставлении системных топологий экспертные и метрические, а также такие сетевые характеристики как промежуточная центральность [1, с. 39], стабильность межузловых расстояний, вероятность потери связности, вероятность фрагментации, синхронизируемость [2, с. 1]) и пр. настолько неявны и субъективны, что влияние выбранной топологии на вычислительную мощность суперкомпьютера может быть количественно оценено только по результатам тестовых испытаний уже готового продукта. Установление же формальной обусловленности

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

топологии потенциальному параллелизму позволяет оптимизировать выбор топологии еще на этапе проектирования суперкомпьютера и в соответствии с его проблемной ориентацией. Потенциал параллелизма рассматривается в [3, с. 138] в качестве обобщенной единицы и определяется предельным рангом параллельной задачи с лимитируемой достижимостью информационно-смежных ветвей. Введение понятия лимитируемой достижимости позволило абстрагироваться от используемых интерконнектом сетевых технологий, анализируя, таким образом, чисто топологические аспекты повышения потенциального параллелизма. Очевидно, что нижняя граница потенциального параллелизма определяется максимальным, обусловленным топологией, рангом информационно-полносвязной задачи, соответствующим мощности наибольшей максимальной по включению клики графа анализируемой ВС. Напомним в связи с этим, что кликой в графе называется любой полный подграф этого графа, т. е. любые две вершины клики смежны; максимальные по включению полные подграфы называются максимальными кликами графа. Число вершин в клике называют ее порядком, а порядок наибольшей из максимальных клик в графе – его плотностью [4, с. 1] или кликовым числом. Известно [5, с. 44-48], что задача о кликах графа G в ее вычислительном варианте о поиске в заданном графе клики максимального размера трансформируется в задачу о множествах независимых вершин переходом к дополнительному графу \bar{G} и относится, таким образом, к классу NP -полных задач. Понятно поэтому, что базирующаяся на поиске клик проблема оценки потенциального параллелизма вычислительных систем (ВС) имеет этот же статус.

В работе представлен подход, основанный на методе проективного описания графов, называемом по имени Автора не только в русскоязычной – «V.A. Melentiev's Notation» [6, с. 83; 6, с. 90], но и в англоязычной литературе – «Melentiev's Graph Representation Method» [6, с. 1]; этот метод позволяет существенно снизить вычислительную сложность как выявления клик в графе ВС, так и сопоставления топологий интерконнекта с позиций обеспечиваемого ими потенциального параллелизма системы.

Свойства проекций полного графа

Используемый в данной работе метод [7] последовательно развивался Автором в работах [8-11]. Напомним лишь некоторые сведения об этом методе и об используемых в нем определениях.

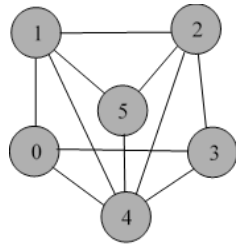
Проекция $P(v_j)$ графа $G(V, E)$ представляет собой многоуровневую конструкцию, на нулевом уровне которой расположена вершина $v_j \in V$, выбранная в качестве ракурсной; порожденное ею подмножество вершин первого уровня $V_{1j} \subset V$ содержит все вершины ее окружения $\mathcal{N}(v_j) \setminus v_j$ без порождающей его вершины v_j , а i -й уровень ($i \geq 1$) представляет собой совокупность подмножеств вершин, каждое из которых порождено вершиной $(i-1)$ -го уровня и является окружением этой вершины без вершин, предшествующих ей в данной проекции. [12; с. 246]

Проекция $P(v_j)$ графа $G(V, E)$ является *полной*, если ею определены все вершины и все ребра (отношения смежности) этого графа [12; с. 247].

Если в проекции графа одна и та же вершина встречается m раз, то ее экземпляр, расположенный первым слева на низшем уровне проекции, считаем *оригинальным*. Остальные $(m-1)$ ее копии называем реплицированными, или *репликами (replica)*. [13, с. 22]

Граф называют полным, если любая пара вершин полного графа смежна. Вытекающее из этого определения основное свойство проекций полного графа состоит в том, что порожденное любой вершиной 1-го уровня подмножество вершин 2-го уровня любой проекции, включает в себя все вершины этого же уровня (за исключением порождающей) и, таким образом, любая 2-уровневая проекция полного графа является полной.

Тогда для выявления клик в графе, содержащих в составе некоторую вершину, достаточно построить 2-уровневую его проекцию с ракурсом из этой вершины и удалить из каждого порожденного на 2-м уровне подмножеств те вершины, которые отсутствуют на 1-м уровне. Продемонстрируем это на примере простого графа, изображенного на рис. 1 вместе с его 2-уровневыми проекциями:



$$\begin{aligned}
 P(0) &= 0^{(1^{(2,4,5)}, 3^{(2,4)}, 4^{(1,2,3,5)})}, \\
 P(1) &= 1^{(0^{(3,4)}, 2^{(3,4,5)}, 4^{(0,2,3,5)}, 5^{(2,4)})}, \\
 P(2) &= 2^{(1^{(0,4,5)}, 3^{(0,4)}, 4^{(0,1,3,5)}, 5^{(1,4)})}, \\
 P(3) &= 3^{(0^{(2,4,5)}, 2^{(1,4)}, 4^{(0,1,2,5)})}, \\
 P(4) &= 4^{(0^{(1,3)}, 1^{(0,2,5)}, 2^{(1,3,5)}, 3^{(0,2)}, 5^{(1,2)})}, \\
 P(5) &= 5^{(1^{(0,2,4)}, 2^{(1,3,4)}, 4^{(0,1,2,3)})}.
 \end{aligned}$$

Рисунок 1 - Граф 1 и его проекции

Далее используем следующие обозначения: $P(v_j)$ – проекция рассматриваемого графа $G(V, E)$ с ракурсной вершиной $v_j \in V$; $\{P(v_j)\}$ и $|P(v_j)|$ – множество и число таких проекций, соответственно.

$V_1(v_j)$ и $V_2(v_j)$ – множества вершин 1-го и 2-го уровней в проекции $P(v_j)$; $V_1(v_j)$ есть подмножество вершин, порожденное ракурсной вершиной v_j : $V_1(v_j) = \{u_i | u_i \in \mathcal{N}(v_j)\}$, а $V_2(v_j)$ – множество, объединяющее подмножества вершин $U(u_i)$, порожденные вершинами 1-го уровня: $V_2(v_j) = \cup\{U_i | U_i = \{\mathcal{N}(u_i) \setminus v_j\}\}$.

Понятно, что в полном графе $V_1(v_j) = V_2(v_j)$ и любое подмножество U_i вершин, порожденное на втором уровне любой проекции, содержит все вершины V такого графа без ракурсной и без порождающей это подмножество U_i вершины 1-го уровня: $U_i = V \setminus v_j \setminus u_i$. Соответственно, в полном графе равны и мощности этих подмножеств: $\forall u_i \in V_1 m(u_i) = |U_i| = |V| - 2 = m$, $n_1 = |V_1| = m + 1 = |V| - 1$, $m = n_1 - 1$, или $V = n_1 + 1 = m + 2$.

Естественно, все вышесказанное справедливо не только для полного графа, но и для клик любого графа, поэтому для выявления клик достаточно построить 2-уровневые проекции исследуемого графа и исключить из этих проекций вершины, не соответствующие свойствам проекций полного подграфа.

Таким образом, если на внешнем уровне какой-либо из множества $\{P(v_j)\}$ 2-уровневых проекций рассматриваемого графа существует максимальное по числу вершин подмножество $M(v_j)$ мощностью $m(v_j) = |M(v_j)| = \max_{1 \leq i \leq n_1} |U_i|$,

то для существования клики порядка $m(v_j) + 2$ с входящей в ее состав ракурсной вершиной рассматриваемой проекции на уровне 2 должно находиться не менее, чем $m(v_j) + 1$ подмножеств мощности $m(v_j)$, – это же относится и к числу порождающих эти подмножества вершин 1-го уровня.

Продemonстрируем это на конкретном примере приведенных на рис. 1 графа и его проекций. Первый уровень проекции $P(0)$ содержит 3 вершины: $V_1(0) = \{1, 3, 4\}$. Это означает, что порядок максимальной клики $K(G)$,

содержащей в своем составе вершину 0, не может быть большим четырех ($|K(G)| \leq 3 + 1$). Учитывая, что подмножества вершин 2-го уровня не могут включать в себя вершины, не входящие в $V_1(0)$, из проекции таковые исключаем, оставив в подмножествах 2-го уровня только вершины 1-го уровня:

$$P(0) = 0^{(1^{(4)}, 3^{(4)}, 4^{(1,3)})}.$$

Максимальное подмножество 2-го уровня – $M(0) = (1, 3)$ единственно и содержит всего две ($m(0) = |M(0)| = 2$) вершины, и если бы такое подмножество было не одно, а столько же, сколько и вершин 1-го уровня – $n_1(0) = 3$, то мы могли бы рассмотреть возможность существования клики порядка 4. Однако, подмножество мощности $m(0) = 2$ всего одно, поэтому максимальная клика не может иметь здесь порядок, больший трех. Выявить такие клики (их вершины выделены здесь жирным шрифтом) не представляет сложности:

$$P(0) = \mathbf{0}^{(1^{(4)}, 3^{(4)}, 4^{(1,3)})}, \text{ клика } (0, 1, 4),$$

$$P(0) = \mathbf{0}^{(1^{(4)}, 3^{(4)}, 4^{(1,3)})}, \text{ клика } (0, 3, 4).$$

Но так как нас интересует не любая, а наибольшая максимальная клика, то те же действия, что и для $P(0)$ произведем для остальных пяти проекций графа:

$$P(1) = 1^{(0^{(4)}, 2^{(4,5)}, 4^{(0,2,5)}, 5^{(2,4)})},$$

$$P(2) = 2^{(1^{(4,5)}, 3^{(4)}, 4^{(1,3,5)}, 5^{(1,4)})},$$

$$P(3) = 3^{(0^{(2,4)}, 2^{(4)}, 4^{(0,2)})},$$

$$P(4) = 4^{(0^{(1,3)}, 1^{(0,2,5)}, 2^{(1,3,5)}, 3^{(0,2)}, 5^{(1,2)})},$$

$$P(5) = 5^{(1^{(2,4)}, 2^{(1,4)}, 4^{(1,2)})}.$$

Как видим, проекция $P(3)$ также, как и $P(0)$ не соответствует требованию большего, чем 3, порядка клики ($m(3) > 2$), поэтому рассматриваем и корректируем остальные 4 проекции, исключив из подмножеств этих проекций вершины 0 и 3 (выше мы выяснили, что эти вершины не могут быть в составе клик с порядком, большим трех):

$$P(1) = 1^{(2^{(4,5)}, 4^{(2,5)}, 5^{(2,4)})},$$

$$P(2) = 2^{(1^{(4,5)}, 4^{(1,5)}, 5^{(1,4)})},$$

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

$$P(4) = 4^{(1^{(2,5)}, 2^{(1,5)}, 5^{(1,2)})},$$

$$P(5) = 5^{(1^{(2,4)}, 2^{(1,4)}, 4^{(1,2)})}.$$

В каждой из полученных здесь проекций подмножества, образуемые любой вершиной 1-го уровня и порожденными ею вершинами 2-го уровня, совпадают, и наибольшая клика в рассматриваемом графе состоит из четырех вершин (1,2,4,5). Далее дадим описание соответствующего алгоритма.

Алгоритм выявления наибольшей клики

Итак, для выявления наибольшей клики в графе $G(V, E)$ производим следующую последовательность действий:

1. Строим множество $\{P(v_j), v_j \in V\}$ из $n = |V|$ двухуровневых проекций. В каждой из этих проекций $V_1(v_j) = \{u_i | u_i \in \mathcal{N}(v_j)\}$, $U_i = \{\mathcal{N}(u_i) \setminus v_j\}$;

2. Вторые уровни проекций этого множества $\{P(v_j), v_j \in V\}$ корректируем, оставив в каждом из порожденных на них подмножеств только реплики вершин 1-го уровня и получив, таким образом, множество $\{P'(v_j), v_j \in V\}$ проекций $P'(v_j)$, в которых множество вершин 1-го уровня остается прежним $V_1'(v_j) = V_1(v_j) = \{u_i | u_i \in \mathcal{N}(v_j)\}$, а $U_i' = U_i \cap V_1(v_j)$. Соответственно, $V_2'(v_j) := V_2(v_j) \cap V_1(v_j)$.

3. В каждой проекции $P'(v_j)$ определяем максимальную мощность $m(v_j)$ подмножеств 2-го уровня и выбираем наибольшее из них значение $m := \max_{1 \leq j \leq n} m(v_j)$.

При $m = 0$, т.е. все подмножества 2-го уровня каждой проекции из $\{P'(v_i)\}$ пусты, порядок наибольшей клики равен двум, и кликой является любая пара смежных в рассматриваемом графе вершин, и в этом случае Алгоритм может быть завершен. При $m > 0$ переходим к выполнению п. 4;

4. Формируем множество проекций $\{P''(v_i)\}$, удаляя из проекций $\{P'(v_i)\}$ подмножества 2-го уровня, мощности которых меньше m , удаляем из $\{P''(v_i)\}$ вершины 1-го уровня, порождающие эти подмножества.

В проекциях из получившегося таким образом множества $\{P''(v_i)\}$ оставляем только ракурсные вершины входящих в $\{P''(v_i)\}$ проекций и корректируем текущее значение m .

Отметим, что в принципе, алгоритм может также использоваться для получения всех клик заданного порядка k , для этого переменной m следует присвоить значение $m := k - 2$.

Продemonстрируем формальное применение алгоритма на том же примере графа 1 (рис.1):

1. Множество $\{P(v_j), v_j \in V\}$ всех $n = |V| = 6$ двухуровневых проекций рассматриваемого графа уже приведено на рис. 1.

2. Корректируем вторые уровни оставив на них только реплики вершин 1-го уровня:

$$P'(0) = 0^{(1^{(4)}, 3^{(4)}, 4^{(1,3)})},$$

$$P'(1) = 1^{(0^{(4)}, 2^{(4,5)}, 4^{(0,2,5)}, 5^{(2,4)})},$$

$$P'(2) = 2^{(1^{(4,5)}, 3^{(4)}, 4^{(1,3,5)}, 5^{(1,4)})},$$

$$P'(3) = 3^{(0^{(2,4)}, 2^{(4)}, 4^{(0,2)})},$$

$$P'(4) = 4^{(0^{(1,3)}, 1^{(0,2,5)}, 2^{(1,3,5)}, 3^{(0,2)}, 5^{(1,2)})},$$

$$P'(5) = 5^{(1^{(2,4)}, 2^{(1,4)}, 4^{(1,2)})}.$$

3. $m = \max_{0 \leq j \leq 5} m(v_j) = 3$.

4. Из множества $\{P'(v_j)\}$ исключаем подмножества с $m(v_j) < 3$ и оставляем в этих подмножествах только реплики вершин 1-го уровня. Получаем проекции $P''(v_j)$ множества $\{P''(v_j)\}$:

$$P''(1) = 1^{(4^0)},$$

$$P''(2) = 2^{(4^0)},$$

$$P''(4) = 4^{(1^{(2)}, 2^{(1)})},$$

Как видим, проекция $P''(4)$ задает 3-клику $K_3(G) = (1,2,4)$, и это не соответствует нашим ожиданиям получения клики из пяти (при $m = 3$) вершин.

5. Так как полученный в п. 4 результат хуже ожидаемого $(|K_3(G)| = 3) < (m + 2 = 5)$, уменьшаем разрешенное значение максимальной мощности подмножеств 2-го уровня до следующего по убыванию значения $m := 2$ и возвращаемся к п. 4:

4.1. Исключив из множества $\{P'(v_j)\}$ проекции с $m(v_j) < 2$, получим $\{P''(v_j)\}$:

$$P''(1) = 1^{(2^{(4,5)}, 4^{(2,5)}, 5^{(2,4)})},$$

$$P''(2) = 2^{(1^{(4,5)}, 4^{(1,5)}, 5^{(1,4)})},$$

$$P''(4) = 4^{(0^{(1,3)}, 1^{(0,2,5)}, 2^{(1,3,5)}, 3^{(0,2)}, 5^{(1,2)})},$$

$$P''(5) = 5^{(1^{(2,4)}, 2^{(1,4)}, 4^{(1,2)})}.$$

Из этих проекций удаляем вершины 0, 3 (оставляем в проекциях только вершины 1, 2, 4, 5 – ракурсные вершины проекций из $\{P''(v_j)\}$):

$$P''(1) = 1^{(2^{(4,5)}, 4^{(2,5)}, 5^{(2,4)})},$$

$$P''(2) = 2^{(1^{(4,5)}, 4^{(1,5)}, 5^{(1,4)})},$$

$$P''(4) = 4^{(1^{(2,5)}, 2^{(1,5)}, 5^{(1,2)})},$$

$$P''(5) = 5^{(1^{(2,4)}, 2^{(1,4)}, 4^{(1,2)})}.$$

Таким образом, для $m = 2$ получили: $|P''(v_j)| = m + 2 = 4$, $n_1 = m + 1 = 3$, $V(1) = V(2) = V(3) = V(4) = (1,2,4,5)$ и $K_{max}(G) = K_4(G) = (1,2,4,5)$.

Топологическая масштабируемость ВС

Понятие топологической масштабируемости параллельных систем и задач неразрывно связано с проблемой оптимального вложения задачи в систему.

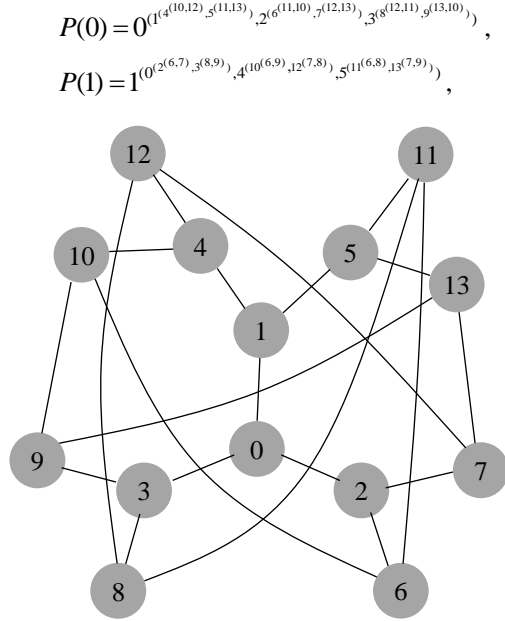


Рисунок 2. Граф 2 и множество $\{P(v_j)\}$ его полных 3-уровневых проекций.

Это понятие впервые введено в [3, с. 132], где представлено решение проблемы вложения в постановке, основанной на замене отношений смежности вершин графа ВС отношениями их достижимости; при этом вершины считаются достижимыми, если расстояние между ними не превышает порогового для рассматриваемой задачи значения достижимости ∂ [14, с. 213; 15, с. 123].

Максимальное по включению подмножество вершин, связанных между собой отношением ∂ -достижимости, порождает клику $K(G_\partial)$ соответствующего графа G_∂ , иначе — ∂ -клику $K_\partial(G)$ графа G системы. Подобно плотности $\varphi(G)$ графа G , определяемой порядком его наибольшей клики [16, с. 21], порядок наибольшей из максимальных ∂ -клик графа $G(V, E)$ назван плотностью $\varphi(G_\partial)$ графа ∂ -достижимости, или ∂ -плотностью $\varphi_\partial(G)$ графа $G(V, E)$: $\varphi(G_\partial) \equiv \varphi_\partial(G)$.

Порядок n_∂ наибольшей в графе ВС ∂ -клики $K_\partial(G)$, все вершины которой взаимно ∂ -достижимы по определению, есть ∂ -плотность $\varphi_\partial(G) \equiv n(K_\partial(G))$ этого графа, он ограничивает сверху параллелизм (число ветвей) для информационно-полносвязных задач. Поэтому функция масштабируемости ВС $\mu_\partial(G)$ определена в [3, с. 138] для присущих графу G достижимостей $1 \leq \partial \leq d(G)$ от единичного значения до диаметра $d(G)$, и измеряется нормированной масштабируемым порядком $n(G)$ плотностью $\varphi_\partial(G)$: $\mu_\partial(G) = \varphi_\partial(G)/n(G)$.

Итак, чтобы оценить топологическую масштабируемость системы, необходимо

$$\begin{aligned}
 P(0) &= 0^{(1^{(4^{(10,12)}, 5^{(11,13)}), 2^{(6^{(11,10)}, 7^{(12,13)}), 3^{(8^{(12,11)}, 9^{(13,10)})})}, \\
 P(1) &= 1^{(0^{(2^{(6,7)}, 3^{(8,9)}), 4^{(10^{(6,9)}, 12^{(7,8)}), 5^{(11^{(6,8)}, 13^{(7,9)})})}, \\
 P(2) &= 2^{(0^{(1^{(4,5)}, 3^{(8,9)}), 6^{(11^{(5,8)}, 10^{(4,9)}), 7^{(12^{(8,4)}, 13^{(9,5)})})}, \\
 P(3) &= 3^{(0^{(1^{(4,5)}, 2^{(6,7)}), 8^{(12^{(7,4)}, 11^{(6,5)}), 9^{(13^{(7,5)}, 10^{(6,4)})})}, \\
 P(4) &= 4^{(1^{(0^{(2,3)}, 5^{(11,13)}), 10^{(6^{(2,11)}, 9^{(3,13)}), 12^{(7^{(2,13)}, 8^{(3,11)})})}, \\
 P(5) &= 5^{(1^{(0^{(2,3)}, 4^{(10,12)}), 11^{(6^{(2,10)}, 8^{(3,12)}), 13^{(7^{(2,12)}, 9^{(3,10)})})}, \\
 P(6) &= 6^{(2^{(0^{(1,3)}, 7^{(12,13)}), 11^{(5^{(1,13)}, 8^{(3,12)}), 10^{(4^{(1,12)}, 9^{(3,13)})})}, \\
 P(7) &= 7^{(2^{(0^{(1,3)}, 6^{(11,10)}), 12^{(4^{(1,10)}, 8^{(3,11)}), 13^{(9^{(3,10)}, 5^{(1,11)})})}, \\
 P(8) &= 8^{(3^{(0^{(1,2)}, 9^{(13,10)}), 12^{(7^{(2,13)}, 4^{(1,10)}), 11^{(5^{(1,13)}, 6^{(2,10)})})}, \\
 P(9) &= 9^{(3^{(0^{(1,2)}, 8^{(12,11)}), 13^{(7^{(2,12)}, 5^{(1,11)}), 10^{(4^{(1,12)}, 6^{(2,11)})})}, \\
 P(10) &= 10^{(4^{(1^{(0,5)}, 12^{(7,8)}), 6^{(2^{(0,7)}, 11^{(5,8)}), 9^{(3^{(0,8)}, 13^{(7,5)})})}, \\
 P(11) &= 11^{(6^{(2^{(0,7)}, 10^{(4,9)}), 5^{(1^{(0,4)}, 13^{(7,9)}), 8^{(3^{(0,9)}, 12^{(4,7)})})}, \\
 P(12) &= 12^{(7^{(2^{(0,6)}, 13^{(9,5)}), 8^{(3^{(0,9)}, 11^{(5,6)}), 4^{(1^{(0,5)}, 10^{(6,9)})})}, \\
 P(13) &= 13^{(9^{(3^{(0,8)}, 10^{(4,6)}), 7^{(2^{(0,6)}, 12^{(8,4)}), 5^{(1^{(0,4)}, 11^{(6,8)})})}.
 \end{aligned}$$

определить соответствующую заданному значению достижимости ∂ плотность $\varphi_\partial(G)$ графа G , что мы и продемонстрируем далее на примере, более сложном, чем рассмотренный ранее граф 1, на графе 2, представленном ниже на рис. 2 с множеством его полных проекций.

1. Для выявления максимальных клик при $\partial = 1$ преобразуем проекции $\{P(v_j)\}$ в 2-уровневые:

$$\begin{aligned}
 P(0) &= 0^{(1^{(4,5)}, 2^{(6,7)}, 3^{(8,9)})}, & P(1) &= 1^{(0^{(2,3)}, 4^{(10,12)}, 5^{(11,13)})}, \\
 P(2) &= 2^{(0^{(1,3)}, 6^{(11,10)}, 7^{(12,13)})}, & P(3) &= 3^{(0^{(1,2)}, 8^{(12,11)}, 9^{(13,10)})}, \\
 P(4) &= 4^{(1^{(0,5)}, 10^{(6,9)}, 12^{(7,8)})}, & P(5) &= 5^{(1^{(0,4)}, 11^{(6,8)}, 13^{(7,9)})}, \\
 P(6) &= 6^{(2^{(0,7)}, 11^{(5,8)}, 10^{(4,9)})}, & P(7) &= 7^{(2^{(0,6)}, 12^{(4,8)}, 13^{(9,5)})}, \\
 P(8) &= 8^{(3^{(0,9)}, 12^{(7,4)}, 11^{(5,6)})}, & P(9) &= 9^{(3^{(0,8)}, 13^{(7,5)}, 10^{(4,6)})}, \\
 P(10) &= 10^{(4^{(1,12)}, 6^{(2,11)}, 9^{(3,13)})}, & P(11) &= 11^{(6^{(2,10)}, 5^{(1,13)}, 8^{(3,12)})}, \\
 P(12) &= 12^{(7^{(2,13)}, 8^{(3,11)}, 4^{(1,10)})}, & P(13) &= 13^{(9^{(3,10)}, 7^{(2,12)}, 5^{(1,11)})}.
 \end{aligned}$$

2. Как видим, вершины 2-го уровня любой из полученных в п. 1 проекций не имеют пересечений с вершинами 1-го уровня, поэтому все подмножества порожденных на вторых уровнях вершин — пусты:

$$\begin{aligned}
 P'(0) &= 0^{(1^0, 2^0, 3^0)}, & P'(1) &= 1^{(0^0, 4^0, 5^0)}, \\
 P'(2) &= 2^{(0^0, 6^0, 7^0)}, & P'(3) &= 3^{(0^0, 8^0, 9^0)}, \\
 P'(4) &= 4^{(1^0, 10^0, 12^0)}, & P'(5) &= 5^{(1^0, 11^0, 13^0)}, \\
 P'(6) &= 6^{(2^0, 11^0, 10^0)}, & P'(7) &= 7^{(2^0, 12^0, 13^0)}, \\
 P'(8) &= 8^{(3^0, 12^0, 11^0)}, & P'(9) &= 9^{(3^0, 13^0, 10^0)}, \\
 P'(10) &= 10^{(4^0, 6^0, 9^0)}, & P'(11) &= 11^{(6^0, 5^0, 8^0)}, \\
 P'(12) &= 12^{(7^0, 8^0, 4^0)}, & P'(13) &= 13^{(9^0, 7^0, 5^0)}.
 \end{aligned}$$

3. Получаем $m = \max m_2(P_2(v_i)) = 0$.

Таким образом, порядок наибольшей клики

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

$n(K_{max}(G) = m + 2 = 2$, $\varphi_{\partial=1}(G) = 2$ и кликами является любая пара смежных вершин нашего графа.

Соответственно, масштабируемость $\mu_1(G)$ рассматриваемого графа G при $\partial = 1$:

$$\mu_1(G) = \varphi_1(G)/n(G) = 2/14 = 0,143.$$

Чтобы определить плотность и масштабируемость графа для достижимости $\partial > 1$, модифицируем исходные проекции переместив в каждой проекции все вершины V_i уровней i ($1 < i \leq \partial + 1$) на 1-й уровень: $V_1 = \cup_{i=2}^{\partial+1} V_i$. Получив таким образом 1-уровневые проекции, фактически определяющие все отношения смежности в графе \mathbb{Z} -достижимости G_∂ , надстраиваем эти проекции до 2-го уровня, заменяя вершины 1-го уровня их одноуровневыми проекциями. Понятно, что эти проекции полнотой не обладают, но, как мы указывали выше, для выявления клик достаточно всего двух уровней. Далее, для большей наглядности, мы сразу же упорядочиваем подмножества вершин каждого уровня по возрастанию их номеров.

Итак, для достижимости $\partial = 2$ приведенные на рис. 2 проекции графа преобразуем вначале в 1-уровневые проекции 2-достижимости:

$$\begin{aligned} P(0) &= 0^{(1,2,3,4,5,6,7,8,9)}, & P(1) &= 1^{(0,2,3,4,5,10,11,12,13)}, \\ P(2) &= 2^{(0,1,3,6,7,10,11,12,13)}, & P(3) &= 3^{(0,1,2,8,9,10,11,12,13)}, \\ P(4) &= 4^{(0,1,5,6,7,8,9,10,12)}, & P(5) &= 5^{(0,1,4,6,7,8,9,11,13)}, \\ P(6) &= 6^{(0,2,4,5,7,8,9,10,11)}, & P(7) &= 7^{(0,2,4,5,6,8,9,12,13)}, \\ P(8) &= 8^{(0,3,4,5,6,7,9,11,12)}, & P(9) &= 9^{(0,3,4,5,6,7,8,10,13)}, \\ P(10) &= 10^{(1,2,3,4,6,9,11,12,13)}, & P(11) &= 11^{(1,2,3,5,6,8,10,12,13)}, \\ P(12) &= 12^{(1,2,3,4,7,8,10,11,13)}, & P(13) &= 13^{(1,2,3,5,7,9,10,11,12)}. \end{aligned}$$

Затем переходим к выполнению, собственно, Алгоритма:

1. Преобразуем эти проекции в 2-уровневые, заменяя вершины 1-го уровня их 1-уровневыми проекциями:

$$\begin{aligned} P(0) &= \begin{cases} 0^{(1^{(2,3,4,5,10,11,12,13)}, 2^{(1,3,6,7,10,11,12,13)}, 3^{(1,2,8,9,10,11,12,13)})}, \\ 0^{(4^{(1,5,6,7,8,9,10,12)}, 5^{(1,4,6,7,8,9,11,13)}, 6^{(2,4,5,7,8,9,10,11)})}, \\ 0^{(7^{(2,4,5,6,8,9,12,13)}, 8^{(3,4,5,6,7,9,11,12)}, 9^{(3,4,5,6,7,8,10,13)})}. \end{cases} \\ P(1) &= \begin{cases} 1^{(0^{(2,3,4,5,6,7,8,9)}, 2^{(0,3,6,7,10,11,12,13)}, 3^{(0,2,8,9,10,11,12,13)})}, \\ 1^{(4^{(0,5,6,7,8,9,10,12)}, 5^{(0,4,6,7,8,9,11,13)}, 10^{(2,3,4,6,9,11,12,13)})}, \\ 1^{(11^{(2,3,5,6,8,10,12,13)}, 12^{(2,3,4,7,8,10,11,13)}, 13^{(2,3,5,7,9,10,11,12)})}. \end{cases} \\ P(2) &= \begin{cases} 2^{(0^{(1,3,4,5,6,7,8,9)}, 1^{(0,3,4,5,10,11,12,13)}, 3^{(0,1,8,9,10,11,12,13)})}, \\ 2^{(6^{(0,4,5,7,8,9,10,11)}, 7^{(0,4,5,6,8,9,12,13)}, 10^{(1,3,4,6,9,11,12,13)})}, \\ 2^{(11^{(1,3,5,6,8,10,12,13)}, 12^{(1,3,4,7,8,10,11,13)}, 13^{(1,3,5,7,9,10,11,12)})}. \end{cases} \\ P(3) &= \begin{cases} 3^{(0^{(1,2,4,5,6,7,8,9)}, 1^{(0,2,4,5,10,11,12,13)}, 2^{(0,1,6,7,10,11,12,13)})}, \\ 3^{(8^{(0,4,5,6,7,9,11,12)}, 9^{(0,4,5,6,7,8,10,13)}, 10^{(1,2,4,6,9,11,12,13)})}, \\ 3^{(11^{(1,2,5,6,8,10,12,13)}, 12^{(1,2,4,7,8,10,11,13)}, 13^{(1,2,5,7,9,10,11,12)})}. \end{cases} \end{aligned}$$

$$P(4) = \begin{cases} 4^{(0^{(1,2,3,5,6,7,8,9)}, 1^{(0,2,3,5,10,11,12,13)}, 5^{(0,1,6,7,8,9,11,13)})}, \\ 4^{(6^{(0,2,5,7,8,9,10,11)}, 7^{(0,2,5,6,8,9,12,13)}, 8^{(0,3,5,6,7,9,11,12)})}, \\ 4^{(9^{(0,3,5,6,7,8,10,13)}, 10^{(1,2,3,6,9,11,12,13)}, 12^{(1,2,3,7,8,10,11,13)})}. \end{cases}$$

$$P(5) = \begin{cases} 5^{(0^{(1,2,3,4,6,7,8,9)}, 1^{(0,2,3,4,10,11,12,13)}, 4^{(0,1,6,7,8,9,10,12)})}, \\ 5^{(6^{(0,2,4,7,8,9,10,11)}, 7^{(0,2,4,6,8,9,12,13)}, 8^{(0,3,4,6,7,9,11,12)})}, \\ 5^{(9^{(0,3,4,6,7,8,10,13)}, 11^{(1,2,3,6,8,10,12,13)}, 13^{(1,2,3,7,9,10,11,12)})}. \end{cases}$$

$$P(6) = \begin{cases} 6^{(0^{(1,2,3,4,5,7,8,9)}, 2^{(0,1,3,7,10,11,12,13)}, 4^{(0,1,5,7,8,9,10,12)})}, \\ 6^{(5^{(0,1,4,7,8,9,11,13)}, 7^{(0,2,4,5,8,9,12,13)}, 8^{(0,3,4,5,7,9,11,12)})}, \\ 6^{(9^{(0,3,4,5,7,8,10,13)}, 10^{(1,2,3,4,9,11,12,13)}, 11^{(1,2,3,5,8,10,12,13)})}. \end{cases}$$

$$P(7) = \begin{cases} 7^{(0^{(1,2,3,4,5,6,8,9)}, 2^{(0,1,3,6,10,11,12,13)}, 4^{(0,1,5,6,8,9,10,12)})}, \\ 7^{(5^{(0,1,4,6,8,9,11,13)}, 6^{(0,2,4,5,8,9,10,11)}, 8^{(0,3,4,5,6,9,11,12)})}, \\ 7^{(9^{(0,3,4,5,6,8,10,13)}, 12^{(1,2,3,4,8,10,11,13)}, 13^{(1,2,3,5,9,10,11,12)})}. \end{cases}$$

$$P(8) = \begin{cases} 8^{(0^{(1,2,3,4,5,6,7,9)}, 3^{(0,1,2,9,10,11,12,13)}, 4^{(0,1,5,6,7,9,10,12)})}, \\ 8^{(5^{(0,1,4,6,7,9,11,13)}, 6^{(0,2,4,5,7,9,10,11)}, 7^{(0,2,4,5,6,9,12,13)})}, \\ 8^{(9^{(0,3,4,5,6,7,10,13)}, 11^{(1,2,3,5,6,10,12,13)}, 12^{(1,2,3,4,7,10,11,13)})}. \end{cases}$$

$$P(9) = \begin{cases} 9^{(0^{(1,2,3,4,5,6,7,8)}, 3^{(0,1,2,8,10,11,12,13)}, 4^{(0,1,5,6,7,8,10,12)})}, \\ 9^{(5^{(0,1,4,6,7,8,11,13)}, 6^{(0,2,4,5,7,8,10,11)}, 7^{(0,2,4,5,6,8,12,13)})}, \\ 9^{(8^{(0,3,4,5,6,7,11,12)}, 10^{(1,2,3,4,6,11,12,13)}, 13^{(1,2,3,5,7,10,11,12)})}. \end{cases}$$

$$P(10) = \begin{cases} 10^{(1^{(0,2,3,4,5,11,12,13)}, 2^{(0,1,3,6,7,11,12,13)}, 3^{(0,1,2,8,9,11,12,13)})}, \\ 10^{(4^{(0,1,5,6,7,8,9,12)}, 6^{(0,2,4,5,7,8,9,11)}, 9^{(0,3,4,5,6,7,8,13)})}, \\ 10^{(11^{(1,2,3,5,6,8,12,13)}, 12^{(1,2,3,4,7,8,11,13)}, 13^{(1,2,3,5,7,9,11,12)})}. \end{cases}$$

$$P(11) = \begin{cases} 11^{(1^{(0,2,3,4,5,10,12,13)}, 2^{(0,1,3,6,7,10,12,13)}, 3^{(0,1,2,8,9,10,12,13)})}, \\ 11^{(5^{(0,1,4,6,7,8,9,13)}, 6^{(0,2,4,5,7,8,9,10)}, 8^{(0,3,4,5,6,7,9,12)})}, \\ 11^{(10^{(1,2,3,4,6,9,12,13)}, 12^{(1,2,3,4,7,8,10,13)}, 13^{(1,2,3,5,7,9,10,12)})}. \end{cases}$$

$$P(12) = \begin{cases} 12^{(1^{(0,2,3,4,5,10,11,13)}, 2^{(0,1,3,6,7,10,11,13)}, 3^{(0,1,2,8,9,10,11,13)})}, \\ 12^{(4^{(0,1,5,6,7,8,9,10)}, 7^{(0,2,4,5,6,8,9,13)}, 8^{(0,3,4,5,6,7,9,11)})}, \\ 12^{(10^{(1,2,3,4,6,9,11,13)}, 11^{(1,2,3,5,6,8,10,13)}, 13^{(1,2,3,5,7,9,10,11)})}. \end{cases}$$

$$P(13) = \begin{cases} 13^{(1^{(0,2,3,4,5,10,11,12)}, 2^{(0,1,3,6,7,10,11,12)}, 3^{(0,1,2,8,9,10,11,12)})}, \\ 13^{(5^{(0,1,4,6,7,8,9,11)}, 7^{(0,2,4,5,6,8,9,12)}, 9^{(0,3,4,5,6,7,8,10)})}, \\ 13^{(10^{(1,2,3,4,6,9,11,12)}, 11^{(1,2,3,5,6,8,10,12)}, 12^{(1,2,3,4,7,8,10,11)})}. \end{cases}$$

2. Из множества проекций $\{P(v_j)\}$ получим $\{P'(v_j)\}$:

$$P'(0) = \begin{cases} 0^{(1^{(2,3,4,5)}, 2^{(1,3,6,7)}, 3^{(1,2,8,9)})}, \\ 0^{(4^{(1,5,6,7,8,9)}, 5^{(1,4,6,7,8,9)}, 6^{(2,4,5,7,8,9)})}, \\ 0^{(7^{(2,4,5,6,8,9)}, 8^{(3,4,5,6,7,9)}, 9^{(3,4,5,6,7,8)})}. \end{cases}$$

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИИ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

$$P'(1) = \begin{cases} 1^{(0(2,3,4,5), 2(0,3,10,11,12,13), 3(0,2,10,11,12,13),)}, \\ 1^{(4(0,5,10,12), 5(0,4,11,13), 10(2,3,4,11,12,13),)}, \\ 1^{(11(2,3,5,10,12,13), 12(2,3,4,10,11,13), 13(2,3,5,10,11,12),)}. \end{cases}$$

$$P'(2) = \begin{cases} 2^{(0(1,3,6,7), 1(0,3,10,11,12,13), 3(0,1,10,11,12,13),)}, \\ 2^{(6(0,7,10,11), 7(0,6,12,13), 10(1,3,6,11,12,13),)}, \\ 2^{(11(1,3,6,10,12,13), 12(1,3,7,10,11,13), 13(1,3,7,10,11,12),)}. \end{cases}$$

$$P'(3) = \begin{cases} 3^{(0(1,2,8,9), 1(0,2,10,11,12,13), 2(0,1,10,11,12,13),)}, \\ 3^{(8(0,9,11,12), 9(0,8,10,13), 10(1,2,9,11,12,13),)}, \\ 3^{(11(1,2,8,10,12,13), 12(1,2,8,10,11,13), 13(1,2,9,10,11,12),)}. \end{cases}$$

$$P'(4) = \begin{cases} 4^{(0(1,5,6,7,8,9), 1(0,5,10,12), 5(0,1,6,7,8,9),)}, \\ 4^{(6(0,5,7,8,9,10), 7(0,5,6,8,9,12), 8(0,5,6,7,9,12),)}, \\ 4^{(9(0,5,6,7,8,10), 10(1,6,9,12), 12(1,7,8,10),)}. \end{cases}$$

$$P'(5) = \begin{cases} 5^{(0(1,4,6,7,8,9), 1(0,4,11,13), 4(0,1,6,7,8,9),)}, \\ 5^{(6(0,4,7,8,9,11), 7(0,4,6,8,9,13), 8(0,4,6,7,9,11),)}, \\ 5^{(9(0,4,6,7,8,13), 11(1,6,8,13), 13(1,7,9,11),)}. \end{cases}$$

$$P'(6) = \begin{cases} 6^{(0(2,4,5,7,8,9), 2(0,7,10,11), 4(0,5,7,8,9,10),)}, \\ 6^{(5(0,4,7,8,9,11), 7(0,2,4,5,8,9), 8(0,4,5,7,9,11),)}, \\ 6^{(9(0,4,5,7,8,10), 10(2,4,9,11), 11(2,5,8,10),)}. \end{cases}$$

$$P'(7) = \begin{cases} 7^{(0(2,4,5,6,8,9), 2(0,6,12,13), 4(0,5,6,8,9,12),)}, \\ 7^{(5(0,4,6,8,9,13), 6(0,2,4,5,8,9), 8(0,4,5,6,9,12),)}, \\ 7^{(9(0,4,5,6,8,13), 12(2,4,8,13), 13(2,5,9,12),)}. \end{cases}$$

$$P'(8) = \begin{cases} 8^{(0(3,4,5,6,7,9), 3(0,9,11,12), 4(0,5,6,7,9,12),)}, \\ 8^{(5(0,4,6,7,9,11), 6(0,4,5,7,9,11), 7(0,4,5,6,9,12),)}, \\ 8^{(9(0,3,4,5,6,7), 11(3,5,6,12), 12(3,4,7,11),)}. \end{cases}$$

$$P'(9) = \begin{cases} 9^{(0(3,4,5,6,7,8), 3(0,8,10,13), 4(0,5,6,7,8,10),)}, \\ 9^{(5(0,4,6,7,8,13), 6(0,4,5,7,8,10), 7(0,4,5,6,8,13),)}, \\ 9^{(8(0,3,4,5,6,7), 10(3,4,6,13), 13(3,5,7,10),)}. \end{cases}$$

$$P'(10) = \begin{cases} 10^{(1(2,3,4,11,12,13), 2(1,3,6,11,12,13), 3(1,2,9,11,12,13),)}, \\ 10^{(4(1,6,9,12), 6(2,4,9,11), 9(3,4,6,13),)}, \\ 10^{(11(1,2,3,6,12,13), 12(1,2,3,4,11,13), 13(1,2,3,9,11,12),)}. \end{cases}$$

$$P'(11) = \begin{cases} 11^{(1(2,3,5,10,12,13), 2(1,3,6,10,12,13), 3(1,2,8,10,12,13),)}, \\ 11^{(5(1,6,8,13), 6(2,5,8,10), 8(3,5,6,12),)}, \\ 11^{(10(1,2,3,6,12,13), 12(1,2,3,8,10,13), 13(1,2,3,5,10,12),)}. \end{cases}$$

$$P'(12) = \begin{cases} 12^{(1(2,3,4,10,11,13), 2(1,3,7,10,11,13), 3(1,2,8,10,11,13),)}, \\ 12^{(4(1,7,8,10), 7(2,4,8,13), 8(3,4,7,11),)}, \\ 12^{(10(1,2,3,4,11,13), 11(1,2,3,8,10,13), 13(1,2,3,7,10,11),)}. \end{cases}$$

$$P'(13) = \begin{cases} 13^{(1(2,3,5,10,11,12), 2(1,3,7,10,11,12), 3(1,2,9,10,11,12),)}, \\ 13^{(5(1,7,9,11), 7(2,5,9,12), 9(3,5,7,10),)}, \\ 13^{(10(1,2,3,9,11,12), 11(1,2,3,5,10,12), 12(1,2,3,7,10,11),)}. \end{cases}$$

3. $m := \max m(P'(v_j)) = 6$.

