



IMPLEMENTATION OF PROJECTS BY FOREIGN ARCHITECTS IN KAZAKHSTAN: IN SEARCH OF REGIONAL AUTHENTICITY

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ABSTRACT

Changes in the world policy and economy in the late 20th century, namely the collapse of USSR, emergence of new independent states, decline of confrontation between countries with differing socio-political order, technological progress in the field of IT, all contributed to rapid convergence, integration of world science and technology. Simultaneously in the world the processes of searching for political, historical, national, cultural and other identities have become topical. In the conditions of globalization, it is the regional identity that is scrutinized as an effective mechanism which is capable of uniting people, encouraging them to collaborative actions.

Regional identity is a socio-cultural construction that appears depending on socio-economical and political circumstances in a specific historical period and expresses the position of the regional community. Regional self-identification is directed towards search of ways for self-preservation of regional unity.

In contemporary Kazakhstan in the course of forming new regional strategy in economical, political and cultural-ideological spheres most actively regional identification tendencies are demonstrated in architecture.

In order to position the image of Kazakhstan on the world arena as modern, dynamically developed country, the state's government has adopted a decision: for purposes of designing country capital's construction sites to draw renowned foreign architects along with Kazakhstani specialists. In 20 years of constructing in the new capital local and foreign architects have implemented dozens of projects that embraced local traditions and global trends in architecture and became cultural brands of Kazakhstan.

Notwithstanding doubts that foreign architects shall not account for regional characteristics of Kazakhstan, their projects convey relevant ideas while adapting to modern realities of our country and speeding progressive technological and artistic-creative tendencies. From one side, collaboration with world-level experts pays its dividends in the form of introducing new technology of construction into local practice. From the other side, the look of "alien" culture ambassador on the architecture of Kazakhstan, combination in real practice of versatile solutions with creative interpretation of regional features is an interesting problem that requires analysis and thought. It can be stated that in 20 years of building the new capital the architecture of Astana has become a unique laboratory of modern regional architecture of Kazakhstan. Major roles in this act have been played by foreign architects, the authors of unique objects designed in Astana - Kisho Kurokawa, Norman Foster, Manfredi Nicoletti and others.

The purpose of the article is to prove the thesis on the value of integrating foreign experience for comprehension of regional identity in the architecture of Kazakhstan.

Keywords: architecture of Kazakhstan, regionalism, regional identity, architecture of Astana.

РЕАЛИЗАЦИЯ ПРОЕКТОВ ЗАРУБЕЖНЫХ АРХИТЕКТОРОВ В КАЗАХСТАНЕ: В ПОИСКЕ РЕГИОНАЛЬНОЙ ИДЕНТИЧНОСТИ

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1 ВВЕДЕНИЕ

Для архитектурной практики поиск приемов и методов регионального формообразования – насущная и постоянная задача. Однако в архитектурной науке Казахстана исследование региональной идентичности носит пока еще эпизодический характер. Особую остроту проблема изучения методов и приемов идентификации приобретает в период становления молодых независимых государств, презентующих свой новый имидж через архитектуру.

С 1991 года, когда Казахстан стал независимым государством, поиск региональной идентичности в архитектуре страны обрел особый смысл. Этот процесс усилился в связи с переносом столицы из города Алматы в город Астану в 1997 году. Строительство новой столицы на территории, где не было визуальных связей со старыми районами застройки советского периода, давало определенную творческую свободу архитекторам.

Астана стал активно застраиваться. Большое число оригинальных проектов было осуществлено по проектам казахстанских архитекторов: Дом Министерств, застройка Главной и Круглой площадей, Водно-зеленого бульвара, многоэтажные жилые комплексы, музеи, офисные здания, гостиницы и торгово-развлекательные центры, университеты, медицинские центры и многое другое [1]. Среди них - жилые комплексы «Триумф Астаны» (арх. А.Зуев, Н.Борискин), «Северное сияние» (арх. А.Сауменов, Я.Эзау, Ш.Матайбеков), «Гранд Алатау» (арх. Ш.Матайбеков), административная башня «Темир жолы» (арх. Т. Абильда) и др. [2].

Региональная идентификация в любой сфере, в том числе и в архитектуре, как правило, базируется на прошлой истории: «мифологизации подвергаются наиболее значимые для данной общности исторические события (реальные или «изобретенные»), которые становятся для населения региона «избранной общей травмой» или «избранной общей славой» [3]. Главная задача формирования идентичности региона – вычленение старых и формирование новых региональных символов и образов, которые внедряются в массовое сознание. В архитектуре этот процесс может занимать длительное время, открывая новые возможности для творческого самовыражения региональной общности.

В современном мире архитектура часто формируется на основе универсальных принципов, без учета контекста среды, местных культурных, традиций, социальной характеристики населения, природно-климатических особенностей территории. В этой ситуации в любом обществе для идентификации, как совокупности самоопределения и соотнесения себя с идеальной картиной мира, отведена чрезвычайно важная роль.

Для сохранения региональной идентичности в архитектуре необходимо выявить индивидуальные характеристики региона, культурного и строительного опыта местного населения. Эти базовые факторы должны быть преобразованы через призму универсальных мировых стандартов и новых технологий.

Термин «регионализм» в современной архитектурной науке был предложен в 1981 году А. Тзонисом и Л. Лефевр, которые рассматривали развитие региональной архитектуры - от примитивного понимания – к высокому уровню трактовки проблем: регионализм местный (национальная архитектура без связи с мировой); регионализм романтический (сочетание местного зодчества с мировыми архитектурными течениями); регионализм критический (местные особенности сочетаются с современными технологиями) [4].

Лучшие образцы архитектуры представляют собой симбиоз мировых технологий и местных традиций. В современной архитектуре Казахстана все очевиднее проявляются региональные черты, артикулируя особую философию места, отражая природно-климатические и культурные традиции страны. Расширяя границы творческих возможностей архитекторов и вовлекая в процесс архитектуры новых участников, обладающих своей национальной культурой и архитектурными традициями, можно усложнить процесс формообразования, обогатить и освежить местный опыт и устои, придав им свежую интерпретацию [5]. Именно с этой целью для проектирования значимых объектов в Казахстан приглашаются архитекторы с мировой известностью. Трактовка региональных факторов Казахстана зарубежными архитекторами – особо интересная тема для исследования.

2 ОБЛАСТЬ ИССЛЕДОВАНИЯ

Изучение проблемы интеграции зарубежных архитектурных идей и технологий в Казахстане – интересная проблема, которая еще не рассматривалась нашими исследователями. Мы сконцентрировали свое внимание на выявлении элементов региональной идентичности в проектах зарубежных архитекторов, реализованных в Казахстане с 1997 года. В основном такие проекты осуществлены в двух городах – столице Астане и крупнейшем городе Казахстана – Алматы.

Казахстан – страна, по размерам территории занимающая 9 место в мире, расположена в центре Евразии. Смена политического строя, экономические реформы, проявления новых граней мышления в социально-культурной среде и интеллектуальной сфере в Казахстане после обретения независимости в 1991 году усилили интерес к самоидентификации. Желание ответить вызовам времени и найти внутреннюю аутентичную логику самосознания дало толчок научным и творческим попыткам исследования архитектурно-градостроительной идентичности.

3 ПРОБЛЕМЫ

Одна из самых актуальных проблем начала XXI века – самоидентификация людей, сообществ, государств. Идентификация через архитектуру – один из самых наглядных и оперативных способов региональной идентификации.

Бесспорно, формирование региональной архитектуры связано с географическим расположением региона, природно-климатическими условиями, строительными

технологиями и конструктивными системами. Но более наглядно регионализм в архитектуре проявляется в форме, деталях и художественном образе зданий и сооружений.

Развитие архитектуры Казахстана от древнего периода до современности было обусловлено не только социально-экономическими и природно-климатическими условиями, но и мифологическими, религиозными представлениями древних кочевников и их культурой.

Культура народов, населявших территории современной Средней Азии и Казахстана, насыщенная традициями древних верований и религий - зороастризма, манихейства, тенгрианства, буддизма, христианства и ислама, отразилась в древнем зодчестве, в архитектуре средних веков, советского периода и в современном выражении идей и образов. Особенность казахской архитектуры состоит в переплетении старых традиций и инноваций, органичном использовании местных форм, мифов при создании образа архитектурного сооружения.