4.

$$P''(0) = \begin{cases} 0^{(4(5,6,7,8,9), 5(4,6,7,8,9), 6(4,5,7,8,9),)}, \\ 0^{(7(4,5,6,8,9), 8(4,5,6,7,9), 9(4,5,6,7,8),)}. \end{cases}$$

$$P''(1) = \begin{cases} 1^{(2(3,10,11,12,13), 3(2,10,11,12,13), 10(2,3,11,12,13),)}, \\ 1^{(11(2,3,10,12,13), 12(2,3,10,11,13), 13(2,3,10,11,12),)}. \end{cases}$$

$$P''(2) = \begin{cases} 2^{(1(3,10,11,12,13), 3(1,10,11,12,13), 10(1,3,11,12,13),)}, \\ 2^{(11(1,3,10,12,13), 12(1,3,10,11,13), 13(1,3,10,11,12),)}. \end{cases}$$

$$P''(3) = \begin{cases} 3^{(1(2,10,11,12,13), 2(1,10,11,12,13), 10(1,2,11,12,13),)}, \\ 3^{(11(1,2,10,12,13), 12(1,2,10,11,13), 13(1,2,10,11,12),)}. \end{cases}$$

$$P''(4) = \begin{cases} 4^{(0(5,6,7,8,9), 5(0,6,7,8,9), 6(0,5,7,8,9),)}, \\ 4^{(7(0,5,6,8,9), 8(0,5,6,7,9), 9(0,5,6,7,8),)}. \end{cases}$$

$$P''(5) = \begin{cases} 5^{(0(4,6,7,8,9), 4(0,6,7,8,9), 6(0,4,7,8,9),)}, \\ 5^{(7(0,4,6,8,9), 8(0,4,6,7,9), 9(0,4,6,7,8),)}. \end{cases}$$

$$P''(6) = \begin{cases} 6^{(0(4,5,7,8,9), 4(0,5,7,8,9), 5(0,4,7,8,9),)}, \\ 6^{(7(0,4,5,8,9), 8(0,4,5,7,9), 9(0,4,5,7,8),)}. \end{cases}$$

$$P''(7) = \begin{cases} 7^{(0(4,5,6,8,9), 4(0,5,6,8,9), 5(0,4,6,8,9),)}, \\ 7^{(6(0,4,5,8,9), 8(0,4,5,6,9), 9(0,4,5,6,8),)}. \end{cases}$$

$$P''(8) = \begin{cases} 8^{(0(4,5,6,7,9), 4(0,5,6,7,9), 5(0,4,6,7,9),)}, \\ 8^{(6(0,4,5,7,9), 7(0,4,5,6,9), 9(0,4,5,6,7),)}. \end{cases}$$

$$P''(9) = \begin{cases} 9^{(0(4,5,6,7,8), 4(0,5,6,7,8), 5(0,4,6,7,8),)}, \\ 9^{(6(0,4,5,7,8), 7(0,4,5,6,8), 8(0,4,5,6,7),)}. \end{cases}$$

$$P''(10) = \begin{cases} 10^{(1(2,3,11,12,13), 2(1,3,11,12,13), 3(1,2,11,12,13),)}, \\ 10^{(11(1,2,3,12,13), 12(1,2,3,11,13), 13(1,2,3,11,12),)}. \end{cases}$$

$$P''(11) = \begin{cases} 11^{(1(2,3,10,12,13), 2(1,3,10,12,13), 3(1,2,10,12,13),)}, \\ 11^{(10(1,2,3,12,13), 12(1,2,3,10,13), 13(1,2,3,10,12),)}. \end{cases}$$

$$P''(12) = \begin{cases} 12^{(1(2,3,10,11,13), 2(1,3,10,11,13), 3(1,2,10,11,13),)}, \\ 12^{(10(1,2,3,11,13), 11(1,2,3,10,13), 13(1,2,3,10,11),)}. \end{cases}$$

$$P''(13) = \begin{cases} 13^{(1(2,3,10,11,12), 2(1,3,10,11,12), 3(1,2,10,11,12),)}, \\ 13^{(10(1,2,3,11,12), 11(1,2,3,10,12), 12(1,2,3,10,11),)}. \end{cases}$$

Получили $m = 5, n_1 = 6, |K_{max}(G)| = 7$.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

$V(0) = V(4) = V(5) = V(6) = V(7) = V(8) = V(9) = (0,4,5,6,7,8,9) = K_1(G)$.

$V(1) = V(2) = V(3) = V(10) = V(11) = V(12) = V(13) = (1,2,3,10,11,12,13) = K_2(G)$.

Как видим, каждая из полученных проекций описывает 7-клик, и клик таких две: $(0,4,5,6,7,8,9)$ и $(1,2,3,10,11,12,13)$. Исходя из этого, определим масштабируемость рассмотренного здесь графа 2-достижимости:

$$\mu_2(G) = \varphi_2(G)/n(G) = 7/14 = 0,5.$$

Так как диаметр графа 2 (рис. 2) равен трем, то граф 3-достижимости полносвязен, поэтому

$$\varphi_3(G)/n(G) \text{ и } \mu_3(G) = 1.$$

Топологическая отказоустойчивость

Для исследования топологических аспектов устойчивости ВС к отказам кратности l в данной работе мы используем графы $\delta(k)$ -достижимости, в которых смежность вершин, в отличие от графов δ -достижимости, лимитирована не только допускаемым расстоянием δ между ними, но и числом $k = l + 1$ независимых путей с длиной, не превышающей этого расстояния [14, с. 239]. В этом смысле в работе [17, с. 101] Автором приведено не вполне адекватное определение графа $\delta(k)$ -достижимости $G_{\delta(k)}(G)$, как *надграфа графа $G(V, E)$* . На самом деле граф $\delta(k)$ -достижимости $G_{\delta(k)}(G)$ является *подграфом графа δ -достижимости $G_{\delta}(G)$* , в котором удалены ребра между вершинами $u, v, \in V$, если в исходном графе G существует менее k независимых путей с длиной, не превышающей значение заданной достижимости δ . Понятно, что число k таких путей (соединимость информационно смежных в подсистеме вершин подграфа системы) должно по меньшей мере превышать заданную кратность l отказов: $k \geq l + 1$. Тогда при удалении l каких-либо вершин из соответствующего выполняемой задаче подграфа ВС любые две из оставшихся в нем информационно смежных вершин гарантированно останутся соединенными путем с длиной, не превышающей предельной для этой задачи достижимости δ . О выполнении условия смежности вершин $u, v, \in V$ в графе $G_{\delta(k)}(G)$ можно судить по наличию не менее k реплик вершин u или v на \square уровнях соответствующих этим вершинам проекций $P(v)$ или $P(u)$ исходного графа G .

В данной работе мы ограничимся построением 2-уровневых проекций графа $\delta(k)$ -достижимости $G_{\delta(k)}(G)$ на примере исходного графа 2, приведенного вместе с его полными проекциями на рис. 2. Этого достаточно для выявления в таком графе наибольшей устойчивой к однократным отказам клики ($l = 1, k = 2$).

Как видим, и на первом и на втором уровнях исходных проекций реплики каких-либо вершин

отсутствуют, следовательно, графы $G_{\delta(2)}(G)$ и при $\delta = 1$, и при $\delta = 2$ представлены множествами изолированных вершин, поэтому исследование их устойчивости к отказам не имеет смысла. В связи с этим далее мы продемонстрируем исследование устойчивости заданной графом 2 топологии ВС к однократным ($l = 1, k = 2$) отказам и при достижимости $\delta = 3$.

Построение проекции графа $G_{3(2)}(G)$ покажем на примере проекции $P(0)$:

$$P(0) = 0^{(1^{(4^{(10,12)}, 5^{(11,13)}), 2^{(6^{(11,10)}, 7^{(12,13)}), 3^{(8^{(12,11)}, 9^{(13,10)})})})}.$$

Как видим, оригинал вершины 10 имеет две реплики (выделены жирным шрифтом), что даже превышает первоначально заданное значение допускаемой кратности $l = 1$. Отметим также, что все 3 пути из ракурсной вершины в вершину 10 и в ее реплики не имеют пересечений и, таким образом, являются независимыми: $(0,1,4,10)$, $(0,2,6,10)$ и $(0,3,9,10)$. То же самое можно отнести к вершинам 11, 12, 13 проекции $P(0)$. Тогда 1-уровневая проекция $P_{3(2)}(0)$ имеет вид:

$$P_{3(2)}(0) = 0^{(10,11,12,13)}.$$

Получив таким же образом остальные 1-уровневые проекции графа 3(2)-достижимости:

$$\begin{aligned} P_{3(2)}(0) &= 0^{(10,11,12,13)}, & P_{3(2)}(1) &= 1^{(6,7,8,9)}, \\ P_{3(2)}(2) &= 2^{(4,5,8,9)}, & P_{3(2)}(3) &= 3^{(4,5,6,7)}, \\ P_{3(2)}(4) &= 4^{(2,3,11,13)}, & P_{3(2)}(5) &= 5^{(2,3,10,12)}, \\ P_{3(2)}(6) &= 6^{(1,3,12,13)}, & P_{3(2)}(7) &= 7^{(1,3,10,11)}, \\ P_{3(2)}(8) &= 8^{(1,2,10,13)}, & P_{3(2)}(9) &= 9^{(1,2,11,12)}, \\ P_{3(2)}(10) &= 10^{(0,5,7,8)}, & P_{3(2)}(11) &= 11^{(0,4,7,9)}, \\ P_{3(2)}(12) &= 12^{(0,5,6,9)}, & P_{3(2)}(13) &= 13^{(0,4,6,8)}, \end{aligned}$$

преобразуем их в 2-уровневые, заменив вершины 1-го уровня их 1-уровневыми проекциями:

1.

$$\begin{aligned} P_{3(2)}(0) &= 0^{(10^{(5,7,8)}, 11^{(4,7,9)}, 12^{(5,6,9)}, 13^{(4,6,8)})}, \\ P_{3(2)}(1) &= 1^{(6^{(3,12,13)}, 7^{(3,10,11)}, 8^{(2,10,13)}, 9^{(2,11,12)})}, \\ P_{3(2)}(2) &= 2^{(4^{(3,11,13)}, 5^{(3,10,12)}, 8^{(1,10,13)}, 9^{(1,11,12)})}, \\ P_{3(2)}(3) &= 3^{(4^{(2,11,13)}, 5^{(2,10,12)}, 6^{(1,12,13)}, 7^{(1,10,11)})}, \\ P_{3(2)}(4) &= 4^{(2^{(5,8,9)}, 3^{(5,6,7)}, 11^{(0,7,9)}, 13^{(0,6,8)})}, \\ P_{3(2)}(5) &= 5^{(2^{(4,8,9)}, 3^{(4,6,7)}, 10^{(0,7,8)}, 12^{(0,6,9)})}, \\ P_{3(2)}(6) &= 6^{(1^{(7,8,9)}, 3^{(4,5,7)}, 12^{(0,5,9)}, 13^{(0,4,8)})}, \\ P_{3(2)}(7) &= 7^{(1^{(6,8,9)}, 3^{(4,5,6)}, 10^{(0,5,8)}, 11^{(0,4,9)})}, \\ P_{3(2)}(8) &= 8^{(1^{(6,7,9)}, 2^{(4,5,9)}, 10^{(0,5,7)}, 13^{(0,4,6)})}, \\ P_{3(2)}(9) &= 9^{(1^{(6,7,8)}, 2^{(4,5,8)}, 11^{(0,4,7)}, 12^{(0,5,6)})}, \\ P_{3(2)}(10) &= 10^{(0^{(11,12,13)}, 5^{(2,3,12)}, 7^{(1,3,11)}, 8^{(1,2,13)})}, \\ P_{3(2)}(11) &= 11^{(0^{(10,12,13)}, 4^{(2,3,13)}, 7^{(1,3,10)}, 9^{(1,2,12)})}, \\ P_{3(2)}(12) &= 12^{(0^{(10,11,13)}, 5^{(2,3,10)}, 6^{(1,3,13)}, 9^{(1,2,11)})}, \end{aligned}$$

$$P_{3(2)}(13) = 13^{(0^{(10,11,12)}, 4^{(2,3,11)}, 6^{(1,3,12)}, 8^{(1,2,10)})}$$

2. Получим пустые подмножества вторых уровней каждой из проекций.

3. Получим $m = 0$.

Таким образом порядок наибольшей клики равен двум, и любая пара смежных в графе 3(2)-достижимости $G_{3(2)}(G)$ вершин является наибольшей в нем кликой порядка 2, $\varphi_{3(2)}(G) = 2$. Напомним, что речь здесь идет о смежности вершин в графе $G_{3(2)}(G)$, а не в исходном графе G . Тогда топологическая масштабируемость

$$\mu_{3(2)}(G) = \varphi_{3(2)}(G)/n(G) = 2/14 = 0,143.$$

Топологическая l -отказоустойчивость $\theta_{n,\delta}(l)$ системы с G -топологией ($n = n(G)$) в решении δ -задач (задач, допускающих достижимость \mathbb{Q}) определена в [18, с. 78] отношением плотности $\varphi_{\delta(k)}(G) \equiv \varphi(G_{\delta(k)})$ графа $\delta(k)$ -достижимости $G_{\delta(k)}$ к исключающей наличие отказов ($l = 0$) плотности $\varphi_{\delta}(G) \equiv \varphi(G_{\delta})$ графа δ -достижимости G_{δ} :

$$\theta_{l,\delta}(G) = \varphi_{\delta(k)}(G) / \varphi_{\delta}(G),$$

или, что равносильно, отношением соответствующих значений масштабируемости:

$$\theta_{l,\delta}(G) = \mu(G_{\delta(k)}) / \mu(G_{\delta}).$$

Учитывая полученные в предыдущем разделе значения плотности $\varphi_3(G) = 14$ и масштабируемости $\mu_3(G) = 1$, а также найденные здесь значения плотности $\varphi_{3(2)}(G) = 2$ и масштабируемости $\mu_{3(2)}(G) = 0,143$, топологическая устойчивость $\theta_{1,3}(G)$ к *однократным* отказам заданной графом G рассматриваемой ВС при решении на ней задач, в которых расстояния между информационно-смежными ветвями не превышают $\delta = 3$, составит:

$$\theta_{1,3}(G) = 2/14 = 0,143/1 = 0,143.$$

Далее мы покажем, каким образом изменится топологическая отказоустойчивость этой же системы при решении на ней задач, допускающих предельные расстояния между информационно-смежными ветвями $\delta = 4$. Приведем полученные из исходных проекций графа 2 (рис. 2) одноуровневые проекции $P_{4(2)}(v_j)$, $v_j \in V$:

$$\begin{aligned} P_{4(2)}(0) &= 0^{(4,5,6,7,8,9,10,11,12,13)}, & P_{4(2)}(1) &= 1^{(2,3,6,7,8,9,10,11,12,13)}, \\ P_{4(2)}(2) &= 2^{(1,3,4,5,8,9,10,11,12,13)}, & P_{4(2)}(3) &= 3^{(1,2,4,5,6,7,10,11,12,13)}, \\ P_{4(2)}(4) &= 4^{(0,2,3,5,6,7,8,9,11,13)}, & P_{4(2)}(5) &= 5^{(0,2,3,4,6,7,8,9,10,12)}, \\ P_{4(2)}(6) &= 6^{(0,1,3,4,5,7,8,9,12,13)}, & P_{4(2)}(7) &= 7^{(0,1,3,4,5,6,8,9,10,11)}, \\ P_{4(2)}(8) &= 8^{(0,1,2,4,5,6,7,9,10,13)}, & P_{4(2)}(9) &= 9^{(0,1,2,4,5,6,7,8,11,12)}, \\ P_{4(2)}(10) &= 10^{(0,1,2,3,5,7,8,11,12,13)}, & P_{4(2)}(11) &= 11^{(0,1,2,3,4,7,9,10,12,13)}, \\ P_{4(2)}(12) &= 12^{(0,1,2,3,5,6,9,10,11,13)}, & P_{4(2)}(13) &= 13^{(0,1,2,3,4,6,8,10,11,12)}. \end{aligned}$$

Не будем здесь приводить промежуточных действий, укажем лишь результат применения алгоритма: граф $G_{3(2)}$ (граф 3-достижимости и 2-соединимости) имеет две непересекающиеся 7-

клик – $(0,4,5,6,7,8,9)$ и $(1,2,3,10,11,12,13)$. Топологическая масштабируемость такой ВС при допускаемой достижимости $\mu_{4(2)}(G) \equiv \mu(G_{4(2)}) = 7/14 = 0,5$.

Топологическую l -отказоустойчивость $\theta_{n,\delta}(l)$ системы с G -топологией ($n = n(G)$) в решении информационно-полносвязных δ -задач (задач, допускающих расстояния между процессорами подсистемы, реализующих параллельные ветви, не превышающие значения δ) определим отношением плотности $\varphi_{\delta(k)}(G) \equiv \varphi(G_{\delta(k)})$ графа $\delta(k)$ -достижимости $G_{\delta(k)}$, ($k = l + 1$) к исключающей наличие отказов ($l = 0, k = 1$) плотности $\varphi_{\delta}(G) \equiv \varphi(G_{\delta})$ графа δ -достижимости G_{δ} :

$$\theta_{\delta(l+1)}^l(G) = \mu(G_{\delta(l+1)}) / \mu(G_{\delta}) = \varphi(G_{\delta(l+1)}) / \varphi(G_{\delta}).$$

Итак, выше мы показали, что свойство устойчивости к однократным отказам ($l = 1, k = 2$) в системе с рассматриваемой здесь топологией (граф 2, рис. 2) возникает только для задач, допускающих достижимость параллельных ветвей не ниже четырех, при этом $\mu_{4(2)}(G) = 0,5$. В вышерасположенном разделе показано, что $\varphi(G_{\delta \geq 3})$ кликовое число (плотность) графа рассматриваемой системы при достижимости $\delta \geq 3$ равно порядку n этого графа ($\varphi(G_{\delta \geq 3}) = 14$). Таким образом, топологическая отказоустойчивость такой системы –

$$\theta_{4(2)}^1(G) = \varphi(G_{4(2)}) / \varphi(G_4) = 0,5/1,0 = 0,5$$

Заключение

Проблема сопоставления топологий в по обеспечиваемому топологией потенциалу параллелизма вычислительной системы связана с выявлением наибольших клик в ее графе. Предлагаемое в работе решение этой задачи основано на представлении графа его двухуровневыми проекциями, определены свойства проекций полного графа, позволяющие выделить максимальный полный подграф в произвольном графе. Даны вербальное и формальное описание соответствующего алгоритма, на примерах показано его применение.

Даны понятия показателей топологической масштабируемости и топологической отказоустойчивости вычислительных систем. На примерах показаны: преобразование проекций исходного графа ВС в 2-уровневые проекции графов с предельно допускаемыми в ней значениями достижимости и кратности отказов, выявление в этих графах наибольших клик и топологический анализ системы с заданными значениями достижимости и кратности отказов.

Концептуальность понятия клик в теории графов общеизвестна, поэтому Автор уверен, что предложенное в работе решение задачи поиска

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

наибольших клик в графе ВС будет востребовано не только в теории и практике вычислительных систем, но, прежде всего, непосредственно в

теории графов, а также в других, базирующихся на методах этой теории отраслях науки и техники.

References:

1. Newman, M. E. J. (2005). A measure of betweenness centrality based on random walks. *Social Networks*, *V. 27*, 39-54. <https://arxiv.org/pdf/cond-mat/0309045v1.pdf>
2. Donetti, L., Hurtado, P. I., & Munoz, M. A., (2005). Entangled Networks, Synchronization, and Optimal Network Topology. *Phys. Rev. Lett.* *95*, 188701, 1-4. <http://ic1.ugr.es/members/phurtado/wp-content/uploads/sites/3/2016/11/PRL-95-188701-2005.pdf>
3. Melent'ev, V. A. (2015). On topological scalability of computing systems. *UBS*, *58*, 115–143. http://ubs.mtas.ru/archive/search_results_new.php?publication_id=20724
4. Badekha, I., & Roldugin, P. (2014). Density of graphs in which each edge is contained in at least two maximal cliques. *Discrete Mathematics and Applications*, *24(1)*, 1-12. <https://www.degruyter.com/view/j/dma.2014.24.issue-1/dma-2014-0001/dma-2014-0001.xml>
5. Christofides, N. (1975). *Graph Theory: An algorithmic Approach*. New York: Academic Press.
6. Kornushko, V., Bogunova, I., Panov, A., Nikolaeva, O., & Flid, A. (2018). The application of the system approach for building the information space for the development of the production of ready medicines. *Journal of Applied Informatics*, *V. 13, Issue 3(75)*, 83-100. <https://elibrary.ru/item.asp?id=35224068>
7. Volkova, A. (2018). *A Technical Translation of Melentiev's Graph Representation Method with Commentary*. (p.503). University Honors Theses. <https://pdxscholar.library.pdx.edu/honorsthesis/503>
8. Melentiev, V. A. (2000). Bracket Form of Graph Description and its Use in Structural Investigation of Robust Computer Systems. *Optoelectronics, Instrumentation and Data Processing, No 4*, Allerton Press Inc., USA, 34-47. <http://elibrary.ru/item.asp?id=14954075>
9. Melent'ev, V. A. (2004). *The formal rudiments of a bracket patterns' in graph theory*. Proceedings of the II International Conference "Parallel Computations and Control Problems" PACO '2004. (pp.694-706). Moscow, 4-6 October 2004.
10. Melent'ev, V. A. (2005). Formal'nyj podhod k issledovaniyu struktur vychislitel'nyh sistem. *Vestnik Tomskogo gosudarstvennogo universiteta*, *14*, 167-172.
11. Melent'ev, V. A. (2010). An analytical approach to the synthesis of regular graphs with preset values of the order, degree and girth. *Prikl. Diskr. Mat.*, *no. 2(8)*, 74–86. <http://mi.mathnet.ru/eng/pdm178>
12. Melent'ev, V. A. (2011). Compact structures of computer systems and their synthesis. *UBS*, *32*, 241–261. <http://mi.mathnet.ru/eng/ubs536>
13. Melent'ev, V. A. (2012). *The Metric, Cyclomatic and Synthesis of Topology of Systems and Networks*. Proceedings of the 6th International Conference, "Parallel Computations and Control Problems" PACO '2012. (pp.10-25). Moscow, 24–26 Oct. 2012. V 3.
14. Melent'ev, V. A. (2014). Embedding of subsystems limiting length and number of paths between vertexes of computing system graph. *UBS*, *47*, 212–246. <http://mi.mathnet.ru/eng/ubs749>
15. Melent'ev, V. A., Shubin, V. I., & Zadorozhny, A. F. (2015) Topological Scalability of hypercubic parallel Systems and Tasks. *ISJ Theoretical & Applied Science*, *11 (31)*, 122-129. <http://dx.doi.org/10.15863/TAS.2015.11.31.19>
16. Zykov, A. A. (1987). Foundations of graph theory. (p.384). Moskva: Nauka.
17. Melent'ev, V. A. (2016). Fault-tolerance of hypercubic and compact topology of computing systems. *ISJ Theoretical & Applied Science*, *12 (44)*, 98-105. <http://dx.doi.org/10.15863/TAS.2016.12.44.20>

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	

18. Melent'ev, V. A. (2017). On topological fault-tolerance of scalable computing systems. *UBS*,

70, 58–86. <http://mi.mathnet.ru/eng/ubs935>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 23.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Otabek Mukhamadovich Fayzulloyev

doctoral student of the Department of English linguistics
Bukhara state University
(+99891) 410-59-03
otabek-1977@inbox.ru

THE PECULIARITIES OF THE INTERPRETATION OF THE UZBEK FAIRY TALES

Abstract: The article is devoted to the peculiarities of the interpretation of the Uzbek fairy tale "Golden fish" into English, where we gave a detailed analysis of the linguocultures of the fairy tale. Besides we identified the causes of some unexplained linguocultures in a translated text of a fairy tale.

Key words: linguoculture, interpretation, poor, most humble servant, harem, Khan, ethnographer, analysis, young fisherman.

Language: Russian

Citation: Fayzulloyev, O. M. (2018). The peculiarities of the interpretation of the Uzbek fairy tales. *ISJ Theoretical & Applied Science*, 12 (68), 212-215.

Soi: <http://s-o-i.org/1.1/TAS-12-68-29> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.29>

ОБ ОСОБЕННОСТЯХ ИНТЕРПРЕТАЦИИ УЗБЕКСКИХ СКАЗОК

Аннотация: Статья посвящена особенностям интерпретации Узбекской сказки "Золотая рыба" на английский язык, где приведён подробный анализ лингвокультурем сказки и выявлены причины неотраженных некоторых лингвокультурем в переведенном тексте сказки.

Ключевые слова: лингвокультура, интерпретация, факир, камина гарем, Хан, этнограф, анализ, молодой рыбак.

Introduction

Язык каждого народа отличается от других остальных своей национальностью, подобно отпечаткам пальцев, проживающих людей на планете. С развитием цивилизации и глобализации мы имеем возможность ознакомит свой народ литературными ценностями, населявших нашу планету других жителей, в первую очередь, переводом художественных произведений на свой, родной узбекский язык.

Materials and Methods

Спора нет, что перевод - сложнейшая творческая деятельность, в процессе которого особое место занимает интерпретация единиц языка переводимых лингвокультурем художественного текста, которые содержат свои национальные особенности, присущие только тому или иному народу. Поэтому интерпретация некоторых словарных единиц языка требует особого внимания (Интерпретация - от лат. interpretatio истолкование, разъяснение. В

гуманитарном знании интерпретация фундаментальный метод работы с текстами как знаковыми системами. Текст как форма дискурса и целостная функциональная структура открыт для множества смыслов, существующих в системе социальных коммуникаций. Он предстает в единстве явных и неявных, невербализованных значений, буквальных и вторичных, скрытых смыслов) [10].

Любая лингвокультура языка имеет отношение к культуре, обычаям, обрядам и образу жизни народов. О сущности данного английский этнограф Э.Б.Тайлор пишет: From an ideal point of view, civilization may be looked upon as the general improvement of mankind by higher organization of the individual and society, to the end of promoting at once man's goodness, power and happiness [4; ст.42]. "С идеальной точки зрения на культуру можно смотреть как на общее усовершенствование человеческого рода путем высшей организации отдельного человека и целого общества с целью одновременного

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

содействия развитию нравственности, силы и счастья человека"[5;ст.36].

В данной статье предлагаем вашему вниманию особенности интерпретации узбекской сказки Олтин балиқ (Золотая рыба, Golden fish) на английский язык. Узбекская народная сказка "Золотая рыба" входит в ряд сказок о золотой рыбе (Сказка братьев Грим "Сказка о рыбаке и его жене, Индийская сказка "Сказка о золотой рыбке", Малазийская сказка "Три желания", Китайская сказка "Золотая рыба", Сказка А.С.Пушкина "Сказка о рыбаке и рыбке").

Сказка "Золотая рыба" переведена на английский язык Фаиной Соласко переведенный текст, которого является объектом нашего анализа. Текст узбекской сказки "Олтин балиқ" содержит более 7 лингвокультурем, что создаёт трудности интерпретации на другой язык, в данном случае, на английский.

При сравнительно - типологическом анализе данных сказок мы исходим с точки зрения передачи национальных языковых единиц, выражающих внутренние чувства и переживания героев сказки. В начале сказки дана характеристика главным героям старику и его сыну, в которой особо отмечается их прилежный образ жизни и беднота, что выражено словами факир, бечорахол. "Бу чол денгиз бўйида ёлғиз ўгли билан яшар экан. Улар жуда *фақир* бўлиб *бечорахол* кун кўрар эканлар"[9;ст.1].

В переведённом отрывке особое значение выражают слова "Факир" и "бечорахол". Лингвокультурема "факир"- имеет значение послушный, безобидный, прилежный человек. Также может использоваться и в значении бедный [2]. Второе слово "бечорахол" означает бедное состояние, то есть, *еле сводящий концы с концами*. В переводе упущено слово "факир" и речь идёт только о бедности старика и его сына. "Once upon a time, long, long ago, an old fisherman and his only son lived by the side of the sea. They were very poor" [6;ст.4].

Для узбекского народа слово "факир" имеет чисто национальный характер, другими словами "факир" - это человек который довольствуется тем, что дал бог и не жалуется на свою бедность, не гоняется за богатством, не обвиняет никого за свою бедность (судьбу). Думаем, что причиной упущения в английском варианте этого значения слова является то, что англоязычные народы при выражении бедности не используют смиренность нуждающихся живущих в нищете. Видимо, по этому английское слово "poor" может заменить две единицы узбекских лингвокультурем "факир" и "бечорахол".

Здесь уместно отметить, что в английском языке имеются три слова- humble, submissive, meek, которые содержат близкое значение к

слову "факир". *Humble* – not proud; not thinking of yourself as better than other people (Her success has humbled her critics). *Submissive* – willing to obey someone else (It's not in her nature to be submissive). *Meek* – having or showing a quiet and gentle nature; not wanting to fight or argue with other people (A meek child dominated by his brothers), (She may seem meek and mild but it is all an act) [8]. Общее в этих словах довольствоваться тем, что имеют и не жалуется на жизнь.

С учётом утверждённых требований к научным статьям мы не имеем возможности описать до мельчайших подробности всех исследуемых лингвокультурем. Несмотря на это попробуем, расширит границы значений узбекской лингвокультуремы "факир". В произведениях великого узбекского поэта Алишера Навои находим единицы языка используемые в следующих значениях[1;ст.13].

1. бедный, неимущий (Мавлоно Мажнуний Балхда бўлур, факир кишидур, китобаткина кила олурки, важхи маош ҳосил бўлғай) – Мавлоно Мажнуний является факиром и довольствуется тем, что имеет;

2. дервиш (человек который отрёкся от обычной материальной жизни и посветил себя целиком паломничеству, бродячему образу жизни, для которого важно не материальное состояние, а духовное);

3. камина, то есть я. Термин *камина* является носителем значения "факир", характеризующий того или иного человека как бедного, но духовно богатого (Мавлоно Шох Али – факирнинг мадрасасида таҳсил қилур) – Мавлоно Шох Али обучается в медресе факира. Здесь уместно констатировать тот факт что слово факир используется и в английской лексике (*fakir* – Moslem holy beggar) [8.ст-57].

Знаменитый поэт Абдурахман Жоми делит лингвокультурему "факир" на два вида: Официальное и истинно - настоящее.

1. Официальное. Это люди неимущие, которые не стремятся иметь богатое состояние и довольствуются бедным образом жизни.

2. Истинно - настоящее. Это люди, которые имея большое, огромное материальное состояние ведут обычную, ничем не отличающуюся от бедного образа жизни.

В узбекском языке имеется слово "зора" которое содержит кроме прямого и переносное значение не уверенности [3; ст.160]. см. (Мен бориб бу ходисани Хонга маълум қилай. Зора - мора хон бизга каттароқ инъом берса дебдида шахарга жўнаб кетибди)[9;ст.1]. Здесь лингвокультурема зора - мора имеет значение не уверенности в том, что Хан наградит его чем ни будь за золотую рыбу (**Зора-мора=зора**). Данное предложение в английском языке выглядит так:

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

"The khan may give us a fine reward for it" [6;ст.3]. Отличие этих двух лингвокультурем в том, что "зора-мора" больше имеет значение не только не уверенности, а уверенности в том, что ничего не получит (точно ничего не получит).

В интерпретации узбекских лингвокультурем на английский язык, определённую трудность вызывают слова, которые выражают неопишанное внутреннее состояние, то есть, психическое состояние людей. В тексте узбекской народной сказки "Золотая рыба" в одном простом предложении использованы две лингвокультуры, которые выражают то, или иное состояние человека. См. (*бояқиши чол эса денгиз кирғоғида вой болам деб йиғлаганича қолаверибди*) - "Meanwhile, the poor old fisherman stood at the water's edge, watching the waves carry his only son farther and farther out to sea" [6;ст.8]. В английском тексте сказки использовано слово *бедный старик рыбак* (the poor old fisherman) то есть такое состояние старика, которое вызывает сочувствие, что считается оригинальным переводом. Но вторая лингвокультура "вой болам" не нашла своё отражение в тексте перевода. *Вой болам* это сочетание используемое в основном при утрате, смерти близкого человека (вой отам, вой онам, вой жигарим...). В этом сочетании *вой* не является самостоятельным словом; оно в прямом значении означает крик человека при боли подобно русскому (ай рука болит, ай не бей...) подобно английскому (ouch, aw, AJ, Oh no!) при этом в английском языке используется несколько вариантов единиц, последнее из которых можно считать эквивалентным к слову *вой* узбекского языка. Несмотря на это, автор перевода не считал нужным выражать внутреннее, психическое состояние старика данными средствами.

Сказка "Золотая рыба" содержит и ряд историко - религиозных лингвокультурем одним из которых является слово гарем *ҳарам* – *harem*. Несмотря на то, что эти единицы функционируют в обоих языках, в английском переводе текста лингвокультура *garem* не отражена. С первого взгляда слово гарем не имеет важного значения в интерпретации сказки. Но, если вникнуть в историю фольклора, мы узнаём, что, сказка тем и дорога нам, что содержит богатую информацию об истории нашей цивилизации. Поэтому здесь уместно было бы использовать имеющееся в английском языке слово *harem*, которое имеет следующее значение. "Harem – a house or part of a house in which the women of a Muslim household live"[7]. Из выше сказанного понятно, что для девушек и женщин были выделены отдельные комнаты дома для жилья, что являлась цветим местом, куда был запрещен вход мужчинам.

Основная тема и идея любого поэтического и прозаического произведения, в том числе и сказки, формируют её композиционное строение, в который входит сюжет и образы. Узбекская народная сказка "Золотая рыба" тоже состоит из выше сказанных, сюжетную линию которых составляют образы: старого рыбака, его сына (молодого рыбака), золотой рыбы, хана, принцессы и других персонажей. Раскрытие образов происходит действиями, поступками оных. Учитывая важность эту особенность художественных произведений считаем, что в переводе они должны иметь своё отражение так как каждый из этих образов выражает те или иные национальные ценности народа. В анализируемой нами интерпретации сказки "Золотая рыба" замечаем, что часть текста сказки выражающая одну немаловажную линию сюжета вообще не нашло своё отражение. В упущенной части текста речь идёт о хане и его дочери, о раскрытии их образа. Краткое содержание упущенного состоит из следующего: Попрошавшись с рыбой молодой рыбак идёт к хану, чтобы получить обещанную награду, но хан отказывается от своих обещаний и выгоняет молодого рыбака восвояси. Молодой рыбак устраивается на работу в один из уголков города помощником кузнеца. Далее речь идет о дочери хана, которая узнав, что отец прогнал её спасителя, требует справедливости. В случае отказа грозит покончить собою, только тогда хан меняет свое решение и соглашается выдать дочку за молодого рыбака.

Основной темой данного отрывка является взаимоотношения богатых и бедных, чиновников и служащих. Данная тема является ведущей во многих сказках мира. (Это воплощение мечты бедных, неимущих, честных, справедливых, добрых людей). В тексте перевода сказки перед читателем хан представляется справедливым, честным, который держит слово. Но в оригинале он ненавидит бедных и считает их себе неравными, но соглашается на брак дочери только по её наставлению. Предлагаем краткий вариант упущенного текста: The fisherman came to the palace and asked for reception. But khan did not fulfill his promise to give his daughter for him, and did not let him into the palace. Having lost all hope, with a pain in his heart, the fisherman left the palace and settled himself as an apprentice to the blacksmith on the outskirts of the city. After a week, knowing about the incident, the Khan's daughter lost her peace and with tears in her eyes turned to her father: "If you do not let me to marry to a fisherman who has cured and saved my life, then today you will lose your daughter". - After saying she was going to jump into the river which passed through the harem. But this time the maids

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

had managed to retain her. In order not to lose her daughter, khan had to let them to marry.

Характеризуя творческих людей, исследователей, поэтов и писателей в том числе и переводчиков знаменитый английский этнограф Эдуард Бернетт Тайлор (в мелитерации Тэйлор) писал – The philosopher may be so intent upon his general laws of society as to neglect the individual actors of whom that society is made up, and of him it may be said that he cannot see the trees for the forest [4; ст.27] (Философ может придавать так много значения общим законам социального бытия, что он совершенно теряет из вида отдельных деятелей, из которых состоит общество, и о нем можно сказать, что он за лесом не выдит деревьев) [5; ст.26]. Другими словами мы не замечаем деревья, которые составляют лес, точно также переводчик не заметила или считала ненужным поступки хана и дочери, которые также являются главными действующими лицами сказки. Другими словами, они также являются носителями

культуры востока, так как вся культурная ценность узбекского народа состоит из личностей носителей его языка. В переносном значении герои этой сказки, это деревья, из которых образуется лес.

Conclusion

В завершении хотелось бы отметить, что языковые явления, единицы языка, в том числе, лингвокультуремы, их прямые, переносные и внутренние значения (отражающие культурные ценности народа) являются открытыми. Этот принцип изучения сущности языка даёт возможность исследователю в широком ракурсе анализировать многозначные выражения и фразы разное - системных языков мира. При этом считается необходимым учёт особенностей каждого языка без которого любая интерпретация переводимого текста теряет национальность, подобно массовой культуре. Интерпретируя сказанное можно обобщить: не надо забывать "деревья", которые составляют "лес".

References:

1. Isakova, Z. M. (2010). *Alisher Navoiyning «MAZHOLIS UN-NAFOIS» asaridagi izhtimoiy - sijosiy leksika*. 10.02.01 – uzbek tili. Filologiya fanlari nomzodi ilmiy darazhasini olish uchun takdim jetilgan dissertatsiya avtoreferati. Toshkent.
2. (1959). *Uzbeksko-russkij slovar'*. In: S.F. Akabirova, Z.M. Magrullova, A.T. Hodzhahanova (Eds.). Moskva: Gosudarstvennoe izdatel'stvo inostrannyh i nacional'nyh slovaroj.
3. Madvaliev, A. (2006). *Uzbek tilining izoxli luzati. V zhidli, taxriri ostida*. T.: YzMJE, 2006-2008.
4. Tylor, E. B. (1920). *Primitive Culture*. (p.520). London. John Murray, Albemarle street, w.
5. Tajlor, J. B. (1989). *Pervobytnaja kul'tura: Per.s ang.* (p.573). M.: Politizdat.
6. (1983) *The Golden Fish. An Uzbek Fairy Tale. Translated by Fainna Solasko*. (p.3). Moscow: Malish Publishers.
7. (n.d). Merriam - Webster Dictionary.
8. (1977) *Webster's New world dictionary / Simon and Schuster* (p.57). USA.: William Collins publishers.
9. (n.d.). Retrieved 2018, from <http://www.macmillandictionary.com/fakir>
10. (n.d.). *Oltin baliq*. Retrieved 2018, from <http://www.Ziyonet.uz>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 24.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Azizbek Alisher ugli Mamajanov

The teacher of the chair of “Theory of civil society”
of Andizhan State Uzbekistan,
Republic of Uzbekistan

**SECTION 13. Geography. History. Oceanology.
Meteorology.**

THE HISTORY OF THE DEVELOPMENT OF INDUSTRY IN UZBEKISTAN (IN THE EXAMPLE OF FERGHANA VALLEY)

Abstract: This article is devoted development of industry in Independent days in Ferghana valley and increasing the number of industrial factories in the area has been investigated by the statistic materials and historical literatures as well.

Key words: Development, industry, industrial factories, production, Ferghana valley.

Language: English

Citation: Mamajanov, A. A. (2018). The history of the development of industry in Uzbekistan (in the example of Ferghana valley). *ISJ Theoretical & Applied Science*, 12 (68), 216-219.

Soi: <http://s-o-i.org/1.1/TAS-12-68-30> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.30>

Introduction.

Every field saw development in Uzbekistan from the moment she gained her independence, and one of the most important branches of economy, the industry was not also exception. Crucial steps to modify to achieving composite changes, and increase the power of production from the terms of technique and technology were taken. The main goal of these modifications is to overcome the issue of unemployment though implications of decrees, projects, laws and orders, whose main objective is to intensifying development of our Republic, so as to expand the scale of local production. I.e. the third sub-section among the five firm sections of Actions strategy to develop Uzbekistan has been exactly devoted to the economy that the issue whose purpose is the development of economy through betterment of investment atmosphere actively summoning foreign investment to economic fields and regions of our country was specifically stressed. Similarly, through the passing the law of the Republic of Uzbekistan “On excluding from possession of government and privatization” many of industry factories of the country has been excluded from the possession of the government and turned into private, community, cooperative state-stock properties. This, in turn, has significantly contributed to the social-economic development of our Republic. Likewise, the Law of the Republic of Uzbekistan “On free economic zones”, the Law of the Republic of Uzbekistan “On Concessions” and the Decree of the

President of the Republic of Uzbekistan “On extra factors and bonuses to the enterprises with foreign investment has been playing the fundamental role on implication of the policy of investment and establishing joint-ventures in several industrial fields in the partnership of foreign investment. For instance, “Asaka automobile factory”, “British American tobacco”, “Zarafshan-Newmont”, “Kabul textiles”, “Coca-Cola”, “Samkoch-auto” joint venture and many others [2, 493] can be considered as clear examples. For instance, if the number of industry production workers in the aforementioned industry enterprises constituted to 707.0 thousand in 1997, this figure made up 718.5 thousand personnel by the year 2000, and the industrial production in numbers had just made up 104.1 per cent in 1997 before this trend hit 105.9 percent in 2000 [3,214]. Although the volume of industry production decreased by 0.2 per cent in 1995 than in 1990, from 2000 this (in comparison to 1990) the increase was 1.2 times, in 2005 1.8 times, in 2010 3.0 times and in 2016 4.6 times [4].

Nowadays Uzbekistan is one of the industrialized Republics of the Central Asian region. About 24% of its GDP is formed in industry. However, even with its “unprecedented” pace of development, things are not as straightforward as the official Tashkent presents. The Republic of Uzbekistan has the most diversified economy in the region. In the share of the final product produced by Central Asian countries, the share of Uzbekistan,

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

according to its State Statistics Committee, is 80% of mineral fertilizers, 94% of chemical fibers, 54% of natural gas, 59% of cement, 65% of raw cotton. Based on these data (it is difficult to trust official statistics in the current situation, but let's leave it beyond the scope of the article), industrial output grew and continues to grow at unprecedented rates (growth in 2015 –8%), which the republic received by getting rid of the “colonial economy”. The industrial base inherited from the USSR played a significant role in the development of the industrial potential of the republic, the official Tashkent does not like to recall. But the industrial basis of Uzbekistan was laid back in the years of the Great Patriotic War, when many enterprises were evacuated to the republic (as well as to Kazakhstan), many of which, together with employees, remained there after its completion. If we look in the past, in Soviet Uzbekistan there were about 250 large and medium-sized machine-building factories, planes, tractors, electronics, household appliances were produced. Powerful thermal power plants still form the basis of the country's energy. One of the structural components in the industrial complex of Uzbekistan without exaggeration can be called light industry, which accounts for a quarter of industrial production and where one third of all industrial workers in the country is concentrated. Of course, the development of light industry can be called one of the main achievements of the republic. However, the basis of this success was the Soviet-built enterprises (in particular, the current joint venture Uzbekistan, which today produces tape, hackle and ring spinning machines operating in the Andizhan, Fergana, Bukhara, and Samarkand regions), and a number of industry preferences and benefits. So, until 2018, textile workers extended the exemption in the form of exemption from property tax, which makes it possible to save money to invest in the further development of enterprises. Today, the republic exports textile products to almost 50 countries, and shipments increased from \$ 8 million in 1994 to more than \$ 1 billion [2].

The intense development of subsections of industry in our country can be defined due to the attention towards macroeconomics, the rising competition towards raw materials, especially, ready products in the world market over the years. As a result of projects adapted to provide stable and intense development of economy, the economics of Uzbekistan has almost increased by six times since independence. The proportion of industry has made up 34 per cent to compare 14 percent at first. The average annual increase of gross domestic product has not been noted fewer than 8 per cent for the past 11 years [5]. The proportion of microbusiness and private prudence subjects has also been growing year by year. For instance, if the portion of this field

constituted to 12.9 per cent in 2000, this number reached to 45.4 per cent by the year 2016.