Изучение и анализ региональной идентичности в архитектуре Казахстана предполагает ряд комплексных задач, включающих в себя глубокий анализ формообразования, обусловленного материальными и культурными особенностями, прочно связанными с историей и географией, местными традициями, материально-техническими и культурно-символическими аспектами региона [6].

4 РЕШЕНИЯ

Для решения проблемы региональной идентичности в архитектуре необходимо выявить исторические корни местной архитектуры.

Ярко выраженным местным колоритом обладали казахские мемориальные сооружения дореволюционного (до 1917г.) периода: местные материалы, купольная структура, арочные проемы – характерные черты сооружений того времени. Сооружения того периода демонстрируют почитание духа предков.

Повсеместное «цитирование» темы куполов, арок, казахского орнамента активизировалось в период 1920-1940 гг. как архитектура «национальная по форме, интернациональная по содержанию». До настоящего времени сохранившиеся фрагменты городской застройки того периода придают пространственной среде необыкновенный азиатский колорит, благодаря стрельчатым аркам проемов, башенкам с куполами, солнцезащитным решеткам, орнаментированным деталям [7].

Борьба с украшательством в советской архитектуре (1955-1960-е гг.) на годы отодвинула практику использования региональной темы в строительстве зданий и сооружений. В 1970-е годы тема региональной идентичности вновь проявилась в зодчестве Казахстана как поиск духовности и национального своеобразия, которые, по мнению А.В. Рябушина, лежат не в накладывании «косметики» в виде национальных орнаментов; а требуют переосмысления прогрессивных характеристик и их органичный синтез с новаторскими идеями [8].

Особый путь архитектуры Японии, Финляндии и других стран вдохновил зодчих Алма-Аты на создание проектов, ставших шедеврами советской архитектуры: Дворец им.Ленина, гостиница «Казахстан», Дворец пионеров, Дом политпросвещения, Дом офицеров, банный комплекс «Арасан». Этот период стал вершиной комплексного регионального подхода в архитектуре республики: каждое из названных сооружений

отражало философию и дух места, критически переработанную трактовку местных архитектурных форм, внедряло в «местную тему» современные морфологические подходы, новые строительные материалы и технологии [7].

В сложный социально-экономический период после распада СССР и обретения Казахстаном независимости в 1991 году позитивную роль в социально-экономическом развитии страны сыграло строительство новой столицы – города Астаны.

По итогам международного конкурса в 1997 году разработка генерального плана новой столицы была поручена одному из выдающихся мастеров XX века – японскому архитектору Кишо Курокаве (рис.1). Разрабатывая эскиз-проект нового центра Астаны, К.Курокава – сторонник теории метаболизма в архитектуре - «отказался от идеи завершенной в себе планировки», он проектировал город, способный к росту, полагая, что «будущее – за метаболизмом, т.е. за способными к расширению городами с неопределенными формами. Идеальный город 21 века – это открытый город, который никогда не остановится в росте» [2, с. 34].



Рис.1: Конкурсная модель Астаны, 1997г. Арх. К.Курокава.

Основная идея К.Курокавы состояла не в проектировании генерального плана в классическом смысле, а в организации гибкой открытой системы, способной реагировать на перемены. Одним из активным элементов новой планировочной схемы

стала река Есиль, которая делит теперь город на две части – правую (старый город) и левую (новый город). Мастер-план К.Курокавы следовал идее устойчивой архитектуры, т.е. деликатного включения объекта в контекст среды с учетом существующей городской структуры и связей. [7].

С 1998 года молодая столица начала развиваться на основе метаболической модели, направленной на формирование симбиоза природной и искусственной среды, уважения к истории места, создание зеленых зон в городе и лесопосадок вокруг города [2].

В январе 2002 года была создана свободная экономическая зона «Астана - новый город», возросло число отечественных и зарубежных инвесторов, вложивших средства в застройку новой столицы Казахстана - современных жилых комплексов, объектов обслуживания, торговли и развлечений. Частные инвестиции внесли большой вклад в формирование выразительного архитектурного облика новой столицы Казахстана.

Проектировщики и строители Астаны решали сверхзадачу - построить город XXI века, основанный на достижениях современной архитектурно-градостроительной мысли [1]. Чтобы архитектурный облик столицы соответствовал образцовому городу третьего тысячелетия, принимаемые архитектурно-градостроительные должны были осуществляться в фарватере мировых инновационных трендов. С этой целью к проектированию наиболее значимых объектов, возводимых в Астане, стали проводиться международные конкурсы и привлекаться выдающиеся архитекторы современности.

За годы строительства Астаны немало зарубежных архитекторов участвовало в проектировании уникальных объектов столицы Казахстана: Дворец Мира и Согласия (арх. Н.Фостер), киноконцертный зал «Казахстан» (арх. М.Николетти), торгово-развлекательный комплекс «Хан-Шатыр» (арх.Н.Фостер), многофункциональный гостинично-жилой комплекс «Абу Даби Плаза Астана» высотой 382 метра (арх.Н.Фостер), гостинично-офисное здание высотой 216 метров (арх. К.Кикутакэ); гостинично-офисный комплекс высотой 280 метров (арх. Р.Стерн) и др. Эти суперсовременные здания и сооружения уникальной архитектуры, выполненные на мировом уровне, придают неповторимый облик новой столице Казахстана [1].

«Дворец Мира и Согласия» был построен в Астане в 2006 году по проекту архитектора Нормана Фостера (рис.2). Строительство объекта связано с проведением Международного Конгресса мировых и традиционных религий. Здание представляет собой пирамиду, основание надземной части которой – 61,8х61,8 метра, и высота также равна 61,8 метра. Квадратное основание здания символизирует землю, вершина пирамиды олицетворяет стремление к вечности. Образ пирамиды вписывается в региональную картину мира: объект воспринимается как центр мироздания, олицетворяет единение различных верований, стремление к общности.

При строительстве пирамиды были учтены особенности местного резко-континентального климата: Астана является второй среди самых холодных столиц мира (зимой температура может снизиться до -52°C). При строительстве дворца английскими инженерами применено уникальное конструктивно-техническое решение: подвижные шарнирные конструкции в основании пирамиды способны реагировать на сезонные температурные колебания, сжимаясь и разжимаясь с амплитудой в 6 см [7].

Одним из знаковых объектов Астаны является торгово-развлекательный комплекс «Хан-Шатыр» высотой 150 метров (архитектор Н.Фостер), который был открыт 6 июля 2010 года (рис.3). Образ этого сооружения напоминает древнее жилище кочевника - шатер, но в современной интерпретации. Как и традиционные памятники казахской архитектуры, огромный шатер фиксирует в пространстве точку, обеспечивая историческую взаимосвязь формы с местом строительства (Астана находится в центре огромного степного массива Сары-Арка) [7]. Основой конструктивной схемы здания является уникальная система, состоящая из трипода – опоры верхнего кольца системы стальных вант, с закрепленным прозрачным покрытием ETFE, и нижнего кольца, фиксирующего ванты у основания здания. Благодаря особому химическому составу, покрытие защищает внутреннее пространство комплекса от резких температурных перепадов и создает комфортный микроклимат внутри комплекса.



Рис.2: «Дворец Мира и Согласия», Астана, 2006г. Арх. Н. Фостер



Рис.3: Торгово-развлекательный центр «Хан-Шатыр», Астана, 2010г. Арх. Н.Фостер

Еще один пример регионального прочтения архитектуры в зарубежном изложении – Центральный концертный зал «Казахстан» (арх. Манфреди Николетти, 2014г.), уникальный по своим архитектурным и акустическим характеристикам (рис.4). Общая площадь сооружения - 38600 кв.м. Здесь предусмотрено проведение концертов симфонической и камерной музыки, театральных спектаклей, оперных и балетных постановок, кинопоказа.

Региональный характер сооружению придает как общая форма комплекса (концентрические формы характерны для казахской архитектуры), так и прямая аналогия: большой атриум в пятачке-фойе по форме напоминает домбру - казахский музыкальный инструмент [7].