In accordance with the Decree of the President of Uzbekistan numbered PF-4609 “On measures and means of further refinement of investment climate and business atmosphere in the Republic of Uzbekistan” on April 7, 2014 the amount of industry products produced by micro business subjects specialized in industrial production built up 50654.5 billion UZS.

According to human rights organizations, between one and five million people are forced to mobilize cotton for harvesting: doctors, teachers, office workers, and students. Even prostitutes, drug addicts, inhabitants of correctional colonies-settlements go to the battle for the harvest in the framework of attraction to the “socially useful work for the purpose of educational influence” on the cotton fields. Revenues from the sale of cotton only abroad account for about 10th of the country's total export earnings. But the country's authorities are actively developing its processing: by 2020, it is planned to implement about 80 projects in the textile industry, which will more than double the capacity of the industry. To this end, a program has been developed for the development of light industry for 2015–2020. Reforming the industry is not lossless. A striking example was the Tashkent aviation software them. Chkalov, which produced IL-76 transport aircraft and Il-114 passenger aircraft, wings for the An-70. In 2010, the Uzbek authorities initiated the bankruptcy of the enterprise and in October 2012, the republic's aircraft manufacturing industry ceased to exist. Currently, the capacity of the plant (renamed to JSC “Tashkent Mechanical Plant”) is reoriented for the assembly and production of mechanical equipment and various component parts. It is expected that by 2020, the former aircraft manufacturing giant will start production of 18 types of household products - from household tools (chisels, drills), baby carriages and spare parts for bicycles to electric motors and water boilers. Such a new industry as the auto industry, which, like Japan and South Korea, was supposed to provide Uzbekistan with a breakthrough into the category of industrialized countries is in a difficult situation. In recent time, Uzavtosanoat Joint-Stock Company (Uzavtoprom AK), which consolidated almost all of the Uzbek automotive industry, has over 70 enterprises, including the main car assembly plants: SamAvto Samarkand Automobile Plant LLC, JV MAN Auto-Uzbekistan LLC and the national auto giant GM Uzbekistan. Here the picture today is by no means rainbow.

Producing cars have been increased year by year. Recall that the Korean company Daewoo, the now well-known automobile plant in the Fergana Valley, planned to be located in Kazakhstan. However, the government of Uzbekistan offered

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

more favorable conditions and the UzDaewooAuto plant was built in the city of Asaka, where 20 years ago –19 July 1996 - its grand opening took place and the assembly of Daewoo Damas, Daewoo Nexia, Daewoo Tico cars began. Then the lineup continued production of Daewoo Matiz, Daewoo Lacetti, Daewoo Gentra.

As part of the localization program in the country, dozens of enterprises for the production of component parts were organized and today up to 60% of all parts are produced domestically (half as many in Kazakhstan). But Daewoo corporation went bankrupt and on the basis of the Uzbek-Korean joint venture in March 2008, the American company General Motors created GM Uzbekistan enterprise with a design capacity of 250 thousand cars per year [4].

To repeat the South Korean miracle in the industry, a number of special conditions were created. So, import of foreign cars was imposed on high (from 50 to 100%) import duties. Moreover, the difference in prices for GM Uzbekistan's cars for the domestic and export markets sometimes reaches 100%. In particular, if in Russia and Kazakhstan the cost of the Ravon Gentra (renamed Daewoo Gentra with new headlights, bumper, grille, multimedia display on the front panel) is about 6.5 thousand dollars, in Uzbekistan it is from 9.7 to 12.5 thousand dollars. This creates ideal opportunities for various speculations in the market. For example, makes it extremely profitable to re-export cars [6].

The adoption of the Decree of the President of the Republic of Uzbekistan numbered PF-4848 "On measures and means of further betterment of business atmosphere in terms of quality and protection of private property from all sides, providing intense development of business activity" on October 5, 2016 was a stimulant for increase in the number of industrial factories, creating comfortable economic situations for subjects of household, fulfillment of high technologic projects and production of products endurable to the competition, the support and production and expansion of ready products, the production of goods for consumption, and the development of regionally important enterprises. The portion of microbusiness

in preparation of industrial products constituted to 2.9 per cent in Ferghana region about twenty or twenty-five years ago. Currently, this figure has been reached to 15 per cent [6]. The amount of total industrial production of the Republic in proportion of regions for Ferghana valley in 2012 for Andizhan region 12.5 per cent, Namangan region 2.7 per cent, Ferghana region 7.5 per cent, this numbers changed to 10.0 per cent for Andizhan, 2.9 per cent for Namangan, and 7.3 per cent for Ferghana in the year of 2015 [7]. The data provided clearly shows that industrial production has significantly escalated in the regions of Ferghana and Namangan. This figure made up 9.2 per cent for Andizhan region, 2.7 per cent for Namangan region, and 6.7 percent for Ferghana region by 2017 [8].

Similarly, according to the resolution of the President of the Republic of Uzbekistan numbered PR-1236 "On measures and means for further localization of production of rectifying goods and materials, and ready products based on the cooperation of industry" the production size in January-December months of 2017 constituted to 18414.0 billion UZS for Andizhan region, 141.7 billion UZS for Namangan region, and 94.4 billion UZS for Ferghana region [9].

Conclusion.

To sum up, the modernization of industry, the supply of full performance of marketing mechanism, step by step increase of industrialization of economy, modification of stable economic growth, establishment of free economic zones, the development of microbusiness and private prudence has created wide range of options to increase economic power of our country and achievement of major projects in Ferghana valley [10]. The field has spread out the name of Uzbekistan to the whole world, and served to summoning huge foreign investment to our land.

One of our main tasks is to multiply the number of free economic zones in our country so as to further intensify industrial production size whose aftermath ends up with goods suitable for export that can be substitute for import.

References:

1. (2017, February 8). The Decree of the President of the republic of Uzbekistan "On further development of the Republic of Uzbekistan through Actions Strategy". *The Xalq so'zi*, 28th issue (6722).
2. (2006). The national encyclopedia of Uzbekistan. Toshkent: "The national encyclopedia of Uzbekistan". *State scientific press, Volume 7*, 493.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

- (2009). *Annual statistic collection of the state statistics committee of the Republic of Uzbekistan*. (p.214). Toshkent.
- (n.d.). *The data of the state statistics committee of the Republic of Uzbekistan*. Retrieved 2018, from <https://stat.uz/uz/432-analiticheskie-materialy-uz/2028-sanoat-ishlab-chiqarish>.
- (2016). *The speech of the Prime Minister of the Republic of Uzbekistan Shavkat Miromonovich Mirziyoyev during joint meeting of Supreme legislative Chamber and Senate on 08.09.2016*. Retrieved 2018, from <http://president.uz/uz/lists/view/5>
- (2016, November 1). *The Xalq so'zi*.
- (2016). *The industry of Uzbekistan 2016. The state statistic committee statistic data collection*. Toshkent.
- (n.d.). *The data of State statistics committee of the Republic of Uzbekistan for January-December months of 2017 of the development of industrial production in the Republic of Uzbekistan*.
- (n.d.). *The data of State statistics committee of the Republic of Uzbekistan on January of 2017 on fulfillment of localization project of production of materials and composite parts, and ready products*.
- (2017, November 17). *The Xalq so'zi*.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 24.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



SECTION 32. Jurisprudence.

R.T. Ismailov
chief of the cathedra of criminal law and prevention of crime in Academy of Ministry of Internal Affairs of the Kyrgyz Republic
candidate of law, colonel of militia

Asel Manapovna Tagaeva
professor of cathedra criminology, psychology and special equipment, in Academy of Ministry of Internal Affairs of the Kyrgyz Republic
candidate of law, colonel of militia

FOREIGN CRIMINAL OFFENSION (CRIME, CONDUCT): THEORY AND NEW LAW OF THE KYRGYZ REPUBLIC

Abstract: The article raises topical issues of the divergence of the theory of criminal law with the new criminal law and the law on misconduct of the Kyrgyz Republic regarding continuing criminal offenses (crimes, misconduct).

Key words: completed crime, completed offense, lasting crime, lasting offense, lasting offense, art. 20 of the Criminal Code, Art. 16 of the Code of Misconduct of the Kyrgyz Republic.

Language: Russian

Citation: Ismailov, R. T., & Tagaeva, A. M. (2018). Foreign criminal offense (crime, conduct): Theory and new law of the Kyrgyz republic. *ISJ Theoretical & Applied Science*, 12 (68), 220-223.

Soi: <http://s-o-i.org/1.1/TAS-12-68-31> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.31>

ДЛЯЩЕЕСЯ УГОЛОВНОЕ ПРАВОНАРУШЕНИЕ (ПРЕСТУПЛЕНИЕ, ПРОСТУПОК): ТЕОРИЯ И НОВОЕ ЗАКОНОДАТЕЛЬСТВО КЫРГЫЗСКОЙ РЕСПУБЛИКИ

Аннотация: В статье поднимаются актуальные вопросы расхождения теории уголовного права с новым уголовным законодательством и законодательством о проступках Кыргызской Республики относительно длящихся уголовных правонарушений (преступлений, проступков).

Ключевые слова: оконченное преступление, окончанный проступок, длящееся преступление, длящийся проступок, длящееся правонарушение, ст. 20 УК КР, ст. 16 Кодекса о проступках КР.

Introduction

Противоправное деяние между его началом и окончанием имеет разную протяженность, которая позволяет подразделять действия по времени на преступления и проступки (далее уголовные правонарушения, правонарушения): 1) одномоментные; 2) разномоментные; 3) продолжаемые; 4) с отдаленным результатом; 5) длящиеся. Однако в рамках нашей темы акцентируем внимание лишь на понятии и моменте окончания таких видов уголовных правонарушений как длящиеся.

Materials and Methods

Длящееся уголовное правонарушение в теории уголовного права относится к разновидности сложного единичного правонарушения. В свою очередь разграничение сложных единичных правонарушений, в частности длящихся, от множественности правонарушений является довольно сложным процессом [1, с.242], что, как нам представляется, связано с неоднозначностью определения момента его окончания. Между тем, само определение оконченного правонарушения, в теории уголовного права также подлежит критике [2, с. 21]. От точного установления момента, когда правонарушение считается

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

оконченным, зависит правильная их квалификация, а в конечном итоге, это влияет на соблюдение принципов законности и справедливости.

В совокупности обозначенных проблем понятие длящегося преступления, определение момента его окончания является актуальным для теории уголовного права. Значимость поднятой темы также усиливается в свете принятия в Кыргызской Республики новых кодексов, в частности Уголовного кодекса (далее - УК КР) [3] и Кодекса о проступках [4] (далее – КоП КР).

Еще в середине 19 века теории уголовного права уже было известно понятие длящегося преступления [5, с. 63]. О длящихся преступлениях упоминалось и в Уложении 1845 г., где они назывались «беспрерывно продолжаемыми» [6].

Советскому законодательству эта разновидность сложного единичного преступления неизвестна, однако ею пользовалась судебная практика того периода. В постановлении Пленума Верховного Суда СССР от 4 марта 1929 г. (в редакции Пленума от 14 марта 1963 г.) длящееся преступление определялось как «действие или бездействие, сопряженное с последующим длительным невыполнением обязанностей, возложенных на виновного законом под угрозой уголовного преследования» [7, с. 6]. Такие преступления совершаются на протяжении более или менее длительного периода [7, с. 6].

В теории уголовного права есть такая точка зрения, что длящиеся правонарушения-преступления совершаются единым способом. Это совокупность множества действий (бездействий), которые являются звеньями одного и того же действия или бездействия, между ними нет промежутков по времени [5, с. 63], в отличие от продолжаемых преступлений.

Момент окончания этого преступления следует считать действием виновного, направленные на прекращение преступления, или наступления события, препятствующего совершению длящегося преступления, например, явка с повинной субъекта правонарушения, пресечение преступления правоохранительными органами, наступление совершеннолетия детей, которым виновный не платил средств на их содержание [5, с. 64].

В современном уголовном законодательстве и законодательстве о проступках Кыргызской Республики впервые закреплены определения длящихся правонарушений. Так, под «длящимся преступлением признается деяние, предусмотренное Особенной частью настоящего Кодекса, совершение которого начинается с действия или бездействия, которое затем осуществляется непрерывно» (ч. 1 ст. 20 УК КР),

аналогичное законодательное определение, применительно к проступку, дается в Кодексе о проступках КР (ч. 1 ст. 16).

Кроме того, в вышеуказанных статьях определен момент окончания данных (длящихся) правонарушений, а именно, они считаются оконченными с момента прекращения действия или бездействия.

Казалось бы, что вышеуказанные понятия применимы, например, к таким преступлениям, ответственность за которые установлена: ст. 123 КоП КР при таком альтернативном противоправном действии как хранение наркотических средств, психотропных веществ, их аналогов и прекурсоров (далее - наркотиков) без цели сбыта в небольших размерах; ст. 349 УК КР «Побег из мест лишения свободы или из-под стражи»; ст. 267 УК КР при хранении наркотических средств, психотропных веществ и их аналогов (далее – наркотиков) в значительном, крупных, особо крупных размерах; ст. 368 УК КР «Дезертирство» и, что, такие правонарушения могут длиться беспрерывно, а считаются оконченными с момента прекращения действия или бездействия, то есть, когда противоправное состояние прервано либо пресечением со стороны правоохранительных органов или явкой с повинной субъекта правонарушения.

Однако следует заметить, что длящиеся правонарушения являются правонарушениями с формальным составом и первоначальный момент таких деяний уже образует оконченный состав уголовного правонарушения. Поэтому вряд ли можно согласиться с утверждением некоторых авторов [8, с. 11], что якобы длящиеся правонарушения признаются оконченными с момента прекращения преступного (противоправного) состояния. По этому поводу, следует согласиться с точкой зрения Корнеевой А.В., что сторонниками вышеуказанного утверждения производится подмена, смешение юридического момента окончания уголовного правонарушения и фактического [9, с. 83]. Фактически данные уголовные правонарушения считаются оконченными с прекращения противоправного (преступного) состояния по воле либо вопреки воле субъекта правонарушения, однако юридически это не так. Для юридического признания правонарушения оконченным, с учетом того, что они (длящиеся правонарушения) относятся к формальным составам, достаточно первоначального момента деяния.

Таким образом, юридически такие виды правонарушений как: хранение наркотиков в небольших размерах (ст. 123 КоП КР), в значительном, крупных, особо крупных размерах (ст. 267 УК КР), считаются оконченными сразу же с момента хранения; побег из мест лишения

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

свободы или из-под стражи (ст. 349 УК КР) – с момента побега; дезертирство (ст. 368 УК КР) - с самого первого дня после тридцати суток самовольного оставления части или места службы и т.д.

Если, например, проанализировать такое правонарушение, как побег, то он рассматривается по общим правилам о возможности покушения в правонарушениях с формальным составом.

Кроме того, проведенный нами анализ отдельных статей УК КР и КоП КР, также указывает на то, что такие виды правонарушений, которые фактически окончены не с момента прекращения действия или бездействия, а с момента достижения максимально допустимого срока для данного деяния времени, например, уклонение родителей от содержания детей (при достижении совершеннолетия) (ст. 77 КоП КР), самовольное оставление части или места службы является проступком в случае если данное действие продолжалось до 10 суток (ст.180 КоП КР), а аналогичное деяние свыше 10 суток, но не более 30 суток признается уже преступлением (ст. 367 УК КР «Самовольное оставление части или места службы»).

Такие правонарушения, как самовольное оставление части или места службы, имеют все признаки длящихся правонарушений в теоретическом понимании, однако они не согласуются с законодательным определением, так как в них отсутствует непрерывность. Специфика таких видов фактически длящихся правонарушений, заключается в том, что они длятся в течение «определенного» времени, а оканчиваются (фактически) при прерывании данного деяния именно в этом, установленном законодательством, промежутке [10]. Однако если противоправные правонарушения не прекращаются, то они трансформируются, переходят из одного вида в другой, при этом применительно к предыдущему правонарушению мы не можем говорить о непрерывности его деяния, так как последующие действия (бездействия) являются признаком уже иного правонарушения.

Уклонение родителей от содержания несовершеннолетних детей (ст. 77 КоП КР), также имеет определенный, более или менее

длительный промежуток времени (достижении совершеннолетнего возраста детей), при достижении максимального предела которого, преступление фактически считается оконченным. Юридически же данное правонарушение считается таковым (оконченным), с момента уклонения от выплаты на основании судебного решения средств на содержание несовершеннолетних детей.

Conclusion

Проведенный нами анализ теории и законодательства позволяет сделать следующие выводы:

- в уголовном законодательстве и законодательстве о проступках при определении длящегося преступления и установления момента его окончания за основу было взято фактическое понимание бессрочных длящихся правонарушений (преступления, проступка);

- законодательные определения длящихся правонарушений в ст. 20 УК КР и ст. 16 КоП КР не охватывают все разновидности данных сложных правонарушений, в частности фактически длящихся правонарушений, имеющих максимальный предельный срок;

- не выдерживают критики, как с юридической, так и с фактической позиции положения о моменте окончания длящихся правонарушений, установленные в законодательстве;

- законодательная модель конкретных длящихся правонарушений, с юридической позиции, относится к формальным составам преступлений, поэтому признавать оконченными с юридической позиции их следует не с момента прекращения действия или бездействия, а с «первоначального» момента деяния.

С нашей точки зрения, решение данной проблемы может развиваться в одном из следующих направлений: 1) по пути исключения данных статей из кодексов; 2) по пути редакционной правки вышеуказанных статей.

Первое направления представляется самым простым, для законодателя, но не снимающим теоретические проблемы данного института.

Второе направление требует обоснованную теоретическую основу с учетом обозначенных выше проблем.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

References:

1. Kudryavtsev, V. N. (2001). *Obschaya teoriya kvalifikatsii prestupleniy – 2-e izd., pererab. i dopoln.* (p.242). M., Yurist'.
2. Demidov, Y. (1996). Ponyatie okonchennogo prestupleniya. *Sovetskaya yustitsiya, # 16*, 21.
3. (2018). *Ugolovnyiy kodeks Kyrgyzskoy Respubliki* (ot 2 fevralya 2017 goda # 19). (p.154). Bishkek: M-MAXIMA.
4. (2017). *Kodeks Kyrgyzskoy Respubliki o prostupkah* (ot 1 fevralya 2017 goda # 18). (p.110). Bishkek: OsOO M-MAXIMA.
5. (1998). *Ugolovnoe pravo Rossii*. Uchebnik dlya vuzov. V 2-h tomah. T. 1. Obschaya chast. Otv. red. A.N. Ignatov, Yu.A. Krasikov. (p.63). M.: Izd. gruppa NORMA – INFRA-M.
6. (2002). *Kurs ugolovnogo prava: V 5 tt: T. 1: Obschaya chast: Uchenie o prestuplenii: Uchebnik dlya vuzov.* (p.624). Zertsalo-M.
7. (2005). *Postanovlenie 23-go plenuma verhovnogo suda SSSR ot 4 marta 1929 g. Ob usloviyah primeneniya davnosti i amnistii k dlyaschimsya i prodolzhaemyim prestupleniyam* (s izmeneniyami, vnesennymi postanovleniem Plenuma ot 14 marta 1963 g. # 1) (Sudebnaya praktika po ugolovnyim delam / sost. G.A. Esakov. (p.6). M.: TK Velbi, Izd-vo Prospekt.
8. Sabitov, R. A. (2003). *Teoriya i praktika kvalifikatsii ugolovno-pravovyyih deyaniy.* (p.94). M..
9. Nafiev, S. H., & Muhamedzyanov, I. A. (1999). *Kvalifikatsiya prestupleniy.* (p.11). Kazan: Izd-vo Kazan. Un-ta.
10. Korneeva, A. V. (2008). *Teoreticheskie osnovyi kvalifikatsii prestupleniy. ucheb. posobie.* In: A.I. Raroga (Eds.). (p.83). M.: TK Velbi, Izd-vo Prospekt.
11. Kryilov, N. E. (2008). *Osnovyi teorii kvalifikatsii prestupleniy.* Moscow.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 25.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Jahongir Yakhshilikov
Samarkand State University, Samarkand, Uzbekistan
j_yakhshilikov@hotmail.com

PROBLEMS OF KNOWLEDGE THROUGH CIVILIZATIONAL APPROACH AND PRINCIPLES OF CIVIL LAW. CASE OF UZBEKISTAN

Abstract: This paper makes investigations on civil law and its principles as whole. Moreover, the way of social life and problems of civilization are mentioned accordingly. Therefore, levels and tendencies of the principles that establish the essence of civil law are categorized. Moreover, current status quo of this feature was analyzed in case of Uzbekistan. Furthermore, policy and structure of country on law and philosophy have been learned from both theoretical and practical point of view. Research finalizes major outcomes and shortcomings of the topic to make better analyses further.

Key words: law, civil law, property, private law, public law, legal capacity, relevance, legal understanding, equality, justice and freedom.

Language: English

Citation: Yakhshilikov, J. (2018). Problems of knowledge through civilizational approach and principles of civil law. Case of Uzbekistan. *ISJ Theoretical & Applied Science*, 12 (68), 224-233.

Soi: <http://s-o-i.org/1.1/TAS-12-68-32> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.32>

1. INTRODUCTION

Social philosophy is a science fiction about the social laws and the driving forces of the existence and development of society. The philosophy of law is to study the legal norms of the legal entity, and the philosophy of civil law explores the general, including substance law, which is characteristic of civil law relations. But the objective laws, including the knowledge of social philosophy, the philosophy of philosophy and the philosophy of civil law, depend on the understanding of social phenomena. These objective laws are manifested and dominated by civil law relations.

The ignorance, ignorance and disregard of these processes in civil-law relations leads to the limitations of the science of the researcher's thinking. So, the definition of social relations, including the principles of knowing civil-law relations, and the logical continuity of knowledge about it also depend on the social philosophical understanding. Hence, the substance of the know-how, which leads to the whole idea of understanding, is the basis which unites the idea of the beginning and the end. This logical process is also about knowing the principles of civil law. The point is that as the content of the principles is

objective and knowledgeable, it is also dependent on philosophical concepts of civil law, including the process.

The dialectical cultural understanding of history and its ultimate goal - civilization changes in all social, including civil rights, are related to the cultural reality, which requires the definition of the methodological significance of the category of «culture».

«Culture» provides Latin «care», «processing» and «upbringing». In the agricultural sciences, the word «cultured rastenie», «cultivated plants», «cultivation», «processing», are used as whole. Thus, there are two occurrences of natural phenomena - human events. This part of the event, in other words, nature is called «cultura». Maintenance is also a process of cultivating.

This is the essence of the concept of culture that is scientifically applied as a process. Therefore, S. Abdukholikov summarizes achievements in various cultural approaches: «Humanity used the concept of «cultura» to distinguish it from the natural things. Thus, culture is the entity that transforms and creates events by the human being and by the new quality, that is, the cultural existence. «10 Cultural beings are the basis and nucleus of the existence and

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

development of society. With this description, a new trend in understanding culture has begun. «Unlike nature,» says the authors community of one of the philosophical textbooks in Rostov-on-Don, «culture is both material and spiritual.

2. THEORETICAL BACKGROUND

Culture is a specially crafted, humane nature that meets all these needs. «As can be seen from this description, culture is unique. It does not happen without human beings. H.T. Odilkariev and Sh.F. The philosophers confirmed this philosophical idea and created a system called «cultural heritage» that embraces everything that was created during the era of «miraculous sophistication» of modern civilization, which is the primary source of material culture, from the «simple stone crusher» to modern miracles.

Hence, the development of the term «cultural entity» and its introduction into the scientific context can be considered as a new category of culture understanding. Of course, this is about the culture of society. The culture of society, that is, the cultural heritage of a single person - has a vast amount of human culture, which includes it. The culture of the person is the ability of the individual to know and use it.

According to book called “Cultural History and Its Problem” has been discovered that the major aspects of society - the spheres of social, political, legal, and spiritual life. On this way, ideas have been ignored but their cultural components are correlated according to the functional aspects of these cultural aspects the formation of a cultural entity, the formation of the attribute, the way of life, the central part, the essence of the social existence and the development of cultural existence. On the basis of these ideas, the essence of dialectical cultural understanding was discovered.

As cultural entities form the basis for the existence and development of society, human beings and its units are the elements of spiritual, material, political and legal culture of the society. These components are based on the social, spiritual, material and political life of the society. Thus, in the social philosophy based on dialectical cultural understanding, the idea that social beings is a constituent of society, in other words social life, and that its central part is a cultural entity.

In the scientific research, we see that this social philosophical principal idea and the corresponding correlation - functional and substance laws we have already pointed out. Professor Z.M.Islamov, a doctor of jurisprudence, observes these scientific journals and scientific journals: «... Materialist method of dialectics, that is, materialist understanding of history,

including the law, was absolutely universal and one of the only correct methods. Understanding that Marxism - Leninism has come to an end in such a conception. In particular, any right was only limited to property. True, economic law represents economic relationships.

3. METHODOLOGY

Civil society in Uzbekistan has been primarily associated with mahallas, which are self-governing bodies. The mahalla system in Uzbekistan is an important institution of local self-governance, which plays a significant socioeconomic development role. The mahalla is a community-driven organization responsible for helping members of the community and other social work (conflict resolution, overall community upkeep, etc.). At the present time, the mahalla structure and functions are based on the law on Institutions of Self-Government of Citizens (the Mahalla Law of 1999). Civil society in Uzbekistan today is broader than the traditional mahalla system. It covers businesses, grassroots initiatives, government initiatives, and political parties, among others. Civil society began developing during 1991–1995. The Business Women Association of Uzbekistan, Tadbirkor Ayol (which has offices in Tashkent and each province), the Association of Pediatricians (Bukhara), Perzent (Nukus), the Association of Accountants and Auditors (Tashkent), the Female Resource Center (Tashkent), and Kridi (Tashkent) were among the first nongovernment organizations (NGOs) who formed in this period.

Right is a certain aspect of human relationships. They are objective. In fact, the majority of people are conscious, purposeful, ie cultural. It is also a cultural process that reflects these relationships at certain levels, based on a certain understanding. Therefore, the history, including dialectical cultural understanding of rights, is also being compiled. «

Thus, the idea that the central part of social life is a cultural one is the initial «springboard» of knowing its fundamental social philosophical principle of knowing the principles of civil law.

The above-mentioned ideas based on dialectical cultural perception of the idea of social philosophy have been developed in scientific literature and have been used in research subjects. In particular, the nature of the unifying and non-cultural aspects of the cultural aspects of each of the areas of social life has been defined. Not only that, but also their correlation - functional integrity was highlighted. Social associations and their sides are cultural constituents of the material, spiritual and political-legal cultures, and constitute the basis of social life. «The core of society is the role of the components of cultural environment There are also a number of generally

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

accepted social laws correlation - functional laws. These laws indicate the place and functional status of civil rights in the social life. In the case of civil rights, the principles of civil law are formed.

4. ASPECTS OF CIVIL SOCIETY

One of the four main components of society is the social sphere of life and their social-class, demographic, territorial division, everyday life, health, sports and communal systems. For jobs and services, they are available in all areas of society. If pets, houses, clothes, food are not included in the system of exchanges, they will belong to the social sphere of society, in particular the system of living.

A major part of the social life of society is the social principle of law in relation to social life and its cultural components, in the functional status of the individual and its units. This is called law of the role of the subject in the law. This is a common law of publicity in the form of the civil law definition of the civil law and the law of the subjects of civil rights. Privileges, privacy, honor, privacy, occupational prestige, privacy, personal secrets, freedom of movement, residence and residence, and other personal property rights of citizens, together with legal entities, the attributes of the subjects of civil rights and are in the system of the social law of the society.

In broader terms, civil society in Uzbekistan today is represented by the following types of organizations (Figure 1).



Figure 1. Types of civil society in Uzbekistan

The Social Structure Law is, firstly, the subject, the creator and the transporter, and secondly, in the form of mobility, that is, in the history of the people and the role of a person. In the civil law, the principles of personal non-material rights, including the genesis of the principle of personal inviolability, are derived from the social sphere of the society, and in the system of social law of society.

The Law “On Non-Government Non-Commercial Organizations,” which was passed on 14

April 1999, governs NGO operations. The public actively discussed the draft law. In addition to this law, there are several other regulatory documents, such as the Resolution “On Measures for Supporting the Development of Institutions of Civil Society” and “Regulations on the Procedure for Placing Social Orders among NGOs and Other Institutions of Civil Society.” Legal Framework for activities is included from major features and rules as completely (Figure 2).

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

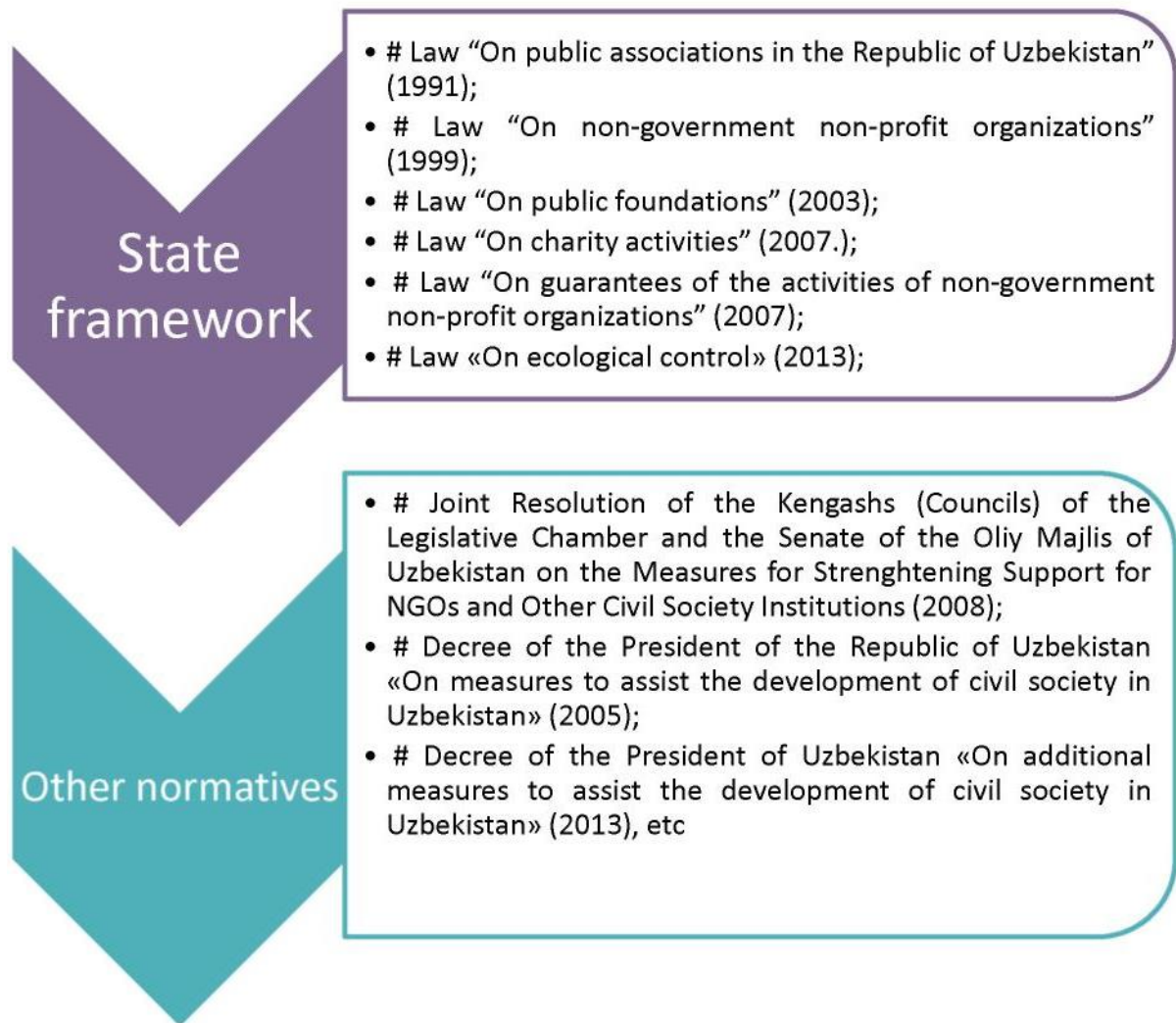


Figure 2. Legal framework of activities

As we have already mentioned, the norms reflecting the role of the definition of the subjects of civil rights in the civil-life relations in the sphere of social life, in particular, the formalization of the norms reflecting the personal non-material rights remain open.

The main social law in historical materialism was that the law of production of material things was a law of determining the other areas of social life and their development. However, the facts show that the basic principle of social law is general law. Indeed, the nucleus of the society - cultural entities change as the subjects change. As the substance changes, the cultural reality varies, and the changing of the cultural reality varies.

These changes are mostly evolutionary. We just use the word «revolutionary» to refer to its immediate moments. So, if there are qualitative changes in the subjects of civil rights, changes in the relationships of

the civil law will also take place. Eventually, Roman civil law in ancient Rome conformed to the needs of the people at the time, and today it does not meet the interests of the citizens of the Republic of Uzbekistan.

These changes imply the improvement of the civil rights regulating. This requirement is governed by the principles of civil law. Another important part of society is the material life of society. The core of material life, that is, its cultivated part, consists of material culture and economy. The economic life of the society is based on the culture of the economy. In addition to the economic culture of the society, there is also a side-by-side ecological entity. Ecosystems are based on the well-being of society.

The economic culture of society is a combination of technological and economic culture of society. One of the objects of civil law is the economic culture of domestic animals, households, production tools, equipment, clothing, foodstuffs. If pets, clothes, food

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

are in the system of exchanges, they are part of the community's economic life. If technological culture forms the basis of technological life (eg, wheat or cotton-growing), then the economic life of the society is based on the economic culture of society. Economic relations, property, exchange, distribution and consumption are the major part of society's economic culture. The need to regulate this relationship has led to the emergence of the principles of civil and economic rights and their principles. In short, material culture is a complicated dialectical structure that is required by social life spaces and their cultural parts and, therefore, has the function of material basis upon them. The method of producing material benefits is based on this system of law. The basic object of civil law is the legal regulation of property relations in the system of material culture.

A part of the community's political culture is the basic part of society's cultivation, which has been devised to identify the community. It consists of political actors, political consciousness, knowledge, creativity, norms, institutions, political activities. The inner nature of all the spheres of social life requires the rule. So the basis for the management is objective. The central authority in the political culture of society is the power of the state.

Since the political culture of a society is a part of the political life, its core is the basis of its definition. Governance is required in all areas of public life. Therefore, the political culture of the society is governed by the rule of law in other areas of society and their cultural components. Legal law on civil law is in the same correlation - functional system of law. The first part of state power is the main creator of the legislative power. In addition, it guarantees the human rights protection at the outset. That is why legal life is aligned with political life.

Human and its units operate on all aspects of social life while acting ontologically and functionally as subjects of all aspects of social life. Civil rights are also examples of this. If social relations, including the necessity to guarantee the equality of justice, justice and freedom in civil law relations, are legal. It is the duty of the legislature to reflect them in the law. Guaranteeing them is one of the functions of the authorities.

Hence, the fact that the civil law principles are based on the private law system is inextricably linked with the government and its responsibilities. In summary, the legal culture of society is a part of the legality of social relations, which forms the core of the legal life of a country. It also acts as a correlative-functional law that regulates the law of regulation of social life and their cultural components. Thus, the norms and principles of civil law are also legal cultural events. They will also be subject to submission to the whole system of legal culture.

It is also thought that the spiritual culture of society is the basis of spiritual life if we apply the

principle that the cultural heritage of society is the basis of social existence. In the center of spirituality, the process is the process of perception in the human brain. The sphere of spiritual life consists of the specific lifestyle of society, its moral life, its aesthetic life and scientific life, its religious life, educational and media systems.

Their roots include cultures of ethical culture, aesthetic culture, science, religion, education, and the media system. Spiritual culture is one of them. Ownership relationships of civil law, next objects - results of intellectual activity - inventions, industrial honors, science, art and other creative products, intellectual property are in the same system of spiritual culture. In addition, personal relationships that are not bound by civil law are also part of the spiritual culture.

5. PRINCIPLES OF CIVIL SOCIETY

Spiritual culture as a correlation - functional law of society serves as a moral basis for social life and its cultural aspects, including the law of gnoséological foundations. The society has no place in its relationship, including civil-law relations, through the consciousness of a human being, through the principle of spirituality. This fundamental principle of civil law is based on civil law, in particular through the principles of civil law. It is objectively conditioned that all spheres of social life, in the form of ideas of consciousness and general spirituality, are in the form of the principles of law. And when it is contracted it is necessary (Graph 3).

Thus, there are four correlative-functional laws of the society, which have parallel power and turn around the law of social law. In this regard, we want to express some points about the law of one of the laws taught in the historical materialism - the rule of law of the economic base. We have seen above that the right or the rule of law is objectively found in humans and in things and relationships they have created. For example, the age-related change in the ability of the citizen's rights to change. And this is natural, as is the basis of civil law norms. As we have already mentioned above, basically, the use of the principle only in economic terms is a limited understanding. All aspects of some social life are social, material, moral, political and legal life.

The skill is meant to be built on. When we take them as objective processes, they are basically used and the form works as a form. Legal principles are based on a range of bases and frames that define and follow the rule.

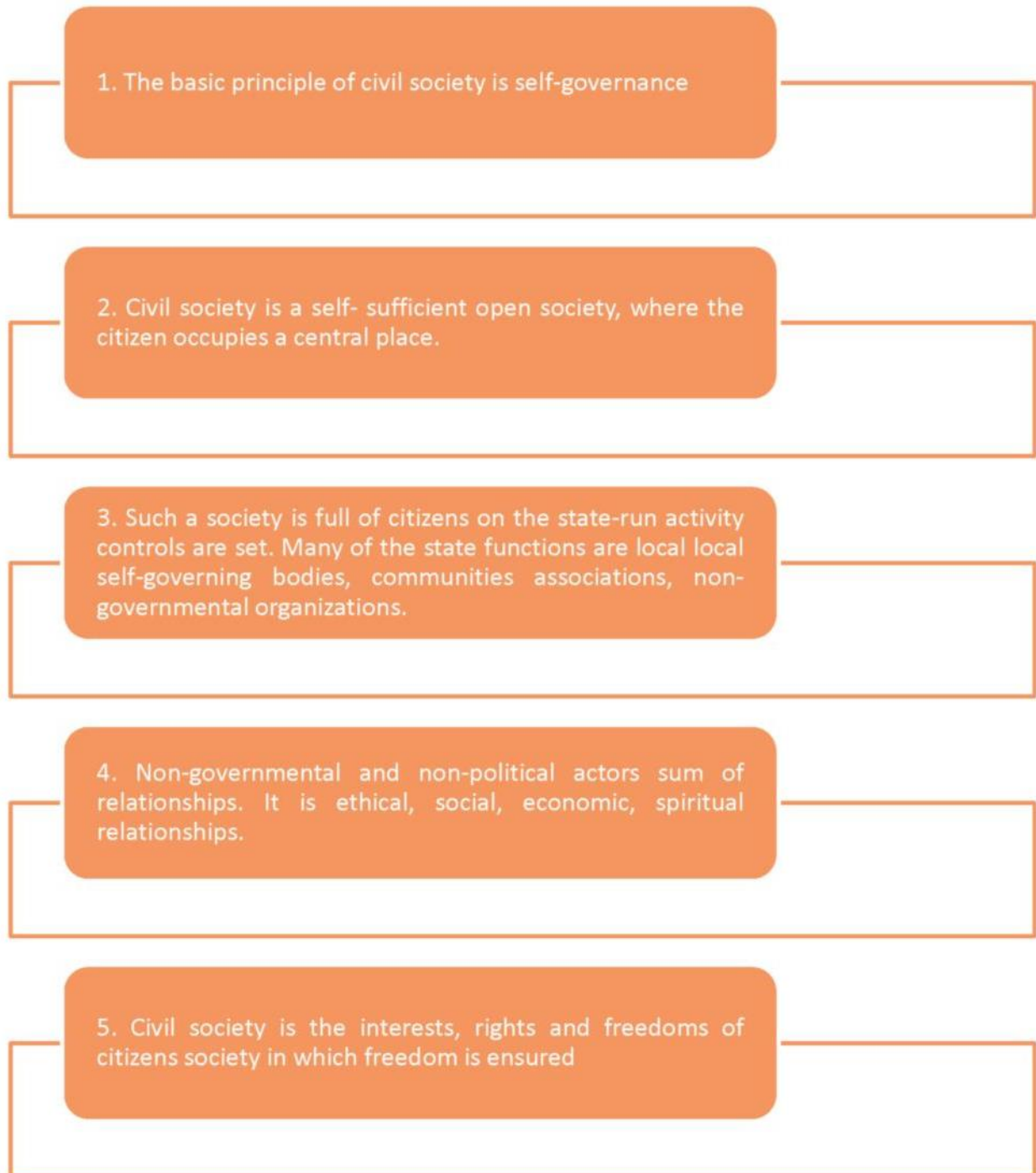
The experience in Uzbekistan demonstrates that the new politics of civil society can be hacked to justify the continuation of the arbitrary control of administrators who are no accountable to citizens. Plainly, calls for

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

civil society can be useful in containing or hampering opposition. Post-Soviet administrators» discourse on the mahalla as a foundation of civil society in

Uzbekistan is transparent as an expression of a desire to maintain control and voluntary subjection of citizens under the reorganising administration.



Graph 3. Features of civil society in Uzbekistan

The politics of «constructing» or «fostering» a civil society, played by both actors and researchers in civil society alike, irrespective of their original intentions, should be cautioned and reexamined,

because «civil society» could be used to cover up the nature of underlying power relations and to acknowledge, either implicitly or explicitly, the necessity of interventionist administrative control

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

from above. Endogenous formation of responsive institutions that guarantee the rights of the citizenry, such as independent political parties, fair and functioning judiciary institutions, free and professional media, and a truly open market economy, is a long and arduous process. However, only through such a formation of stable democracy can a democratic civil society be achieved in the region. After all, individual rights are only effectively protected by one's status as a citizen of a democratic state. Walzer's suggestion that «only a democratic state can create a democratic civil society, only a democratic civil society can sustain a democratic state» 103 sounds all the more true in the environment surrounding Uzbekistan.

The third step in the emergence of social philosophy, based on dialectical cultural understanding, was the doctrine of civilizations. The founder of the Republic of Uzbekistan I.A.Karimov used civilization in the meaning of the country: «In our country, where there is a great cultural heritage, many independent civilizations have their values transferred from generation to generation and the continuity of spiritual and cultural values.» F.Brodel also suggested this idea. «If we look at France in its most common chronological framework,» he says, «it's different and similar, sometimes peaceful, spacious, split, split, as well as frustrating, fierce, successful, France, in its entirety, gradually replacing each other. « Further divisions of interests triggered by privatisation might engender internal differences among administrators in preference to executing policies. These differences, in turn, might engender personnel changes in administration, but this too will not necessarily induce democratisation. In Uzbekistan, it is difficult to imagine in the near future that the civil public will transform itself into the political public, exercising its rights to dismiss regimes that failed to respond to the people's aspirations. People tend to regard politics as something to avoid, as an ethically corrupt business.

Thus, in civilization, citizens and states require each other. This is happening in a particular historical space and time (Graph 4).

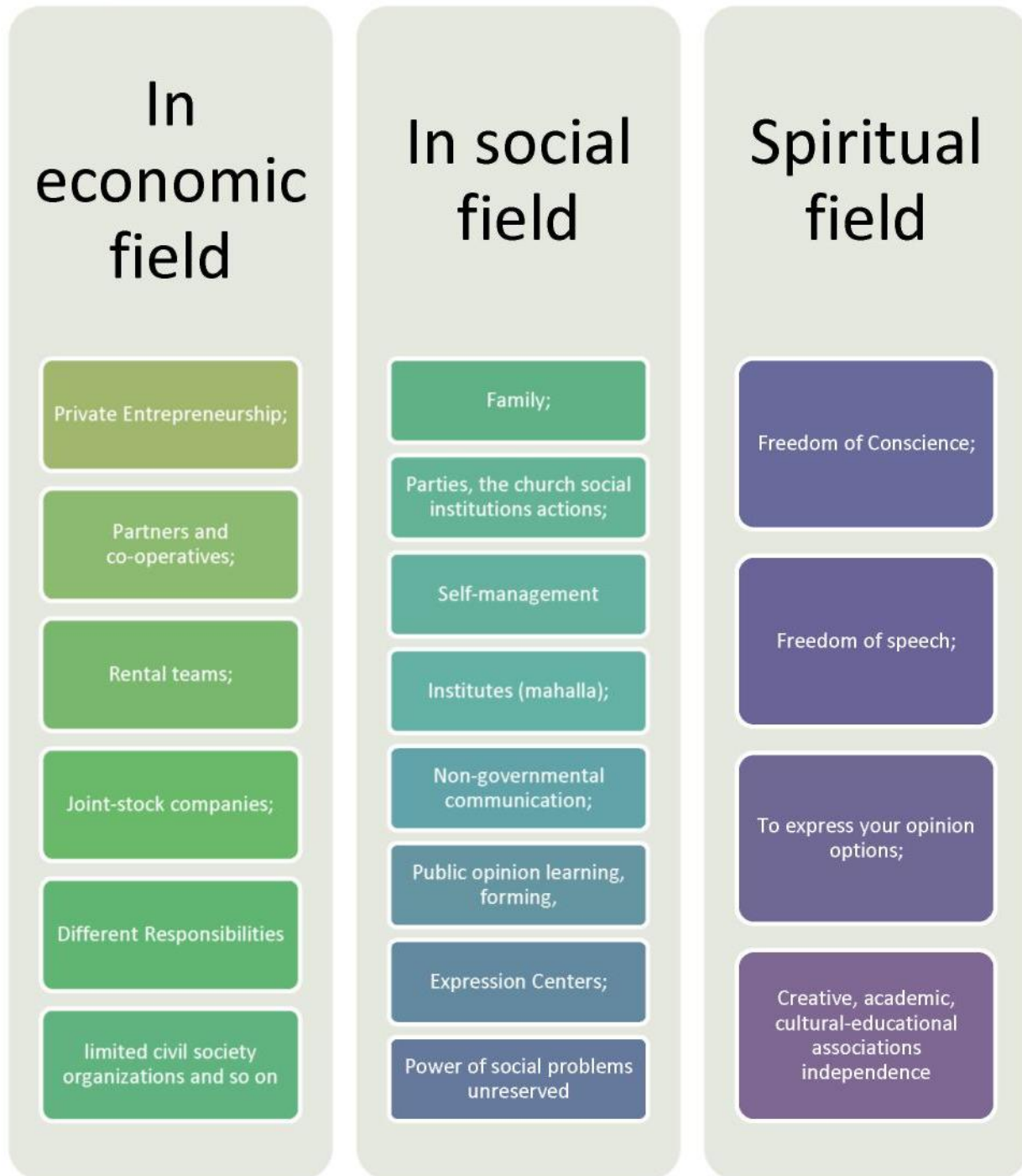
This phenomenon is expressed through the concept of the country. Because both the state and the citizenship are in a particular country. However, the word of the country has little emphasis on social philosophy. That is why «the country,» says V.P Pankov, «the state of the ethnocultural unity of people, as long as the stage of dynamic advancement has been realized, no matter how much the social space of a state that regulates through the» civil society-state «relationship, has not been reflected in the existence of a social - philosophical conception of apparatus. « One of our goals is to justify the legitimacy of civil law and its principles that relate to civilizations. So citizens» rights and their principles have changed in every country. Thus, civilization is a country with its own citizens and state. Each country, as a specific civilization, brings norms, based on certain principles of civil law, and establishes and guarantees the authority of the state. This is how civilizational approach to civil law and its principles are taken.

Thus, every civilization, as a whole, is a self-developed country, as a community, self-evolving on the basis of its cultural dimension, its need, does not mean that civilizations do not mean «cultures» or integration. Citizens of each country have regular contacts with other citizens of the country. This process leads to the integration of positive and positive aspects of conflict into cultures.

It is a part of the common law of the common culture of society, which is a part of the legal culture of society, as well as civil law and its principles. The Code of Civil Law of the Republic of Uzbekistan and the relevant laws and regulations of the Republic of Uzbekistan are being developed with the comparative analysis of the legal systems of developed countries.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	



Graph 4. Civil society structure

6. CONCLUSIONS

From a legitimate point of view, human rights include the rights of individual rights and freedoms, political, economic, and social rights. Human rights include a broader sense, as well as the obligations of citizens. The main content of human rights is the right to citizenship, with the rights of nationals of a

nationality and without citizenship. The Civil Code is a set of legal norms that regulates and strengthens property and personal non-personal relationships between businesses that are legally equal. In sum, all three signs of equality, justice, and freedom are manifested in the civil law. In civil law, voluntary equality of participants is the primary one. That is why this is a private law system. At the same time, the

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

participants will voluntarily settle their lives on the basis of their own interests. Therefore, voluntary equality constitutes the source of the root of all the principles of civil law, the source and basis of the ritual. Equality in this order constitutes the essence of civil law, which determines the direction of civil law principles.

On the whole, analysis of inquiries proves an awareness of citizens about the existing legal mechanisms for protection of their rights, ability and readiness to assert them under the law that, conversely, is an indicator of relatively high level of legal culture of the population. In the meantime, considering analysis of the monitoring results it is feasible under practical implementation of the Concept to speed up development and adoption of National Program on the rising of the legal culture in the society aimed at the cardinal improvement of legal education. Thereat, this program should foresee the practical measures on the strengthening of the interaction of the civil society institutes with public bodies in securing citizens» rights, rising of their legal culture and social-political activity, improving efficiency and practical performance of their activities in this sphere

Work on this paper has allowed to fully assessing the state of civil society in Uzbekistan, revealing

untapped reserves and designating tasks in strengthening of role and significance of civil society in the deepening of democratic reforms. The results of monitoring carried out by the IIMFCS witness strengthening of the role of civil society institutes in the implementation of socially important tasks on the ground, in protection of the rights, liberties and legal interests of people.

In particular, activity of the representatives of NGOs and mass media in development and discussion of the proposals on improvement of law was recorded. Quality changes in activity of the mass media are observed, their role in detection and coverage of urgent problems of the local population is increasing.

Outcomes of surveys also reflect the social-economic activity and legal culture of citizens of the country. This being stated, the authors can finish this report by a quotation from the President of Uzbekistan Islam Karimov»s speech: «It is arguable that we have achieved the main thing – reformation and democratization process of the country has attained an irrevocable and consistent character, people is changing, their political and civic engagement, their consciousness, interconnectedness to everything happening around them, and finally, their faith in the country»s future are growing».

References:

1. Abdul Rashid, Zabid, Sambasivan, Murali, & Johari, Juliana (2003). The influence of corporate culture and organizational commitment on performance. *Journal of management development*, 22(8), 708-728.
2. Ayanda, Adebayo Maruf, Lawal, Oloyede Raheem, & Ben-Bernard, Pun (2014). Effects of human resource management practices on financial performance of banks. *Transnational Journal of Science and Technology*, 4(2).
3. Bhatti, Komal Khalid, & Qureshi, Tahir Masood (2007). The impact of employee participation on job satisfaction, employee commitment, and employee productivity. *International Review of Business Research Papers*, 3(2), 54-68.
4. Brewster, Chris, & Mayrhofer, Wolfgang. (2012). *Handbook of research on comparative human resource management*. Edward Elgar Publishing.
5. Budhwar, Pawan S, Chand, Mohinder, & Katou, Anastasia A. (2007). The impact of HRM practices on organizational performance in the Indian hotel industry. *Employee Relations*, 29(6), 576-594.
6. Cohen, Jacob, Cohen, Patricia, West, Stephen G, & Aiken, Leona S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.
7. Deephouse, David L., Newburry, William, & Soleimani, Abraham (2016). The effects of institutional development and national culture on cross-national differences in corporate reputation. *Journal of World Business*, 51(3), 463-473.
8. Ferner, Anthony, Almond, Phil, & Colling, Trevor (2005). Institutional theory and the cross-national transfer of employment policy: The case of «workforce diversity»in US multinationals. *Journal of International Business Studies*, 36(3), 304-321.
9. Gabriel, J. M. O., Gabriel, L. J. O. , & Nwaeke, L. I. (2015). Reappraising Human Resource Management Practices as Predictor of Employees» Performance in the Nigerian Banking Industry. *Current Evidence. Nature*, 7(24).
10. Gabriellson, Peter, Gabriellson, Mika, & Seppälä, Tomi (2012). Marketing strategies for

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

- foreign expansion of companies originating in small and open economies: the consequences of strategic fit and performance. *Journal of International Marketing*, 20(2), 25-48
11. Gelade, Garry A., & Ivery, Mark (2003). The impact of human resource management and work climate on organizational performance. *Personnel Psychology*, 56(2), 383-404.
 12. Guest, David E. (1997). Human resource management and performance: a review and research agenda. *International journal of human resource management*, 8(3), 263-276.
 13. Hogan, Suellen J., & Coote, Leonard V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research*, 67(8), 1609-1621.
 14. Ibreck, Rachel (2013). International Constructions of National Memories: The Aims and Effects of Foreign Donors' Support for Genocide Remembrance in Rwanda. *Journal of Intervention and Statebuilding*, 7(2), 149-169.
 15. Jiang, Jane Yan, & Liu, Chi-Wei. (2015). High-performance work systems and organizational effectiveness: The mediating role of social capital. *Human Resource Management Review*, 25(1), 126-137.
 16. Karatepe, Osman M. (2013). High-performance work practices and hotel employee performance: The mediation of work engagement. *International Journal of Hospitality Management*, 32, 132-140.
 17. Kearney, Eric, Gebert, Diether, & Voelpel, Sven C. (2009). When and how diversity benefits teams: The importance of team members' need for cognition. *Academy of Management Journal*, 52(3), 581-598.
 18. Kline, Rex B. (2015). The mediation myth. *Basic and Applied Social Psychology*, 37(4), 202-213.
 19. Knight, Gary. (2000). Entrepreneurship and marketing strategy: The SME under globalization. *Journal of International Marketing*, 8(2), 12-32.
 20. Laurent, Andre (1986). The cross-cultural puzzle of international human resource management. *Human resource management*, 25(1), 91-102.
 21. Möbärg, Mats (2016). A proposed method of clarifying the meaning of contentious political-cultural words: The case of country and nation. *Nordic Journal of English Studies*, 15(2), 62-77.
 22. Naranjo-Valencia, Julia C, Jiménez-Jiménez, Daniel, & Sanz-Valle, Raquel. (2016). Studying the links between organizational culture, innovation, and performance in Spanish companies. *Revista Latinoamericana de Psicología*, 48(1), 30-41.
 23. Purpora, Christina, & Blegen, Mary A. (2015). Job satisfaction and horizontal violence in hospital staff registered nurses: the mediating role of peer relationships. *Journal of clinical nursing*, 24(15-16), 2286-2294.
 24. Rabl, Tanja, Jayasinghe, Mevan, Gerhart, Barry, & Kühlmann, Torsten M. (2014). A meta-analysis of country differences in the high-performance work system-business performance relationship: The roles of national culture and managerial discretion. *Journal of Applied Psychology*, 99(6), 1011.
 25. Ramdani, Boumediene, Mellahi, Kamel, Guermat, Cherif, & Kechad, Rabah. (2014). The efficacy of high-performance work practices in the Middle East: Evidence from Algerian firms. *The International Journal of Human Resource Management*, 25(2), 252-275.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 26.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Dildorakhon Zumratbekovna Abdullaeva

Candidate of philological sciences (PhD),
assistant -professor of the chair of Uzbek language and
literature of Andizhan State University,
Republic of Uzbekistan

**SECTION 29. Literature. Folklore. Translation
Studies.**

COMPARATIVE-TYOLOGICAL RESEARCH OF PARABLE AND PARABLE TYPES WORKS OF EASTEREN AND WESTERN CLASSICAL LITERATURE

Abstract: *The article deals with examples of parable. Genesis of genres similar to sampling in the East and West literature, their analogy and differentiated aspects are studied.*

Key words: *sampling, myth, epic, oriental and western sermon, matter, witch, handwriting, sentence.*

Language: *English*

Citation: *Abdullaeva, D. Z. (2018). Comparative-typological research of parable and parable types works of easteren and western classical literature. ISJ Theoretical & Applied Science, 12 (68), 234-238.*

Soi: <http://s-o-i.org/1.1/TAS-12-68-33> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.33>

Introduction.

Sampling appears is very ancient literary genre, its roots back to the early stages of human artistic thinking as a filing. In ancient Ezop (VI-V century BC) famous prose with illustrations. The ancient Western Ezop of the Renaissance (eg, Luther) does not doubt the ancient history of Ezop as a historical person, emphasizing the dispute. Philology of the eighteenth century (eg, Richard Bentley) founded this suspicion. Philology of the nineteenth century Otto Kruzius and Rutherford Aesop legendary were persons.

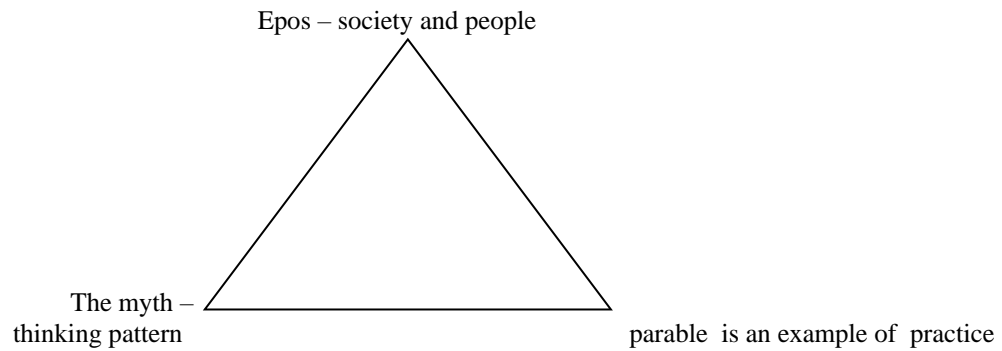
In the twentieth century, Ezop claimed to have a historical prototype. In Rome, Fedr (the 1st century AD) is a master of tales. The collection of tales created in India in the III century has been widely celebrated in the countries of the Panchatantra.

Ancient mythology describes human life, needs and desires, its present-day, past and future, all material and spiritual vital forces and high purpose. Myths are not a work of art, but a form of thought of ancient ancestors in the primitive

form. Older people describe and describe how real life they are. Myths are not merely a form of primitive thought, but are transformed into artistic proofs of the period. Mythologically-inspired Christian prose is a collection of general aggregations, a brief content of real truth. In such a work, it is of particular importance to perceive the artist's idea, to understand the essence of the essence. According to Russian literary critic A.Bocharov, usually the modern literature is divided into two parts: the documentary and the mythological-reference principles [1]. It has its own meaning. If the myths show that ancient ancestors' perceptions, beliefs, and ideas about nature and society are manifested in the myths, there is also a natural and human relationship. However, given the true nature of the tale, the issue is characterized by a more social significance. In the illustrations of the primitive definition of the characters, though the characters are allegorical images, the focus of the work is on humanity and related issues. The features of the myth, epic, and illustration can be reflected in the following scheme:

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHU (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	



Scheme 1.

The case has practical character and has been used in practice. The parable is an international genre, it is found in folklore of all peoples, but the original form was created in the Greek literature. The use of allegories or the use of legends also applies to ancient Sumerian-Akkadian texts.

The appearance and geography of the story relates to the people of the East. The syllable is a word taken from the Arabic language, which refers to the essence of the syllabus [2]. The linguistic meaning of the word is proportionate to its scientific hegemony. The salient features genre features. It is essentially a didactic-ethical literature, practical in nature, and, in the light of vital necessity, is the argument that provokes the idea of argumentation, artistic expression, and stimulates a particular emotionality in the reader or the listener.

Plagiarism, short volume and allegory are a prerequisite for parables. In other genres, plot parts consist of only four lanes, with exposition, node, event flow, culmination point, solution, prologue, and epilogue. Russian sampler M.L.Gasparov believes that the story should be an exposition, intent, event and unexpected result. [3]. The strict sequence of plot components determines the consistency of the logic of the event. In other works, the role of plot components can also be varied. However, in the illustration, their particular order is preserved.

There are two concepts about the origins of the case. The first was Otto Croisus and A, recommended by the German school. Hauerat and others, American scientist B. E. Invited by Perri [4]. According to the first concept, the story is the second one to teach in the story. This is one of myths about fairy tales, and this type of fairy tale is based on myths.

In the second conception, the lead is something that is instructive, because it is close to similarities and syllables, as well as stories like these genres. appears as a supplement to the argument. The first point was that Jacob's Grimm's romantic theory

had been upheld, and the latter developed the rationalist conception of Lessing.

The philosophers of the nineteenth century had a long debate about the issue of the Greek or Indian origin. It is no doubt that the source of the general material for Greeks and Indian tales is now a Sumerian-Babylonian tale. The story appeared first as an independent transcript of literary genres, and then transformed into folklore.

When using the illustration of the ancient period, the verbal rhetoric. Greek philosophers and poets Sofokl, Aristotle, Gesiod, Arxilox, Stekhork, Simonid, Keosky, Timokreont, Esxil, Aristophan, Demokrit, Prodik, Protagor, Antisfen, Sampling or pointing to the works and speeches by Diogen, Socrat, Xenophon, Plato occurs. In the classical and the Holocaust abroad, the sampling is based on the educational and ethical literature, which is a universal one. The syllabus is a model of didactic-educational literary literature for children and adolescents. Sampling becomes a regular resource for school teachers and philosophers. It was easy to use illustrations in the talk. Thus, for the first time, the collection of syllables appears. This was due to the increased need for education. Thus, the third stage of the historical development of the narrative genre begins with a passage from the oral form to the written literature.

Martin Luther said that the author of Aesop issues are not the same person, but the ancient and the modern art collection, the traditional image of Aesop orange. The first collection more than a hundred illustrations all types, based on the normal sample plots are written. Such as simple and short written description of the main events plus h and motivated expression of the people described above, approaching traditional story templates. Separate sampling sets are fundamentally different from the structure and modification. An example of the "progimnasma", which is used in the initial training exercises used in teaching vocal talents, has taken its place. The number of training exercises rights have reached 12 to

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

15 are removed. Their sequence system was as follows: sampling, story, charity, sentence, refutation, and confirmation, praise and accusation, comparisons, descriptive, analysis, legal issues. The problem was simple progimnasms among the first linguist by training, and then the speaker used in the preparatory classes. Progimnasm special tutorial with theoretical characteristics.

He was to serve descriptive, The samples were covered by samples i and exercises. Four of us in these textbooks, the authors of the speakers came Feon the end of the age (age I and II century), Germogen (II century), Aftoniy (IV century) and Nicola (V century) is sought. In addition, this interpretation of the textbooks for the Vizantiya comments appeared in the literature of the period. Their structure is based on ancient traditions. In particular, the tafsir of the Aftheti textbook is the majority. This tafsir was created by Doksopatr (XII century). The general description given to the case was unanimously agreed by all the progimnasians. According to him "a fairy tale the story that is embodied reflects the very essence of reality." Illustration of the spiritual and moral content as follows: -sententsiya (logos), compatible with the structure and nature of the parable, the giver of explaining the idea. On the other retreat promify sampling at the end of a Message - it is referred to epimetically.

Aristotle, in the forms of evidence that agenda remains a rhetorically. There are two ways in which Aristotle can make a mistake - shows paradigm and intemine, similarity of logic induction or deduction.

Apart from the literary genre, there are also works that are close to it. Articles, stories, narrations, stories, stories, and stories can be called works of fairy tales.

Why are we referring to works of fairy tales? The word "masal" in Arabic means "example", "example", "example", "like". The sampling genre is used in a narrow sense and has specific features. The concept we are dealing with is a broader meaning, and works of fairy tales are understood to be their use in a ready-made solution, practicality, universality, shortness of volume, and didactic content.

Teaching and teaching stories in fairytales and fables, illustrating the case and judging are the priorities. The fairy tale, according to the nature of the discourse, is closer to the fable tales, stories and anecdotes about animals, and the final part comes to mind. Synopsis is a type of aphorism, a short, intelligent, ethical and educational content. Parable the functional aspect of the works of the character - is used for practical and more educational and didactic purposes for various events and events of life. In these works the generalization and extremes take the basic place. For example, do

not take the form of articles, nouns, charity, handwriting, sentence, apof (t) twist, maxima, aphorism, punctuation in Russian literature, pribautka, priskazka, pritcha, alogizm and others, Some aspects of the phenomenon are important.

The only artistic material in the story is the transition from one to the next and to the other similar genres. The case is independently presented in contrast to different life events and has its own traditional image and motif. Sometimes a light laughter for the story - humor, sometimes a social criticism. There are also similarities with her temples. The presence of the allegory differs from the temptation by the latifah. In Latifah, as in the illustration, an animal may appear, but the allegoric image serves as an art detail [5]. In fact, folklore-specific tale is conservative.

The folk books and fairy tales of the Uzbek people contain a picture of Lukamán. Alisher Navoi's book, "Historical Anbiyo and Duke" is also mentioned there. Particularly, Luqmani is reported to be the reason for the release of the judge from slavery. "... The master (Luqmani Judge - D.A.) played one of the rhizomes of a rud (the river D.A.), this condition is undoubtedly the defeat of this rud (water of the river) or molin. And Luqman's successor (loser - D.A.). Harif (partner - D.A.) offered to drink rudha. And he was greatly upset (D.A.). When I say that, it is time to make water now or when it's too late, but if it's now, then the rudd's bucket is water-resistant. The harep was frustrated. The master was rescued and liberated Luqman." [6].

The story of Ezop's life ("Jizneopisanie Ezopa") focuses on the story of his master Ksanf. Ksanf will take a pledge with a student in a drunken circle during a reception: he will drink the sea water. The next day can not be done This condition will be answered by Ezop.

The stories of both stories are identical. Structuralally, there is a harmony: 1. The boss is the host. An unexpected condition is said. 3. If he lost, he should give all his property. 4. The slave's master finds a solution. 5. Release of the slave in the sense of rewarding.

The story of Luqmaan refers to a river in the seas, and it is necessary to make the water at the time specified and separate the two coastal waters. If the master of Ezop did not fulfill the promise of release, then the governor of the prison will be released by his master. The narrative of Ezop is great, and the story that Alisher Navoi brings is very short. Even in the work of the Ezop and Alisher Navoi, the motifs are similar, but their image, expression and narrative, methodological aspects and poetic characteristics are unique. The fact that this plot scheme is based on two-faced literature in the region is evidence of its folklore character. This is similar to the fact that it is the basis of the plot, but on the other hand it should

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

be taken into account that there is a typological similarity between works. Contemporary folklore and literary criticism of the phenomenon of the planet's evolution, as acknowledged by factors such as the emergence of similar scenarios, are due to the particular socio-historical conditions and ethical aesthetic needs of different countries [7].

If some of the texts we have today are being traced back to the roots of historical formation, we will see that they are built on reality. *For example, cut seven measurements.*

Such articles are universal in practical terms. They are transformed over time, and the narrow section is short and concise. It can be said that the last part of the parable exhortation refers to an instruction, a lesson, an essay. It was argued that A. Potebnia was the source of the articles [8]. Therefore, the roots of the article and the syllable are linked to the same principle. When the genesis of ancient genres is observed, the motion of each other becomes apparent. This indicates that there is zincedicity in the initial stage of the literature. The separation of the judgments section separately and the disconnection from the main source gives rise to an article. The wise thoughts, deceptions, and the aphorisms spoken by a particular person can become a tradition and completely disconnected from their original source.

The articles are short, compact, rhythmically organized, used in speech, illustrative, folk wizards. It is a complex set of ideas that are based on the experiences of the people, portrayed in a portable way, with a very compact, concise idea. The facts known to everyone in the articles are summarized. For example, *you can plant what you want*. Originally, this article appeared as a result of a particular event. Later, it was used in a portable sense and had a general meaning. Here is a story about Luqman and his epistle: If Luqman told his brother to sow wheat, he would plant barley. At the time of the harvest, the master asked him about this. This is an example of the fact that Lukman did not do good in return for his cruelty to the people. That is, he did not think that he would barley wheat or wheat. So, this is who you want to be an example to teach and instruct the main target.

In the folk episodes there is a phrase, "I'll show you the Anang with a twist." Not everyone knows the reality behind this episode. It is noteworthy that a young man's mother leapt in the Black Sea. The young man ran over there, drove him and saved his mother. One of the elderly people said, "It's useless to look for your mother here and catch your mother from Uchkurgon and leave that place." Because Uchkurgon is located in Namangan region, where it is pushed to Karadarya. On the tropical ground, "I will hurt you deeply, and I will bring disaster on you (just as a young man who has lost his mother)." It is difficult to determine whether there is a historical

reality in this context. However, whatever the scene of a life story, the name of the place and the logic of the episode is logical. Or there is a motive for the sake of the "burial of the camel and the dry year".

In articles, stories, narratives, and other smaller genres, there are many famous people. The appearance of this genre is *regarded* as a *charity* in the antiquity literature. Aphorism, such as Latifah, or ethical-educational content, or the actions of the great man, and his instructions, are the same. *Diogenes*, for example, *saw a bad-tempered child and struck his teacher with a stick*. In Chrysanthemum schools, the program was used as one of the training exercises. In ancient times, similar works of fairy tales were generally called charity. One of the forms included in the *charity* is the *manuscript*.

The idea is the idea, the idea, the point of view, the type of aphorism. It is educational and philosophical, and is usually referred to as a poetic piece of poetry. Although the new epoch was similar to those in European literature, it did not become a genre. For example, the case of Giovanni Giovanni appears. Analogic forms are observed in Indian, Arabic and Persian poetry [9].

In the antique period school, it was used as a synthesis exercise. It is a type of aphorism, a brief expression of generality. Often moral and educational content is a form of command. "Measurement is more important than anything else", "Understand yourself" or "Seven Greek Wisdom". Parallelism, antithesis, repetition of stylistic figures, etc. S Enter the interval between the police known folk proverbs and author of aphorisms case. When the philosophical content is strong, the gnome approaches the maxima when didactic content is leading to an apo (t) egg or xrase in a particular situation. A ntik literature, enlightenment and classical literature are widely and widely used. The work has a specific function to boost culmination.

Aphorism is a short form of admonition, close to the sentence, but typically affects a particular situation. A collection of ancient apophos and short stories about the phenomenon of philosophers, great events in the life of the great men are described as apoph (t). The second half of the 6th century and the polyamine apof (T), formed in the 17th century by Western Europe, spread in Russia. The collection was compiled and translated by Benjash Budny-Vilno (1599). In Russia in 1711, the apof (t) editions were published in printed form.

The maxima is a type of aphorism that refers to the "high principle", which is a form of sentence, ethical and educational content. Maxima is in the form of educational or interpretive. For example, "Simplicity is simplicity" - F.Laroshfuko, "Eat evil with good" - B.Paskal. The prosperity of Maxima as a genre dates back to the eighteenth century.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Aphorism is a common word, concise, artistic, expressive, generalized idea. It is usually derived from antithesis, hyperbola, parallelism, and so on. In folklore, aphorism is referred to as articles and articles, written manuscripts and sentents (authorless aphorisms), apophos (known to the author), charity (a known person in a particular case), and aphorism with ethical-moral content. The author of the aforementioned aforementioned essay is always known. According to the analysis of M.G.Gasparov and Z.Karlanov, according to the types of aphorisms can be classified as follows: 1. Aphorisms of Folklore. 2. Citation and sentence (authorless aphorisms). Apof (t) twins (authored by certain aphorisms). 4. Hrs (Aphorisms given by a particular person in a particular situation).

Aphorism often came from artistic and literary works, but also existed in a special genre. For example, Alisher Navoiy or Abdullah One Dice are the works of others.

“Like fable, the parable also tells a simple story. But, whereas fables tend to personify animal characters – often giving the same impression as does an animated cartoon – the typical parable uses human agents” [10]. The case is independently

presented in contrast to different life events and has its own traditional image and motif. Here are some of the common aspects of the samples: 1. Functional side. 2. Universalism 3. The Leadership of the Summarization. 4. The short bid.

Conclusion.

Eastern and Western literature examples and sample works of nature research has shown that some of the examples of transforming from east to west. Western literature, some examples of literary and literary relations were considered, on the other hand, as a result of moral and humanitarian principles, good understanding of all the people some point synchronized to know each other in terms of a similar basis to say.

Examples of genre-specific features and the creation of common and different aspects of the character of the parable shows that compared to the works of the world's masalnamo- tipologic study of the flesh sh. This is the literary tasks, the different nations of the world in the field of literature and culture plays an important role in strengthening bilateral relations.

References:

1. Bocharov, A. (1980). Japos, mif, pritcha. *Literaturnoe obozrenie, № 1*, 36.
2. Baranov, H. K. (1989). *Arabsko-russkij slovar'*. (p.741). M.: Russkij jazyk.
3. Gasparov, M. L. (1868). Sjuzhet i ideologija v jezopovskih basnjah. *Vestnik drevnej istorii, №3*, 25.
4. Gasparov, M. L. (n.d.). *Antichnaja literaturnaja basnja*. Retrieved 2018, from <http://ru.wikipedia.org/wiki/>
5. Suvankulov, B. (2007). *Uzbek halk latifalarining zhanr hususiyatlari va badiijati*. Filologija fan. nom...diss.avtofef. (p.10). Toshkent.
6. Navoiy, A. (2000). *Tarihi anbijoy va xukamo. Mukammal asarlar typlami. 20 zhildlik. 16-zh*. Toshkent: Fan, p. 168.
7. (1987). *Literaturnyj jenciklopedicheskij slovar'*. (p.58). Moskva.
8. Potebnja, A. A. (1989). *Istorija slovesnosti*. (p.72). Moskva.
9. (1987). *Literaturnyj jenciklopedicheskij slovar'*. (p.78). Moskva.
10. (n.d.). Retrieved 2018, from <http://www.britannica.com/art/Parable./literature/Britannica.com>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](http://s-o-i.org/1.1/TAS) DOI: [10.15863/TAS](https://doi.org/10.15863/TAS)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 26.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Umidakhon Maripjonovna Ahmedova

the teacher of Humanitarian Sciences department
Andizhan branch of Tashkent State Agrarian
University, Republic of Uzbekistan

SECTION 13. Geography. History. Oceanology.
Meteorology.

SOME REFORMS AND THEIR RESULTS WHICH ARE TAKING TO DEVELOP THE AGRICULTURE OF UZBEKISTAN

Abstract: In this article, some reforms and their results which have been taken on the branch of agriculture of Uzbekistan in the independence years are analyzed by the help of historical resources.

Key words: Uzbekistan, agriculture, agrarian reforms, cotton planting, livestock breeding, farm households.

Language: English

Citation: Ahmedova, U. M. (2018). Some reforms and their results which are taking to develop the agriculture of Uzbekistan. *ISJ Theoretical & Applied Science*, 12 (68), 239-241.

Soi: <http://s-o-i.org/1.1/TAS-12-68-34> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.34>

Introduction.

It is of great importance to modernize and develop of the agricultural branch of Uzbekistan nowadays. Because, the agriculture of the Republic is the most important and the most becoming mechanized branch in the national economy, and is required the demand of people who need food products, and the raw materials in the food industry branches. It includes the initial and complete processing of reproducing agricultural plants and animal products and it is of big importance to provide for people's material prosperities. Reforming the agriculture and some items to support the safety of the food no doubt is remained one of the main tasks before us. The main attention in the agriculture of the republic is country's climate, soil and water and raw resources and also on the basis of using the farming culture that has been gathered for many centuries with productively raising farm products.

On the farming grain growing, cotton growing, rice growing, fruit growing, grapes growing, cultivation of melons, vegetable growing branches, in the livestock breeding and cattle breeding, sheep breeding, karakul-sheep breeding, goat breeding, poultry, horse breeding, beekeeping, silkworm breeding branches are in activity. It should be observed that Uzbekistan is on the 4th place to provide the total cotton growing and exporting the cotton fiber stands on the 2nd place (after the USA) [1]. In the republic high-grade fruit growing, grapes growing and vegetable growing are prepared and exported to the foreign countries. Uzbekistan is

famous with its high-quality cocoon and karakul skin in the world. Republic has already reached the wheat independence and is exporting to abroad. According to its forms of property, private (peasant and farming, private enterprises, associations, state experimental and also experimental farms) inhabitants' personal subsidiary farms (especially, raising the agricultural products for their necessity in the private plot) sectors are existed. It is known that in the time of the USSR, in the reason of making a decision one cotton managing on the agriculture of Uzbekistan, in the late 1987s the cotton was planted more than watering 60% of the fields, totally 2107.7 thousand hectares [2]. In the period of the Soviet authority, it was aimed to build a colonial and tyrant society in Uzbekistan. First of all, the administrators paid attention to the development of agriculture in the Republic. Because Uzbekistan being within the former Union specialized to grow cotton, became the source of raw material and 3/2 of the cotton was carried to the center in carrying out it, water and irrigation were important. According to the colonial character of the agrarian policy of the Soviet authority, irrigation and land-reclamation of the Republic developed intensively.

As a result, scientific proved changing cropping system was completely unsettled, mineral fertilizers, herbicides and especially, pesticides which are dangerous for the health of humankind used more without measures, ecological and reclamation conditions were broken in the farming fields and soil components. After having reached the independence

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

of Uzbekistan, a new era began putting into practice deep reforms on the agriculture of the country. According to analyze the economical reforms on the agriculture step by step in our republic we can divide following basic directions [3]:

- proprietary and componental relations;
- reforms using the land;
- reforms using water and water resources relations;
- reforms finance- credit, tax and insurance branches;
- reforms the prices system;

The government of the republic paid attention to develop the market relations in the country's most important branch of the agricultural economy, to turn to the forms into the independent proprietary, releasing property from the state possession and being in privatization and organizing the activity matters of the peasant household and farming agriculture [4]. The parliament of the republic passed laws about deep turns which created legally on the agriculture. Supplying those decisions to put into action consistently in practice on the branch of agriculture in the mechanism of market in short time, remained the relations from Former Union to the property being wastefully and to be done away with and becoming distant from disorders to the property, and it is of great importance putting into a practice a freedom of initiative and business activity [5]. Some reforms which are putting into practice not only on the agricultural spheres, but some branches that serve to this, branches which reproduce the productions, it includes producing and social infrastructural joints and also reforming the external trade branches. From the early years of our independence, deeply based on an agrarian policy was made by the leading of our first president about developing relations to the ground and to the water in our state and reforming the agricultural factors are played the most important role. Bringing to an end consistent and widen surround reforms in the independence years some fundamental structural changes happened in the agrarian sector of the economy [6].

In the villages different kinds of property forms appeared. An attitude of the people to the property and to the land began changing. Taking and developing forms of the agrarian policy in the republic in the economical reforms to put into practice are connected and done with the dialectical process. That is why, new agrarian relations in our country which influence taking and developing shapes in the state policy it is suitable to research dividing into four stages conditionally [7]:

The first Stage (1991- 1995) Providing with the economical independence of the country, for the purpose of stability the agriculture and reconstructing it, initial social-political and legal basis are created by passing from the planned economy into the systematical market economy. Releasing the property

from the state possession and being in privatization was paid attention to, 1066 state farms were finished and on their basis collective farms were organized. Livestock breeding farming, orchards and vineyards, small ground plots and also green houses were in privatization.

The second Stage (1996- 2000) In these years, a modern mechanism of running the farming began to be created. Likewise, a modern legal foundation of taking to develop the agrarian relations were completely created [8]. Developing the farming, some durable basis and guarantees created in order to the economical and financial independence of the farm agriculture "The ground codex", "About releasing the property from the state possession", "About the peasant household", "About the farm agriculture" decisions and as well as the other law and standard- legislative documents were accepted. The structural policy in agriculture and first of all the local specialized conforming field of planting was realized with the acceptable way; running the household and organizational- legal forms were change completely.

The third Stage (2004- 2007) In the middle of these time a new edition of the decision "About the farm agriculture" a decision of the Ministers Council of the republic of Uzbekistan "Farm associations which gets damage and works with passive profitable and having no future changing into farming agricultures" and was organized the state leasing company "Uzmeliomashleasing" gave wide opportunities deepening the economical reforms. Structural reconstructing the farm associations and on basis of them the process of organizing the farming agricultures were held [9]; the property owners farm class was created; in the system of activity on livestock and peasant household and also economical relations of the agriculture and branches which serve to this were changed.

The fourth Stage (since 2008) In this stage, the first president of the republic of Uzbekistan made a decision "About accepting the measures plots of the land which depends on the possession to the farm agricultures" D- 3077- numbered order [10], "Measures against the decay" programme, "Development and flourishing of the village" year were done some tasks according to the state programme. Increasing to produce the consumer goods; to increase a number of farming agricultures in exchange for getting high profit; supplying of using the land and water; getting reached doing the agrotechnical measures in time effectively; supplying enough property using credits from the commercial banks; first of all, it is profit (or bank credits) at the expense of techniques and other things were achieved to buy.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Conclusion.

As to say in conclusion, the most important task to put into practice on the agriculture of the republic was to solve the attitude to the property to the ground. The right of owned property to the ground not in bureaucracy, not in given red -tape mongering,

but it should be put into action in modernized and be based on the market relations. According to give the grounds as a rent for a long time to be developed the farming and peasants households will be a firm direction.

References:

1. (2017). *Uzbekistan's Development Strategy for 2017- 2021 has been adopted following public consultation.* (p.129). Tashkent: newspaper, spiritual enlightenment.
2. (2016). *SAMUz –“Educational programme according to run the farming agriculture in Uzbekistan” teaching - methodological manual around the project.* (p.29). Tashkent.
3. (2012). *2012 was the year of raising the development of our country on the new stage. Teaching manual.* Tashkent: Teacher-publishing house.
4. (2005). *Juridical and financial basis of farming activity.* (p.7). Tashkent: University.
5. (2014). *The economy of peasants and farming agricultures.* (p.22). Tashkent.
6. (2010). *Putting an order the activity of the farming.* (p.4). Tashkent: New generation age.
7. (2006). *National encyclopedia of Uzbekistan”12th volume.* (p.281). State Scientific Publishing House.
8. Mirzaabdullaeva, M. (2010). *Putting an order the activity of the farming.* (p.25). New generation age.
9. (2015). *Khalq suzi.*
10. (2017). *O'zbekiston ovozi.*

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHQ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 26.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Denis Nikolaevich Drozdov

Ph.D. in Biological Sciences, Associate Professor
Gomel State University named Skaryna

Alla Vasil'evna Reutskaya

chemistry teacher
Public education institution
"Secondary school №15 of Gomel"

SECTION 11. Biology. Ecology. Veterinary.

UDC: 611.318:611.018.7:616.311.2

CYTOMORPHOMETRY OF BUCCAL EPITHELIUM FOR SMOKING YOUNG PEOPLE BY THE METHOD OF ASSESSING NUCLEAR CYTOPLASMATIC RELATIONS

Abstract: The paper presents the results of a cytomorphological analysis of the cells of the buccal epithelium of smoking and non-smoking young people, which made it possible to evaluate the reliability of the influence of the smoking factor on the morphometric characteristics of oral mucosa cells. As a result of the analysis, a significant difference was found between the average values of the nuclear-cytoplasmic ratio in the cells of smoking and non-smoking students. The smoking factor has a significant effect on the structural cellular morphogenesis, which is aimed at reducing the area of the cytoplasm and increasing the area of the cell nucleus, the influence of the factor is estimated at 90 %. Such dynamics of nuclear cells may indicate an increase in cell proliferative activity, which occurs against the background of a chronic load from the components of tobacco smoke.

Key words: buccal epithelium, nuclear-cytoplasmic ratio.

Language: Russian

Citation: Drozdov, D. N., & Reutskaya, A. V. (2018). Cytomorphometry of buccal epithelium for smoking young people by the method of assessing nuclear cytoplasmatic relations. *ISJ Theoretical & Applied Science*, 12 (68), 242-247.

Soi: <http://s-o-i.org/1.1/TAS-12-68-35> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.35>

ЦИТОМОРФОМЕТРИЯ БУККАЛЬНОГО ЭПИТЕЛИЯ КУРЯЩИХ МОЛОДЫХ ЛЮДЕЙ МЕТОДОМ ОЦЕНКИ ЯДЕРНО-ЦИТОПЛАЗМАТИЧЕСКОГО ОТНОШЕНИЯ

Аннотация: В статье представлены результаты цитоморфологического анализа клеток буккального эпителия курящих и некурящих молодых людей, который позволил оценить достоверность влияния фактора курения на морфометрические характеристики клеток слизистой оболочки полости рта. В результате анализа было обнаружено достоверное различие между средними значениями ядерно-цитоплазматического отношения в клетках курящих и некурящих студентов. Фактор курения оказывает значимое влияние на структурный клеточный морфогенез, который направлен на уменьшение площади цитоплазмы и увеличение площади клеточного ядра, влияние фактора оценивается в 90 %. Такая динамика клеточных структур слизистой оболочки щеки указывает на увеличение пролиферативной активности, возникающей на фоне хронической нагрузки от компонентов табачного дыма.

Ключевые слова: буккальный эпителий, ядерно-цитоплазматическое отношение.

Введение.

Одной из актуальных проблем, которая вызывает научно-практический интерес, является негативное влияние курения и те многочисленные негативные последствия, которые формируются в молодом организме. Фактор курения молодых

людей определяет не только медицинскую, но и социальную значимость этой проблемы, что подтверждают многочисленные исследования, научные проекты, национальные и международные программы [1].

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Мониторинг молодежной среды в возрасте 15 – 19 лет показывает, что число курящих достигает 40 – 45 %

(Постоялко Л. А., 2005, Александров А. А., 2009). Фактор курения является массовой социальной и психоэмоциональной проблемой. Особая актуальность изучения негативного влияния курения рассматривается относительно состояния слизистой оболочки ротовой полости и явления клеточного перестройки буккального (щечного) эпителия, которое развивается в условиях действия экзогенных факторов табачного дыма. Направленность исследований на буккальный эпителий связана с тем, что именно слизистая оболочка ротовой полости и верхних дыхательных путей служат первым барьером, которые внешнему подвергается воздействию.

Многочисленные современные исследования [2 – 8], дают возможность выделить буккальный эпителий, как уникальный объект изучения, позволяющий дать оценку состоянию не только ротовой полости, но и целым системам в организме человека. В этой связи особый интерес вызывают работы [9], которые изучают механизмы малигнизации (трансформации) эпителиальных клеток. Трансформационные перестройки клеточной структуры приводят к еще мало изученным функциональным изменениям и влекут за собой возможные формы клеточных патологий. В научной литературе подробно описаны изменения, происходящие в слизистой ротовой полости курящих людей (Ахаладзе Н. Г., 1999, Быков В. Л., 1997, Латышева С. В., 2003). Отдельного внимания заслуживают данные о том, что фактор табачного дыма может являться причиной предракового состояния слизистой оболочки рта (Гасюк Н. В., 2014, Bagan J. V., 2003, Bornstein M. M., 2004).

В силу своих анатомических и гистологических особенностей слизистая оболочка полости рта, как и верхние дыхательные пути, являются первым барьером на пути воздействия химических компонентов табачного дыма и соединений никотина. В перечень химических компонентов табачного дыма входят более чем 4000 веществ, среди которых канцерогены (бензол, формальдегид, бензопирен) и токсичные вещества (мышьяк, кадмий, полоний-210, цианистый водород и др.). Многослойный плоский неороговевающий эпителий щеки регулярно обновляется за счет клеток базального слоя. По мере своего роста базальные эпителиоциты постепенно поднимаются в поверхностный слой и проходят шесть стадий клеточной дифференцировки (Юй, 2006). Вступая во взаимодействие с компонентами табачного дыма, в условиях продолжающейся дифференцировки клетки претерпевают морфологические нарушения, одним из которых

является изменение размера ядра и соотношения ядра и цитоплазмы (ЯЦО). Появление измененных клеток в буккальном эпителии может свидетельствовать о наличии воспалительный процесс или формировании злокачественного новообразования.