Более 200 метров достигает высота зданий комплекса «Изумрудный квартал», концепция которого разработана архитектором Роем Варакалли и компанией Zeidler Partnership Architects (Канада) совместно с проектной компанией «Базис» (Казахстан). Комплекс состоит из трех зданий - высотой 37, 43 и 54 этажа (рис.5). Начиная с 32 этажа, площадь каждого последующего этажа увеличивается, здание становится асимметричным с отклоняющейся на 15 метров верхушкой. Расходящаяся веером форма зданий напоминает степной ковыль, который колышется под напором степного ветра. Учитывая сильные ветровые нагрузки Астаны, канадские инженеры провели значительное количество испытаний проекта в аэродинамической трубе. Самое

высокое здание комплекса массой 186 тысяч тонн установлено на буронабивные сваи глубиной до 20 метров и фундаментную плиту толщиной около 3 метров.

Большой интерес представляют проекты зарубежных компаний, реализованные в крупнейшем городе Казахстана – Алматы.

Архитектура комплекса «Esentai», разработанного всемирно известной компанией Skidmore, Owings and Merrill (SOM), и реализованного в Алматы в 2008 году, представляет собой яркий пример использования инновационных технологий и учета «духа места» (рис.6). Комплекс включает высотную башню и несколько жилых блоков. Основной элемент комплекса – башня «Esentai Tower». Первые четырнадцать этажей башни занимают офисы, над ними располагается отель Ritz-Carlton, на последних восьми этажах здания располагаются апартаменты с обслуживанием [9]. Проект выполнен с учетом высокой сейсмической активности и слабой продуваемости воздушного бассейна города.



Рис.4: Центральный концертный зал «Казахстан», г.Астана, 2014г. Арх. М.Николетти



Рис.5: Жилой комплекс «Изумрудный квартал», Астана, 2013г. Арх. R.Varacalli/ Zeidler Partnership Architects



Рис.6: Общий вид комплекса «Esentai tower», Алматы, 2008г. Компания SOM



Рис.7: Проект компании Adrian Smith+Gordon Gill Architecture (США) –победитель международного конкурса на строительство комплекса ЭКСПО-2017 в Астане

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Расположение Алматы в полузамкнутой межгорной долине является причиной безветренной погоды и накопления в воздушном бассейне города выхлопных газов в виде смога. Для решения проблемы проветривания города архитектурными средствами, объемно-пространственные решения комплекса «Esentai», расположенного в предгорной части Алматы, регулируют движения воздушных масс.

Объемно-пространственное решение комплекса ассоциируется с ущельем: узкие разрывы между зданиями создают своеобразные тоннели, затененные или освещенные в зависимости от времени суток. Взаимодействие охлажденных и нагретых участков территории комплекса создает бризы, которые продвигаются в пространстве между блоками и создают воздушные потоки. Одновременно между разрывами блоков возникают фрагменты гор, и они становятся частью художественного восприятия комплекса.

В своем проекте компания SOM сочетала прогрессивные западные инженерные решения и локальные природные условия Алматы. Композиционное решение объемов основано на выявлении образа природного окружения: интригующая форма здания, напоминающая скалы, словно разворачивается под напором горного бриза. Игра света на преломляющихся поверхностях выявляет строгую пластику фасадов. Лапидарные формы стеклянной башни, наполненность территории солнечным светом, панорамный вид на горы создают особое ощущение пространственной среды комплекса.

Конструктивно башня «Esentai tower» выполнена в виде пространственной системы развитого в плане многосекционного ядра жесткости и жестких рам, расположенных по периметру здания, которые обладают высокой прочностью на сейсмические нагрузки. Специально для комплекса «Esentai Park» компания «Leslie E. Robertson Associates RLLP» разработала бетонную конструкцию с учетом вероятности землетрясений высокой разрушительной силы. В здании были использованы демпферы, что позволяет зданию в случае сейсмических колебаний раскачиваться и гасить горизонтальные нагрузки [9].

В 2013 году был проведен международный конкурс на проект выставочного комплекса - ЭКСПО-2017, в котором участвовали более 50 архитекторов из разных стран. Победителем конкурса была признана американская компания Adrian Smith+Gordon Gill Architecture (рис.7). Американские архитекторы представили свой проект как «символ прекрасного будущего, где все человечество объединено и живет в мире и согласии» [10].

Международная специализированная выставка «Энергия будущего»-ЭКСПО-2017 успешно прошла в Астане в 2017 году. Центральным объектом комплекса стал Национальный павильон Казахстана, построенный в виде многоэтажной сферы с использованием самых передовых технологий. Павильон окружает интегрированная группа зданий - международные и тематические павильоны, которые после завершения выставки используются в качестве офисов научных организаций. Выставочный

комплекс стал катализатором возросшего интереса казахстанцев к «зеленым технологиям» во всех сферах жизни, в том числе - в архитектуре и строительстве.

Изучение реализованных в Казахстане зарубежных проектов показывает, что их авторы, не находясь в «плёну местных штампов», оригинально используют традиционные архитектурные темы, раскрывают уникальные особенности истории и культуры Казахстана, широко внедряют новые технологии в местную практику.

Искусство, культура, так же, как и социально-политическая система, экономика страны имеют право на модернизацию с учётом многовековых традиций, когда проблема региональной идентичности решается через симбиоз сохранённых аутентичных традиций и инновационных технологий.

5 ВЫВОДЫ

На фоне усиления процессов глобализации все больше возрастает значимость региональной идентичности, которая позволяет государствам обозначить свой особенный имидж, транслировать свои культурные ценности за пределы страны. В сфере архитектуры поиск региональной идентичности осуществляется в форме творческой интерпретации местных природно-климатических, социально-экономических, политических, культурно-исторических явлений. В Казахстане, который является полинациональным государством, архитектурная идентификация проявляется как наднациональная, но с заметным акцентированием казахских культурных традиций.

В настоящее время архитектура Казахстана выступает в роли драйвера процесса региональной идентификации, конструируя визуальные признаки местных особенностей, пробуждая интерес к истории страны, обеспечивая международную узнаваемость нашего государства. Многие проекты казахстанских архитекторов в разных городах страны не только опираются на опыт советского периода, но и демонстрируют историческую преемственность в архитектурном формообразовании. Наряду с местными архитекторами большой вклад в поиски региональной идентичности вносят зарубежные специалисты, значение творчества которых еще предстоит изучить и оценить исследователям.

В современной архитектурной науке и практике наблюдается устойчивый интерес к теоретическому осмыслению проблем региональной идентичности. Исследование региональной уникальности архитектуры, механизмов ее формирования имеют важное значение для раскрытия логики архитектурного творчества: собственный стиль архитектора может появиться только в условиях сочетания регионального контекста и глобальных инноваций.

Реализация в Казахстане проектов зарубежных архитекторов демонстрирует открытость общества, умение в нужный момент адекватно реагировать на внутренние и внешние вызовы. Все здания, построенные по проектам зарубежных архитекторов, демонстрируют глубокое проникновение в историю страны, учет местных природно-климатических условий. Их творческие идеи базируются, с одной стороны, на переосмыслении традиций казахского зодчества, а с другой – внедряют в местную практику высокие технологии в области конструкций, строительных материалов, экологии и энергоэффективности. В основе композиционного эффекта форм

реализованных зданий, как правило, находятся инновационные инженерно-конструкторские решения.

Участие известных мастеров архитектуры в проектировании значимых сооружений оказало прогрессивное влияние на развитие современной архитектуры Казахстана. В интерпретации зарубежных архитекторов региональная идентичность трактуется как инструмент технологической и художественно-образной модернизации, и проявляется как устойчивая, но гибкая система, включающая традиции и инновации. Эти суперсовременные здания и сооружения уникальной архитектуры, выполненные на уровне мировых стандартов, придают неповторимый облик городам Казахстана, подтверждая ценность интеграции зарубежного опыта для осмысления региональной идентичности в архитектуре.