Согласно материалу [8] клетки *буккального эпителий* содержат около 5 % гликогена, имеют вид тонких пластинок и полигональную либо овальную форму. Размеры клеток 48 – 142 мкм, в среднем около 89 мкм, площадь клеток 2000 – 7500 мкм². Ядро в клетках пикнотическое, имеет круглую либо овоидную форму располагается, как правило, эксцентрично поверхностного слоя, его размеры составляют 8 – 15 мкм, площадь 28 – 90 мкм². Цитоплазма клеток равномерно окрашивается, начиная с увеличения х400, видно, что она имеет мелкую исчерченность. Согласно публикации [10] оптимальное ЯЦО для одноядерной соматической клетки эпителия составляет 1 : 50, 1 : 60, 1 : 80. Используя представленные меры количественных оценок для клеток можно провести сравнительную оценку цитоморфологического состояния эпителия курящих и некурящих молодых людей.

Цель работы: провести сравнительный анализ и оценить цитоморфологическое состояние буккального эпителия курящих и некурящих молодых людей с помощью ядерно-цитоплазматического соотношения.

Материалы и методы исследования

Цитологическое исследование буккального эпителия проведено в период 2017 – 2018 гг. в группе из 24 учащихся старших классов (средний возраст 16 лет, юноши) средней общеобразовательной школы. Среди молодых людей было проведено анонимное анкетирование, позволившее определить отношение к курению и стаж курения. Выборочная группа была разделена на три категории: некурящие (негативное отношение к курению), курящие (стаж курения 1 – 2 лет), курящие и использующие иные препараты, травмирующие слизистую ротовой полости (каждая группа составляла 6 человек). Для сокращения были введены условные обозначение категорий обследованных нами лиц: первая категория – без стажа курения (БСК), вторая – низкий стаж курения (НСК), третья – высокий стаж курения (ВСК). При проведении обследования отдельное внимание было уделено гигиеническому состоянию слизистой ротовой полости. Для этой цели производился визуальный осмотр состояния десен и слизистой оболочки щек, а также верхней и нижней губы. При осмотре фиксировали наличие повреждений, язв, наличие кистообразных пузырьков.

Перед забором биологического материала, производили предварительный осмотр и

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

заполнение протокола обследования гигиенического состояния ротовой полости. Материалом для исследования служили мазки буккального эпителия, который собирали несколько раз металлическим шпателем с внутренней стороны щеки и переносили на предметное стекло, после чего высушивали на открытом воздухе с фиксацией в этаноле 15 минут. После чего мазки окрашивали гематоксилин-эозином [11] и определяли морфометрические показатели клеток буккального эпителия методом световой микроскопии на микроскопе Nikon ECLIPSE 80i при увеличении $\times 400$. С помощью программы ScorePhoto получил фотографии окрашенных препаратов от каждого обследованного. Цитоморфометрию ядра и цитоплазмы проводили с помощью программы «PhotoM», которая позволила определить продольные и поперечные размеры клеток при заданном разрешении. Произведения продольных и поперечных размеров ядра и цитоплазма использовали вместо площади этих структур, для последующего расчета ЯЦО по формуле (1):

$$\text{ЯЦО} = S_{\text{я}} / S_{\text{ц}} \quad (1)$$

где $S_{\text{я}}$ – площадь ядра клетки, $\mu\text{км}$; $S_{\text{ц}}$ – площадь цитоплазмы, $\mu\text{км}$.

Для статистической обработки полученных данных использовали проверку нормальности распределения, путем оценки отношения

коэффициентов асимметрии и эксцесс к их стандартным ошибкам. Достоверность различий вариационных рядов определяли исходя из нормальности распределения с помощью t -критерия Стьюдента. Достоверность различия оценивали для уровня значимости 0,05.

Результаты и их обсуждение.

Данные морфометрии буккальных клеток, которые мы получили в каждой группе, позволили оценить статистические характеристики и нормальность распределения площади цитоплазма, ядра и ядерно-цитоплазматического индекса. Для оценки характера распределения значений использовали тест Колмогорова-Смирнова с поправкой Лиллиефорса для уровня значимости 0,05. Результаты теста показали достоверное соответствие выборочных значений в каждой группе нормальному распределению, как для показателей площади цитоплазмы, так и для площади ядра ($p > 0,20$). Дополнительной проверкой служили показатели асимметрии и эксцесс и отношения к стандартным ошибкам, значение которых не превышали табличных значений для требуемого уровня значимости. В таблице 1 представлены основные характеристики распределений площади цитоплазмы эпителия у учащихся разных групп.

Таблица 1. Морфометрия цитоплазмы клеток буккального эпителия.

Группа	S, $\mu\text{км}^2$	Асимметрия	Эксцесс
БСК	3114,70 $\pm 7,72$ (21,56)	0,59 $\pm 0,43$	0,31 $\pm 0,36$
НСК	2720,12 $\pm 6,15$ (17,20)	-0,33 $\pm 0,65$	-0,43 $\pm 0,32$
ВСК	2215,00 $\pm 6,41$ (17,94)	-0,25 $\pm 0,91$	-0,83 $\pm 0,57$

Из таблицы 1 видно, что площадь цитоплазмы эпителиоцитов некурящих учащихся достоверно больше, чем в группе курящих, по сравнению со второй группой – на 14,5 %, с третьей группой – на 40,6 %. Наблюдается некоторая общая тенденция снижения вариационного размаха и величины асимметрии. Для группы некурящих учащихся имеет место левосторонняя асимметрия ($A_s > 0$), для группы

курящих – правосторонняя асимметрия ($A_s < 0$) площади цитоплазмы. Для распределения площади цитоплазмы клеток у некурящих учащихся характерна высоковершинность ($E_s > 0$), которая указывает на скопление частот в области среднего значения. Для курящих характерна низковершинность распределения ($E_s < 0$), что говорит о большей степени разброса вариационного ряда, чем в группе некурящих. В

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

таблице 2 представлены результаты оценки распределения показателей площади ядро

эпителия у учащихся разных групп.

Таблица 2. Морфометрия ядра клеток буккального эпителия

Группа	S, мкм ²	Асимметрия	Экссесс
БСК	51,69 ± 3,45 (9,66)	0,31 ± 0,43	0,21 ± 0,83
НСК	66,81 ± 4,55 (12,70)	-0,34 ± 0,33	-0,56 ± 0,35
ВСК	89,58 ± 4,43 (12,38)	-0,40 ± 0,56	-0,85 ± 0,27

Из таблицы 2 видна обратная тенденция – площадь ядра у курящих учащихся больше, чем у некурящих учащихся. Площадь ядра в группе ВСК на 73,3 % больше, чем в группе БСК, и на 34,1 % больше чем в группе НСК. Величина вариационного размаха и показатели формы распределения достоверно уменьшается в направлении от группы БСК к группе ВСК. Полученные результаты достаточно хорошо согласуются с данными приведенными в работах [8, 11, 12]. Статистический анализ результатов

таблицы 1 и 2 позволяет утверждать о том, что у курящих молодых людей наблюдается смещение ядерно-цитоплазматического отношения в сторону ядра. Полученная закономерность свидетельствует о структурных функциональных нарушениях, развивающихся в клетках эпителия слизистой оболочки ротовой полости. В таблице 3 представлены средние значения и показатели вариации ЯЦО клеток эпителия учащихся разных групп.

Таблица 3. Ядерно-цитоплазматические отношения буккального эпителия

Индекс	БСК	НСК	ВСК
ОИ-S [14]	0 – 0,6	0,7 – 1,6	> 1,6
ЯЦО	0,0166 ± 0,0011 (0,0031)	0,0246 ± 0,0017 (0,0047)	0,0495 ± 0,0020 (0,0056)
Вариация ЯЦО	18,6 %	19,1 %	11,3 %

Данные таблицы 3 подтверждают полученную закономерность, а также свидетельствуют о достоверном различии средних значений ЯЦО клеток эпителия учащихся разных групп. Применение однофакторного

дисперсионного анализа (ANOVA) показало, что процент разброса отношения межгрупповой дисперсии к общей для ЯЦО клеток эпителия составил 90 %, что говорит о выраженном влиянии фактора табачного дыма на слизистую

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

оболочку ротовой полости курящих молодых людей.

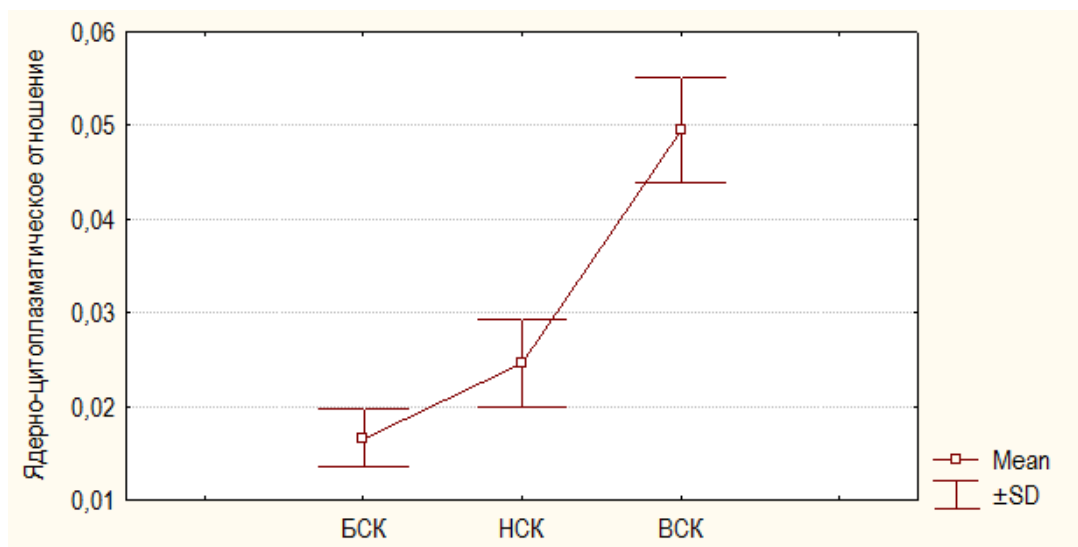


Рисунок 1 – Распределение ЯЦО клеток буккального эпителия

На рисунке 1 представлены распределения ЯЦО буккального эпителия учащихся разных групп. Из рисунка видно четкое отклонение границ распределения ЯЦО учащихся, имеющих высокий стаж курения от границ распределения некурящих учащихся. Значения ЯЦО у курящих в 3 раза больше, чем у некурящих молодых людей. Наблюдается достоверное отклонение данного показателя от верхней границы нормы.

Заключение.

Цитоморфологический анализ клеток буккального эпителия курящих и некурящих молодых людей позволил оценить достоверность влияния фактора курения на морфометрические характеристики клеток слизистой оболочки ротовой полости. В результате анализа установлено достоверное различие между

средними значениями ядерно-цитоплазматического отношения в клетках курящих и некурящих учащихся. Фактор курения оказывает достоверное влияние на структурный клеточный морфогенез, который направлен на уменьшение площади цитоплазмы и увеличение площади клеточного ядра, сила влияния фактора оценивается в 90%. Подобная динамика ЯЦО может свидетельствовать о росте пролиферативной активности клеток, которая происходит на фоне хронической нагрузки со стороны компонентов табачного дыма. Кроме того, сдвиг ЯЦО в сторону ядра указывает на наличие компенсаторных реакций и сбой в клеточном метаболизме, способный спровоцировать развитие патологических состояний.

References:

1. Vartonyan, F. E., & Shahovskij, K. P. (2003). VOZ i bor'ba s kureniem v mire: strategii i tendencii. *Narkologiya*, №4, 2-4.
2. Kovalev, V. N., & Karpova, S. S. (2004). *Citogeneticheskij monitoring: metody ocenki zagryazneniya okruzhayushchej sredy i sostoyaniya geneticheskogo apparata organizma*. (p.80). Voronezh.
3. Yurchenko, V. V. (2005). Citogeneticheskie narusheniya v epiteliu shcheki cheloveka pri ekspozicii genotoksikantami. *Toksikol. vestn.*, № 6, 14-21.
4. Husainova, I. S., Varulev, I. Y., & Kozhina, N. A. (1997). Ocenka citologicheskikh pokazatelej bukkal'nogo epiteliya dlya diagnostiki funkcional'nogo sostoyaniya

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHII (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

- cheloveka. *Klinicheskaya laboratornaya diagnostika*, № 3, 10-12.
5. Yuj, R. I. (2006). Citologicheskij analiz slizistoj obolochki polosti rta kak dostovernyj kriterij ocenki ee gistofiziologii, patologii i effektivnosti lecheniya. *Vestnik KazNMU, Vyp. 1*, 299-314.
 6. Abadzidi, M. A., Mahrova, T. V., Mayanskaya, I. V., Zaslavskaya, M. I., Strogova, Y. Y., & Mayanskij, A. N. (2003). *Bukkal'nye epiteliocity kak instrument kliniko-laboratornyh issledovanij.* (pp.13-14). Medikum.
 7. Gasyuk, N. V. Moshel', T. N., & Popovich, I. Y. (2016). Osobennosti kachestvennoj i kolichestvennoj perestrojki kletchnogo sostava bukkal'nogo epiteliya v usloviyah nikotinovoj intoksikacii. *Ukrainskij stomatologicheskij al'manah, № 1 (tom 1)*, 16-20.
 8. (n.d.). Retrieved Nov. 01, 2018, from <http://www.atmpractica.ru/sudebnayameditsina/issledovanieepitelialnoytkani.html>
 9. Bykov, V. L. (1997). Funkcional'naya morfologiya epitelial'nogo bar'era slizistoj obolochki polosti rta. *Stomatologiya, № 3*, 12-17.
 10. Gill, G. U. (2015). *Klinicheskaya citologiya : teoriya i praktika citotekhnologii.* per. s angl. In: A. V. Bezrukova, K. T. Kasoyan (Eds.). (p.383). Moskva: Prakticheskaya medicina.
 11. Morozova, E. N., Tverskoj, A. V., Asadov, R. I., & Morozov, V. N. (2018). Morfologicheskie osobennosti bukkal'nogo epiteliya u studentov negroidnoj rasy, imeyushchih razlichnyj uroven' gigeny polosti rta. *Vestnik medicinskih tekhnologij, № 4*, 18-26.
 12. Latysheva, S.V., Zastenichik, N. A., & Astapenko, Y. P. (1998). Sostoyanie polosti rta u kuryashchih. *Zdravoohranenie, № 2*, 28-29.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 26.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



SECTION 9. Chemistry and chemical technology.

M.T. Sharifova

Institute of Ecology and Natural Resources
Ganja Branch of Azerbaijan National Academy of
Sciences, Ganja, Azerbaijan
sharifova-54@mail.ru

Ch.G. Ismailov

Institute of Ecology and Natural Resources
Ganja Branch of Azerbaijan National Academy of
Sciences, Ganja, Azerbaijan

A.T. Mammadova

Ganja State University, Ganja, Azerbaijan

E.M. Hajiyeva

Institute of Ecology and Natural Resources
Ganja Branch of Azerbaijan National Academy of
Sciences, Ganja, Azerbaijan

M.I. Mammadova

Institute of Ecology and Natural Resources
Ganja Branch of Azerbaijan National Academy of
Sciences, Ganja, Azerbaijan

A.M. Hasanova

Ganja State University, Ganja, Azerbaijan

ABOUT STUDY OF OBTAIN THE DECORATIVE SAND ASPHALT FROM STRIPPING OF ALUNITE FROM ZAYLIK FIELD

Abstract: In connection with intensive development of various industrial cities, formed a huge amount of solid waste industry that are taking up a huge suitable land, pollute the environment. Academic and technical progress is associated with the maximum savings of material and energy resources, the creation of non-waste technology, the intensification of technological processes and improved quality products.

One of the effective methods of solid waste disposal industry is their use in the design of various types of asphalt. It should be noted that to date, no research has been conducted on possible use of mineral wastes in the production of asphalt concrete.

Key words: decorative concrete, industrial waste, filler, asphalt.

Language: English

Citation: Sharifova, M. T., Ismailov, C. G., Mammadova, A. T., Hajiyeva, E. M., Mammadova, M. I., & Hasanova, A. M. (2018). About study of obtain the decorative sand asphalt from stripping of alunite from zaylik field. *ISJ Theoretical & Applied Science*, 12 (68), 248-251.

Soi: <http://s-o-i.org/1.1/TAS-12-68-36> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.36>

Introduction

The certification of mountain deposits, carried out by us proved that, the top layer and poor alunite rocks of alunite ore (where the content of useful components is less than 40%) are 20 million tons [2].

Collecting waste in such huge quantities leads to loss of production and, ultimately, to a sharp increase in the cost of the product produced. In addition, these wastes, when seizing useful land, can cause irreversible damage to the environment. The only

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

effective way out of the situation is the processing of large quantities of industrial waste. For this reason, the development of innovative technologies for the disposal of waste mining industry is a requirement of modernity.

Implementation of the national programs on regional development is possible only through the processing of local raw materials and waste using innovative technologies. In this regard, the disposal of industrial waste, along with the creation of waste-free and low-waste industrial sites, is one of the urgent problems. The purpose of the work is to obtain aluminum from alunite mining waste from the Dashkasan field.

Materials and Methods

In promoting of socio-economic development of the Republic of Azerbaijan, including the improvement of the living conditions of the population of regions, the role of roads meeting modern requirements, is very high. With this end in recent years in the country, at the expense of the state budget and international financial-credit organizations, carried out extensive work on improvement of existing and construction of new roads. To implement these goals, the Republic spent a huge raw material resources.

However, it is known that in connection with intensive development of various industrial cities, formed a huge amount of solid wastes, which, occupying a vast suitable land, pollute the environment. In these circumstances, in recent years, the high demands and to the protection of the environment. Therefore, together with the creation of non-waste or low-waste industrial sites, conducting research on the use of industrial waste. One of the effective methods for the disposal of solid industrial wastes is through its use in the design of various types of asphalt.

Due to the fact, that the preparation of the asphalt concrete high tonnage production, it can create preconditions for recycling of industrial waste. From this point of view, the study of possibility of utilization of industrial wastes in the Western region of the Republic (overburden alunite ore deposits Saglik) in the production of asphalt concrete, along with actuality, are the demand of time. From the analysis of literature it is known that in the preparation of asphalt concrete the main binder is bitumen. The second major component is the filler. From fillers, preference is given to the mineral. Due to the fact, that currently in the Republic of bitumen produced in an industrial scale, research was conducted on the basis of bitumen grade VND-60/90. It should be noted that mining and non-ferrous metallurgy industry are mainly concentrated in the Western region of the country, where there is accumulation of mineral waste.

From studies we have conducted on certification of waste in the Western region, it became known that

in this region, along with waste in the production of iron ore and alunite in the blade is going and their overburden (N.I.Taghiyev, Ch.G.Ismailov). Using of industrial wastes in the Western region, as the fillers, were obtained various kinds of construction materials [1,2,3].

It should be noted that to date, no research has been conducted on possible use of mineral wastes in the manufacture of asphalt concrete. With that in mind, we have carried out the research work in this direction. Structural characteristics of concrete as an artificial construction conglomerate, consists of a stone mixture (crushed stone or gravel and sand) coupled in monolith asphalt binder, and a binary system in which the liquid phase, the bitumen-mixed with a fine mineral powder [4].

The formation of the optimal structure of asphalt concrete depends not only on properties of components and production technology, but also on the design of optimal compositions. A method of designing the optimal composition of asphalt concrete is to select the quantitative ratios between the components, which provide the optimal structure and defined technical properties, which take extreme values. At present, there are several methods of designing the composition of asphalt concrete: method of P.V. Sakharov, N.N. Ivanov, Union of DORNIE etc., highest value of which is a method developed Union of DORNIE [5].

Principle of this method is based on the position dependence of strength and other physio-mechanical properties of asphalt concrete density mineral mixture at optimum bitumen content.

The sequence of calculation of composition of asphalt concrete the following:

1. The selection and quality control of the raw materials (bitumen, mineral powder, sand, crushed stone or gravel).

2. Assessment and calculation of the grain composition of the mineral mixture.

3. Testing of samples of asphalt concrete.

The choice of raw material depends on the type and purpose of asphalt concrete and is fully consistent with the relevant requirements of GOST.

Use grain composition of mineral part of asphalt concrete mixtures according to GOST 9128-84 select the ratio between the mineral content of the projected composition of asphalt concrete, the amount of each fraction selected so that the total ratio of all fractions of mineral materials was 100 percent. In addition, the resulting mixture after combining and mixing the batched mineral components must have the highest density [6].

The optimum amount of bitumen are determined by experiment, which of the chosen mineral mixture and bitumen is made several mixes with different content of bitumen. Using standard test specimens to determine the volumetric water saturation and tensile strength under compression.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

The optimum amount of bitumen meets the asphalt mix, the samples which showed the best test results in relation to the requirements of GOST.

In the final stages of design made the control samples of asphalt mix chosen composition test according to the technical requirements of GOST 12801-84 [7]. If necessary, adjust the composition of the asphalt.

Us at the above rules for the preparation of highly porous asphalt concrete taken 91% wax-red overburden of alunite and 9 percent of bitumen grade VND-60/90.

Physio-mechanical properties of the prepared asphalt mix was determined on cylindrical samples, obtained by compacting the mixture in a steel cylinder. Testing of asphalt samples was carried out after 20 to 42 hours after their preparation.

Conclusion

It is known, that in connection with intensive development of various industrial cities, formed a huge amount of solid waste industry that are taking

up a huge suitable land, pollute the environment. Academic and technical progress is associated with the maximum savings of material and energy resources, the creation of non-waste technology, the intensification of technological processes and improved quality products.

One of the effective methods of solid waste disposal industry is their use in the design of various types of asphalt.

It should be noted that to date, no research has been conducted on possible use of mineral wastes in the production of asphalt concrete. With that in mind, we have carried out the research work in this direction. It is shown that the use in the production of decorative sand asphalt industrial waste in the form of overburden from the mining of alunite is possible to simultaneously solve two problems – to obtain high economic benefits and improve the ecological condition of the region.

The physical and mechanical properties of highly porous sand-asphalt-concrete are given in the table.

Table 1. Physio-mechanical properties of decorative sand asphalt.

The name of indicators	GOST 9128-84	The results of calculations and tests
The volumetric weight of asphalt, g/cm ³	–	2,24
Specific weight of asphalt, g/cm ³	–	2,46
The porosity of the mineral part of asphalt concrete, percent	>28	30
The residual porosity of asphalt concrete, percent	Nomore 6-10	9
Water saturation of asphalt concrete, percent	Nomore 18	0,18
Swelling of asphalt concrete, percent	Nomore 1-2	0,2
The limit of compressive strength at 20°C, kgp/sm	12-14	14,2
Stability at Marshall, kgp	150	212
Conditional plasticity according to Marshall, mm	2-4,7	4,4
The index of conditional rigidity at the Marshal, kg/mm	16-29	22.7

Thus, summarizing the data of the conducted research the overburden rock sealing – wax-red alunite ore can be recommended as filler in the manufacture of decorative sand asphalt.

This asphalt can be used while styling children's playgrounds, parking lots and sidewalks.

Acknowledgements

Work is executed at financial support the Science Development Foundation under the President of the Republic of Azerbaijan-Grant № EIF -2011-1(3)-82/06/1

References:

1. Tagiyev, N. I., Rustamov, G. A., & Ismailov, C. G. (1990). *Study of the possibility of obtaining cement-free binders*. Resp. conf. Composite materials and environmental issues. (p.28). Ganja.
2. Aliev, F. Y., Sharifova, M. T., Mammadov, E. A., & Ismailov, C. G. (2012). *New highly filled*

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

- composites based on low density polyethylene and industrial waste of the Dashkesan iron deposit. New polymer composite materials. Proceedings of the VIII int. scientific-practical. conf. (p.8). Nalchik.*
- Sharifova, M. T., Ismailov, C. G., Hajiyeva, E. M., Hajiyeva, R. F., & Aslanova, Z. A. (2015). Synthesis and study of properties of composites recycling of used polyethylene. *Collection News of Ganja branch of ANAS, № 4 (62)*, 56.
 - (2005). *Manual construction of road and airfield clothes with asphalt-concrete coating in Azerbaijan.* (p.183). Baku.
 - Gorchakov, G. I., & Bazhenov, Y. M. (1986). *Construction materials.* (p.687). Moscow, Higher School.
 - (n.d.). *Mix asphalt road, airfield and asphalt concrete.* Technical conditions. GOST 9128-84.
 - Sərifova, M. T., İsmayılov, C. H., Hacıyeva, E. M., Hacıyeva, R. F., & Aslanova, Z. A. (2015). İşlənmiş polietiləndən təkrar emalı üsulu ilə kompozisiyaların alınması və xassələrinin tədqiqi. *AMEA Gəncə Bölməsi, "Xəbərlər" məcmuəsi № 62*, 56-59.
 - Şərifova, M. T., Hacıyeva, E. M., Hacıyeva, R. F., Babayeva, P. F., & Aslanova, Z. A. (2016). Metallurjiya sənayesi tullantılarının pasportlaşdırılması. *AMEA Gəncə Bölməsi "Xəbərlər məcmuəsi", № 66*, 46-49.
 - Cəfərov, V. C., Aliyev, F. Y., & Sərifova, M. T. (2015). *Polimer kompozisiyası.* Patent İ 2015000.
 - Cəfərov, V. C., Aliyev, F. Y., & Sərifova, M. T. (2016, May 11-13). *Qeyri-üzvi birləşmələrin polietilen mətrisli kompozisiyalara təsiri.* GDU. Beynəlxalq elmi konfrans materialları. (p.37-38). Gəncə.
 - Aliyev, F. Y., Sharifova, M. T., İsmayılov, C. G., Budaglı, V. A., & Məmmədova, A. T. (2016). Combined method for processing of hydrochemical Alunite of Zaylik ore deposits. *ISJ Theoretical & Applied Science, 08 (40)*, 19-22.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 27.12.2018 <http://T-Science.org>

UDC 685.34:335.74

SECTION 33: Advertising technologies.
Creative. Innovations

QR – Issue



QR – Article



D. O. Borduch

Institute of Service and Entrepreneurship
(branch) of DSTU, (Shakhty, Russia)

A.A. Blagorodov

Institute of Service and Entrepreneurship
(branch) of DSTU, (Shakhty, Russia)

V.T. Prokhorov

Doctor of technical sciences, professor,
professor of the department "Designing, technology
and design", ISOP (f) DGTU, g. Shakhty

N.V. Tihonova

Doctor of technical sciences, professor,
professor of the department «Designing clothing and
footwear», Research technological University
(Kazan, Tatarstan)

ACCOUNTING – THE BASIS FOR EFFECTIVE COOPERATION BETWEEN PRODUCERS AND CONSUMERS FOR THE SUSTAINABLE DEMAND FOR MANUFACTURED IMPORT-SUBSTITUTING PRODUCTS

Abstract: in the message I for analysis of a system of indicators for assessing the competitive potential of the enterprise and the importance of consumer properties of products, the authors propose to use a direct estimation method that allowed to obtain a generalized estimation of competitiveness, which on the one hand allows to show the degree of satisfaction with the product, and the degree of use of the competitive potential of the enterprise.

Key words: assessment of enterprise competitiveness and product innovation processes, profit, profitability, import substitution, assortment policy, competitive potential, target segment, the importance of consumer properties.

Language: English

Citation: Borduch, D. O., Blagorodov, A. A., Prokhorov, V. T., & Tihonova, N.V. (2018). Accounting – the basis for effective cooperation between producers and consumers for the sustainable demand for manufactured import-substituting products. *ISJ Theoretical & Applied Science*, 12 (68), 252-262.

Soi: <http://s-o-i.org/1.1/TAS-12-68-37> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.37>

Introduction

In modern conditions of market relations, competitive environment and direct interaction between Russian and foreign producers, the solution of the problem of combining state and market mechanisms of competitiveness management becomes a strategic resource of the regional economy of the southern Federal district and the northwestern Federal district. In the world economy, the place of price

competitiveness was taken by the competitiveness of quality levels, which will increase its relevance with Russia's accession to the WTO. The increase of the quality factor of the results of domestic footwear production in the strategy of competition in the world markets is a long-term trend.

Main part

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

In Russia, as in most Russian regional entities, there are all necessary conditions for the development of production in the national interest. If somewhere something is not enough, it does not serve as a basis for recession and recession.

In the mid-2010's, the country found itself in an economic situation similar to the end of the 1920s-early 1930s. Then there was a question: whether or not to be a new social order, the desired people (for "elected" always adapt to any situation). The answer was not hidden in the maze, and L. M. Kaganovich did not need a thread Ariadne to get in search of the key to solving the problem to the secret source. He needed the leader's blessing. And I. B. Stalin agreed that "shots solve everything". From ourselves we will specify - "professionally prepared and politically responsible for result". The explanation is important, because democratic reforms in Russia miraculously removed first of all professional responsibility for obvious defects in politics. [1]

Politics has always been understood by all as activities in the interests of the state. Political responsibility in a democratically organized society is the ultimate expression of professionalism. Failure to deliver on political promises and statements indicates either an inability to engage in politics or the use of political governance in the private interest. 85 years ago the obvious for consciousness and was deceptive on practice. In vain, speaking about the cruelty of the I. V. Stalin, forget that every miscalculation in politics affects the situation of the people, not politicians, managers, consultants, advisers.

In the interests of restructuring the economy on the path of increasing the share of added capital in commodity production – in fact, modern industrialization, it is necessary to start not with economic and not with scientific and technical actions-with a political Renaissance. Of course, modern times require different tools than the measures of the second half of the 1930s, but the essence must be invariant. Political efficiency is the highest criterion of professionalism. It is better to interpret this conclusion from the contrary. The actual reality did not reach the declared changes – resignation of managers with the subsequent public characteristic depending on concrete conditions and the size of discrepancy.

In Soviet times party slang was widespread -" to put in a responsible position"! Nobody really knew how to do it, but everyone knew, if not run, will be bad. We have the same reason, the responsibility shifted to the market. Responsibility for the implementation of specific political directions, losing a personified form, ceases to be a responsibility. The Duma, we would not respond. The government is responsible to the President and the Duma. The President is solely personally responsible to the people. Hence the only worthy rating of the people's poll. Undoubtedly, The President was helped by his Patriotic policy – consistent, active. But, it seems that the main factor, albeit not obvious, in the President's popularity, in contrast to all those vested with power, is his practical capacity, motivated by high political responsibility.

Unfortunately, while the knots tied by economic incapacity and impunity will be unleashed by the President, and responsible for the solution of the problems facing society, will continue frankly to drag out time, being covered by uncertainty of interpretation of modernization, our General task "to get rid of commodity dependence" – 55% of tax revenues, won't be solved. [3]

The personification of responsibility does not mean a search for the one responsible for everything. Personification implies delegation of responsibility for obtaining the desired result. It is essential to realize that " team "is not a company of like – minded people, colleagues, partners;" team " is a chain of responsible, due to the specifics of the object and the problems of its modernization. Responsibility for the result should not be smeared in the bowels of the team. Responsibility even for the team result always has a personal expression, which in the focus do not want to recognize our senior managers. It is this desire – to "push" everything on the specifics of the object of management, the unpredictability of demand, currency volatility, incomprehensible changes in tariffs, etc., that can explain the pressure "from above", with which we prove that management is a professional direction, not an add – on over the subject originality and systemic position of a certain production.

A curious fact, however, is not from the history of "light" industry. D. Mendeleev in the early XX century was instructed by the Government to deal with the secret of

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

modernization of gunpowder in Germany. Not having direct access to German technology, chemist has requested monitoring of the movement of freight trains in places where gunpowder is produced by tracking the beginning and end of routes. On the basis of the received information, he deciphered the German recipe and developed recommendations for the Russian Government. There would be a pure economist, a modern top Manager in his place, the result would be absolutely different. He would be involved in the statistical and financial calculations of expenditure and income, leaving the political, scientific and technical components. The most serious methodological mistake is to reduce economic policy to economic analysis.

Economic science has emerged and evolved in the context of politics as a political economy. Today, economists in politics are guided not by political economy, but by Economics in politics. Instead of investing in the development of production, they hide money in foreign banks, reduce funding for education and self-education, increase the number of poor people, do not index pensions, refuse to help farmers, etc. "Manila" of the nineties replaced the "buns" of the tenth.

The main and invariant superiority of Russia lies in the geographical position, combined with the lack of danger of overpopulation of our space due to natural growth. We have a natural and solid margin of safety for centuries. Instead of pressing past the irrationality in politics and the economy, would have to pay for the actual merits of our ancestors, has managed to amass Russia and peoples around Russia. Not so much worried about the decline in production, squandering what has historically manifested its national identity, national traditions as the possibility of loss of employment talent of the peoples of Russia, the alarming system of the ineffectiveness of economic policy.

Progress does not happen without deviations, slowdowns in movement, recessions. Policies are designed to help overcome obstacles to development through active, focused action. Politicians should be ahead of the economic movement and direct it, stimulate domestic economic factors with political levers, clear economic ways to effective production. Instead, politicians continue to link the development plans to the price of oil, the ruble,

the size of the European and American currencies, referring to integration trends in the world and globalization.

The integration of transnational relations is an objective reality, but for all its objectivity it does not deny the specifics of national economic progress. Moreover, integration is objectively designed to promote national development. Why we did not work as it should be? This question arises from a logical comparison of policies in the field of strengthening defense capabilities, restoring the international credibility of the country in the difficult circumstances of the formation of a new world architectonics with the fact that from year to year the Russians see and fully feel in the field the rest of the economy – we have not accidentally two governments? The second "presses on the gas and brakes" at the same time.

The protracted recession in the Russian economy has: two ways to explain. The first-the people lost ability to work well, spent "human capital", the second – managers are helpless. The media assure that politicians know their business, keep events under control, take necessary measures and promise changes for the better in the near future. Therefore, the reason for the poor performance of performers and unfavorable world conditions.

How naive is it to be when planning economic policy, based on sincerity, unselfishness, sympathy of competitors? The Russian President has long said that our Western partners do not want to strengthen Russia, they need obedient Russia, such as the Baltic republics that were formerly part of the USSR. I did not want to sadden politicians responsible for the economy, but following Aristotle, forced to state: "Friends in the East, too, to his mind" – in the sense of "Plato is a friend to me, but the truth is more expensive." They will help us as they benefit from such assistance.

It is time to understand that all economic and political unions in the modern world space are an attempt to achieve national gains in transnational relations, i.e. partners can be expected as long as they benefit from this cooperation. It follows from this conclusion – a person must stand to its economy. Only in this way, albeit with great tension, will be able to solve their problems. There are, for example, such objective reasons that would justify the

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

decline in production in light industry for a quarter of a century.

Light industry, closely related to agriculture, is really dependent on the work of the latter. Only such interaction should be approached historically specifically, based on scientific and dialectical analysis. There are old weather reports showing that out of 10 calendar years in Russia 5 are unfavorable for the development of agricultural production (2+3 and 3+2). In determining the "five-year plan" as a planning measure based on this pattern.[4]

The problems of agriculture and light industry are not in their specifics, they have always been political. In the US, Europe, farmers have a lot of our problems. The difference is that there is a farmer - a national problem among the most important, the main. Its consideration is relevant to the existence of politicians. On how a policy contributes to the resolution of the estimated public policy. The farmer and the politician are connected by economic policy. They balance on one tight economic tension "rope" of viability.

Nothing similar in Russia there is no. Let us recall the history of the last Ministers of agriculture. In the USSR there was a Ministry of light industry, which emphasized the importance of the industry. What prevents in the conditions of import substitution and declarations on the importance of developing their own production to restore equality in industrial management. "Calico land" without the light industry is still that the native nature without the birch trees or lyrical poetry without creativity Esenin. [4]

Reformers of the 1990s the fate of the Fatherland and domestic industrial identity the least worried. They built the business on the ease of maximum profit and placed the walrus away from the land of their ancestors. Light industry has traditionally been a tough challenge to manage. Managers need to be, above all, patriots, otherwise the industry is not easy to raise. It is also necessary to understand the national importance of "long money". The sustainability of demand would compensate for the difficulties.

What is the essence of ineffective politics in the economy of the late past and the beginning of the new century? This is question No. 1, and it is not so much about who is to blame. We are interested in the essence of the political paradigm developed by those who found themselves at the helm. Question No. 2 –

what should be changed and how, apparently, it has to be done to raise the national industry, production of clothes, shoes, leather goods, textiles, accessories last but not least?

The answer to question 1 is simple – no one was going to develop a paradigm of economic policy aimed at a radical transformation of the basis. The way to reform (not without assistance) decided to pick from the ready samples. It was proposed to take Swedish experience, Polish "shock therapy", reforms in Portugal and Argentina as a model. Such innovators, brave scientists, wise organizers as Gaidar, Chubais, Koh, Burbulis did not come up with the idea, which usually begins a responsible host – what I have to copy something. [5-6]

Policy is not made depending on the state of feelings. Like or dislike – the level of everyday perception of the world. With this approach in the "political kitchen" is harmful to be. Economic policy does not fit into "good" or "bad", "effective", or "ineffective." It has the right to be called either "useful" or "harmful". The price of such a policy is too high, respectively, and responsibility is not limited to professional form. Politics is politics. It is anti-political and unprofessional to make politics a source of their own income.

Whatever the economic situation, it is extremely dangerous to absolutize the importance of economic criteria, to give them the property of universality. Engels spoke out strongly against attempts to reduce the doctrine of Karl Marx about community development to "economic materialism", "economic determinism." Economic basis-the basis of social organization, but not the backbone factor of its improvement.

Society is a system of human relations carried out in the dynamics of economic activity. Activity-means of social life of people. Activities that determine the need for all kinds of relations – a way of manifestation and development of man. Relations are designed to ensure such human development. About the fact that the form of ownership needs to be changed, at the end of the XX century did not say only dumb, but that the relationship born of the form of ownership, pull the distribution of the produced product, or its monetary equivalent, that the exchange can not be fully trusted the market, control functions need to keep the state, rebuilt democratically, that in a perverse

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

bureaucratic form, the state remains the generator of corruption, trying to keep silent, understanding the delicacy of reforming property.

Most of the population is not relevant in who the owner, not everyone wants to try on the functions of the owner-to spin, twirl, fight, risk. The distribution, on the contrary, concerns everyone, both poor and non-poor.

Reliability and versatility are the hallmarks of quality of knowledge. Reliability allows to minimize risks, universality relieves tension from search of new solutions of a problem - "from good don't look for". For the quality of account for to pay. The fee, as is commonly believed, has a financial relationship, but it doesn't always look directly. In the history of civilization, there are two outstanding achievements at the level of revolutions, clearly not received an equivalent assessment, namely:

the discovery of the price of knowledge, comparable to the price of things for a person, "knowledge is power"; the realization of the special meaning of theoretical knowledge in the form of concepts and related forms of abstract thinking – judgments, conclusions. This naturally led to the need to develop a specific technology of their production – a methodology for learning the essence of the relationship of existing phenomena. The visible part of the world is "designed" for the consumer, the invisible – for the manufacturer. The competition of producers can be formalized in the form of a simple technical task – to penetrate through the chaotic set of phenomena of the visible part of the world into its hidden part, to understand it, having returned, to understand chaos as an order of coexistence and development of phenomena. Order and there is a pattern. Laws only in textbooks exist by themselves, separately. In fact, the law is the stability, commonality and necessity of the order with which we interact – we learn, reproduce, change, manage.

Economic science in the twentieth century fell into a difficult situation, which by the end of the century became critical. The theory of A. Smith and the method of K. Marx did not fit into the contours of the ideology of developed capitalism. In Europe and North America, the very idea of the historicity of capitalism was perceived as heresy. The history of capitalism has a beginning, but the existence of a beginning cannot be the basis for a conclusion about a

limb. Mathematics is an exact science, it allows for infinity in one direction. The dialectical interpretation of infinity is a metaphysical, abstract from the real story. The salvation of economic science should not be sought in historical, but formal-logical understanding of reality, that is, in mathematical calculus, statistics.

We will stop the immersion in philosophical, more correctly, in the methodological foundations of science, but not because it is necessary to plunge into practice faster, but because of the importance for the successful realization of the production of goods understanding that any production involves the reproduction, along with the goods, relations. Production begins with the achievement of certain relations and leads to the development of these relations – between producers and consumers. It is possible to understand so difficult built production only with involvement of the scientific analysis on the basis of conceptual thinking.[3-4]

That is why we have to start the analysis of the comparative new concept of "attractiveness" in its applied concrete expression "attractiveness of goods", from the theory, logical doctrine. There is an alternative way, but without a light source, by touch, in the dark.

Modern knowledge of the concept; its ascent from abstract to concrete with the subsequent prospect of the birth of new concepts as products of the development of content, G. Hegel laid. Conceptual thinking, according to Hegel, is a dialectical process. The teaching of the world-famous philosopher was based on a fundamentally new interpretation of development, which was based on the idea of an internal source of movement represented by the relations of opposites in unity. The predecessor of Hegel, Aristotle, the logic of thinking was built on the principle of identity of the concept itself, its immutability. In mechanical theory, this approach is reflected in the section "statics", and the expert knows that in this way the situation is artificially simplified in the private interest. However, the sections "dynamics" and "kinematics" are the most interesting in practical terms. They describe not the moment of movement – generally interpreted as something not changing, resting in its state, but the movement itself as a change in the broadest sense. Before the dynamics and especially kinematics of thinking in the context of the

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

content of the movement of concepts Aristotle did not get, he was primarily interested in the technology of abstraction and generalization in the forms of knowledge. Aristotle's logic is therefore often called "formal".[1]

From Hegel's point of view, Aristotle's logic was just a special case, having value in the fact that knowledge in order to integrate into the process and conduct a General reconnaissance, it is important, albeit conditionally, to stop the change. Aristotle sacrificed the content of concepts in order to achieve the regularity of formal relations. Simply put, the view of Aristotle's logic is akin to the expression "General plan" for the time being. The past and future of the concept Aristotle was not interested in that, again, in General, consistent with the nature of historical time. K. Jaspers called the described era "Axial time", emphasizing the role of culture as the axis around which the Ancient civilization began to unfold, but it is hardly necessary to see in its assessment the actual historical scale of the changes that took place, and the very understanding of time by the Greeks was cyclical. In short, Aristotle in his logic reproduced the spirit of the era in which he lived and worked. Another thing is Hegel who worked in conditions of prosperity of New time with its political, scientific, technical, industrial and cultural revolutions. G. Hegel needed to understand the spirit of time in the context of radical social changes, to fill the content of concepts with movement.

After Himself, Hegel left a lot of questions, so paying tribute to his dialectical discovery, it should be remembered about the Hegel legacy, which hindered the spread of dialectics.

Limiting dialectics to the sphere of spiritual activity, he recognized the self-sufficiency of being of the spirit and perceived everything else in the form of being of the spirit, of course, outside the dialectical development. The triad of G. Hegel's "thesis – antithesis – synthesis" was not a universal formula for development. The existence of negation forms of existence – physical reality of human nature, of society, he explained the objectification of the spirit, referring to the derivatives of the spirit. The merit of K. Marx and F. Engels was just that, relying on the natural scientific discoveries and movements of the bourgeois method of production, they first turned the understanding of dialectics "from head to foot", and then

removed the restrictions from it and made a universal way of development.[5-6]

Reaction on rationalism Hegel's were and positivism, and irrationalism, but they have suffered the same "disease", that and "sick", - one-sided approach. Positivism clearly experienced the limitations inherent in empiricism, irrationalism was closer to the time of bourgeois activity, not burdened by intellectual reflection, the idea of willpower, the desire for power, received some support in a developing society, despite a number of leading conclusions from the point of view of cultural traditions.