REFERENCES

- [1] Chikanayev A.Sh. Astana: arkhitekturnaya simfoniya Velikoy Stepi. - Astana: Delovoy mir, 2008., 270p.
- [2] Meuser Ph. Aesthetik der Leere: modern Architektur in Zentralasien. – Berlin: Braun, 2002., 151p.
- [3] Gatiatullina E.R., Demyanovskiy K.V. Issledovaniya regional'noy identichnosti//
- [4] Sci-Article, №27 (noyabr) 2015; <http://sciarticle.ru/stat.php>
- [5] L.Lefaivre and A.Tzonis. Critical regionalism. The Pomona Meeting – Proceedings/ Edited by Spyros Amourgis. – Pomona, California: California State Polytechnic University, 1991., 336p.
- [6] Ikonnikov A.V. Arkhitektura XX veka. Utopii i realnost.–M.: Progress-Traditsiya, 2001. - T.1., 656p., 1055il.
- [7] Abdrassilova G.S. Preyemstvennost arkhitekturnykh traditsiy kak usloviye regionalnoy identichnosti // Sustainable Development of Contemporary City//International Conference. Baku., 2013., p. 48-50
- [8] Abdrassilova G.S. Regional'nyye faktory v sovremennoy arkhitekture Kazakhstana// Reabilitatsiya zhilogo prostranstva gorozhanina. Materialy XIII Mezhdunarodnoy nauchno-prakticheskoy konferentsiiim.Tatlina. Penza, 2017., p. 7-11
- [9] Ryabushin A.V. Gumanizm sovetskoy arkhitektury. – M.: Stroyizdat, 1986. 376p.
- [10] Abdrassilova G.S. Vysotnyye zdaniya v arkhitekture Astany // Zhilishchnoye stroitel'stvo. – M., 2017. №6, p. 45-50.
- [11] <http://www.kazpravda.kz/articles/view/ekspo-2017globalnii-proekt-prezidenta-nursultana-nazarbaeva/>



HISTORICAL PREMISES OF FORMATION OF ARCHITECTURAL HERITAGE IN CONTEMPORARY AZERBAIJAN AT THE PERIOD FROM XIX TO BEGINNING OF XX CENTURY

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ABSTRACT

At the beginning of the 19th century began a new phase in the history of Azerbaijan. The conquest of this region solved the balance of power in the traditionally Russian-Turkish-Iranian standoff. Began a planned takeover and the Division of the historical territories of Azerbaijani lands along the Araz river resulting in the Northern Khanate was annexed to Russia, and southern remained a part of the Shah's Iran. Since this period, the administrative structure, as well as the architecture and culture of separated territories, inhabited by a people gets a different development.

In the first quarter of the 19th century in Northern Azerbaijan military authorities began topographic fixing of the existing settlements on the ground. The main architectural and construction activities were carried out by military engineers directly engaged in construction of fortifications and their preparations for defense. Thus arose Zagatala, Gakh, Gusar fortresses on the basis of which were later established the towns.

To strengthen borders the Tsarist Government resettled here Christian peoples who created new settlements and characteristic itself cultural environment, which in turn was reflected in the regional architecture of 19th and beginning of 20th centuries. Important for the future development of settlements was the activity engineers, architects, scientists, historians, artists coming from Russia who had studied the situation of historical cities and buildings of the region. Self-made urbanistic plans, measurements of monuments, articles, recordings and drawings became important sources for further research in this area.

It should be noted that during this period clearly manifest themselves formed for centuries and enriched with new technology traditions of architectural heritage. Original constructive schemes, design patterns, shapes and architectural and decorative elements of buildings, developed over the centuries due to the mined out experience skillfully preserved and applied in the construction of various character of buildings in the regions of Azerbaijan. National architectural trends had been clearly reflected in the works of the prominent Azerbaijani architects, architects and craftsmen who left deep traces in our heritage.

Despite annexation of Azerbaijani lands and rigid colonial policies of Tsarism, the process of acceding of North Azerbaijan to Russia and also played historically progressive role in its development. The continuous internecine wars between khans ended and began abolished feudal division establishing of new economic and cultural development began. This period in the development of architecture and construction of the country, despite the difficult political circumstances, was the underlying cause for further economic growth and urban development of modern Azerbaijan.

In the new socio-economic conditions broke the old principles of urban planning, new techniques for urban development, and new types of public, civil, industrial, and religious

buildings revealed. With the growth and changing composition of the population there has been interference with traditional and new imported Western culture.

The historical heritage of the period of the 19th - beginning of the 20th centuries, has today a great importance in the forming of architecture of the cities of modern Azerbaijan.

Keywords: architectural heritage, evolution, formation, history, development, cities.

ИСТОРИЧЕСКИЕ ПРЕДПОСЫЛКИ ФОРМИРОВАНИЯ АРХИТЕКТУРНОГО НАСЛЕДИЯ СОВРЕМЕННОГО АЗЕРБАЙДЖАНА В ПЕРИОД XIX – НАЧАЛА XX ВЕКОВ

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1 НАЧАЛЬНЫЙ ЭТАПЫ ТЕРРИТОРИАЛЬНОГО РАЗВИТИЯ В ИСТОРИИ АЗЕРБАЙДЖАНА.

В начале XIX века начался новый этап в истории Азербайджана. С одной стороны раздробленность территории на мелкие феодальные государственные образования, междоусобные войны между ханами за овладение соседних территорий приведшие страну к политическому, экономическому и культурному внутреннему упадку. С другой стороны политическое и военно-стратегическое значение страны в Закавказье и на мировой арене, так как завоевание этого края решало соотношение сил в традиционно русско-турецко-иранском противостоянии.

Действия царской России в Азербайджане начались еще в XVIII веке. Некоторые азербайджанские ханы, чтобы противостоять захватническим устремлениям Ирана и сохранить власть, вынуждены были изъявить желание принять покровительство царского правительства, которое в свою очередь, поддерживая отдельные ханства от угрозы захвата их территорий, предлагало после вступления под покровительство России сохранить некоторое время ханскую власть во внутреннем управлении, а также давало гарантию соблюдение традиционных распорядков и обычаев.

Первые шаги по присоединению азербайджанских земель относятся к 12 сентября 1801 года когда был обнародован манифест о присоединении Картли-Кахетинского царства к России. В состав образованной тогда Грузинской губернии вошли Газахское ханство, Борчалинский и Шамшадильский султанаты, которые на тот момент находились в вассальной зависимости от Картли-Кахетинского царства. А уже с 1802 года начинается планомерное продвижение русской армии вглубь азербайджанских земель. Большое значение придавалось овладению Гянджинским ханством, так как Гянджинская крепость являлась важным форпостом для дислокации русских войск. Осада крепости продолжалась месяц. Защитники крепости оказывали упорное сопротивление. В боях были убиты Джавадхан и его сын Гусейн Гули Агахан и все же в 1804 году Гянджинское ханство было ликвидировано и превращено в округ, а город

был переименован в Елизаветполь. Взятие Гянджи сыграло важную роль в ускорении завоевания Россией и других ханств Азербайджана.

Продвижение русских войск в Закавказье способствовало разрыву дипломатических отношений с Ираном и послужило поводом русско-иранской войне длившейся с 1804 по 1813 год. Результатом этой войны стал Гюлистанский договор, по которому территории Гянджинского, Гарабахского, Шекинского, Ширванского, Губинского, Бакинского и Тальшского ханств отходили к России, а Иреванское и Нахчыванское ханства оставались под властью Ирана. Очередные военные действия между Ираном и Россией в 1826 году привели к подписанию мирного договора. По окончании русско-иранской войны согласно Туркменчайскому мирному договору 1828 года происходит окончательное разделение исторической территории азербайджанских земель по реке Араз. В результате этого соглашения северные ханства Иреванское и Нахчыванское также были присоединены к царской России, а южные оставались в составе шахского Ирана. [3, с.164-165]

С этого времени появились географические понятия «Северный Азербайджан» (ныне Азербайджанская Республика, часть республик Армении, Грузии и Дагестана) и «Южный Азербайджан» (западный и восточный остана в составе Исламской Республики Иран). Начиная с этого периода политическое, экономическое, административное устройство, а также архитектура и культура разделенных территорий, заселенных одним народом получили различное развитие. Создание впоследствии самостоятельного Азербайджанского государства на территории Северного Азербайджана позволяет сегодня рассматривать его в качестве преемника исторического и культурного наследия всего азербайджанского народа.

Создаваемая в результате завоевания на территории Северного Азербайджана новая система административного управления встречала недовольство и отпор со стороны местного населения. Ханы, оказавшие сопротивление русским войскам, лишались власти, а ханства преобразовывались в округа и провинции, а в 1820 году царская администрация полностью упразднила ханское управление. Законодательством Российской империи были внесены существенные изменения в систему органов управления, которые стали функционировать на тех же началах, что и во внутренних губерниях России.

2 ВЛИЯНИЕ АДМИНИСТРАТИВНЫЕ РЕФОРМЫ НА АГЛОМЕРАЦИИ АЗЕРБАДЖАНА

Начиная с 40-х годов XIX века правительство решило повторно провести ряд реформ в Закавказье, в том числе и в Азербайджане. Прежде всего, было ликвидировано военно-комендантское управление. Начался процесс территориального деления и изменения административного управления на всей территории Закавказья, которое было разделено на Грузино-Имеретинскую губернию, состоявшую из 11 уездов (центр - Тифлис) и Каспийскую область, состоящую из шести уездов (центр - Шемахи). Основная территория, принадлежащая азербайджанским ханствам, вошла в Каспийскую область. Согласно новой системе административно-территориального устройства, в состав Каспийской области вошли шесть уездов: Шемахинский,

Нухинский, Бакинский, Ленкоранский, а также выделенные в особый округ Дербендский и Губинский уезды, граничившие с Дагестаном (рис.1).

В первой четверти XIX века Каспийская область рассматривалась как форт-пост Российской империи в Закавказье. Военными властями велась фиксация существующих населенных пунктов на местности, а основная архитектурно-строительная деятельность осуществлялась военными инженерами, непосредственно занимавшимися строительством фортификационных сооружений и их подготовкой к обороне.

Оборонительные сооружения, дороги, мосты, расположенные на территории Северного Азербайджана достраиваются, укрепляются, приспособляются к новым фортификационным требованиям, дворцы и другие гражданские сооружения также переходят в распоряжение комендантского управления.



Рис.1. Азербайджанское государство на территории Северного Азербайджана

Результаты этой деятельности и сегодня можно наблюдать на территории Бакинской, Шекинской, Шушинских крепостей. В тот период на границе с Дагестаном для обороны и борьбы с местным освободительным движением возникли новые укрепленные крепости Закаталы, Гах, Гусар, на базе которых позже были созданы города.

Новые административные реформы сопровождались новым территориальным делением. В 1846 году были созданы 4 губернии - Шемахинская, Дербендская, Тифлисская и Кутаиская, а в 1849 году образована Иреванская губерния, в которую вошли азербайджанские земли - Иреванский, Нахчыванский и Ордубадский уезды. С прекращением военных действий фортификационные сооружения утрачивают свое

значение, разрушаются старые крепостные стены, прокладываются дороги, расширяется застройка городов. Одновременно, существующие города получали статус уездный, губернский и в зависимости от численности населения, подразделялись на четыре разряда: многолюдные, средние, малолюдные и заштатные. Основу экономической жизни городов Азербайджана в начале XIX века составляли ремесленное производство, торговля и земледелие. Начиная с 30-х годов развитие городской жизни стимулировало размах городского строительства. В городах строились каменные здания, а в Баку, Шемахы, Нухе, Шуше, Елизаветполе возводились двухэтажные здания. По переписям 50-х годов в городах насчитывалось более 18 тыс. каменных зданий. Увеличилось количество улиц, площадей, мостов [7, с.14-22].

В новых условиях для усиления своих границ и позиций в Северном Азербайджане царское правительство проводило целенаправленную политику переселения сюда христианских народов, которые создавали новые поселения и характерную для себя среду, что в свою очередь нашло отражение в культуре и архитектуре XIX века.

Особо нужно отметить роль приезжающих сюда из России ученых, историков, художников, архитекторов, инженеров, а также гражданских и военных представителей в изучении существующих памятников и ведении измерительных работ. Составленные ими градостроительные планы, обмеры памятников, статьи и записи стали первыми источниками для последующих исследований в этой области. Среди них заслуживает особое внимание измерительные работы, которые велись под руководством военного инженера и топографа Х.Трузсона. В 1807 году проведенные им обмеры здания Дворца Ширваншахов и изготовление чертежей являются тому примером. Наряду с этим согласно существующим документам от 1827 года об охране ценных исторических и культурных памятников архитектуры требовалось собрать данные обо всех зданиях находящихся в Ичери-Шехер. Эти данные должны были содержать информацию о том, когда и кем были возведены эти здания, об их архитектурной специфике, об их состоянии на тот период и др. При этом, никоим образом не разрешалось разрушение исторических зданий.

Известные востоковеды своего времени Х.Френ, Б.Дорн, И.Березин, Н.Ханыков сделали большой вклад в дело изучения культурного наследия и архитектуры Закавказья, изучив состояние некоторых существующих архитектурных памятников в регионах Азербайджана - Баку, Ленкоране, Ардабиле, Тебризе, Зенджане и Казвине подготовили их рисунки, картины и эскизы планировок. Эти ученые - востоковеды, прочитав записи, обнаруженные на памятниках, установили когда и кем они были возведены. Академик Х.Френ опубликовал интересную информацию, связанную с записями на железных воротах Гянджи и некоторыми памятниками сооруженными в Нахчыване. Исследовательские работы и проведенные наблюдения знатоком восточной эпиграфии Н.Ханыковым явились источником для многих современных научных работ. Рисунки и цветные изображения многочисленных памятников по его указанию были собраны в сборнике под названием «Альбом Н. Ханыкова».

Откомандированный на Кавказ выпускник Российской Академии Художеств архитектор Д.Гримм в 50-х годах XX века глубоко изучая памятники Ичери-Шехер, в

отличие от других исследователей занялся обмерами памятников, в частности, диванханы. Им были составлены план и разрез этого сооружения, а также горизонтального отрезка каменных орнаментов портала, после чего он составил их рисунки. Надо особо отметить работу проведенную А.Павлиновым во второй половине XIX века по изучению памятников г. Баку. Впервые исследуя эти сооружения он выявил их архитектурные особенности. Наряду с многочисленными набросками памятников, была проведена их фотофиксация и раскрыты интересные факты о времени их строительства.

В этих изображениях заметно бросаются в глаза наличие неточностей, что свидетельствует о том, что работа по изучению памятников велась в основном, в направлении добывания и выявления материалов, нежели для сохранения и определения исторической ценности существующих сооружений. Несколько в стороне оставались особенности присущие архитектурному наследию Азербайджана, художественные и конструктивные стороны памятников.

Картины художников изобразивших памятники архитектуры Азербайджана выставлены в фондах Русского музея и Третьяковской галереи. Из этого цикла можно перечислить картины: Верещагина, А.Олеария, Г.Гагарина, Н.Стрейса, С.Гмелина, Ф.Сойманова, Ф.Рубо. Большое значение имеют картины Г.Гагарина, преподносящие ценную информацию о внешнем виде ныне разрушенных сооружений. Примером могут служить такие культовые здания как: Джума-мечеть в г.Шемахы, мечеть Говхар-Ага в г.Шуша, минарет-стелла в г.Шамхор, осада крепости Ленкоран и др. Одним из интереснейших произведений живописи является изображение Диванханы дворца Ширваншахов [1, с.20-21].

Несмотря на то, что в произведении «Гюлистан-Ирем» (История восточной части Кавказа) знаменитого просветителя и ученого Абасгулу Ага Бакиханова не дается информация, касающаяся непосредственно архитектурных памятников, все же в изложении истории определенных периодов читателю удастся составить представление о грандиозных и монументальных постройках того времени.