This is confirmed by another surge of interest in Europe in K. Marx's economic research at the end of the nineties in connection with the financial crisis. Europeans are not aware that there is another serious monograph of Lenin's "Imperialism as the highest stage of capitalism", in which the author for the first time analyzed the leading dynamics of financial capital and noted his Frank desire for political influence on social life.

Dialectical thinking did not come to the economy at once, it began with individual ideas, mainly ideas of development. Italian economist A. Serra was the first to pay attention to the division of labor (RT) and looked at this feature of economic activity in dynamics. Statistically, he proved that the country's wealth grows depending on the depth and spread of RT. William petty and Adam Smith turned the angle of the output A. Serra at the transnational scale. As a result, A. Smith found himself in a deadlock of non - dialectical reflections-when RT will cover the economy of the whole world, will development stop? A. Smith and D. Ricardo took capitalism is identical with the history of the world, were convinced that capitalism appeared to be endless. Economic thought has gone to its limit, for it has not been able to find a political beginning equivalent to economic. Marx predicted that the logic of economic development would inevitably lead to political and social metamorphoses, setting against itself the apologists of capitalism.

It is no coincidence that in the XX century the political component of economic science was vigorously squeezed out, naively believing that it will be possible to limit itself to purely economic analysis. The very "purified" economic science was divided into macro and microeconomics, and by the 21st century it was

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

generally presented as Economics. "The new economic "science" writes M. L. Khazin, it was created as an ideological alternative to political economy... for this purpose it was necessary to turn the construction of science upside down: if political economy is built on macroeconomics (ie. the General economic laws, which include the deepening of the RT, the scale of markets, and the volume of total demand) to microeconomics (i.e., the behavior of an individual and an enterprise), then in Economics everything is the opposite, i.e. the specifics of Economics is an attempt to withdraw from the microeconomics global macroeconomic laws."

Now imagine the scene – experts manipulate historical science, instead of to improve its methodology, to generate new theoretical research to build and rebuild through a systemic approach tried and tested ideas. The question is, why? Who needs this? In theory of knowledge on these questions answers are not provided. The absurdity of the denial of the logical paths of the movement is obvious, although there are precedents. Famous scientists have repeatedly pointed out the illogicality of the achievements of the discoveries made, but they talked about the final heuristic link logically and methodically built a chain of knowledge. Illogical or, more precisely, illogical final results only confirmed the rational prospects of logically organized thinking in both versions – Aristotelian and Hegelian.

Scientific concepts have great potential for development. Systemic relations of concepts contribute to the emergence and actualization of new concepts. New concepts may well grow into strategic ones. On the other hand, G. Hegel considered it important for the correct orientation in the real world, to distinguish between really necessary and really unnecessary. The first contains the source of functioning and development, so he called such phenomena "reasonable" or "valid", the second served and either slows down the movement or counteracts it.[2]

It seems that economic science in both the West and Russia, under the influence of the Nobel prize winners, has decided that with The death of Hegel and Marx, political economy has died. But the impression is false. Having noticed a priority of production in construction of economic system on a factor of the market modern scientists economists changed owners. To replace F. Taylor, A. Faiola, G. Ford, A.

Sloan came market speculators of the type of Soros, and policy guidance from economic theory are preserved.

It is necessary to put capitalism over history as an ideal model of production organization. Formally, the combination of a developed form of political democracy, its legal support by the state, with the freedom of entrepreneurship gives rise to a claim to perfection. But let's not forget that all of the above looks perfect in comparison with the political and legal models of absolutism, dictatorship and other anachronisms. The story does not end with the financial-oligarchic capitalism with its showcase demonstration of the society of mass consumption. The " casting " of model socio-economic models continues and will continue until the current model is available to the seventh part of humanity. Six and a half billion of the same homo sapiens can still afford to buy a movie ticket at best and see the sweet life of their own kind. Seven with a nipple against one with a spoon-the proportion is very dangerous, besides, the figure itself is seven on a special account in the practice of social consciousness.

The world conference of the elite of the scientific world in Rio strongly recommended to change the course of business greed for sustainability, warning that the aggravation of human contrasts will join the global conflict with nature. Instead of the noosphere, the next generation, born now, will receive gas masks and protective suits, and light industry will have to change directions of development to provide the endangered species of mammals with individual means of protection.

The features of the dominant mode of production certainly manifest themselves in the development of economic science, but they do not cancel its political status. Moreover, economic science, before making another round of progress, is objectively obliged to determine the political prerequisites for the rise of the method of production to a new level. Try to understand, what more is left to the heirs of A. Smith, D. Hume, R. Owen, J. Sismondi, Marx, John. Mill, H. Spencer, T. Malthus, a socio – political philosophy or economic knowledge. In their writings, social history was transformed into political history, and politics they left as a means and purpose of economic programs to advance in solving problems of social development. The Communist alternative to the

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

bourgeois method of production objectively has not yet matured. The desire to divide the history of communism politically into two stages and to begin with socialist was blocked, on the one hand, by the politicization of the economy of capitalism in the direction of strengthening socially significant milestones, on the other - aggressive economic policy called protectionist collusion, and ordinary political deception is not to the best of trusting leaders of Communists to convince socialism of economic insolvency. The truth remained concrete-the political resources of economic science are determined objectively by the historical time of the method of production by which it was born. Economic science is United by its objectivity, but its objectivity reflects historical epochs and therefore has the form of a chain composed of individual specific historical links, naturally connected with each other. Perhaps temporarily-such links exist. Such experiences were calculated by V. I. Lenin NEP stand for them to fight with the allies and caused the economy of the country, and the official political doctrine of China: one country – two system.

The modern history of economic science, contrary to the numerous tricks of opponents, is the same political course, depoliticization of economic theory absurd looks in economic practice. It is enough to look at the movement of exchange rates, to trace the exchange news to assess the strength of the political impact on economic activity.

Together with the evolution of economic science, economic concepts are changing, some are rebooting, filled with new content, others are pushing the area of application, others are moving to new positions, the fourth lose their former importance while the fifth appear, demonstrating the modernization of economic reality. Moving from concept to concept you can repeat the historical logic of the rise of the production to determine the quality of historic racing.

The market became the basis of the exchange action, and a fair addition. The nature of the market is determined by the need for reproduction. The market is inscribed in the production process and all its attempts to rise above the production are unnatural. But the very existence of the market as a way to meet the conditions of reproduction is absolutely natural, which allows the market to show its legitimate position in production within certain limits. As

everyone knows, one can Express oneself in different ways, especially since the market unites the interests of different subjects of production, each of which wants to be a winner.

Production unites not only technical and technological actions, their objectively dependent organization, it includes the "human factor", which in recent years is often called "human capital"-it sounds more pleasant, inspires pride for the right to be a "reasonable person", in addition, almost capitalist. "Human factor" more accurately describes what is happening directly in the production, as production can be unfolded without a trace on the basis of the concept of "factor" into the components of "didactic" units. "Human factor" brings to production the goal, if you are lucky with the "human capital" - the professional culture of management, from the goal you can "grow " expediency, that is, systematically organize the relationship of the goal, means, methods and forms of its achievement, to optimize the production process. In General, production looks like an activity to turn a goal into a result. The correct choice of the goal of production is considered the first victory, the "good beginning" that folk wisdom is equivalent to "half things".

And yet, " the end is the crown." The goal is realized, the desired result is obtained. A new story begins. The result is not produced for own consumption. In order not to stop production, and the victory was not Pyrrhic, the resulting product in the rank of the goods must be exchanged for the necessary conditions for the continuation of production. The case includes the market, whose task is to attach the goods-to find a buyer. The buyer, of course, their interests, perhaps not quite personal, on the contrary, in the first place, production. To some extent, the market is also a production, it makes the organization of intermediary services. This production, however, is more like rzezpospolita, for it is not the function of the added value of the product, but actively influence the change of the product. The very concept of "price" - market origin, therefore, is indirectly related to the indigenous concepts of production" cost "and" value " of the goods. Price provides profit to the market and the market is an interested subject of the pricing process. Here begins another interesting story for the buyer. The market has great opportunities to manipulate goods and prices in the absence of a clear

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

thought-out and organized interaction in the system of relations between producers and consumers. Liberal political economy focuses on the freedom of the market, not caring about the content of the concept of "freedom". By arbitrarily invading philosophy's sphere of responsibility, liberals pretend to solve their problems by misleading professional thinking and public consciousness. Not all economists-theorists and practitioners are tempted in philosophical reflection. Taking advantage of this position, liberals grow their market "concept" freedom, trying to free the market from subordination to the need for any expression. In fact, economic liberalism proclaimed by A. Smith in a specific format was transformed into banal market anarchism. In countries where democratic traditions are strong, loaded with humanistic values and social responsibility, liberalism is losing political ground, but it has a serious roof in the face of thriving financial capital chewing at the expense of the market.

We do not want to deprive the market of the status of a subject of developed cultural production. Market without any doubt they are, but to put the market in a common number of subjects of production, therefore, ignore the evidence of different attitudes to the most important indicator of the development of production – the ability to work hard to increase the cost.

The freedom of the market is comparable to the freedom of judges on the football field. Judges do not play, they provide the game under the current rules. They can slow down the pace by their actions, bring down pressure, play along, but all this takes place in plain sight, under public and professional control and is prosecuted in accordance with the established procedure.

The exchange function of the market objectifies it, but it is important to remember the methods of manifestation of objectivity. The material form of objectivity – the technical and technological objectivity of production, the physical reality of the goods – is really primary and subject to the natural basis of social life; the objectivity of industrial and economic relations, including the organization and division of labor – "secondary" objectivity, created with the creative participation of the subjects of labor – is naturally historical objectivity. There is still, presumably, a third, transitional level of

objectivity, indirectly controlled by the objective nature of production. The market belongs to this third level. Hence, such a different reality of the market, the ability of the organizers to manipulate quite arbitrarily within the market and in the interests of the market. F. Engels explained to E. During: "in a society where commodity production is the dominant mode of production, "the market has always been ... the boundary of a very well-known among "business people". Due to its specific reality of the "transitional type" from the rigidly regulated existence of production to the relativity of the dependence of the exchange conditions on the natural-historical specificity, the market combines the adequate validity of the action with the actions of a specific property, organizing its infrastructure from the latter. Covered "marketers" "iron argument" – the market "barometer" state of production. In a similar position, all those actions that, according to the classification of Hegel, are not valid, allowed as necessary-conditional. Quite logically, Petzold, who saved the machismo from solipsism by introducing into the formula of being "a potential member of the "relationship". Petzold did not personify the "potential member", but it was not difficult to understand that they should be something universal, standing over the subjective form of consciousness. Marketers, absolutizing the position of the market, or rather, exchange through the market, achieve control over production. The interest of marketers again makes us remember the power of money.

In its objective position, the market should not earn more than producers. Otherwise the production will stop, and with it social progress. Now the situation is critical, the first cause of the crisis is the policy of financiers, the second – market speculation. Prices for real goods on the market for a long time do not correspond to the cost of their real production delivery and selling costs. The problem is for liberals in one thing – the education of the masses. Still on the street twenty-first century. Therefore, the world policy in the sphere of modernization of education is aimed at its "market" division. The vast majority of graduates are doomed to be clerks, a clear minority, mostly of their own, plus those who are particularly talented, is the reserve of top managers. It's not about the name of the University, it's about the interest in you, very rarely depending on you.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

The rise of the market and its infrastructure is due to the birth of mass production. At the first level of mass production, the market was as regulated as possible by the task of deploying the sale of goods on a production scale, so that reproduction was dynamic. Over all dominated by the need for production in working capital, as the advantage of mass production is the ability to reduce costs, thereby reducing the cost and increasing the competitiveness of the goods. The key factor was the time of sale of goods. "Time is money". Mass production has generated a trade principle: the consumer can not find what he is looking for! Universal makemagazine offered almost the entire product range of the product in all its possible diversity, including price. It soon became clear that the lack of certainty is associated with high costs of raw materials, energy, maintenance of premises, a large number of unrealized products, especially limited shelf life. The market failed to cope with its function as planned. There was an important event that did not receive a well-deserved assessment, perhaps did not want to reduce the reputation rating of the market. Production workers "went to the people" - to study demand taking into account social stratification. The matter is troublesome, the achieved certainty is not as accurate as desired, but even at the conditional level it serves as the basis for orientation for production planning.

The slipper fell into place and by the time Cinderella in the fairy tale, and that because she was her second slipper, however, marketing research is really essential to all subjects.

Manufacturers are cutting costs, consumers receive a more reliable guarantee to purchase the desired product, intermediaries lose their former freedom to manipulate the goods and prices. But it is not appropriate to get involved in the assessment of transformation. The market for the three hundred year history of industrial production has developed a protective and compensatory mechanism from the "impact" and from below-manufacturers, and from above – rulers, the same sad that the market through lobbyists grew into power, consolidated their interests in the wording of laws, their interpretation. The second pillar of his became the mass media, going without thinking about any violation of the regulatory limits on commercial advertising, engaged in advertising and "in white" and "in black"-in extracurricular time.

Conclusion

Information of the General – purpose market. It is included in the essence of the functioning of the market and has changed throughout the history of the market. It is equally obvious that market information developed faster than the basic part of the market, formed in a separate segment of the market reality, which has its main reason for increased competition between producers of goods became more and more in the market, and the number of producers grew. The market itself eventually became a subject of competition, actively involving advertising and means of its distribution

References:

1. Prokhorov, V. T., et al. (2012). *Managing production of competitive products in demand*. under the General editorship of doctor of technical Sciences, Professor V. T. Prokhorov (Eds). (p.280). Novocherkassk: yurgtu (NPI).
2. Train, Y. M., Polukhina, S. Y., Osina, T. M., Kononenko, E. V., & Meleshko, E. N. (2014). *On finding funds impact the cash flows on the performance of footwear enterprises in the regions of SFD and NCFD*. Innovative development of light and textile industry" (INTEX-2014): abstracts of all-Russian scientific student conference. (p.116). M.: FGBOU VPO MSUDT.
3. Prokhorov, V. T., et al. (2014). *The quality revolution: through the ad or through a quality real*. monograph. under the General editorship of doctor of technical Sciences, Professor V. T. Prokhorov (Eds). VoIP (branch) of DSTU. (p.384). Novocherkassk: URGU (NPI).
4. Prokhorov, V. T., et al. (2010). *Modern approaches to ensure demand for the products of Shoe enterprises of the southern Federal District*. the monograph [Text] [etc.]. under the

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

- General editorship of Professor V. T. Prokhorov (Eds). (pp.29-137). Mine: Publishing house GOU VPO yurgues.
5. Biryukov, A. N., Borilo, E. V., Glushchenko, O. I., & Aspen, T. M. (2014). *The regional economy: development trends*. the monograph. (p.159). Voronezh : vgpu.
 6. Getmanova, E. F., et al. (2016). *I. S. Shrivel import Substitution footwear at the expense of informed decision assortment policy to ensure consumers popular shoes*. II international scientific and practical conference "Models of innovative development of textile and light industry based on the integration of University science and industry. Education–science–production" : collection of articles. 23-25 March 2016; M-in the way. and science of Russia, Kazan. NAT. issled. tekhnol. Univ. of Illinois. (pp.335-341). Kazan : Publishing house of KAZAN state technical University.
 7. Reva, D. V., Korablina, Y. S., Prokhorov, V. T., Narozhnaya, I. G., Tikhonov, N. (n.d.). *Formation of import-substituting assortment of shoes for domestic markets*. pp. 364-371
 8. Engels, F. (1961). *Anti-Dühring. K. Marx and F. Engels. CIT., Ed. watt.* (pp.5-342). M.: Gospolitizdat. t 20.
 9. (2014). *The big book of Eastern wisdom*. (p.800, p.410). Moscow: Eksmo.
 10. Hegel, G. (1975). *Encyclopedia of the philosophical Sciences I. Science of logic*. (p.452, pp.341-342). M.:Mysl.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 27.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



SECTION 33: Advertising technologies.

Creative. Innovations

UDC 685.34:335.74

D. O. Borduch

Institute of Service and Entrepreneurship
(branch) of DSTU, (Shakhty, Russia)

A.A. Blagorodov

Institute of Service and Entrepreneurship
(branch) of DSTU, (Shakhty, Russia)

V.T. Prokhorov

Doctor of technical sciences, professor,
professor of the department "Designing, technology
and design", ISOP (f) DGTU, g. Shakhty

N.V. Tihonova

Doctor of technical sciences, professor,
professor of the department «Designing clothing and
footwear», Research technological University
(Kazan, Tatarstan)

ABOUT FINDING EFFECTIVE SOLUTIONS FOR IMPLEMENTATION MADE BY THE ENTERPRISES OF THE REGIONS OF THE SFD AND SKFO OF IMPORT-SUBSTITUTING PRODUCTS

Abstract: In the message 1 for analysis of a system of indicators for assessing the competitive potential of the enterprise and the importance of consumer properties of products, the authors propose to use a direct estimation method that allowed to obtain a generalized estimation of competitiveness, which on the one hand allows to show the degree of satisfaction with the product, and the degree of use of the competitive potential of the enterprise.

Key words: assessment of enterprise competitiveness and product innovation processes, profit, profitability, import substitution, assortment policy, competitive potential, target segment, the importance of consumer properties

Language: English

Citation: Borduch, D. O., Blagorodov, A. A., Prokhorov, V. T., & Tihonova, N. V. (2018). About finding effective solutions for implementation made by the enterprises of the regions of the sfd and skfo of import-substituting products. *ISJ Theoretical & Applied Science*, 12 (68), 263-270.

Soi: <http://s-o-i.org/1.1/TAS-12-68-38> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.38>

Introduction

In the division of the attributes of quality into "primary" and "secondary" there was a rational beginning associated with the specificity of the "second nature" - things transformed from the natural state by human labor. "Primary" qualities of the product or its raw materials are conditioned by natural reality and fully independent of man. "Secondary" signs, on the contrary, are dependent on human labor. It is their work that reveals or creates, and therefore the quality of the objects transformed by labor must be determined with a human estimate.

The inclusion of man as a factor in the production of the quality of the goods enhances the influence of the subject of labor on the quality of production and the quality of the produced goods. In connection with this, the workload on the management process is increasing.

Management is subject to the task of sustainable receipt of a quality product. As in any task, it is necessary to:

- clearly define what is "quality" ?;
- Understand what is specific to the quality of the product ?;

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

• to understand how the "quality" of commodity production and its mass character are related, to trace the mechanism of interaction of qualitative changes with quantitative ones;

• To reveal (disclose) the systemic position of the problem of mass production quality in the context of a developing economy.

Only if we received answers to the above questions, we would be able to productively study the problem: "How realistic is our desire to give the mass manufacturer the need for the quality of the commodity result," in other words, "is it possible to sufficient to motivate the receipt of a quality product from within mass production?". Unfortunately, quality management is carried out by introducing into the production of ideas developed not in it, but in a "pure" management theory.

Main part

Such a mechanism of quality management raises the importance of scientific analysis, determining the self-movement of production to quality the role of subsidiary, experimental farming. A retrospective view of the history of understanding how to manage the quality of production in general terms demonstrates clearly that this story is very similar to the movement of thought on the principle of "trial and error." Each following "theory" after S. Colt (1870s) - G. Lalande, G. Ford, A. Fayol, M. Weber, F. Taylor, V. Shuhert, E. Deming, I. Ishikawa, I. Jurana, F. Crosby, A. Feigenbaum invariably resembled the way out of the impasse in which her predecessor started, until in the end they replaced the key concept of SK for QMS - "Quality Management System." [1] Comparison of QMS with UK allows us to consider the trend of the movement - the desire, developing a new approach to quality management, to overcome the narrow technological view on quality as a certain standard limited by the production process outside the conditions of consumption.

The interpretation of the quality of goods developed under the influence of economic rationality does not reflect the socio-cultural status of the commodity, at least of the consumer row. Qualitative characteristics of the goods intended for mass consumption, it is expedient to search at the intersection of production, economic and socio-cultural advantages. And it is desirable that the goods not only meet the existing needs, but also stimulate their cultural development, served as an instrument for the development of the consumer's personality. Human capital participates in the creation of the product of production, and production is called upon to promote the perfection of the individual. There is no other way to overcome alienation in conditions of the absoluteization of private property and its size disproportionate to labor. Only giving the labor of creativity and the

corresponding reward to creativity can be "removed", expressed in terms of Hegelians philosophy, the tension of alienation. The quality of goods in a broad sense can be regarded as a factor of social progress and as a test of socio-cultural achievements of social development.

In the definition of quality, the most common shortcoming is the lack of systematicity. Quality is defined as a set of essential properties. The usual method of these selecting is the method of pyramidal arrangement of the properties of the object. At the base remain important, but not defining, and as you climb to the top, a hierarchy of the remaining properties is formed. At the top, we get the sum of the main properties, which are included in the definition of the quality of the object. G. Hegel at one time cleverly determined the quality from the opposite: "quality is that, losing that, the object ceases to be itself." [2]

Following the example of the great thinker, we define "shoes" as "clothes for the feet". How true will this definition be? For shoes, probably yes. For the quality of shoes is unlikely. If you deprive the shoes of the ability to be "the clothes of the feet," then it really will not be shoes. If you keep your shoes only the ability inherent in it, then the required quality of the product will be vague. "Footwear" can be dangerous because of the toxicity of the material, means of attachment, uncomfortable for the movement of the structure. The formally formulated requirement for an object does not coincide with the quality of the subject. It is significant as a prerequisite for the qualitative certainty of the product. To determine the quality of goods, one must go from its functional designation. The functional purpose should be considered as a state of relations of a formally defining object with the specificity of the operation of the object, its commodity purpose, concluded in the consumer value of the goods.

Legs for which clothes are made in the form of shoes, represent part of a living organism. These are not pads and not limbs of the corpse, also intended for certain clothing. Clothes for the feet will not be shoes until they have sufficient evidence of its safety - hygienic, ergonomic, industrial, economic - household. Quality is not a collection of essential properties of a commodity, it is their system, the system-forming feature of which really is the ability to perform some formally most significant function. It is also laid in the basis of determining the quality of goods "growing" then the system itself, as grown from a random grains of pearls in the sink or the periodic system of chemical elements from atomic weight.

G. Hegel was right in his definition of quality, to start always better with what is "in sight", then to increase the definition. Around the nucleus of the atom there is an electron shell and together they give

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

the definition of an atom. In the definition, we lay down quality, revealing it later in the aggregate of concretizing properties. [3]

From a philosophical point of view, the quality of an object, reflecting the diversity of the world, reproduces in itself this objectively existing objective difference. The quality of the goods, especially mass direct human consumption, requires additional clarification, related to the manufacturer's responsibility for the safety of the use of the product. The quality of goods "consumer goods" is more complex structured. Its definition includes the system location of the main competencies of technical and humanitarian significance.

Shoes of their quality, by definition, should ensure the interaction of two fundamental competencies - safety and comfort in operation. The aesthetic properties of footwear are subordinated to them and packed in them. With their help, the producer "attracts" the consumer like plant flowers calling for insects, which produce pollination through consumption.

The cultural evaluation of the product is mistakenly simplified to the level of aesthetic value of the products. The cultural status of the product synthesizes in itself and the culture of performance, and the culture of consciousness of the manufacturer, deciding which materials to use, in whose interests it is to operate - the profitability of production or the needs of the consumer trusting the manufacturer. Ascending, we can easily rise to the very top - the culture of social consciousness. In some countries they do not steal, they consider deception to be baseness, and in others everything is built on these vices, they are legalized, for they have grown into the national mentality.

The substitution of a philosophical understanding of the quality of a commodity with an economic one is natural for an economy aimed primarily at making a profit, increasing capital in private interests. The economic dominant in the quality characteristic has an ideological basis. In the same context, one should also consider the desire to separate the economy from socio-cultural development. The idea that the economic movement should be absolutely independent of political supervision and humanitarian functions, all noneconomic is ensured by taxes from the economy, is gaining strength, and most importantly it is supported by power. Attempts to oppose this logic, the common sense of social development as the progress of the individual and interpersonal relations within the framework of the social organization of the historical process are ineffective. They are given the role of local public opinion, which has never been particularly solidarity. The philosophical system analysis of the quality and defects of its interpretation remains the lot of professional reflection.

It would seem that we have a purely theoretical problem: what to call the real quality of the goods and how does the system of qualitative properties look like in the characteristics of the goods? In reality, with practical application, it grows into an ideological problem: what is permissible to see the quality of a commodity in the contemporary concrete historical circumstances of social cultural development.

Simplification of the understanding of the quality of the goods by reducing it to its properties that ensure the profitability of production makes production, and not the consumer, a system-forming factor for obtaining the "quality" of the goods, which contradicts the quality of the developed economy of the "postindustrial", "new industrial" and even "industrial" society. At the dawn of humanity, the consumer rejoiced at everything that could be produced. The production was the defining party in the relationship with the consumer. Today, the market is considered to be the driving force behind the development of production. The initiative belongs to the buyer on the market. Transition to the principle: "The buyer is always right!" Involves determining the quality of the goods by its consumer.

The economic dominant in the characteristic of the quality of goods is clearly not up-to-date in the philosophical sense, but it expresses the essence of the bourgeois foundation of the existing economy, therefore, it will be defended politically and ideologically. Moreover, in a certain sense, it is interesting, in particular, to solve the problem of mobilizing the production potential for obtaining a demanded product in significant quantities, although the very quality of such a commodity will be conditional, "economic." The concept of "economy class" in the development of the notion "produced for sale in Russia" has been officially recognized.

We have already stressed that for 130 years bourgeois economists have been creating models for the effective production of high-quality goods in demand by the market, emphasizing the economic content of quality. Having driven the production movement to a standstill by economic models of quality, top managers, along with economists who isolated their profile of scientific interest from the socio-cultural goals of producing material goods, were forced to recognize the consumer not as a market anti entity but as a partner, an accomplice in the production process.

Recognizing the consumer as an ally is tantamount to including him in the production policy development team, albeit formally, because he remains in the previous position of the counterparty. In order to change the understanding of quality, it is necessary to start improving the production with the interests of the consumer, reflecting them in the properties of the goods, and then thinking about how to optimize the organization of its mass production.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

Ultimately, at the outset, a compromise solution, justified by the possibilities of production and the need to move by expanding these possibilities, is also acceptable. Now the buyer basically remains a slave with the producer - the master and the political protectorate of the interests of big capital. The interests of the mass consumer are promoted by the gait of Japanese women, while the dominance in the production of the interests of enterprises is moved by the victorious parade. The pace of the movement is not comparable, there is no noticeable advantage in promoting the interests of the consumer and is not yet expected.

The consumer with his interest as a good is theoretically not excluded from the development of strategy, tactics and advertising. We refer to B.S. Aleshina and co-authors: "In order for the quality strategy to be successful, both the internal and external consumers should not only be satisfied and involved in the process providing this satisfaction, but also take a direct part in the continuous improvement of the quality of this process." To this end, the Kaizyo system was improved ; replacing it with a new edition of Kaizen. Changes in the organization of quality management have revealed the advantages of those countries where the mass consumer - he and the worker of production feels more comfortable, feels his complicity in the development of production. In the second half of the 1980s, Japanese enterprises received 40 times (!) More proposals to improve the production process from their employees than the US enterprises (40 million against 1 million). It is also significant that more than 90 percent of the proposals, in one way or another, were used. [4]

The ideology of quality is rebuilt into a new one - the consumer orientation is extremely reluctant and half-hearted. The quality management system ISO 9000 (in the Russian Federation - GOST R ISO 9000-2015) was introduced into the world practice 30 years ago. Its starting position (№ 1): "Product quality is a characteristic managed object", sets the general direction in the understanding of quality. Quality is a product of production. In point №2, the places of participants that affect the quality of the goods are specified: "the purpose of quality management is the creation of products of a quality level that meets certain, established requirements, needs." To make it clear about whose requirements and needs are being discussed, at the end of the paragraph we read through the comma - "customer requests".

The interests of the consumer are taken into account, but according to the residual principle. They are remembered last of all, "if the reserves of production permit." In scientific and popular sources, one can find an explanation for such a distribution of interests - technically complex products and their improvement is the lot of

specialists. It seems that specialists are not consumers.

In ISO 9000 - 2015 for the first time at the very top of the list there is a consumer. The first principle of the QMS states: "Focus on the consumer." It is the consumer who declares quality properties. The status of the enterprise depends on how much the quality of the offered goods satisfies the requests to the quality of the buyers. The enterprise must understand their current and future needs, fulfill their requirements and strive to exceed their expectations.

But one should not rush to rejoice at the changes that have occurred. The quality management mechanism is still tuned to develop the quality of production technology, and not to obtain a quality product. The quality of the enterprise's activities is, as before, tested for maintaining the quality of production organization. Consumer interests remain "for later". All leading international quality management quality registrars are represented in Russia: Veritas, British Standards Institute, Lloyd's Registrar, Supervisory Society (TUV). In addition to them, numerous home-grown and joint ventures related to the certification of quality of production and products offer their services in the quality management market. The problem is not to find the desired organization, but that they are all "grounded" on production or the product out of context with the interests of consumers, which are quite specific and far from all in agreement with the views on the quality of producers.

The dialectics of the market uniting the producer and the consumer is simple - they are opposites that exist exclusively in unity, so we need to seek a balance of interests of both actors in order to give the production of quality goods a sustainable character that serves as protection against recessions and crises. Crises of overproduction - classical for capitalism of the XIX and the first half of the XX centuries became history. They were replaced by financial system shocks. Specialists are looking for a panacea in a qualitative, intelligent, efficient, lean production economy. "Historical experience shows that with the increasing attention to quality, the way out of crisis situations began in many countries. With the help of public policies aimed at improving quality, large-scale crises were overcome in Japan and Germany in the late 1940s. The crisis situations in the markets of the USA and Europe that arose in the late 1980s and early 1990s forced not only individual corporations but entire countries - Sweden, the United Kingdom and the United States - to pay attention to improving quality as the only means to help the national economy to withstand the onslaught of competitors "[5]

In solidarity with the above analysis of the economic history of the second half of the XX - first two decades of the 21st century, we express surprise on ourselves, as it happened that in defining the

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

newest social development through quality, the approach to understanding quality was not radically modernized. The totality of the quality value implies a revision of the content of the concept of "quality" and a new look at the factors that ensure the actual quality of the activity and its product. The system-forming position of the quality factor in social progress also determines a new political attitude to quality. The orientation of the development of production to internal ones is not required-not introduced messages.

Quality management must come from the need. It is in it, and not in rewarding for quality work in the form of incentives, the true beginning of a new economic policy. Encouraging, of course, no one is going to cancel, they are changed in places with motivation. Today, encouragement leads to the required quality of action, tomorrow the culture of professional attitudes toward work will be completed with incentives. Movement is most productive in the form of self-movement. External motivation is less effective. The remuneration should correspond to the quality of labor and to motivate labor sustainably.

The change in the qualitative strategy of economic policy from the incentive to quality production to the formation of the need for a quality product is not another attempt to revive economic romanticism and not communist nostalgia for the needs of the cultural person in labor as it may seem to those specialists who have restructured from political economy to economics, reducing the dialectical analysis to statistical, adapted to the volatility of modern production. It is a question of solving the system-forming problem of history - the relation of the individual to society and society to the individual, whichever side of this contradiction is more appealing, but in principle this is just a double spiral of social progress. A developed society is tested as a condition for the development of the individual. In its turn, a developed society is the very product of a person's cultural activity.

The formal and logical conclusion from the interdependence of the individual and society is obvious: it is necessary to build their relations in harmony, on the basis of awareness of mutual interest, bringing the interests to the degree of naturally needed needs (according to Epicurus classification) in each other. Now we are experiencing the historical stage of formal and abstract awareness of the basic contradiction of development by the individual and the subjects that determine politics. Personality and society, as it were, get used to the movement, looking for points of mutual growth. Partly successfully, there are many examples: mass production, freedom of access to education, sources of cultural development, political democracy, promotion of the nature management culture, solidarity in confrontation with extremist aspirations, joint use of scientific and technical

achievements, strengthening of the authority of the idea of tolerance.

A special place in this list should be the desire for a quality economy. The point here is this: opposites, by definition, are mutually alienated. Dialectical opposites, to which the personality and society belong, are advantageous in that unity in their relations is inherent in the occurrence. It only needs to be brought to the general position by climbing from the formally necessary stage to the absolutely necessary, loading the process with real content, demonstrating in detail the benefits of interaction. There is no other way of overcoming, objectively laid in the relations between the opposites of the individual and society, alienation. Through the quality of the activity - to the quality of social improvement. It is unnatural to alienate what serves as a real condition for your development. Under the conditions of classical capitalism, alienation was a prerequisite for achieving the power of capital, and the very political organization of society adapted itself frankly to the provision of a bourgeois state. Democracy was adapted to the bourgeois social order.

The revolution of 1917 in Russia and the subsequent history of the USSR should be assessed not so much as national achievements, but rather as a turning point in the history of classical capitalism, a transition to the post-classical one. The dominance of private property and the advantages of capital remained untouched, but significant changes took place in the social superstructure. Class antagonism gave way to social partnership. Access to capital has led to the emergence of various forms of associative use of it in production. Cultural progress was accompanied by an interest in the quality of life, a change in the very concept. World cataclysms, of course, not just scared the people of Europe, Asia. They pushed the consciousness away from the abyss of extreme interests in solving contradictions.

The alienation of the individual in labor has not been overcome, but development has been objectively (society) and subjectively (personality) through mutual interaction. There are certain conditions for the removal of alienation. And the new approach to quality - consumer-production - is a milestone on the way of convergence of the main subjects of public life. He will force to make adjustments to economic policy, restore systemic understanding of society, limiting the desire to disintegrate public life "on the shelves."

The qualitative vector of the development of the economy, of course, will require additional costs, but for that the state with its economic instruments to try to compensate them. And the market is likely to react positively to a quality product by its activity.

In our view, the very existence of private property in the variety of forms of its realization is not a sufficient basis for alienation in the work of the

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

individual. K. Marx, developing the idea of the alienation of G. Hegel, apparently had in mind a certain way of organizing labor, connected with the absolutization of the domination of private property. Private property serves as a potential economic basis for exploitation. But exploitation is not an inherent feature of it. One private property for exploitation is clearly not enough. As for the opposite private property of the public (public), which is governed by the state and serves as a real subject of property, it does not contain economic guarantees for overcoming alienation, which is not difficult to ascertain from the experience of the activities of domestic state monopolists.

It seems that the economic grounds for alienation should be sought not in ownership, but in distribution. Economic contradictions are insurmountable, but they allow management, the task of which is to control the nature of contradictions, to keep them within the limits of unimportant, acceptable differences that do not experience the existing unity of production for historical expediency.

To the point of recalling another observation of G. Hegel, recognized by F. Engels as the most important in understanding the dialectic of development: "Everything reasonable is real, everything is real reasonable". G. Hegel was able to discover the reasons for the need for systemic transformation of social relations, including economic ones.

In development there are two states that are perceived in the form of existence, but differ within the general status of their manifestation - "real existence" - "reality" and "real existence" - "reality." These forms of existence are fundamentally different on the basis. "Really existing" relies on the need to be in its form, it represents a developing reality. "Really existing" passed the stage of its necessity, ceased to be a factor of development, lost its relevance. It hinders the development process. Since the development of thinking and society Hegel understood in the form of a movement towards absolute rationality, he identified the necessity of the real with reality.

It is possible, of course, to squeeze out from the developed assortment and the established production technology to the last ruble. Question: Do I need to do this? Time moves forward in a certain mode, "in its own way," an objectively tailored "timetable." You will not get into the rhythm, you'll fall behind, you will stop meeting the changed requirements. The art of management - the management of production is not an exception, consists in the ability not to "fall out" of modernity, then you will always do this, in accordance with reason. Reasonable protection from most problems. "Demig's Seven Deadly Diseases" fit into one - do

not fall out with the definition of the goods and the organization of production from the time cycle.

Only those who are able to mobilize human capital are able to do this, to properly concentrate financial and technical resources on this task. Without the ability to control the "pulse" of time - to understand the specific economic and socio-cultural situation, the state of consumer interests, the real possibilities of production, to find stability in the situation in the face of increasing competition in the market there is no chance. We will make one more addition - to a qualitative orientation of the development of production and the general conclusion becomes clear: the path of economic reasonableness lies through the creation of actual conditions for the formation of demand for quality products. Testing this need should be a responsibility to the consumer as to himself. The ancient wisdom of Confucius: Treat others as you would like them to treat you, not obsolete, on the contrary, following it provided advantages in the economic progress of the countries of Asia.

The specificity of achieving reasonableness in modern qualitatively oriented production is in the solidarity of human capital:

- the internal solidarity of producers, their need for quality;
- external solidarity with the consumer, consideration of the interests of the latter;
- solidarity in the understanding of quality on the basis of a combination of economic and socio-cultural approaches;
- consistency and weightiness of the state's economic policy in terms of market orientation, inducing quality interests in market development with the tools of the economic mechanism. We tried to identify and summarize the basic conditions for achieving solidarity. To the extent that analysis of literary data allows us, this is done for the first time, therefore, clarifications and additions will be perceived positively. [6]

So, what should be considered as necessary conditions to achieve a radical change in the quality of production of a really good product - the transition from the stage of external audit to the stage of internal guarantee, formed by the formation of the need to create goods, the required quality of the consumer.

1. The presence of competition in the market of quality professional work, so that there is a clear understanding of the need to work in accordance with the needs of the commodity market. In another way, the market will not allow us to take a stable place on it.

2. Significant increase in purchasing power. Achieving the level that allows you to choose the right product. A quality product can not by definition be cheap, but it can be made available through market mechanisms.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

3. High level of professional training of producers, provided on the basis of the formation of professional culture and national identity. The main thing should be the upbringing of the attitude to work as a business that has dedicated its life. Expanded education of consumers, their perception as subjects of the common cause.

4. Overcoming the sensation of conscious and unconscious alienation of a person's ability in work and his products with the help of the following tools:

4.1. Achievement of symmetry in the quality of labor and remuneration.

4.2. Reduction to a reasonable correlation of differences in the remuneration of executives and executors, understandability of the bases in such proportionality.

4.3. Dependence of remuneration on the dynamics of further training and participation in the improvement of the production process.

4.4. The utmost use of socio-cultural mechanisms to stimulate the individual to the corporate movement, entry into command forms of the movement.

4.5. Sustainability of corporate activities.

4.6. Formation of relations by type: "One for all, all for one." Active promotion of the team form of responsibility for the results of work.

4.7. Organization of systematic competition in the quality of work.

4.8. Striving for national and international recognition of the quality and range of products produced.

4.9. Formation of labor dynasties, participation in the distribution of profits.

4.10. Understanding the quality of the product as an integrated product evaluation.

4.11. Awareness of the fact that it is "trifles" that reveal the perfection of quality, therefore, to trifles need to be treated as a building material of quality.

Conclusion

The internal life of an enterprise consists of a large number of different actions, subprocesses and processes. Depending on the type of enterprise, its size and type of activity, certain processes and actions may occupy a leading place in it, while others, processes that are widely implemented in other enterprises, may either be absent or be carried out in a very small amount. However, despite a huge variety of actions and processes, it is possible to distinguish five groups of functional processes that cover the activities of any enterprise and which are subject to management by management. These functional groups of processes are the following products: marketing, finance; work with personnel, accounting (accounting and analysis of economic activities).

Production management assumes that the relevant management services manage the process of processing raw materials, materials and semi-finished products entering the enterprise into a product that the company offers to the external environment. To do this, the management performs the following operations: management of product development and design, selection of the process, placement of personnel and process equipment to optimize the costs of manufacturing and choosing methods for manufacturing the product, management of the purchase of raw materials, materials and semi-finished products, inventory management in warehouses, including self-management of the storage of purchased goods, semi-finished products of own production for internal use and final products; quality control.

Marketing management is called through marketing activities for the implementation of the product created by the enterprise to link the satisfaction of the needs of the enterprise's customers and the achievement of the enterprise's goals in a single consistent process. To do this, it manages such processes and actions as: market research; advertising; pricing; creation of sales systems; distribution of products; marketing.

References:

1. Engels, F. (1961). *Anti-Dühring. K. Marx and F. Engels*. CIT., Ed. watt. M.: Gospolitizdat. t 20. p. 5-342, p. 827.
2. (2014). *The big book of Eastern wisdom*. (p.800, p.410). Moscow: Eksmo.
3. Hegel, G. (1975) *Encyclopedia of the philosophical Sciences I. Science of logic*. (p.452, pp.341-342). M.:Mysl.
4. Aleshin, B. S. (n.d.). *Philosophy and social aspects of quality*: Ouch. POS. (p.238, p.103). M.: Logos.
5. (2000). *Quality management. Vol. 2 Principles and techniques of total quality management. Fundamentals of quality assurance*. (p.387). Moscow: mgiem.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

6. (1955). *The Materialists Of Ancient Greece*. (p.238, p.210). M.: GOS. ed. polit. I-R.
7. Prokhorov, V. T., et al. (2012). *Managing production of competitive products in demand*. Under the General editorship of doctor of technical Sciences, Professor V. T. Prokhorov (Eds.). (p.280). Novocherkassk: yurgtu (NPI).
8. Prokhorov, V. T., et al. (2014). *The quality revolution: through the ad or through a quality real*. Monograph; under the General editorship of doctor of technical Sciences, Professor V. T. Prokhorov; VoIP (branch) of DSTU. (p.384). Novocherkassk: URGU (NPI).
9. Biryukov, A. N., Borilo, E. V., Glushchenko, O. I., & Aspen, T. M. (2014). *The regional economy: development trends*. The monograph. (p.159). Voronezh : vgpu.
10. Reva, D. V., Korablina, Y. S., Prokhorov, V. T., Narozhnaya, I. G., & Tikhonov, N. (n.d.). *Formation of import-substituting assortment of shoes for domestic markets*. pp.364-371.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 27.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Vadim Andreevich Kozhevnikov

Senior Lecturer

Peter the Great St. Petersburg Polytechnic University

vadim.kozhevnikov@gmail.com

Evgeniya Sergeevna Pankratova

student

Peter the Great St. Petersburg Polytechnic University

jane_koks@mail.ru

RESEARCH OF THE CUSTOMER SUPPORT SERVICE DEVELOPMENT FOR USER APPLICATIONS

Abstract: The article includes information about chat-bots, support mechanism - how to make the interaction of users and support department useful for both sides. It also includes the description of subject area, service's components and their purpose and steps of bot working process.

Key words: Telegram, chat-bot, helpdesk, GLPI.

Language: English

Citation: Kozhevnikov, V. A., & Pankratova, E. S. (2018). Research of the customer support service development for user applications. *ISJ Theoretical & Applied Science*, 12 (68), 271-276.

Soi: <http://s-o-i.org/1.1/TAS-12-68-39> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.39>

Introduction

It is difficult to imagine the modern world without a smartphone. We use for completely different purposes: listening to music, reading electronic books, looking for a route from one place to another, making calls, writing messages to friends and relatives.

According to statistics, every day people use from one to four mobile applications, and one of these applications is an instant messenger [1, 2].

Messengers now are not only a way to transfer messages between users, but they also perform the information part, there are a large number of different channels where admins (the main person of channel who has access to this channel) post daily about news, sports, music, so they are like blogs, but they are not on special platforms for blogging, they are in messengers.

And messengers also have bots - some kind of program which is fully automatic and can do a lot of things, it is an assistant like Siri or Alexa. For example, bot can send you everyday jokes or fun pictures, music or news, or may be if you want to receive weather announcements it can do it too [3]. And also they can be used for getting information from users for example support bots. It means that

there is a special bot and if you have a problem with some site or application and its development company has such mechanism like this in messenger, you can send a message to bot and it will answer you sooner or later [4].

Since July 2018, one of us have been an intern at a software development company whose knowledge is applied in the field of medicine, where the company has extensive experience in successful projects.

At the beginning of work one of us was offered to develop its own project independently. Every good user application should have a support mechanism to help developers (or company itself) get information about possible errors while users exploring this app. The problem is how to do it right, how to organize this interaction between support and users?

We think, that letters to the mail for support are not very effective [5]. Because a lot of people write about their problems to support every day and they write not just one letter, but they can really spam when trying to know why there is still no answer. So because of this, we guess it is possible to lost some letters, also they can be removed, or for example user write two letters and one is removed and support will never understand what was the problem, so they will never answer to this user.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

So the project that was offered for the internship is precisely engaged in providing user support - this is the built-in chat bot [6, 7] in the instant messenger platform that collects problems (or tickets) from users and create them in a special helpdesk system where employees of support department can see each tickets and not lose it (because helpdesk is a more convenient interface than regular mail) and user will finally receive feedback even if his problem is not solved.

The aim of the article

Since one of us already work in a company and has its own project (and this project is a new product for my company), my tasks include not only development of chat bot, but also tasks of analytics, planning and other commercial development processes. Therefore, the aim of this work is to get acquainted with the processes of analytics and planning.

To achieve this goal the following tasks were set: plan the components of the application under development, create a component scheme on which the main application services will be displayed, create sequence diagrams which will help other people (not developers) to understand the processes of app's work, although it will be useful other developer, which will support this app after our development. And the main tasks of this article is to know what helpdesk system is, outline the benefits of these systems and make the review of the main interaction with helpdesk methods.

Formulation of the problem

Need to develop the chat-bot that will communicate with the users, help the create a request (or speaking of helpdesk system terms - tickets) for the existing problem. After the user confirms the creation of the ticket, all the data (messages, creation time) will be transferred to the helpdesk system for further processing by the support service staff. After the request is resolved and a response (or solution) is left for it, a corresponding message will be sent to the user.

The subject area description

The whole project consists of several parts: the platform (messenger platform, web site, plugin and so on) on which the program will run, the bot program, the database, which is the data repository and the server on which the code is laid out, and most importantly the helpdesk system. We give a more detailed definition of each of the components.

For current development the Telegram messenger was chosen. Telegram is a cross-platform instant messenger that allows you to exchange

messages and media files of many formats. Since the company still has two priority messengers for implementation - Facebook Messenger and Telegram, and for Telegram it was proposed to develop the first version of the product, he was chosen. But we would like to note that you can embed the program in any other environment.

A bot is a program that tries to create the impression that it is not a program, but a person; a program that automatically or on a predetermined schedule performs any actions intended for people. The functions of the bot include communication with the user, working with the database, sending messages to the application service, which we will also develop, sending messages to users about the decision of their applications.

A database (DB) is an organized structure for storing, modifying, and processing related information. In the described work there will be several databases, so the project architecture is assumed to be microservice, and thus each service should have its own database. One of the databases will be designed to store information about users, channels that can work with the bot, support services. The other is for storing information about messages compiled by users and other related information.

The server on which the bot and other services will be laid out that will be needed to ensure its operation is provided by the company.

And helpdesk-system itself - a system for handling applications and incidents. For this work, the choice of tool was behind the company and it was proposed to use the GLPI system.

The description of the app architecture

The project being developed is a microservice architecture. Its plus is that if in traditional versions of a service-oriented architecture modules can be quite complex software systems themselves, and the interaction between them often relies on standardized heavyweight protocols, in the microservice architecture of the system they are built from components that perform relatively elementary functions, and interoperable using cost-effective network communication protocols.

Thus, the project will consist of individual microservices. Consider them in more detail. First, it is necessary to identify the main components for the project. According to the collected requirements and own reasoning, these will be the following parts:

- Support Bot Service is the most important microservice that is responsible for working with the bot, includes all the basic logic for communicating with the user;
- Account Service - a component that is responsible for working with user accounts, it provides an interface for working with the

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

database. In fact, it will not be a microservice in this context, as it will be built into the Support Bot Service, but it could well become one. To do this, it would be necessary to develop it as a separate service that would provide its own API for interaction with it;

- Ticket Service is a component that will work with a database that stores all information about tickets and works with helpdesk-system. Unlike the Account Service, it will already be a microservice and will provide an API that the Support Bot Service can use.

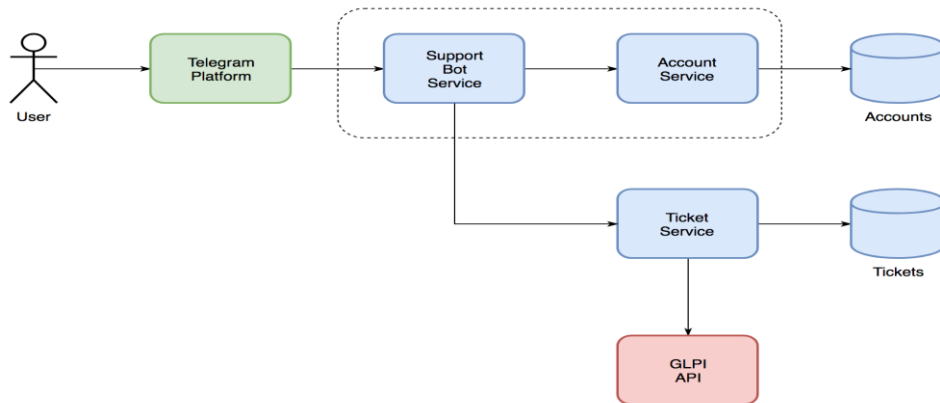


Fig.1 - Component scheme

In Fig. 1, you can see the component scheme, which consists of the components described above - Support Bot Service, Ticket Service, Account Service. In addition, the diagram shows the Accounts and Tickets databases, each base for its component. You can also see a branch from the Ticket Service - GLPI API - an API provided by the tickets processing service. Dashed line combined services, which are one application (one service).

After we have created the component diagram, it is necessary to consider the processes that the entire project will implement - creating user accounts, creating tickets locally in our database (collecting user messages), creating tickets in the helpdesk system and receiving answers from the support service. For such purposes, you can create a sequence diagram (see Fig. 2), which will visually describe the processes occurring in the service.

Few words about helpdesks

The bot, which was proposed for development, is committed to providing users with an interface to communicate with customer support. He communicates with it indirectly, as well as through a special tool called HelpDesk-system designed to automate the processing of customer requests.

When a request comes from a client, a "ticket" is created in the system. This ticket, depending on its content and importance, is placed in a queue to one of the support staff and he is already working with the client to solve the problem. During this process,

the status of the ticket is updated and the head of the support service can monitor how the support staff cope with the load.

Implementing HelpDesk is beneficial for everyone - business owners, company managers, IT departments and end users. Such services eliminate the problems associated with the slow response of IT services to requests. The quality of services of organizations that have several offices and divisions in different regions also increases. Accordingly, the security of the IT infrastructure of companies is improved, costs are reduced, and it becomes possible to predict them.

For users, the implementation of HelpDesk is characterized by an increase in the level of service provided and a decrease in the periods of stops due to problems in the IT infrastructure. And for the IT services themselves, the introduction of such an organization of work becomes a solution to the problem when a business cannot understand the requests of IT people. It is possible to simply justify investments in IT and plan the budget according to the needs in the development of business processes. In addition, the IT department can provide up-to-date and reliable data about its work and increase the availability of its services to users.

GLPI description

In company, as probably in any other, there is a support department or technical support department. Employees of the service and was invited to use GLPI.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

GLPI (Gestionnaire libre de parc informatique - free IT infrastructure manager) - is a system for handling requests and incidents, as well as for inventory of computer equipment (computers, software, printers, etc.). It has advanced features,

such as notification mail tracking and methods, to create a database with basic information about network topology [8].

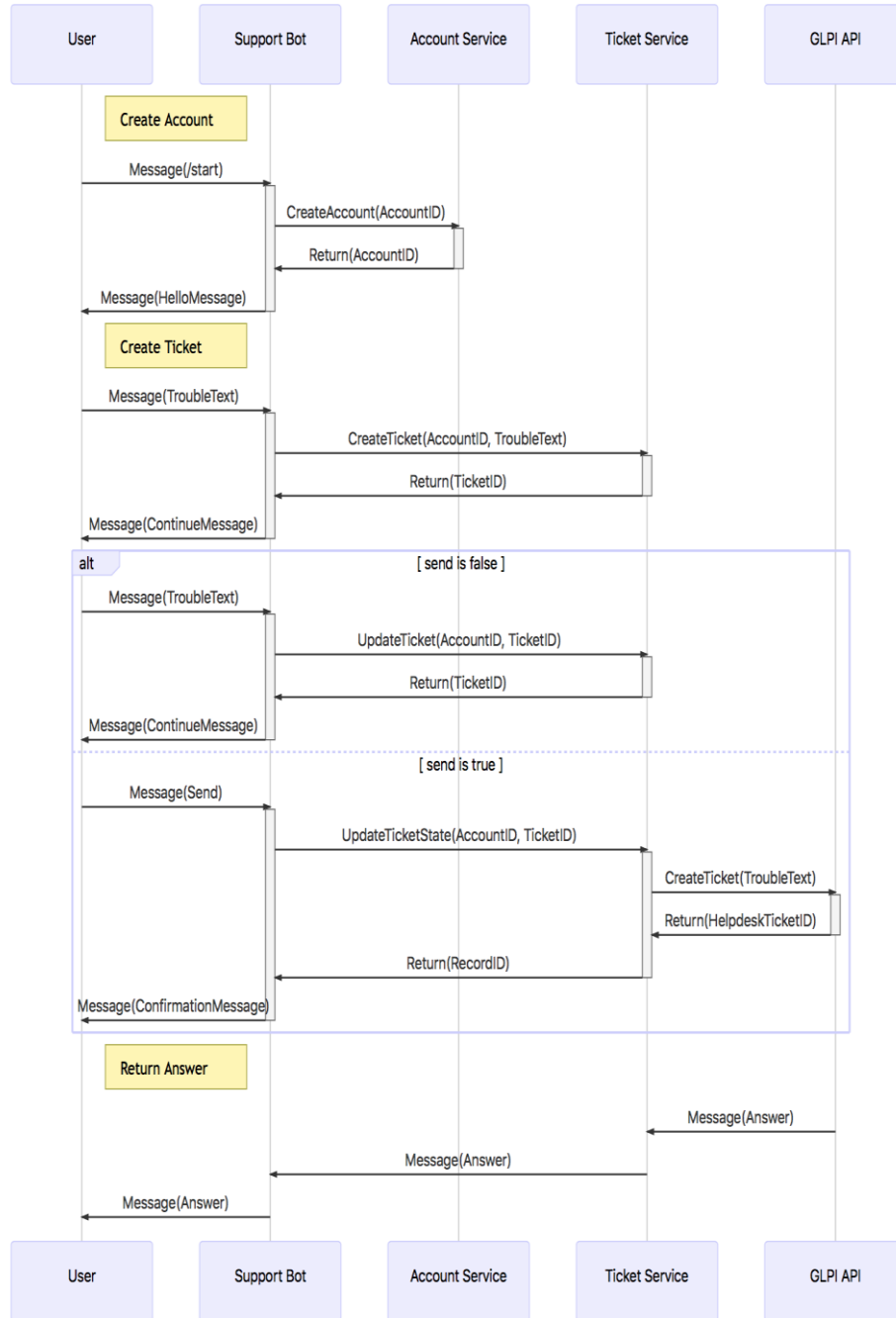


Fig.2 - Sequence diagram

GLPI is software tool for managing IT services for free and open use that makes it easy to plan, manage, and easily solve problems when they occur.

In addition, this system allows you to easily control the company's budget and its costs, if necessary.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	ПИИИ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

Description of the mechanism of interaction with GLPI

Before starting development, it is necessary to study the capabilities of the chosen system for working with applications, see its API, select methods and consider their use for our task.

Since the work on this project has been started as part of internship, one of us was faced with not only development tasks, but also analytics and planning. Each service we develop has a large number of diagrams, sequence diagrams so that the manager/customer has an idea of what kind of product it is, what functions it performs, what processes occur in it.

Since the one of the tasks of this research paper is devoted to acquaintance with the ticket processing system, the relevant components will be considered in this section. Previously the basic architecture of the project was described. Based on this information, we can build a sequence diagram, which in general terms describes the user's communication with the bot and the bot with the helpdesk.

As can be seen from the diagram that was presented above, we need to create a request (or ticket) in GLPI, add a comment to it, delete (close) the ticket. Consider a separate part of the diagram associated with the interaction with GLPI - the part where we choose if send is false or true (Fig.2).

This sequence diagram shows the following: the first time a message is sent by a user, we locally create a ticket record in our database. After the user continues to work with the ticker, we must recognize whether the user has clicked the "Send" button or not.

If he hasn't clicked it yet ("send is false"), then we continue to save his messages in our database within the same ticket with which he works and invite him to continue typing.

If the user has already clicked the "Send" button ("send is true"), then we update the information that the request has been sent, send it to GLPI, and also update the task identifier that came from the helpdesk system (since they also have their own database with completely different identifiers), and we send the user a response stating that the application has been successfully sent and he can only wait for a response (Fig.3).

Overview of the main methods of interaction with HelpDesk

In order to understand how to organize the entire declared process, it is necessary to study the API (Application Program Interface) provided by GLPI.

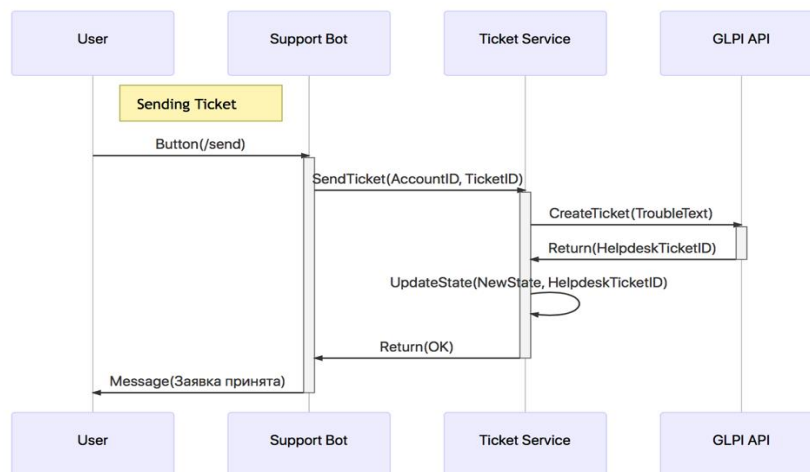


Fig.3 - Sequence diagram of interaction with GLPI

First you need to define the methods of the API Ticket Service, which it will provide to customers:

- create tickets;
- send ticket - there will be a little more complicated logic, since we can send all messages within the ticket as one, and then when you click the "Send" button, we will form a ticket and in GLPI it will be created as the only

entity, but we can supplement the existing one GLPI ticket, and then all new messages (we have the opportunity to add) will be sent as a comment to the application - so here we will need two methods from the GLPI side, but more on that later;

- append ticket (if the user didn't write all the information in one message and wants to supplement the ticket);

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PИИИИ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

- close ticket;

Now that we know the Ticket Service API methods, we can combine them with the GLPI API methods. First, the method for creating an application will not be combined with GLPI, because the creation of an application implies the local storage of ticket information in the database when the user first calls (that is, on each first click on "Create request"). And secondly, we do not need the add-on method, since it also works only with the local database and stores all incoming add-on messages. Thus, we still have methods for sending the ticket itself, creating a comment for the ticket and closing the request from the user. In addition to the methods of working with tickets, we need a method of session initialization, which accept the application token and the user's token as the request headers, and as a result sends the token of the session. We will search for detailed information about the declared methods in the GLPI documentation.

In order to use the methods declared in the API description, it is necessary to study some concepts. Firstly, it is endpoint (access point), since the

resource is available through a certain api, then endpoint is just the address (url) by which api can be accessed by client applications, that is, it is the address of GLPI itself specifically deployed under our needs, plus "apirest.php/". Further, the user token is used in the login (authorization) process instead of the login and password, represents the user as a string. This token can be found in the GLPI settings. Application token is an additional way to access API of GLPI. Finally, a session token is a string describing a valid session in GLPI; all methods that access GLPI are required by this token.

Conclusion

In this article we analyzed the principle work of future development support bot which will be integrated with special system for processing tickets - helpdesk.

In future articles we plan to continue the study of the mechanism of support, and specifically develop a bot and service that allows the bot to communicate with the helpdesk.

References:

1. (2018). *Chat-bot — kak napisat udobnogo i poleznogo?*. Retrieved December 1, 2018, from <https://habr.com/post/311008/>
2. (2018). *Boti: chto eto takoe, kak oni rabotayt i pochemu prishla pora v nih razobratsya*. Retrieved December 1, 2018, from <https://test.ru/2016/06/08/chatbots/>
3. (2018). *An introduction to chatbots: the future of customer engagement*. Retrieved December 1, 2018, from <https://oursocialtimes.com/chatbots-huge-opportunity/>
4. (2018). *The future of chatbots for social media*. Retrieved December 1, 2018, from <https://www.falcon.io/insights-hub/topics/social-media-strategy/the-future-of-chatbots-for-social-media/>
5. (2018). *8 Powerful Ways Chatbots Can Transform Your Customer Experience (Insights From David Cancel, CEO of Drift)*. Retrieved December 1, 2018, from <https://www.coredna.com/blogs/chatbot-improve-customer-experience>
6. (2018). *Top 10 Ways a Help Desk Can Help You*. Retrieved December 1, 2018, from <https://www.spiceworks.com/it-articles/it-help-desk/>
7. (2018). *The 3 Essentials of AI Bots for IT Help Desk*. Retrieved December 1, 2018, from <https://chatbotsmagazine.com/the-3-essentials-of-ai-bots-for-it-help-desk-9bce2ffa4446>
8. (2018). *GLPI REST API: Documentation*. Retrieved December 1, 2018, from <https://github.com/glpi-project/glpi/blob/9.1/bugfixes/apirest.md>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 27.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Elnur Latif oglu Hasanov

Corresponding member of International Academy of
Theoretical and Applied Sciences, Ph.D.,
Institute of Local lore of Ganja Branch
Azerbaijan National Academy of Sciences,
Ganja, Azerbaijan
el-hasanov@mail.ru

**SECTION 12. Geology. Anthropology.
Archaeology.**

HISTORICAL-CULTURAL INVESTIGATION OF ANCIENT HERITAGE OF MODERN GANJA CITY (BASED ON MATERIALS OF ANCIENT LOCAL KURGANS AS ETHNOGRAPHIC-ARCHAEOLOGICAL SOURCES)

Abstract: *On the basis of different scientific materials, local craftsmanship samples of modern international ethnographic and archeological excavations in the territory of Ganja city and around area, also various archive documents have been researched the basic features of historical-cultural heritage as an innovative academic approach. The main materials of international ethnographic and archeological excavations in the territory of ancient Ganja were also investigated based on the local different kurgans in the large territory of Guru Gobu area.*

Key words: *Azerbaijan, handicraft samples, Ganja, ethnographic research, archeological excavations, multidisciplinary study, innovative methods.*

Language: *English*

Citation: Hasanov, E. L. (2018). Historical-cultural investigation of ancient heritage of modern Ganja city (Based on materials of ancient local kurgans as ethnographic-archaeological sources). *ISJ Theoretical & Applied Science*, 12 (68), 277-281.

Soi: <http://s-o-i.org/1.1/TAS-12-68-40> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.40>

Introduction

Ganja, one of the oldest cities of the East with a centuries-old history, connecting the north-eastern slopes of the Lesser Caucasus mountains (ancient Ganja mountains) with the expanses of the Kura-Arak lowland, is located in a picturesque corner of Azerbaijan with a temperate climate, fertile lands rich in water resources.

Historically, Ganja has always had a favorable geopolitical location and played an important role in the cultural and economic life of Azerbaijan. This city was built on the Great Silk Road, which connects Asia with Europe. Thus, Ganja was the spiritual bridge between different civilizations.

Due to centuries-old national and moral values, this city has been considered as a kind of “indicator” of the socio-cultural and political-social system for many centuries.

Since it was Ganja that was the main center of the main historical reforms, important national uprisings against the enemy troops advancing on our

homeland.

As known, from the archaeological point of view, Ganja, being an ancient cultural center of the South Caucasus, at the same time is considered a stronghold of Ganja - the Karabakh archaeological culture. Therefore, relevant surveys were conducted here in different socio - historical periods. For example: Resler E. (1892-1903), Schulz B. (1898-1903), Rozendorf B. (1903-1914), Skinder V. (1905), Lass F. (1908). Archaeological excavations carried out in the territories of the city of Ganja and Ganjabasar, indicate the presence of people here since the Neolithic times [8, p. 2290].

At that time, on the territory of the copper mines, they were engaged in the production of copper, and a stone hoe was found on the territory of Goygol. Stone products found on the territory of Goygol and Mingachevir suggest that until the middle of the second millennium BC. in the area of Ganjabasar, agriculture was carried out in a hoe method.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Many monuments of the bronze period are found in Ganja. This is confirmed both by the previous history of archaeological research and by joint field work with Italian specialists.

From this it follows that already, starting from the bronze period, the territory was densely populated; the culture of the city and urban-type settlements was formed. It is also impossible to exclude that in the Bronze Period, the Obsidian cleavers, made during the Neolithic period, were used that belonged to earlier cultures.

Materials and Methods

In recent years, departments of Ganja State University and Azerbaijan State Agrarian University have been functioning in the Ganja Branch of the Azerbaijan National Academy of Sciences.

In order to conduct new research and training of young scientific personnel, important works are being carried out in the direction of the publication of scientific papers, articles and monographs, joint research projects, academic and information exchange. The department provides both individual and group practice for bachelor and master students specialized in chemistry, history, philology, and biology.

Scientific results obtained by undergraduates in laboratories, departments and made up in the form of articles and abstracts are published in various journals, including foreign journals with a high impact factor. departments of the institution.

Scientific cooperation is carried out not only with institutions of higher education, but also with secondary schools. Various activities are being taken to increase students' interest in science.

The Ganja Branch of ANAS, with the organizational support of the Department of Education of Ganja, and the Department of Education of the City of Ganja systematically conducts e-education trainings with teachers teaching computer science in secondary schools. The Ministry of Education recommended conducting similar training in other cities and regions of the republic.

Currently, scientific cooperation is continuing with the Institute of Geology and Geophysics, the Institute of Additives Chemistry, the Institute of Catalysis and Inorganic Chemistry, the Institute of Polymer Materials and the "Interdisciplinary Analytical Center" of ANAS.

In accordance with the decision of the Department of Earth Sciences of ANAS dated March 11, 2016 (Number 2/2), research work was carried out with the Institute of Geology and Geophysics to study the characteristics of the thermal waters of the Western zone and possible areas of their application.

Together with the Geothermal Department of the Institute of Geology and Geophysics in the exploration wells of the Western region of Azerbaijan, modern geometric studies were

conducted and, determining temperature and geothermal gradients at various depths, a new database was created and a prospective geothermal energy plan was prepared.

The Ganja Branch expanded scientific ties with various institutes of the National Academy of Sciences of Azerbaijan and signed cooperation agreements with the Institute of Microbiology and the Institute of Manuscripts. Mohammed Fizuli for cooperation in the field of personnel exchange and research [24, p. 10-11].

Together with the scientific staff of the Institute of Archeology and Ethnography of ANAS, as a result of archaeological research, a map of ancient burial mounds was prepared in the southern zone of the city, in the Yeni Ganja residential area.

On the basis of a map prepared in 2017, excavations were carried out on five-ancient barrows, where material and cultural remains, samples of local craft, anthropological findings, paleozoological and paleobotanical samples were found, which proves their relationship to the early Bronze Age.

Theoretical basis of investigation

The obsidian and flint tools found in the Gillikdag camp found by I. Jafarzade in the village of Bakhchukurd stone scoop suggest that they lived in this territory in the VII-VI millennium BC. e., people were among the founders of the Neolithic culture. The way of life of the Neolithic period (V millennium BC) in the Ganja region continued and created the prerequisites for a new economic development in the Eneolithic.

1. Archaeological research shows that during this period, the local population, having moved to a sedentary lifestyle, began to engage in farming and animal husbandry. This is confirmed by osteological remains found in archaeological excavations, which are bones cultivated in the Ganja region in the V millennium BC. e. animals known to us. It is in the IV-III millennium BC. e. Based on the Eneolithic culture, Ganja has become one of the centers of the Early Bronze Age of the Kur - Araz culture.

2. Excavations in burial mounds near Ganja showed the presence of rounded pits for ordinary burials and cremation rituals. This is characteristic of Ganja and Karabakh, as well as other ancient tribes in the country.

The similarity of the funeral rituals proves the ethnic affinity of the tribes inhabiting the territory. In the village of Yeni Ganja in the ancient territory of Guru Gobu in 2018, during a joint excavation with Italian archaeologists, a barrow made of volcanic glass was found in a mound.

3. It can be concluded that burial refers to the early Bronze period. On the basis of the bones discovered during the Ganja excavations in the mound, a religious rite was established: alongside the

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

deceased there was poultry meat for his food, according to ancient signs, deer bones were buried.

4. The location of the city in the foothills contributed to the wide spread of livestock, it pushes to the idea of the formation of semi-nomadic cattle breeding in a part of the population. In this regard, the mounds discovered on the territory of Khoshbulag can be attributed to the tribes that left these places. The buildings of the extended houses, found during research near Ganja, had a number of additional extensions, and the people living here did housekeeping.

The ruins of these buildings have survived to our days. They supposedly lived in families. The presence of the spears and tips existing here, pottery, a wooden hammer head, the remnants of ornaments suggest that the deceased was a warrior. The bones of the deer indicate the connection of these tribes with the culture of Northern Eurasia.

Applied significance of research

Including pottery found on the territory of Ganjabasar with a picture of a camel, camel bones talk about trade, covering large areas. Much evidence on flint stone mining in the territory of Ganjabasar in Chilikdag indicates the development in addition to agriculture and other types of production.

It is possible to assume that weapons samples [5, p. 372] were made from the merchandising alloy of copper and other metals imported from the nearest commercial areas. The main caravan routes connecting the Middle East and Western Asia also ran through Ganja.

In the middle of the century it became more pronounced. This gives grounds to assert that thanks to this trade route, Ganja developed and became one of the important cultural centers of the South Caucasus. Unfortunately, during the last archaeological excavations, the looting of the territory of the mound was discovered. In the I millennium BC. e. The nomadic tribes of the Saxons and Scythians who settled here settled near Ganja [4, p. 61]. In the writings of medieval historians, the name Ganja is given as Gandzak. It is probably a modified form of the word Kandsak.

So, the original name of Ganja acquired the form of Kandsak: "Kand" is a city, "Sak" is a tribe, that is, in ancient Turkic it means "Sak city" When the nomads depleted their weapons, they had to make new ones, mining metal from mines. The easiest way was to open the burials that remained from the bronze period and to remelt the excavated weapons for metal. Presumably, it was the nomads and plundered these mounds.

During the study of the mound, pieces of planks were found, which makes it possible to think about the use of this material in its construction, and later it was replaced by masonry stone in the form of elevation. Despite the fact that the mound studied in

2018 did not provide much material for archeological science, it created the conditions for analyzing what happened in this area in the 3rd – beginning of the 1st millennium BC. [32, p. 58-59].

So, in the Zanabad part of the ancient territory of Ganja, during excavations, colored utensils were found. Painted monochrome paint ceramics from the mounds near Ganja (Zurnabad) indicates the association in the III-II millennium BC. e. in single centers of large tribal unions. The presence in Ganja of the production of colored ceramic tableware is one of the hallmarks of urban handicraft in the III-II millennium BC., and at least, proves the emergence of early urban centers in the middle of the III millennium BC.

The tribes of this period were settled in a number of settlements abandoned during the Eneolithic period. As an example, in Nakhichevan - Kultepe, Ovchular tepesi; Kazakh - Babadervish; Southern Azerbaijan - Geytepe and Yanygtepe.

All of them belong to the settlements of this type. The remaining settlements of the early bronze period in Azerbaijan were built in new territories. You can show Gobustan and Mingechevir; in the city of Fizuli - Garakepektepe and Guneshtepe; in Beylagan - Chardakhlytepe; in Jalilabad - Misharchay; in Khachmaz - Gäflya Tepleri; in Barda - Shortepe; in Shabran - Sarkartep; in Agjabadi district - Chuttepe; in Agdam - Garahaji and others.

In Azerbaijan, a number of bronze period tombstones have been investigated near Khankendi and Geygel, Mingechevir and the Mil valley; the cities of Dashkesen and Shamkir in Osmanobuz, Terter in Borsunlakh, Astara district in Telmankend [2, p. 19]. The study of monuments creates prerequisites for the coverage of life and culture, ideological views, as well as methods of economic management of the tribes who settled in Azerbaijan in the early Bronze period.

In the period of the early bronze period in the territory of Azerbaijan, settlements were mostly located closer to the mountains, on the banks of small rivers. Settlements of this period are also found in the central lowland areas on the coasts of the Araz and Kura.

In the high-mountainous regions, small number of burials (Dashkesan) and the ruins of settlements (Kelbajar) were found [2, p. 69-71].

Conclusion

As noted, the Kura - Araz culture prevailed in Azerbaijan in the early bronze period. It has spread to many places in South Ossetia and the North Caucasus in eastern Georgia and Anatolia; in southern Azerbaijan, Syria and Iraq. It is interesting that the cultures in the Caucasus are similar to the cultures formed in Iran and Turkmenistan, which is explained by the similarity of the tribes and the presence of trade relations between them [1, p. 41].

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIIHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

The settlements of Kura-Araz culture occupy an average of 1-2 hectares of land (Babadervish, Garakepektepe, Misharchay, Chyutte, etc.). This ensured the continuation of life in the following centuries. The formation of a thick cultural stratum is associated with the duration of the lifestyle.

In the places of settlements of the middle bronze period a lot of diverse material was found. Discovered stone clubs were used in different areas. Perhaps their more refined designs were used as weapons.

In the graves excavated the remains of domestic animals, figures of birds and animals, metal objects, made by hand and on the potter's wheel, ordinary and colored dishes.

In Kura - Araz district, monuments of the middle bronze period are identified in the Barda region - Shortepe, Agdam - Rasultepe, Geytepe, Chinartape; Agdzhebedinsky - Chaggaltepe and others [2, p. 19]. On tombstones of the middle bronze

period, some features of early bronze time are preserved.

The deceased were buried on their sides in a wrapped state, along with various objects, and sometimes with their concubines. Marked and the ritual of kindling in the grave campfire, cremation was carried out. The ritual of kindling a fire and cremation spread from the early Bronze period in Azerbaijan continued until the end of the Bronze period.

In a word, in our article, having shown the main milestones of the archaeological excavations in Ganja itself and Ganjabasar, we tried to create an integral, generalized picture of the antiquity of this region of Azerbaijan. Including to demonstrate the new research of the latest archaeological expeditions, which was also the author of the article [6, p. 27-32].

Naturally, this is not the limit, because the archaeological work on our territory and around Ganja, which is the center of antiquity, has great prospects in establishing many historical facts.

References:

1. Altman, M. M. (1949). *Istoricheskiy ocherk goroda Gyandzhi*. (p.41). Baku: Akademiya Nauk Azerbaydzhanskoj SSR.
2. *Azərbaycan arxeologiyası* (2008). 6 cildə, VI cild. (p.632). Baku: Şərq-Qərb nəşriyyatı.
3. Həsənov, E. L. (2012). *Gəncə İmamzadə türbəsi* (tarixi-etnoqrafik tədqiqat). 1-ci nəşr. (p.268). Baku: Elm və təhsil.
4. Həsənov, Z. (2005). *Çar Skifləri*. (p.480). Baku.
5. *Azərbaycan etnoqrafiyası* (2007). 3 cildə, I cild. (p.544). Baku: Şərq-Qərb.
6. Hasanov, E. L. (2018). *Applied significance of investigation of handicrafts branches in Ganja city based on innovative technologies* (Historical-ethnographic research). (p.110). Prague: Vědecko vydavatelské centrum «Sociosféra-CZ» (Czech Republic). ISBN 978-80-7526-323-0
7. Əhmədov, F. M. (2007). *Gəncənin tarix yaddaşı*. Gəncə: Elm.
8. Hasanov, E. L. (2017). About research of features of legal culture on the basis of historical-literary heritage. *Information (Japan)*, 20(4), 2289-2296.
9. Həsənov, E. L. (2012). *Die Gändschänischen teppiche von XIX – XX Jahrhundert als geschichtliche – ethnographische quelle. European Science and Technology (Die Europäische Wissenschaft und die Technologien)*: 2nd International scientific conference. Bildungszentrum Rdk e. V. Wiesbaden, p. 26–27.
10. Hasanov, E. L. (2015). To the Question on Research of Craftsmanship Traditions of Ganja of XIX – First Half of XX Centuries. *Mediterranean Journal of Social Sciences*, vol. 6, № 1, Part S1, 433-437. Doi: 10.5901/mjss.2015.v6n1s1p433
11. Guliyeva, N. M., & Hasanov, E. L. (2013). *Investigation of basic decorative-applied arts of Ganja on the basis of some innovative arguments and technologies. Science and Society*. Proceedings of the 3rd International scientific-practical conference. (pp.281-291). London: SCIEURO.
12. (1974). *The dawn of Art*. (p.196). Leningrad: Aurora Art Publishers.
13. Smith, W. B., & Hasanov, E. L. (2013). Importance of handicraft traditions in investigation of history of urban culture in Ganja. *ISJ Theoretical & Applied Science* 11(7): 61-66. doi: <http://dx.doi.org/10.15863/TAS.2013.11.7.10>
14. Həmidova, İ. (2000). *Azərbaycan parça sənətinin tarixi inkişaf yolları*. Elmi axtarışlar, VIII toplu, Baku.
15. Chelkowski, P. (2008). *Nizami Gandjawi, jamal al-Din Abu Muhammad Ilyas b. Yusuf b. Zaki Muayyad. Encyclopaedia of Islam*. Edited by: P. Bearman, Th. Bianquis, C.E. Bosworth, E. van Donzel and W.P. Heinrichs (Eds.). Brill.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PİHHİ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

16. Həsənov, E. L. (2015). *Gəncə İmamzadə türbəsi ənənəvi multikulturalizm abidəsi kimi. Qafqazda mədəni-dini irsin qorunması mövzusunda beynəlxalq konfransın materialları.* (pp.117-120). Bakı.
17. Həvilov, H. A. (1991). *Azərbaycan etnoqrafiyası.* Bakı: Elm.
18. Gasanov, E. L. (2015). Ob innovatsionnykh rezul'tatakh istoriko-etnograficheskogo issledovaniya khudozhestvennoy keramiki drevney Gyandzhi. *Novyy universitet Aktual'nye problemy gumanitarnykh i obshchestvennykh nauk. № 8-9 (53-54).* DOI: 10.15350/2222-1484.2015.8-9
19. Guliyeva, N. M., & Həsənov, E. L. (2014). Die traditionelle Gändschänischen Teppiche von Zeitraum der Aserbajdschanischen Gelehrten und Dichter Mirsä Schäfi Wasch als ethnoanthropologische quelle (XIX Jahrhundert). *European Applied Sciences, 2,* 3-5.
20. Həsənov, E. L. (2018). *Geschichtliche und ethnographische Merkmale der charakteristische Ornamente von traditionellen Gändschänischen angewandten Künsten. European Science and Technology (Die Europäische Wissenschaft und die Technologien): 21st International scientific conference.* Munich (Germany), October 24-25, 2018, p. 11-18.
21. Gasanov, E. L. (2018). O razvitiі tradicionnogo tkachestva i shelkovodstva v Gjandzhe na rubezhe XIX-XX vekov (Na osnove mestnyh izdelij kovrotkachestva). *Paradigmata Poznāni, Issue 3,* 72-77.
22. Fətullayev, Ş. (1969). *Gəncə abidələri.* (p.4). Bakı.
23. Əfkərov, Q. (1978). Gəncə şəhərinin məhəllə adları. «*Elm və həyat*» jurnalı, № 10, Bakı, 27.
24. Hasanov, S. L., & Hasanov, E. L. (2018). Applied features of comparative technical, sociological investigation of historical and contemporary heritage of Azerbaijan. *International Scientific Journal Theoretical & Applied Science, Philadelphia (USA), Issue 1, vol. 57, part 1,* 9-16.
25. Alizade, A. A. (1956). *Social'no-jekonomicheskaja i politicheskaja istoriya Azerbajdzhana XIII-XIV vv.* (p.17). Baku: Izdvo AN Az. SSR.
26. (n.d.). Azərbaycan Respublikası Milli Arxiv İdarəsi Dövlət Arxivinin Gəncə şəhər filialı. *F. 20, s. 4, iş 11.*
27. Nejmətova, M. (1991). *Jepigraficheskie pamjatniki Gjandzhi.* (pp.4-7). Bakı.
28. Mustafayev, A. N. (2001). *Azərbaycanda sənətkarlıq.* (p.232). Bakı: Altay.
29. Mustafayev, C. M. (1998). Orta əsrlərdə sənətkar təşkilatları. *Cahan jurnalı, № 4, s.17-21.*
30. Əhmədov, F. M. (1989). *XIX-XX əsrlərin hüdudlarında Gəncənin yaşayış məhəllələri və ticarət obyektləri.* Azərbaycanın qərb regionunun problemlərinə həsr olunmuş elmi-tədqiqat işlərinin yekunları elmi-təcrübi konfransının materialları. (p.247). Bakı.
31. Həsənov, E. L. (2018). *Arşiv belgeleri ve bilimsel kaynaklar bazında Gence Hanlığı tarihinin öğrenilmesi.* II International Scientific Conference of Young Researchers. Baku, 27-28 april, 2nd Book, pp. 1699-1701.
32. Hasanov, E. L. (2015). Innovative importance of research of traditional handicraft wares of Ganja on the basis of biochemical methods. *Asian Journal of Natural and Applied Sciences, Oyama (Japan), March, vol. 4, Number 1,* 57-61.
33. Pachkalov, A. V. (2011). *Neopublikovanny klad zolotykh vizantiyskikh i musul'manskikh monet iz Arkheologicheskogo muzeya Gyandzhi. Sovremennoe sostoyanie i perspektivy razvitiya muzeev.* Materialy Mezhdunarodnoy nauchnoy konferentsii. Baku.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 28.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



SECTION 4. Computer science, computer engineering and automation

Marina Vladimirovna Shkurina

Master's Student

Institute of Computer Science and Technology, Peter the Great St. Petersburg Polytechnic University

Oleg Yurievich Sabinin

Candidate of Engineering Sciences, Docent

Institute of Computer Science and Technology, Peter the Great St. Petersburg Polytechnic University

AN OVERVIEW AND ANALYSIS OF AUTOMATIC TEXT SUMMARIZATION METHODS

Abstract: With the amount of data online growing each day, automatic text summarization methods are needed to help people navigate through all the information that is available to them. This article provides an overview of automatic text summarization methods. It starts with a brief description of early methods and methods that are used today. Promising paths for future research are presented.

Key words: Automatic text summarization, natural language processing, machine learning, neural networks.

Language: Russian

Citation: Shkurina, M. V., & Sabinin, O. Y. (2018). An overview and analysis of automatic text summarization methods. *ISJ Theoretical & Applied Science*, 12 (68), 282-286.

Soi: <http://s-o-i.org/1.1/TAS-12-68-41> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.41>

ОБЗОР И АНАЛИЗ МЕТОДОВ АВТОМАТИЧЕСКОГО АННОТИРОВАНИЯ ТЕКСТА

Аннотация: В связи с тем, что количество данных онлайн растет каждый день, методы автоматического аннотирования необходимы, чтобы помочь людям ориентироваться в информации, которая им доступна. Данная статья предлагает обзор методов автоматического аннотирования. Она начинается с краткого описания первых методов и методов, которые используются сегодня. Представлены перспективные направления дальнейших исследований.

Ключевые слова: Автоматическое аннотирование текста, обработка естественного языка, машинное обучение, нейронные сети.

Введение

На сегодняшний день объемы информации в Интернете и различных хранилищах данных увеличиваются с невероятной скоростью – согласно отчету аналитической фирмы IDC, проспонсированному Seagate, объем данных в 2025 году достигнет отметки в 175 зеттабайт (для сравнения, в 2018 году объем данных составил 33 зеттабайта). [1] При таких условиях становится невозможным детальный просмотр всех доступных источников информации.

Довольно часто для того чтобы определить, содержится ли в тексте действительно важная и необходимая информация, человеку нужно прочитать и изучить этот текст полностью. Если текст довольно длинный, то это может занять

большое количество времени. Для некоторых документов составляются аннотации, которые кратко описывают основную суть содержимого, что может значительно помочь при оценке полезности данного текста. Но чаще всего тексты не сопровождаются аннотациями, а ручное аннотирование является довольно трудоемкой задачей. В связи с этим все больше интереса вызывает задача автоматического аннотирования текста. Решение данной задачи позволило бы значительно уменьшить количество информации, которую необходимо обрабатывать человеку, за счет выявления ключевых идей в тексте.

Несмотря на то, что исследования в этой области начались еще в 1950-ые годы, когда возник повышенный интерес к автоматизации

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	РИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

составления аннотаций к технической документации [2], все еще нельзя сказать, что задача полностью решена, в силу сложности и неоднозначности естественного языка.

В данной статье будут кратко рассмотрены ранние работы, посвященные данной проблеме, будет проведен обзор современных методов и перспективных направлений исследований.

Ранние работы

Большая часть ранних работ по автоматическому аннотированию посвящена аннотированию технической документации. Одна из основополагающих работ того времени – работа Луна [2], опубликованная в 1958 году. В этой работе Лун предполагает, что частота встречаемости каждого слова в тексте позволяет оценить его значимость в рамках данного документа. Составляется список встречаемости слов в тексте, отсортированный по убыванию, из которого выбирается некоторое количество наиболее часто встречающихся слов. На основе этого списка для каждого предложения рассчитывается степень его значимости, зависящая от количества значимых слов в предложении и линейного расстояния между ними. Все предложения ранжируются на основе степени значимости, и в аннотацию входят предложения с наиболее высоким рангом.

В ходе другого исследования, опубликованного в том же году, было обнаружено, что в 85% анализируемых параграфов текста предложение с основной мыслью было первым, в 7% – последним. [3] Таким образом, в качестве основного предложения можно выбрать одно из этих двух. Эта характеристика с тех пор используется во многих системах на основе машинного обучения.

Эдмундсон, опубликовавший работу [4] в 1969 году, расширил подход Луна, предположив, что на значимость предложения могут влиять несколько характеристик. Помимо частоты слов, использовавшейся в работе Луна, и позиции предложения в тексте, он также рассматривал наличие ключевых слов (таких как “значительно” и “невозможно”) и структуру документа (является ли предложение названием или заголовком). Для оценки предложений каждой характеристике был вручную присвоен вес. Результаты его исследования говорят о том, что для его конкретной задачи и набора документов частота встречаемости слов является наименее важной характеристикой из четырех предложенных.

В 1982 году была разработана система FRUMP [5], которая была первой системой, не просто извлекающей предложения из исходного текста, а пытающейся понять документы, написанные на естественном языке. Вручную

было составлено 60 сценариев, связанных с определенными событиями (например, теракт, землетрясение, дипломатический визит). Из текста извлекались ключевые слова, на основе которых отдельный модуль предлагал подходящий сценарий. Выбранному сценарию соответствовал заранее заданный шаблон, который заполнялся на основе исходного текста.

В 1995 году Купец, Педерсен и Чень в своей работе впервые применили машинное обучение в задаче автоматического аннотирования текста, разработав систему, которая рассматривала данную задачу как задачу классификации и использовала наивный байесовский классификатор. [6]

Классификация методов

Существуют разные способы классификации методов автоматического аннотирования в зависимости от выбранного критерия. Так, по обрабатываемому количеству документов можно выделить аннотирование одного документа и аннотирование массива документов. [8] По цели использования можно выделить общее аннотирование и аннотирование по запросу. По языку методы делятся на монолингвальные, мультилингвальные и кросслингвальные. Когда язык исходного документа и аннотации совпадает, то метод относится к монолингвальным. Если исходный документ написан на нескольких языках, так же, как и аннотация, то метод является мультилингвальным. Метод относится к кросслингвальным, когда язык исходного документа и язык аннотации различаются.