Несмотря на аннексию азербайджанских земель и колониальную политику царизма, процесс присоединения Северного Азербайджана к России сыграл исторически прогрессивную роль в его развитии. Был положен конец непрерывным междоусобным войнам между ханами, ликвидирована феодальная раздробленность, положено начало новому экономическому и культурному развитию. Несмотря на сложные исторические условия этот период сыграл значительную роль в развитии современной архитектуры страны, что послужило подосновой для дальнейшего роста застройки городов Азербайджана. В новых социально-экономических условиях ломались старые принципы градоформирования, появились новые приемы застройки городов, новые типы общественных и гражданских сооружений. С ростом и изменением состава населения наблюдается взаимовлияние традиционной и новой привнесенной западной культуры. В XIX - начале XX века интенсивное развитие промышленности, растущая торговля, прокладка Закавказской железной дороги способствовали притоку в Северный Азербайджан иностранных инвестиций, что свою очередь привело к образованию и развитию здесь капиталистических отношений, которые в той или иной мере нашли свое отражение во всех регионах Азербайджана. Согласно возникшим

новым требованиям капитализма наряду с различными отраслями в Азербайджане широко развивалось и строительство, которое должно было соответствовать своему времени. Становится актуальным проектирование и строительство зданий с новыми функциями различного характера и содержания, совершенно отличающихся от старых построек.

3 ИНДУСТРИАЛЬНАЯ ЭПОХА И РАЗВИТИЕ ГОРОДОВ АЗЕРБАЙДЖАНА

Экономическое развитие стремительно росло в разных частях Северного Азербайджана, но особый подъем наблюдается в Баку-Абшеронской зоне. До 1859 года к моменту объявления Баку губернским центром основная его часть замыкалась крепостными стенами, но начиная со второй половины XIX века городская застройка за пределами цитадели начинает стремительно разрастаться. Внешний город получает регулярную планировку, здесь появляются разного характера здания, которые эти здания не повторяя друг друга своей архитектурой и объемно-пространственной композицией изменяли облик города, способствовали формированию новой архитектуры.

Расширение промышленности стало причиной возведения новых типов производственных зданий и сооружений. Особенно этот процесс наблюдается в Бакинском нефтяном районе. Здания, построенные соответственно новым технологиям, были воздвигнуты в производственных центрах промышленного района Баку «Черном Городе», Сабунчи, Сураханы, Биби-Эйбат. Для обеспечения жильем рабочих и служащих, неподалеку от мест производства строились жилые здания различных типов, в окрестностях которых должным образом проводилось благоустройство. В других регионах Азербайджана, в том числе Гадабеке были построены производственные здания, связанные с металлургией и горно-рудной промышленностью. В Еленендорфе и Анненфельде, где проживало большое количество немцев, было развито виноделие. В образованных здесь поселениях, наряду с производственными зданиями были построены отличающиеся своей неоготической архитектурной композицией жилые и религиозные здания [2, с.20-38].

Малочисленность местных зодчих и строителей уже не отвечало требованиям растущего города, в связи с чем приглашались архитекторы и инженеры из Европы и России, последствием чего в архитектуре зданий наряду с национальной архитектурой наблюдаются совершенно новые европейские стилевые течения.

Архитектура длительного военного и послевоенного периода переживала несомненный кризис, но народное прикладное творчество сохранилось и плодотворно развивалось в зодчестве традиционного жилья, временами влияя на развитие культовых и общественных сооружений. В новых условиях создаются проекты, в которых наряду с привнесенными западными новшествами прослеживается приверженность к национальным архитектурным традициям, оставившим глубокий след в развитии отечественной архитектуры. В тоже время, находясь под влиянием европейских и российских архитектурных течений, местные зодчие, инженеры, мастера-строители и ремесленники, придерживаясь национальных традиций умело создавали совершенно

новые композиционные решения открывая невиданную до сей поры новую страницу в истории архитектуры.

На формирование архитектуры в разных частях Азербайджана влияло множество региональных особенностей таких как климатические условия, местные строительные материалы, историческое развитие ремесел и т.д. В рассматриваемый период на территории Северного Азербайджана творили известные мастера - каменщики, орнаменталисты, мастера - архитектурных украшений.

Надо отметить, что существующие в региональных школах азербайджанского зодчества традиции и наследие нашли свое отражение в архитектуре рассматриваемого периода. Мастера этого времени успешно использовали местные природные материалы, сохраняя основные принципы строительного искусства, передавая свое умение и индивидуальные особенности из поколения в поколение, создавая оригинальные архитектурные композиции, сооружая здания, отличающиеся от построек, существующих ранее. Наряду с архитектурным оформлением фасадов и экстерьеров зданий большое внимание уделялось декоративной отделке внутреннего пространства помещений, в решении которых учитывались особенности местного зодчества. Наиболее развитым видами прикладного искусства используемые в интерьерах являлись ковроделие и керамика. Главными культурными центрами того времени считались Шемахи, Шеки, Баку, Нахчыван, Гянджа, Губа, Шуша.

Особенности композиции и архитектурно-планировочного решения построенных в рассматриваемый период зданий, традиции и новаторство в архитектуре, проблемы национального зодчества после тщательного изучения нашли свое отражение в исследовательских работах известных отечественных ученых М.Усейнова, А.Саламзаде, Л.Бретанитского, К.Мамедзаде, Г.Ализаде, Э.Касимзаде, Н.Рзаева, А.Мехтиева и др. Ценные материалы по данному периоду сосредоточены в нескольких монографиях Ш.Фатуллаева-Фигарова, который выявил и глубоко изучил формирование градостроительства и архитектуры Азербайджана. Особенно детально освещается в его трудах зодчество Баку и Абшерона, в них определяются даты строительства, имена архитекторов, используемые стили и др. По мнению вышеназванных ученых развитие архитектурных форм в новых условиях происходило под влиянием народного творчества широко использовались такие традиционные элементы как арки, своды, порталы, купола, минареты, балконы, шебеке, применялись местные строительные материалы, а также учитывались региональные природно-климатические условия.

Национальное зодчество Азербайджана, уходящее глубокими корнями в прошлое отличалось региональным своеобразием наследия, в котором прослеживается четыре основных направления, которые в основном были созданы в XI- XII веках и развивались под влиянием народных ремесел и традиций. Веками впитывали в себя богатый художественно-технический опыт, они были сосредоточены и функционировали в центральных городах страны на юго-востоке в Тебризе, Газвине, на северо-западе в Аране, в центральной части страны в Мараге, Нахчыване, а на северо-востоке Шемахе и Баку. Традиции архитектурных школ, со временем совершенствуясь передавались из поколения в поколение заложив основу архитектурной истории Азербайджана. В новых экономических условиях наравне с новыми материалами и

конструкциями, используя традиционные материалы, формы и строительную технику служившей основой для новых строений в XIX – начале XX вв., зодчие того периода обогатили архитектуру.

4 ВЫВОДЫ

Ретроспективный анализ позволяет выявить важное влияние исторических процессов на формирование градостроительства, архитектуры, сопровождаемое развитием объемно-пространственных приемов, конструкций декоративных особенностей и строительной техники Азербайджана в XIX - начале XX вв.

После вхождения Северного Азербайджана в состав Российской империи, уже начале XIX века, стал повышаться интерес к строительству административно-общественных зданий, наряду с этим восстанавливались и переделывались существующие здания, которые использовались для новых целей. Первое время некоторые ханские дворцы в Баку, Гяндже, Нухе, Губе, Иреване служили для административных целей империи, но к концу XIX века сформировавшиеся новые архитектурно-планировочные типы (ратуши, городские думы и т.д.) административных зданий стали доминировать в городской застройке. Надо отметить, что строительство большинства этих зданий велось со стороны государства.

Но в некоторых регионах Азербайджана устойчивые традиции национального зодчества доминировали в застройке городов на протяжении всего рассматриваемого периода, так в Гяндже XIX века наряду с монументальным дворцом, общественными и жилыми зданиями видное место занимали такие религиозные постройки, как Джума мечеть и гробница Имамзаде. Город Гянджа до 1869 года отличался своим средневековым обликом, в основном из-за того, что город располагался вокруг военного укрепления и только после разрушения крепостной цитадели начинается трансформация планировки города.

На территории Нахчыванского региона, который являлся одним из самых древних регионов Азербайджана, располагались уникальные архитектурные памятники. Разные города этого региона еще в древние времена были известны развитием ремесел и наличием крупных торговых центров, находящихся на караванном пути, объединяющем Восток и Запад. Наряду с другими ремеслами здесь были развиты зодчество, каллиграфия, медный промысел, ювелирное дело. В искусстве зодчества под руководством Аджмеи Абубекр оглу Нахчивани были созданы уникальные памятники, такие как мавзолеи Юсиф-Ибн Кюсейр и Момине-Хатун являющиеся сегодня жемчужинами национальной архитектуры. Вышеназванные памятники сыграли важную роль в дальнейшем развитии и формировании архитектуры Азербайджана. В XIX - начале XX вв, в архитектуре городов Нахчыван и Ордубад при возведении крупных общественных и гражданских сооружений продолжали находить свое отражение принципы следования традициям местного зодчества.