Наиболее значимая классификация основывается на способе построения текста. Выделяются две группы методов: извлекающие и генерирующие. При использовании извлекающих методов аннотирования из исходного текста выделяются наиболее важные предложения. При этом данные предложения не обрабатываются, и извлекаются в таком порядке, в котором они представлены в тексте. Результатом генерирующих методов является аннотация, включающая в себя слова и фразы, которые отличаются от тех, которые присутствовали в исходном тексте. Таким образом, такая аннотация состоит из идей и концепций, взятых из исходного документа, но они реинтерпретированы и представлены в другой форме.

В данной статье будут рассматриваться монолингвальные методы общего аннотирования одного документа.

Современные методы

Извлекающие методы можно разделить на две большие группы: поверхностные методы,

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

которые не прибегают к сложному лингвистическому анализу, и глубокие методы. [7]

К поверхностным методам относятся, например, методы из работ Луна и Эдмундсона, а также другие методы, которые для выбора предложений используют некоторые статистические характеристики. К поверхностным также относятся методы на основе графов – TextRank [8] и LexRank [9]. В этих методах документ представляется в виде графа, вершинами которого являются предложения или слова из текста. Веса ребер, соединяющих вершины, отражают степень сходства предложений. Такую связь можно рассматривать как рекомендацию. Предложение, которое связано с некоторой концепцией в тексте, рекомендует читателю другие предложения, которые имеют похожее содержание.

С ростом популярности машинного обучения появлялось все больше работ, использующих его для автоматического аннотирования. В этом случае задача рассматривалась как задача классификации – предложение из текста либо входит в аннотацию, либо не входит. К таким методам можно отнести методы, использующие деревья решений, метод опорных векторов и нейронные сети. В работе [10] использовались скрытые марковские модели, в которых при анализе предложения учитывалось, входит ли предыдущее предложение в аннотацию. Авторы предположили, что введение этой зависимости улучшит итоговый результат по сравнению с методами, использующими наивный байесовский классификатор.

К глубоким относятся, например, методы с использованием латентно-семантического анализа, которые анализируют взаимосвязь между предложениями текста и терминами, содержащимися в них, выявляют тематики, присутствующие в тексте, и в аннотацию выбирается определенное количество предложений от каждой тематики. [11]

К глубоким методам также относятся методы, использующие более сложные архитектуры нейронных сетей. Так, например, работы [12], [13], [14] используют в своих моделях сверточные или рекуррентные нейронные сети.

Для генерирующих методов можно выделить несколько направлений: использование шаблонов, сжатие предложений, полноценная абстракция.

Подходы на основе шаблонов используют заранее подготовленные шаблоны для представления документа. Лингвистические

паттерны или правила извлечения используются для заполнения пропусков в этом шаблоне.

Сжимающие методы выполняют извлечение наиболее важных предложений из текста, но либо удаляют из них лишнюю информацию, либо объединяют несколько предложений, пытаясь при этом сохранить связность и смысл текста. Существующие работы на данную тему предлагают различные способы решения этой задачи: в работе [15] авторы используют условные случайные поля (Conditional Random Fields, CRF), чтобы каждому слову предложения присвоить метку 0 – оставить - или 1 – удалить. Работа [16] описывает алгоритм, основанный на построении словесного графа текста и применении алгоритма Дейкстры для поиска кратчайших путей с целью сократить или объединить существующие предложения. В работе [17] исходный документ представляется в виде вложенного дерева, которое состоит из двух видов структур: дерева документа и дерева предложения. Это дерево строится на основе теории риторической структуры.

Последние исследования показывают, что наиболее перспективно для полноценной абстракции выглядит модель кодировщик-декодировщик, которая основывается на использовании рекуррентных нейронных сетей. Такие модели использовали авторы в своих работах [18], [19], [20], [21].

Основные тенденции

В последние годы стали приобретать популярность подходы на основе более сложных видов нейронных сетей как для извлекающих, так и для генерирующих методов аннотирования.

Большинство систем, использующих такие методы, выполняют следующие шаги:

1. слова преобразуются в векторное представление;

2. предложения преобразуются в векторное представление на основе векторных представлений слов;

3. представления предложений передаются модели для выбора предложений (извлекающие методы) или генерации текста (генерирующие методы).

Нейронные сети могут применяться на каждом из этих шагов. На шаге 1 они могут использоваться для получения предобученных таблиц поиска (такие инструменты как Word2Vec, GloVe). На втором шаге нейронные сети могут использоваться в качестве кодировщиков для извлечения признаков предложения/документа. На третьем шаге сети могут применяться для ранжирования/отбора (в извлекающих методах) или как декодировщики (в генерирующих методах).

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

В задаче автоматического аннотирования используются два вида нейронных сетей: сверточные нейронные сети (СНС) и рекуррентные нейронные сети (РНС). [22]

Перспективы исследований

Лучшие результаты как для извлекающих, так и для генерирующих методов сегодня показывают модели, которые прибегают к использованию СНС или РНС с различными модификациями и улучшениями. Использование их в генерирующих методах представляет особенный интерес.

При этом у методов, в которых применяются РНС, есть существенные недостатки:

1. несмотря на то, что РНС позволяет моделировать «память», если входная последовательность относительно длинная, то на дальнейших итерациях будет происходить эффект «забывания» того, что было в начале последовательности;

2. они не справляются с документами, длина которых превышает несколько тысяч слов, в связи с высокими требованиями к памяти;

3. такие модели медленно обучаются в связи со сложностью архитектуры.

В связи с этими ограничениями открываются направления для дальнейших исследований:

1. использование механизмов внимания, что позволило бы нейронной сети сфокусировать внимание на определенных частях текста;

2. использование методов обучения с подкреплением для обучения модели, например, алгоритм актёр-критик [23], использование которого приводит к уменьшению времени обучения;

3. предварительное сжатие текста для упрощения его дальнейшей обработки. [22]

Оценка аннотации

Оценка автоматически созданной аннотации также является нетривиальной задачей, так как

для документа или массива документов не существует идеальной аннотации. [24]

В 2004 году был предложен набор метрик ROUGE (Recall-Oriented Understudy for Gisting Evaluation) [25], который на сегодняшний день и используется для сравнения различных методов и систем.

Наиболее часто для оценки используется метрика ROUGE-N из этого набора, которая зависит от отношения количества совпавших n-грамм для эталонной аннотации и оцениваемой аннотации к количеству n-грамм в эталонной аннотации. Она рассчитывается по формуле (1).

$$ROUGE - N = \frac{\sum_{S \in R} \sum_{g_n \in S} C_m(g_n)}{\sum_{S \in R} \sum_{g_n \in S} C(g_n)}, \quad (1)$$

где R – множество эталонных аннотаций, g_n – n-грамм длины n, $C_m(g_n)$ – количество n-грамм g_n , совпавших для эталонной и оцениваемой аннотации, $C(g_n)$ – количество n-грамм g_n в эталонной аннотации.

Заключение

В работе были рассмотрены ранние работы в области автоматического аннотирования и современные методы. Были обозначены основные тенденции и перспективы дальнейших исследований для улучшения результатов и вычислительных затрат для реализации описанных методов.

Таким образом, можно сделать следующие выводы:

– существует меньше работ, посвященных генерирующим методам автоматического аннотирования, в силу их сложности;

– появляется тенденция к использованию сверточных и рекуррентных нейронных сетей для решения данной задачи;

– можно выделить направления для дальнейших исследований с целью улучшить модели с использованием СНС и РНС.

References:

1. Reinsel, D., Gantz, J., & Rydning, J. (2018). *The Digitization of the World From Edge to Core*.
2. Luhn, H. P. (1958). The Automatic Creation of Literature Abstracts. *IBM Journal of Research and Development, Vol. 2, № 2*, 159-165.
3. Baxendale, P. B. (1958). Machine-Made Index for Technical Literature-An Experiment. *IBM Journal of Research and Development, Vol. 2, № 4*, 354–361.
4. Edmundson, H. P. (1969). New Methods in Automatic Extracting. *Journal of the ACM, Vol. 16, № 2*, 264–285.
5. DeJong, G. (1982). *An Overview of the FRUMP System Strategies for Natural Language Processing*. In: Lehnert W., Ringle M.H. (Eds.). (pp.149-176). Lawrence Erlbaum.

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

6. Kupiec, J., Pedersen, J., & Chen, F. (1995). *A trainable document summarizer*. Proceedings of the 18th annual international ACM SIGIR conference on Research and development in information retrieval - SIGIR '95. (pp.68-73). New York, USA: ACM Press
7. Radev, D. R., Hovy, E., & McKeown, K. (2002). Introduction to the Special Issue on Summarization. *Computational Linguistics, Vol. 28, № 4*, 399–408.
8. Mihalcea, R., & Tarau, P. (2004). *TextRank: Bringing Order into Texts*. Conference on Empirical Methods in Natural Language Processing, EMNLP 2004, A Meeting of Sigdat, A Special Interest Group of the Acl, Held in Conjunction with ACL 2004, 25-26 July 2004, Barcelona, Spain.
9. Erkan, G., & Radev, D. R. (2004). LexRank: Graph-based Lexical Centrality as Saliency in Text Summarization. *Journal of Artificial Intelligence Research, Vol. 22*, 457–479.
10. Conroy, J. M., & O'leary, D. P. (2001). *Text summarization via hidden Markov models*. Proceedings of the 24th annual international ACM SIGIR conference on Research and development in information retrieval - SIGIR '01. (pp.406-407). New York, USA: ACM Press.
11. Ozsoy, M. G., Alpaslan, F. N., & Cicekli, I. (2011). Text summarization using Latent Semantic Analysis. *Journal of Information Science, Vol. 37, № 4*, 405–417.
12. Nallapati, R., Zhai, F., & Zhou, B. (2016). *SummaRuNNer: A Recurrent Neural Network based Sequence Model for Extractive Summarization of Documents*.
13. Cheng, J., & Lapata, M. (2016). *Neural Summarization by Extracting Sentences and Words*.
14. Cao, Z., et al. (2015). *Learning summary prior representation for extractive summarization*. Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 2: Short Papers). Vol. 2. (pp. 829–833).
15. Li, C., et al. (2013). *Document Summarization via Guided Sentence Compression*. Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing. Association for Computational Linguistics. (pp. 490–500).
16. Lloret, E., & Palomar, M. (2011). *Analyzing the use of word graphs for abstractive text summarization*. Proceedings of the First International Conference on Advances in Information Mining and Management. (pp.61-66). Barcelona, Spain.
17. Kikuchi, Y., et al. (2014). *Single Document Summarization based on Nested Tree Structure*. Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers). (pp.315-320). Stroudsburg, PA, USA: Association for Computational Linguistics.
18. Rush, A. M., Chopra, S., & Weston, J. (2015). *A Neural Attention Model for Abstractive Sentence Summarization*. Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing. (pp.379-389). Stroudsburg, PA, USA: Association for Computational Linguistics.
19. Nallapati, R., et al. (2016). *Abstractive Text Summarization Using Sequence-to-Sequence RNNs and Beyond*.
20. See, A., Liu, P. J., & Manning, C. D. (2017). *Get To The Point: Summarization with Pointer-Generator Networks*. Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers). (pp.1073-1083). Stroudsburg, PA, USA: Association for Computational Linguistics.
21. Paulus, R., Xiong, C., & Socher, R. (2017). *A Deep Reinforced Model for Abstractive Summarization*.
22. Lecun, Y., et al. (1998). *Gradient-based learning applied to document recognition*. Proceedings of the IEEE. Vol. 86, № 11. (pp. 2278–2324).
23. Li, P., Bing, L., & Lam, W. (2018). *Actor-Critic based Training Framework for Abstractive Summarization*.
24. Das, D., & Martins, A. F. T. (2007). *A Survey on Automatic Text Summarization Eighth ACIS*. International Conference on Software Engineering Artificial Intelligence Networking and Parallel Distributed Computing SNPDP 2007. Vol. 4. (pp.574–578).
25. Lin, C. Y. (2004). *ROUGE: A Package for Automatic Evaluation of summaries*. Conference: In Proceedings of the Workshop on Text Summarization Branches Out (WAS 2004).

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2018 Issue: 12 Volume: 68

Published: 29.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



T.F. Verdieva
Scholar

Nizami Ganjavi Center of Ganja Department
Azerbaijan National Academy of Sciences,
Ganja, Azerbaijan
tarana.verdiyeva-83@mail.ru

SECTION 29. Literature. Folklore. Translation Studies.

ABOUT HISTORICAL-CULTURAL INVESTIGATION OF LITERARY HERITAGE OF GANJA

Abstract: Article deals with the research of mentions the remarkable palace poet Gatran Tabrizi's life in Ganja period, reflecting the socio-political and cultural environment this city in his destinies. The study found that Ganja was the capital of the XI century as a socio-political and culturally high-rise city. Although various sources have been proven to be true in the historical sources, the names of those who have an important role in the social and scientific development of the city have not been named. Only the names of the rulers in power at that time were mentioned. In this research, information is given about a number of personalities selected in their scientific and cultural life in ancient Ganja. Using the poems of Gatran Tabrizi, we have added these names to some of the names of city intellectuals. The fact that the great scientists who have lived in Ganja in the XI century, emphasizes the importance of the city. This research work is important in terms of promoting the ancient history of city.

Key words: Gatran Tabrizi, Ganja, the state of Shaddadids, Tabriz, XI century.

Language: English

Citation: Verdieva, T. F. (2018). About historical-cultural investigation of literary heritage of Ganja. *ISJ Theoretical & Applied Science*, 12 (68), 287-289.

Soi: <http://s-o-i.org/1.1/TAS-12-68-42> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.42>

Introduction

The lyrical poems of the creative spirit and superior intelligence of Gatran Tabrizi brought him to the tops, fame, and then transformed his Gatran identity into a research object of literary scholars and scholars after him. At any given time, the influence of certain creatures on human beings is crucial to having such a creativity, intelligence, and fame. There is no doubt that in the first place there is a person's knowledge, knowledge and beautiful speech.

However, the most important factor that creates conditions for evolution is the environment within the human body. As the mighty artist of Gatran Tabrizi, his shining way of life and the environment have a great impact.

The feudal relations developed well since the Shaddadids was founded in the late Middle Ages. The capital of the state Ganja turned into a large trade and cultural center of the Caucasus. There were beautiful palaces, magnificent mosques, madrasas, caravanserais, hamams, morgues, and other beautiful cultural monuments of the era. The trade route to the western regions of Azerbaijan, Georgia and the

Black Sea coast passed through Ganja. Ganja craftsmen: beautiful silk fabrics, carpets, sculptures, and palaces of Seljuk sultans, were also brought to world markets [4, 295].

The first arrival of Gatran Tabrizi to Ganja also coincided with the period of the city's development and development in many areas. According to researchers, the first arrival of the poet to Ganja falls to the reign of Aran ruler Abulhasan Ali Lashgari (1033-1050) [3, 48].

At that time the ruler of Ganja gathered very brave, brave warriors and intelligent and knowledgeable scientists around him. This made Ganja stop at one of the highest levels in the socio-political and cultural life of the same period. All these statements were reflected in the Divan of Gatran Tabriz, along with sources reflecting the history of the XI century Ganja.

In XI century, many scientists, educated scientists and other intellectuals lived in Ganja. Gatran Tabrizi meant "science and culture army". The poet's use of "science and culture" is not accidental. Because there is also a culture of science.

Given the development of the capital city of

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Ganja in the eleventh century, it is easy to understand that Gatrán Tabrizi also tends to Ganja, and that the poet's poetry is a special place in Divan. Gatrán Tabrizi A number of poems included in the Divan are addressed to friends and colleagues living in Ganja, as well as writing memoirs in honor of the rulers of Ganja.

True, these poems do not mention Ganja, but it is a historical fact that these personalities live in this city. If you take into account that a city is known for its culture, science and those who embody it, that is, in Tabrizi poems, he has glorified Ganja.

In addition to the socio-political and cultural environments of Ganja, artists living there also had a great influence on Gatrán's creativity. A number of people who lived in Ganja in of the Gatrán Tabriz in medieval mosque and mediated by Gatrán Tabriz in Ganja, wrote and wrote there.

This mastery plays an important role in investigating the life of Gatrán in Ganja. During the reign of Abullazr Abul-Hasan Ali Lashkari, mentioned in the early days of Mesnawí, Arran was the superiors [1; 414].

Materials and Methods

Ganja, one of the oldest cities of the East with a centuries-old history, connecting the north-eastern slopes of the Lesser Caucasus mountains with the expanses of the Kur-Araz lowland, is located in a picturesque corner of Azerbaijan with a temperate climate, fertile lands rich in water resources.

Historically, Ganja has always had a favorable geopolitical location and played an important role in the cultural and economic life of Azerbaijan. This city was built on the Great Silk Road, which connects Asia with Europe. Thus, Ganja was the spiritual bridge between different civilizations.

One of the famous persons of this city is Nizami ganjavi. Meanwhile it is hardly accidental that we mentioned this contentious couplet relating to the place of birth of Nizami. Throughout history, along with those seeking to claim ownership of many Azerbaijani values and territories, there have also been people attempting to appropriate the genius descendants of Azerbaijan, and such attempts are happening to this day.

During Nizami's era, two languages – Arabic and Persian – dominated science and literature in the near and Middle East. All scientific works were written in Arabic, while poets from a diverse range of nationalities in Central Asia, the Caucasus, Iran and India crafted their literary heritage in a single language - Persian.

With clear command and knowledge of information in the most varied fields of science reflected in his works, Nizami demonstrates that he is a highly-educated person. His earliest known verses indicate his high poetical techniques. And this is evidence of Nizami's engagement in poetry not as an

amateur but as a genuine professional, someone who perfectly mastered the theoretical basis of this art from the very beginning.

Nizami's name was Ilyas, However, certain sources claim that his name was Ahmad (for example, the source entitled "Khulasat al-afkar" notes his name as Ahmad ibn Yusuf Muayyad). Nizami is a nickname of the poet. His pseudonym was Nizam ad-din. In the medieval Moslem East there was a tradition of indicating kunya, the son's name, along with the name of famous persons.

The kunya of Nizami is Mohammad. In his various hemistiches the poet speaks to his son Mohammad through admonishing him. From his first poem to his last, Nizami repeatedly brings the name of Ganja to his hemistiches. And one of these couplets is an excellent riposte to those trying forcibly to extricate Nizami from Ganja and artificially connect him to other places. Seemingly responding to all these a few centuries in advance, he states his permanent belonging to Ganja:

My secrets-my words coming from my spirit are made obvious,

Though he is taken to Boukhara, his origin from Ganja.

Certain sources inform about Nizami's brother Givami Mutarrizi. The literary relics written by Givami Mutarrizi that we possess today attest to his high skills in the genre of qasida-masnavi, as well as his overall poetic talent and savy poetic technique.

But during the XI century in Ganja lived Gatrán Tabrizi, in very few cases, also carried out diplomatic missions among these states. Even the details of the ongoing conflict and warfare were also highlighted. That is why creativity, Gatrán poetry, and Gatrán's intelligence have attracted not only linguists, orientalists and poets but also scholars and historians. Azerbaijani scientist and historian Seyid Ahmed Katheravi wrote some of the three volumes of his work "Shahriyaraní-gömmam" on the basis of the Gatrán Tabrizi Divan.

In the foreword written by Gulamhusein Begdeli, a classic Azerbaijani literature researcher wrote in the foreword to the Divan: "Cutaway, referring to the work of this outstanding poet of the XI century, has determined the lives of several individuals. The historical personalities he lived during that period, in his work, point to the events that took place". G. Begdeli states that from the works of Gatrán Tabrizi, in the XI century, many issues related to the history of Azerbaijan can be found that most of them are not known to the science world by Seyid Ahmed Kassawi's "Shahriyaraní-gömmam" [1, 11].

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Conclusion

In the twelfth century, art and literature, architecture and poetry became the denial of the feudal ideology of the century, leading to socio-economic development. Humanism gained a special role in the Renaissance [3; 89].

These developments, which are manifest in various fields, especially in literature, have, of course, not happened at once. There must have been some reasons to push it forward. These reasons have already begun to arise in the XI century as a result of the activities of artists, scholars and writers in Ganja.

At that time, artists like Gatran Tabrizi, who lived in Ganja, had a positive impact on the social and cultural life of the city and in the future they formed the basis of personality formation such as Nizami Ganjavi, Mahsati Ganjavi.

We have added these names to the Ganja intellectuals in the article, using the poems of Gatran Tabrizi. The fact that the great scientists who have lived in Ganja in the 11th century, emphasizes the importance of the city.

The study found, that Ganja was the capital of the XI century as a socio-political and culturally high-rise city. Although various sources have been proven to be true in the historical sources, the names of those who have an important role in the social and scientific development of the city have not been named. Only the names of the rulers in power at that time were mentioned. In this research, information is given about a number of personalities selected in their scientific and cultural life in ancient Ganja. There has been no such investigation in Ganja concerning the XI century.

References:

1. Təbrizi, Qətran (1967). *Divan*. Bakı: Azərbaycan SSR Elmlər Akademiyası nəşriyyatı.
2. (1960). *Azərbaycan ədəbiyyatı tarixi. I cild*. Bakı: Azərbaycan SSR Elmlər Akademiyası nəşriyyatı.
3. Səfərli, Ə., & Yusifli, X. (1982). *Qədim və orta əsrlər Azərbaycan ədəbiyyatı*. Bakı: Maarif nəşriyyatı.
4. Azərbaycan tarixi (2007). *I cild*. In: bZ.M.Bünyadovun və Y.B.Yusifovun (Eds.) Bakı: Çıraq nəşriyyatı.
5. Şərifli, M. (1978). *IX əsrin II yarısı - XI əsrlərdə Azərbaycan feodal dövlətləri*. Bakı: Elm.
6. Rəcəbli, Qəzənfər (2013). *Azərbaycan tarixi. Oçerklər*. Bakı: Elm və təhsil.
7. Gəncəvi, Nizami (2012). *İskəndərnamə*. Gəncə: GDU nəşriyyatı.
8. İbrahimov, Sənan (2015). *Divan ədəbiyyatının poetikası*. Bakı: Bakı Universiteti nəşriyyatı. 127.
9. (n.d.). Min yaşlı Qətran. Professor Qara Namazov. Retrieved 2018, from www.Ekinchi.az
10. Hasanov, E. L. (2016). About comparative research of poems “Treasury of Mysteries” and “Iskandername” on the basis of manuscript sources as the multiculturalism samples. *International Journal of Environmental and Science Education, 11(16)*, 9136-9143.
11. Abdullayeva, N. (n.d.). *Dünyanın ən zəngin kitabxanalarından biri haqqında*. Retrieved 2018, from www.Palitraneews.az
12. (n.d.). Gəncə, Qapıları. Retrieved 2018, from www.az.wikipedia.org
13. Əhməd, Vüqar, (2007). *Ədəbiyyatşünaslıq. Dərslik*. Bakı: Müəllim nəşriyyatı.

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

SOI: [1.1/TAS](http://s-o-i.org/1.1/TAS) DOI: [10.15863/TAS](https://doi.org/10.15863/TAS)
International Scientific Journal
Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

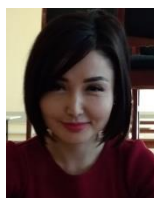
Year: 2018 Issue: 12 Volume: 68

Published: 30.12.2018 <http://T-Science.org>

QR – Issue



QR – Article



Azhar Nartai

PhD student of «Jurisprudence»
Department of Social Science
Faculty in International Kazakh-
Turkish University after H.A.Yessevi
sarapshy.tk@mail.ru



Yernar Sailaubekovich Shalkharov
PhD doctor of «Jurisprudence»
Department of Social Science
Faculty in International Kazakh-
Turkish University after H.A.Yessevi
yernar_shalkharov@bk.ru



Kairat Turlybaevich Bitemirov
Candidate of law science., ass.professor
Chief of «Jurisprudence»
Department of Social Science
Faculty in International Kazakh-
Turkish University after H.A.Yessevi
bitemirov_kayrat@mail.ru

THE ROLE OF HUMAN GENOME RELATED LEGAL STUDY DEVELOPMENT

Abstract: *The century of rapidly developing technologies determines the need for a component for society at the moment when it most needs it. So today, undergoing a crisis of shortage of donor organs for transplantation, search for a suitable blood group for transfusion, issues of implantation, removal of a cancerous tumor, purification of blood serum components and other problems push humanity to reach new heights in solving such unsolvable problems. One of these solutions is biotechnology for the study of the human genome. Having successfully reproduced numerous clones of animals, mankind wondered how realistic it is to reproduce a living person for use in accordance with the need to solve global problems. The present has spawned many discussions on the part of theologians, ethics, biologists, medical workers and other segments of the population. The legal position is also among them. Since all decisions taken in a modern state should be regulated and covered in the system of regulatory legal acts, two positions were legally manifested. The first position implies an urgent need to depressurize in detail all the components associated with the study of the genome at the legislative level. The second position implies a number of sanctions related to illegal activities in the field of the study of the genome. This article discusses both positions.*

Key words: *genome, exogenous, genetic material, stem cells, DNA, RNA, amino acids, imbalance, mutation, evolution, gene technology, biotechnology.*

Language: English

Citation: Nartai, A., Shalkharov, Y. S., & Bitemirov, K. T. (2018). The role of human genome related legal study development. *ISJ Theoretical & Applied Science*, 12 (68), 290-292.

Soi: <http://s-o-i.org/1.1/TAS-12-68-43> **Doi:**  <https://dx.doi.org/10.15863/TAS.2018.12.68.43>

Introduction

When considering the development of the legal institution of the human genome by the example of the Republic of Kazakhstan, it is possible to designate first of all the norms of the Constitution of the

Republic of Kazakhstan, in accordance with which everyone has the right to life (1). At the same time, it can be noted that the Constitution does not stipulate that it is the citizen who has the right to life, leaving space in perspective to add other subjects equal to

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHHI (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		

citizens and people. The present implies consideration of people, not only from the point of view of the newborn, as was previously accepted, but also at the stage of both embryos and biological material, the norms of which were covered in specialized health legislation (2). Thus, in support of world policy on the protection of the rights of genetic material, the purpose of which is to prevent the cloning of a living person in the criminal law of the Republic of Kazakhstan in the new edition outlined the responsibility for human cloning for industrial, commercial and other purposes linking this by analogy with the export of embryos and genetic material beyond territory of the Republic (3). The present was generated on the basis of public position to consider human genetic material, in case of its successful reproduction, as a result of intellectual activity, which is also indicated in the civil legislation of the Republic of Kazakhstan as one of the objects of intellectual activity (4). It is the ethical side of this issue of considering the rights and freedoms of an artificially reproduced embryo that was analyzed at the International Congress on Education, Science and Culture, where the main focus was on the question of the role of development of the human genetics institute in modern society (5).

Materials and Methods

Theoretical studies on the role of development of the legal study of the genome, conducted in the Republic of Kazakhstan, have shown that today the first attempt to identify genetic manipulations on the human genome has been legally made in criminal legislation, explaining this prerogative of the sanction, which will first limit chaotic research on manipulations on the genome man, then to systematize in a specific order (6). However, the same author considered another position, according to which prohibitive actions on the part of the state can be regarded as a restriction in progress for citizens whose freedom of intellectual activity is constitutionally guaranteed rights and freedoms (7). Freedom of a citizen's will, together with his ability to solve any intellectual tasks not only at the micro state level, but also at the macro state level, makes his activity not only constitutionally protected, but also encouraging from the state, for which certain funding is allocated from the state (8). However, the most controversial question remains whether to develop genetic studies on the human genome, as this can solve many intractable issues in the field of transplantology, immunology, oncology, and others, or remain committed to traditional views from considerations of theology and ethics (9). The present has become relevant since, according to some assumptions, a born clone, with its full identity, becomes the property of the patented technology and the patentee as a whole, which implies slavery, which

negatively affects the development of society, returning humanity to the slave system (10).

Fundamental questions of considering the role of the legal study of the genome in Russia showed a different position, according to which genetic material is not entirely an object of property, since it is more a component of health, which proves the consideration of infertility as an element of health (11). Nevertheless, with the development of reproductive technologies, mankind has learned to preserve, stabilize and even modernize cells in stored data, which already today are freely in circulation, which in turn proves the possibility of considering genetic material as an object of property (12). Consequently, it is not even the ethical question whether it is legitimate to appropriate rights and freedoms to an effectively raised clone, but how right it is to trade your cells on the open market (13). However, already today human organs and tissues are in free circulation on the example of selling hair (14). Therefore, a common denominator can be the classification of objects of genetic material depending on the origin, content and form (15).

American studies have differently outlined the position regarding the issues of consideration of human genetic material in the system of functioning objects. This implies that if Russian legislation considers human genetic material as a component of citizens' health, then American law does not exclude the possibility of considering the human genome as a different object in accordance with the state's problems (16). That is, given the existing problem and progressive advanced research in the field of genetic engineering, American legislation does not exclude the possibility of considering it as a result of intellectual property to create a certain level of encouragement of national research, and as a form of ownership for the industrial circulation of genetic material in world markets (17). At the same time, it should be noted that in the field of in vitro fertilization in the global legal space of the United States and Western Europe, there have already been precedents regarding disputes over the ownership of the genetic material of specific human individuals (18). The present shows the problematics of the legal classification of the human genome as an object of law (19). This makes it necessary now to characterize the legal status of the human genome and its components in the system of current legislation (20).

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHHI (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

Conclusion

In conclusion, it can be stated that the uncontrolled development of genetic engineering in relation to the human genome is an unfavorable factor for the development of all branches of citizens' life

activity, with which a citizen interacts in professional life, in life and in personal life. Consequently, genetic engineering and models of the functioning of elements of genetic engineering must be strictly fixed at the normative level, starting from genetic material.

References:

1. (n.d.). *Constitution of the Republic of Kazakhstan*, Article 115.
2. (n.d.). *KRK "on People's Health and the Healthcare System"*, Article 1, Part 1, Subpart 57-2.
3. (n.d.). *Criminal Code of the Republic of Kazakhstan*, Article 129, part 1.
4. (n.d.). *Civil Code of the Republic of Kazakhstan*, Article 961, part 1.
5. (n.d.). *Universal Declaration on the Human Genome and Human Rights*, adopted on 11 November 1997 by the General Conference of the United Nations Educational, Scientific and Cultural Organization, Article 12, part a.
6. Shalkharov, Y. S. (n.d.). *Gene canning of a person in the system of criminal law*. Short communication. In press in Germany.
7. Shalkharov, Y. S. (n.d.). *Legal status of gender engineering objectives*. Short communication. In press in Germany.
8. Shalkharov, Y. S. (n.d.). *Descriptions of the rights in the field of general engineering*. Short communication. In press in Germany.
9. Shalkharov, Y. S. (n.d.). *DNA dactoscopy on gene: legal issues*. Short communication. In press in Germany.
10. Shalkharov, Y. S. (n.d.). *World experience DNA legal status analysis*. Short communication. In press in Germany.
11. Nikitina, A. E. (2002). *Pravovoe regulirovanie biomedicinskih tehnologij :Teoretiko-pravovoj aspekt*. Dissertacija zashhishhennaja v 2002 godu v Sankt-Peterburge. Kod VAK 12.00.01, p.283.
12. Isaeva, J. L., & Batasheva, M. A. (n.d.). *Jetiko-pravovye aspekty vmeshatel'stva v genom cheloveka. Jelektronnyj nauchno-prakticheskij zhurnal «Sovremennye nauchnye issledovanija i innovacii»*, ISSN 2223-4888.
13. Polikarpova, V. A. (2005). *Gennaja inzhenerija i prava cheloveka. Izvestija JuFU. Tehnicheskie nauki*.
14. Lagovskij, V. (2016, February 03). *Pojavjatsja li «otredaktirovannye» ljudi?* Komsomol'skaja pravda. Retrieved November 23, 2016, from <http://www.kazan.kp.ru/daily/26488/3357863>
15. Krasovskij, V. S., Ermolaev, D. O., & Ermolaeva, J. N. (2015). *Biomedicinskij jeksperiment s uchastiem cheloveka: rossijskij vzgljad na problem. Nauchnyj al'manah, №11 – 4(13)*.
16. Christoforos, Nikolaou. (2014, December). *Menzerath–Altmann law in mammalian exons reflects the dynamics of gene structure evolution*. Research article., *Computational Biology and Chemistry, Volume 53, Part A*, 134-143
17. Nacher, J. C., & Ochiai, T. (2008, September 29). *Power-law distribution of gene expression fluctuations*. Short communication., *Physics Letters A, Volume 372, Issue 40*, 6202-6206.
18. Nacher, J. C., & Akutsu, T. (2006, December 18). *Sensitivity of the power-law exponent in gene expression distribution to mRNA decay rate*. Short communication., *Physics Letters A, Volume 360, Issue 1*, 174-178.
19. Hughes, T., Liberles, D. A. (2008, May 15). *The power-law distribution of gene family size is driven by the pseudogenisation rate's heterogeneity between gene families*. Research article, *Gene, Volume 414, Issues 1–2*, 85-94.
20. Cook, J. (2019). *Emery and Rimoin's Principles and Practice of Medical Genetics and Genomics (Seventh Edition)*, (pp. 201-225). Book chapter., 7: Genes in Families.,

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	

Contents

	p.
28. Melent'ev, V. A. Use of Melentiev's graph representation method for detection of cliques and the analysis of topologies of computing systems.	201-211
29. Fayzulloyev, O. M. The peculiarities of the interpretation of the Uzbek fairy tales.	212-215
30. Mamajanov, A. A. The history of the development of industry in Uzbekistan (in the example of Ferghana valley). ...	216-219
31. Ismailov, R. T., & Tagaeva, A. M. Foreign criminal offense (crime, conduct): Theory and new law of the Kyrgyz republic.	220-223
32. Yakhshilikov, J. Problems of knowledge through civilizational approach and principles of civil law. Case of Uzbekistan.	224-233
33. Abdullaeva, D. Z. Comparative-typological research of parable and parable types works of eastern and western classical literature.	234-238
34. Ahmedova, U. M. Some reforms and their results which are taking to develop the agriculture of Uzbekistan.	239-241
35. Drozdov, D. N., & Reutskaya, A. V. Cytomorphometry of buccal epithelium for smoking young people by the method of assessing nuclear cytoplasmatic relations.	242-247
36. Sharifova, M. T., Ismailov, C. G., Mammadova, A. T., Hajiyeva, E. M., Mammadova, M. L., & Hasanova, A. M. About study of obtain the decorative sand asphalt from stripping of alunite from zaylik field.	248-251
37. Borduch, D. O., Blagorodov, A. A., Prokhorov, V. T., & Tihonova, N.V. Accounting – the basis for effective cooperation between producers and consumers for the sustainable demand for manufactured import-substituting products.	252-262
38. Borduch, D. O., Blagorodov, A. A., Prokhorov, V. T., & Tihonova, N. V. About finding effective solutions for implementation made by the enterprises of the regions of the sfd and skfo of import-substituting products.	263-270
39. Kozhevnikov, V. A., & Pankratova, E. S. Research of the customer support service development for user applications.	271-276
40. Hasanov, E. L. Historical-cultural investigation of ancient heritage of modern Ganja city (Based on materials of ancient local kurgans as ethnographic-archaeological sources).	277-281
41. Shkurina, M. V., & Sabinin, O. Y. An overview and analysis of automatic text summarization methods.	282-286
42. Verdieva, T. F. About historical-cultural investigation of literary heritage of Ganja.	287-289

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	

43. **Nartai, A., Shalkharov, Y. S., & Bitemirov, K. T.**
 The role of human genome related legal study development. 290-292

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

**Scientific publication**

«ISJ Theoretical & Applied Science, USA» - Международный научный журнал зарегистрированный во Франции, и выходящий в электронном и печатном формате. **Препринт** журнала публикуется на сайте по мере поступления статей.

Все поданные авторами статьи в течении 1-го дня размещаются на сайте <http://T-Science.org>.

Печатный экземпляр рассылается авторам в течение 2-4 дней после 30 числа каждого месяца.

Импакт фактор журнала

Impact Factor	2013	2014	2015	2016	2017	2018
Impact Factor JIF		1.500				
Impact Factor ISRA (India)		1.344				3.117
Impact Factor ISI (Dubai, UAE) based on International Citation Report (ICR)	0.307	0.829				
Impact Factor GIF (Australia)	0.356	0.453	0.564			
Impact Factor SIS (USA)	0.438	0.912				
Impact Factor ПИИЦ (Russia)		0.179	0.224	0.207	0.156	
Impact Factor ESJI (KZ) based on Eurasian Citation Report (ECR)		1.042	1.950	3.860	4.102	5.015
Impact Factor SJIF (Morocco)		2.031				5.667
Impact Factor ICV (Poland)		6.630				
Impact Factor PIF (India)		1.619	1.940			
Impact Factor IBI (India)			4.260			

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

THE SCIENTIFIC JOURNAL IS INDEXED IN SCIENTOMETRIC BASES:



International Scientific Indexing ISI (Dubai, UAE)
<http://isindexing.com/isi/journaldetails.php?id=327>



Research Bible (Japan)
<http://journalseeker.researchbib.com/?action=viewJournalDetails&issn=23084944&uid=rd1775>



PIHII (Russia)
<http://elibrary.ru/contents.asp?issueid=1246197>



türk eğitim indeksi

Turk Egitim Indeksi (Turkey)
<http://www.turkegitimindeksi.com/Journals.aspx?ID=149>



Advanced Sciences Index (Germany)
<http://journal-index.org/>



GLOBAL IMPACT FACTOR
Global Impact Factor (Australia)
<http://globalimpactfactor.com/?type=issn&s=2308-4944&submit=Submit>



AcademicKeys (Connecticut, USA)
http://sciences.academickeys.com/jour_main.php



THOMSON REUTERS

Indexed in Thomson Reuters

THOMSON REUTERS, EndNote (USA)
<https://www.myendnoteweb.com/EndNoteWeb.html>



Scientific Object Identifier (SOI)
<http://s-o-i.org/>



Google Scholar (USA)
http://scholar.google.ru/scholar?q=Theoretical+science.org&btnG=&hl=ru&as_sdt=0%2C5



Open Access JOURNALS

Open Access Journals
<http://www.oajournals.info/>



Scientific Indexing Services

SCIENTIFIC INDEXING SERVICE (USA)
<http://sindexs.org/JournalList.aspx?ID=202>



International Society for Research Activity (India)
<http://www.israjif.org/single.php?did=2308-4944>



Sherpa Romeo (United Kingdom)
<http://www.sherpa.ac.uk/romeo/search.php?source=journa&sourceid=28772>

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	



CiteFactor (USA) Directory Indexing of International Research Journals
<http://www.citefactor.org/journal/index/11362/theoretical-applied-science>



International Institute of Organized Research (India)
<http://www.i2or.com/indexed-journals.html>



DOI (USA)
<http://www.doi.org>



CrossRef (USA)
<http://doi.crossref.org>



JIFACTOR

JIFACTOR
http://www.jifactor.org/journal_view.php?journal_id=2073



Journal Index
<http://journalindex.net/?qi=Theoretical+%26+Applied+Science>



Directory of abstract indexing for Journals
<http://www.daij.org/journal-detail.php?jid=94>



PFTS Europe/Rebus:list (United Kingdom)
<http://www.rebuslist.com>



Kudos Innovations, Ltd. (USA)
<https://www.growkudos.com>



Korean Federation of Science and Technology Societies (Korea)
<http://www.kofst.or.kr>



Japan Link Center (Japan)
<https://japanlinkcenter.org>



Open Academic Journals Index (Russia)
<http://oaji.net/journal-detail.html?number=679>



Eurasian Scientific Journal Index (Kazakhstan)
<http://esjindex.org/search.php?id=1>



Collective IP (USA)
<https://www.collectiveip.com/>

Impact Factor:

ISRA (India)	= 3.117	SIS (USA)	= 0.912	ICV (Poland)	= 6.630
ISI (Dubai, UAE)	= 0.829	PIHИЦ (Russia)	= 0.156	PIF (India)	= 1.940
GIF (Australia)	= 0.564	ESJI (KZ)	= 5.015	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 5.667		



THOMSON REUTERS

Indexed in Thomson Reuters

THOMSON REUTERS, ResearcherID (USA)

<http://www.researcherid.com/rid/N-7988-2013>



Stratified Medical

Stratified Medical Ltd. (London, United Kingdom)

<http://www.stratifiedmedical.com/>



SJIF Impact Factor (Morocco)

<http://sjifactor.inno-space.net/passport.php?id=18062>



InfoBase Index (India)

<http://infobaseindex.com>

RedLink

RedLink (Canada)

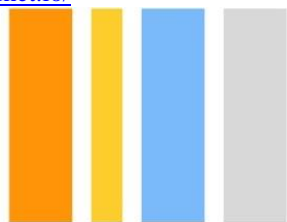
<https://www.redlink.com/>

TDNet
simply better

TDNet

Library & Information Center Solutions (USA)

<http://www.tdnet.io/>



RefME

RefME (USA & UK)

<https://www.refme.com>



Indian Citation Index

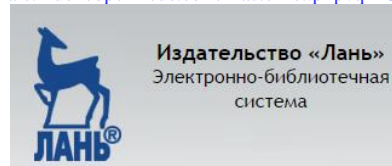
Indian citation index (India)

<http://www.indiancitationindex.com/>

INDEX COPERNICUS
INTERNATIONAL

Index Copernicus International (Warsaw, Poland)

<http://journals.indexcopernicus.com/masterlist.php?q=2308-4944>



Электронно-библиотечная система

«Издательства «Лань» (Russia)

<http://e.lanbook.com/journal/>

ORCID

THOMSON REUTERS, ORCID (USA)

<http://orcid.org/0000-0002-7689-4157>



Yewno (USA & UK)

<http://yewno.com/>

**Clarivate
Analytics**

Impact Factor:

ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 0.829	ПИИЦ (Russia) = 0.156	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 5.667	

International Academy of Theoretical & Applied Sciences - member of Publishers International Linking Association (USA) - international Association of leading active scientists from different countries. The main objective of the Academy is to organize and conduct research aimed at obtaining new knowledge contribute to technological, economic, social and cultural development.

Academy announces acceptance of documents for election as a member:
Correspondents and Academicians

Reception of documents is carried out till January 25, 2019.

Documents you can send to the address T-Science@mail.ru marked "Election to the Academy members".

The list of documents provided for the election:

1. Curriculum vitae (photo, passport details, education, career, scientific activities, achievements)
2. List of publications
3. The list of articles published in the scientific journal [ISJ Theoretical & Applied Science](#)
 - * to correspondents is not less than 7 articles
 - * academics (degree required) - at least 20 articles.

Detailed information on the website <http://www.t-science.org/Academ.html>

Presidium of the Academy

International Academy of Theoretical & Applied Sciences - member of Publishers International Linking Association (USA) - международное объединение ведущих активных ученых с разных стран. Основной целью деятельности Академии является организация и проведение научных исследований, направленных на получение новых знаний способствующих технологическому, экономическому, социальному и культурному развитию.

Академия объявляет прием документов на избрание в свой состав:
Член-корреспондентов и Академиков

Прием документов осуществляется до 25.01.2019.

Документы высылаются по адресу T-Science@mail.ru с пометкой "Избрание в состав Академии".

Список документов предоставляемых для избрания:

1. Автобиография (фото, паспортные данные, обучение, карьера, научная деятельность, достижения)
2. Список научных трудов
3. Список статей опубликованных в научном журнале [ISJ Theoretical & Applied Science](#)
 - * для член-корреспондентов - не менее 7 статей,
 - * для академиков (необходима ученая степень) - не менее 20 статей.

Подробная информация на сайте <http://www.t-science.org/Academ.html>

Presidium of the Academy

Impact Factor:	ISRA (India) = 3.117	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 0.829	PIHII (Russia) = 0.156	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 5.015	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 5.667	

Signed in print: 30.12.2018. Size 60x84 $\frac{1}{8}$

«Theoretical & Applied Science» (USA, Sweden, KZ)
Scientific publication, p.sh. 24.375. Edition of 90 copies.
<http://T-Science.org> E-mail: T-Science@mail.ru

Printed «Theoretical & Applied Science»