Город Шуша являясь неприступной крепостью, считался также экономическим и культурным центром Азербайджана рассматриваемого периода. Стремительное развитие Шушы, превращение его в один из торговых центров Закавказья был связан

еще и с тем, что он находился на пути в такие страны как Иран, Турция, Гянджа, Тифлис и Исфахан.

В XIX веке и начале XX века в Гарабахском регионе наряду с отличающимися своеобразной архитектурой зданиями строились дворцового типа особняки, были сданы в использование несколько школьных зданий и построена больница. Одним из известных поселений данного региона являлось поселение Ходжалы, которое находилось вблизи крепости под названием Аскеран. Здесь помимо старых храмов, тюрбе, находящееся в районе кладбища были воздвигнуты уникальные мемориальные сооружения известные не только в Гарабахе, но и во всем Азербайджане.

Город Нуха (Шеки), известный красотой своей природы и своими характерными памятниками, многие из которых хорошо сохранились, расположен на восточном предгорье Кавказских гор вблизи древних торговых путей. Строения этого города резко отличались, своими своеобразными специфическими особенностями от построек других регионов Азербайджана. Народные мастера веками формировавшие образ местной архитектуры, оставались верны этой традиции и в XIX веке, но со временем в функциональной схеме планировки жилых домов в связи с новыми требованиями появлялись различные изменения. С 1880 года занимающиеся здесь архитектурной деятельностью гражданские инженеры А.Вергилес и Н.Марченко претворявшие в жизнь развитие города, следуя новому генеральному плану одновременно составляли проекты строящихся домов и общественных зданий. При решении фасадов они пытались использовать пластичность, динамику и богатство традиционных декоративных элементов, тем самым сохраняя своеобразный облик в архитектуре национального наследия.

В Ленкорани строительство зданий общественного характера велось с учетом приверженности и уважения местного населения к исламской религии, все постройки в один или два этажа всегда строились ниже мечетей. Особое внимание уделялось строительству мечетей. В мечетях из кирпича, окна, приготовленные из широких и высоких деревянных решетчатых витражей должны были обеспечить достаточный доступ солнечного света в молельню. Во многих мечетях из-за отсутствия высоких минаретов, в плане для азана предусматривалось четырехугольное возвышение, сооруженное из дерева и выходящее на середину крыши. Строительство бань, сочетающих в себе восточные и исламские архитектурные традиции предназначались не только для чистоты, в них создавались и необходимые условия с целью приятного свободного времяпрепровождения людей.

На архитектуру и конструктивные особенности построек в Губинском и Гусарском регионах оказывали влияние климатические факторы, умеренное лето и холодная зима, неровный рельеф (с подъемами и спусками), наличие богатых лесных материалов, широко применяемых в строительстве и наконец, наличие здесь речных бульжников, пригодных для применения в кладке стен. Развитие, наблюдаемое в застройке XIX века и современный подход к строительству не препятствовали умелому применению примеров народного творчества в архитектуре домов, общественных и других учреждений [8, с.298-299].

В итоге хотелось бы отметить, что в XIX - начале XX веков архитектурное наследие и традиции формируясь веками и обогащаясь проявили себя очень ярко.

Своеобразные конструктивные схемы, планировочные структуры, формы и архитектурно-декоративные элементы строений развивались благодаря годами выработанному опыту. В XIX - начале XX века в строительстве различного характера зданий в регионах Азербайджана умело сохранялась и применялась национальная архитектура, уходящая корнями в прошлое. Тенденции национального зодчества нашли свое яркое отражение в творчестве видных архитекторов и гражданских инженеров того времени З.Б.Ахмедбекова, Г.Гаджибабабекова, М.Гаджинского, О.Исмайлова, М.Г.Измайлова, С.Гарабаги, Кербелайи Ахмеда, а также иностранных специалистов, бережно относившихся к наследию прошлого И.Гославского, И.Плошко, А.Эйхлер, Лемкюля, Н. Фон дер Нонне, Е.Скибинского, Н.Баева, И.Эделя, А.Кошинского, К.Скуревича и других. Вместе с тем с глубокой благодарностью должны упоминаться имена таких мастеров, как Ганифа Солтан, Бейалы, Гамбар Гарабаги, Салман, Мир Самед Абдулрагим, Мирза Гадым Иревани, Имрани, Гаджи Касимов, Мирза Мехти, Зиялабидин Гаджи Ахундов и другие оставившие глубокий самобытный след в архитектуре XIX - начала XX вв. [1, с.13].

REFERENCES

- [1] Abdulragimov P.G., Abdullayeva N.D. *Arhitektura rannego kapitalisticheskogo perioda (XIX – nachalo XX veka)*. Baku, 2013, Sharg-Garb, 345p.
- [2] Abdullayeva N.D. *Arhitektura injenernih soorujeniy Azerbaydjana*. Baku: Letterpress, 2009, 255p.
- [3] Levitanov V.N. *Ocherki iz istorii Azerbaydjana v XVII v.* Baku, Izdatelstvo AN. Azerb.SSR, 1948, 166p.
- [4] Mahmud Ismail *Istoriya Azerbaydjana*. Az.Gos.Izdat., Baku-1995, 50p.
- [5] Salamzade A.V. *Arhitektura Azerbaydjana XVI-XIX vv.* Baku: Izd. ANASSR, 1964, 253p.
- [6] Useynov M., Bretanitskiy L., Salamzade A. *Istoriya Arhitekturi Azerbaydjana*. Moskva: Stroyizdat 1963, 395p.
- [7] Fatulayev Sh.S. *Gradostroitelstvo i arhitektura Azerbaydjana XIX – nachala XX veka*. Leningrad: Stroyizdat, 1986, 443p.



CHARACTERISTIC FEATURES OF MOSQUES ARCHITECTURE IN AZERBAIJAN

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ABSTRACT

The impact of architectural forms, building materials and structures to the structural-artistic solutions of historical monuments and the state of construction techniques in Azerbaijan in the Middle Ages (XI and XV centuries) are studied in the article.

Azerbaijani architects preserved and developed building traditions of creating architectural monuments, existing from the ancient times by achieving magnificence and grandeur of various facilities. At the same time, a special attention was paid to the complicity and decorative effect of architectural forms and sophistication of proportions.

Building materials left a certain imprint on the creation and development of architectural forms. When creating monumental-architectural and religious monuments, construction materials used for construction of these monuments affected greatly the architects to realize their creative ideas. The formation attributes and development features of architectural style are closely connected to the location sources of natural materials reserves. A special attention is focused on volume composition, the complexity and decorative value of architectural forms in XIII-XIV centuries.

The architects improved the artistic-architectural, designing and structural solutions of the buildings meeting the requirements of that period for the aesthetic and architectural-structural assignments exercising the features of construction profession and materials used. We maybe sure studying the historical-architectural monuments of Azerbaijan built in different regions and historical periods.

Keywords: monument's preservation, architectural monuments, heritage, evolution process, mosque, building material

1 INTRODUCTION

At every stage of development of the society the architecture faced certain tasks and objectives of architectural creativity. Architects created cities, dwellings, monuments and temples which with the lapse of time became a synonym of history - monuments of intellectual culture of the past. For many centuries all human demands on architecture were defined by simple functions. The first simplest function was a dwelling of a protoman. Its simplest form was a cavern and a hut. It was the first dwellers of the planet who felt a natural need to have tents. Caverns served as weather shelter, forests and stones - as their green materials and their hands - as instruments of production. So one of the most ancient trade – builder trade – was defined. Its function is the purpose of facility, determines architectural forms, and sets up a basis for creation of image. The forming in architecture is also connected with other factors where special environment plays an important role and any architectural building created acquires its

place. A human has improved his house, living environment, has created new building materials, tools and provided his aesthetic and natural needs dealing with building activity more consciously during a long period of time. The building activity has been the important part of human's creative and vital work during a long period of mankind. A human was obliged to find different asylums to be protected from cold in winter and from broiling sunshine in summer from his birth date.

The peculiarity of mosque architecture of last middle ages, preservation and development of national architectural traditions, use of traditional construction and composition solution in a new interpretation and new ideological sense is the result of long term evolution process.

2 STUDY AREA

If we study historical-architectural monuments built during different periods of human activity we may be sure that the architects improved the artistic-architectural, designing and structural solutions of the buildings meeting the requirements of that period for the aesthetic and architectural-structural assignments exercising the features of construction profession and materials used. We maybe sure studying the historical-architectural monuments of Azerbaijan built in different regions and historical periods.

Historical and social, economic, different natural and climatic factors, as well as the features of construction and decorative materials widely spread in the Azerbaijani territory had influence on the creation process of cultural monuments in Azerbaijan in the middle ages. Years between the XI and the middle XIII centuries reflect the high and stable socio- cultural environment most deeply and meaningfully. This periods also coincides with the stages of the development of the middle centuries Azerbaijani architecture – a specific artistic style which was evidently different from the styles before and after itself had been formed in the Azerbaijani architecture of that period.

A new type of building in the architecture of the cities of Azerbaijan of that period – the mosque begins to play an active role. In the early times the transformation of the old temples into the mosques took place also in Azerbaijan. An example of this can serve as the Juma mosque in Baku and Ardabil mosque. Generally this period was a turning point in the history of development of Azerbaijani architecture. Extensive construction work of this time enriched Azerbaijani architecture with new types of buildings - towers, madrasa, with constructive devices (two-layered domes, arch cover with a central support) with architectural elements(circular minaret, arch with double minaret),with means of architectural decoration(geometric ornaments, varnished bricks, facing with blocks.. The variety of the types of the buildings, the complication of the building work, the type of the architectural decoration and the quick construction of big architectural complexes strengthened the professionalism of the craftsmen.

The high level of development of architecture of the medieval Azerbaijan is characterized by architectural monuments covering a large chronological range. The lasting architectural legacy of Azerbaijan embodies the level of development of production forces, and power of creative efforts of many generations of architects. The huge interest in the values of past days is not accidental.

The protection and restoration of monuments and their fundamental study – the use of motifs, elements and ways in the modern architectural practice and the use of monuments for

new functions are still relevant, since every building is a kind of information generator expressing a typological appurtenance, design features, building techniques and art advantage.

3 PROBLEM

History and material culture of the nation play a big role in educating of generations, developing aesthetics and shaping outlook of a human being. That's why the problem of preservation and restoration of tangible heritage of the Azerbaijani people is perceived as preservation between the past and the future. The architectural heritage of Azerbaijan is inextricably associated with the history of the Azerbaijani people, its religious and ethical attitudes. One of the pressing challenges is step-by-step completion of history and study of development of architecture of Azerbaijan from the antiquity till the developed Middle Ages. Not all the architectural structures in the past were in compliance with the canons of architecture of their time; some of them were even erected on the basis of military and defensive considerations of that historic period.

The above mentioned factors had an effect on the improvement and development of middle ages Azerbaijani architecture and allowed to reveal original features of Azerbaijani architecture in total. Architect B.N.Zasipkin was right saying "Architecture is, first of all, based on local materials industry regardless which public laws the architecture fulfills".

The sufficient construction and decoration materials in any region of Azerbaijan defined the volume-location, structural and artistic-architectural expressive of historical-architectural monument built in the region in a proper degree. Traditional mode of life and architectural models are preserved at the historical districts of the cities and countries up today. There is need to increase protection measures and repair works for paying significant attention and preventing destruction of the monuments preserved in a certain degree up today by us, the heirs of creators of these beautiful architectural models. Therefore, the lack of sufficient information on the historical and architectural importance of architectural monuments may result with actions leading to the destruction of these monuments. The monuments preserved up today shows the high quality of construction skills, considered construction solutions and the use of local materials skillfully which arranges the originality of architectural image. Natural climatic condition, social and economic conditions, use of burnt brick, gravel stones and limestone creating an interesting combination in the facade's design made of local building materials formed the originality of construction and composition solution.

Remarkable architectural work has great emotional effect on human with harmonious architectural forms. Architectural buildings reflect artistic style of the period as other art types. In palace or temple ensembles, architectural, artistic and decorative adornments coordinate harmoniously. With composition methods and means, architects had achieved magnificence and monumentality of different buildings, including mosques. In XIII-XIV centuries, volume compositions, complexity and decorative value of architectural forms, delicateness of proportions are focused on in Azerbaijan. Architectural elements were more capacious as keystone compositions of stalactite buildings and mosques.

Creation of stalactites usually filled with arch ceiling and niche was related to constructive method, the architects used when transferring from rectangles to circle (for example, when placing cupola over rectangle foundation). Byzantium architects worked out the transfer making use of "sail", Islamic architects mainly applied stalactites.

Means of expression used in architecture are volume plastics, wide scale, harmony proportionality, as well as colour of finish and surface. Great Russian critic shows that “Architecture reflects the nation’s life not less than literature”.

4 SOLUTION

All the great things made by ancient architects were created by using the designed equipments. Architectural ideas were materialized in wood and stone. Building materials left certain traces on the formation and development of architectural forms. Architects perfectly understood the work of material and construction, and architecture in an artistic form expressed the technological structure of building. Referring to the construction and material, the architect can see the architectural form itself inside them. Natural materials used for centuries and uncovered qualities implicit in them again open infinite constructive and ornamental possibilities for architects.

Each material has physical properties and ornamental qualities.

The difference of architectural forms is also determined by that of purposes of buildings. Each of them – palace, temple, dwelling, and fortress – has its own peculiarities which is a variety of functions.

Architectural concept is embodied in a model by technical facilities specific to time and place. Facilities are one of the important formative factors. In the past people did not have opportunities of modern engineering and diversity of architectural forms was man-made.

Environment is a source of external pressure on architectural form. The dominance of one of architectural forms and the dependency of the others consistently arise in the group of interdependent architectural forms. Such dependence is initially determined by the values of functions and location and compositionally underlined by the development of a form.

The important role of building materials in the formation of artistic and structural features of every architectural trend is doubtless.

Mainly different stone types are used as wall laying material in the north-western regions of the country. This is represented in structural solutions and architectural forms in a proper degree. The exactness of outer and inner contours of building walls is determined by setting great surface building blocks, the area between the blocks are filled with gravel, road-metal and construction substance. Transverse connection between surface material and laying had been realized by substitution of “key” and “lateral face” of surface boards. In some cases, surface building blocks were connected with metal clutches between themselves. In most cases, the walls were built quarry stones cut coarsely and limestone substances.

Burnt bricks were used in the construction of houses and buildings in the southern regions of the country and differed for weakness from transverse sheaves between laying stones. Regarding to it, transverse wooden dams are used to strengthen the laying.

More plastic carbonic calcium gypsum substance is used instead of limestone and clay as some regions of Azerbaijan has high seismicity. Besides, the thickness of seismicity sheaves of brick laying is increased to heighten building’s seismicity.

The division of building’s main structure laying is divided into constructive carrier and decorative parts in XII century. For this purpose façade surfaces of the buildings are divided into elements of standard measure and form and surface blocks covered with ornaments are made accordingly. Surface blocks are installed after main laying. And this allowed to conceal the defects of the laying.

Natural carvings on the stone are widely used in the northern regions of Azerbaijan. For example, banisters covering circle balconies in Absheron minarets for muezzin, stalactite eaves details in which the balconies' ledge parts leaned against.

The main building material beginning from XII century was brick in the southern regions of the country. The building's façade was covered with webbed of brick ornament.

Boards of different color pressed tightly to each other for construction of some buildings and burnt brick are used as in Juma mosque, Ordubad (1604).

The main building material was square brick in the southern regions of the country and solid limestone- cockleshell stone in the northern regions in the end of XV century and in the beginning of XVI century. The carrier wall is made of double row stone, and the space is filled with quarry stone and building mortar. Wide and narrow rows replace each other in the masonry, laying rows substitute each other. Top stones rows are substituted with ashlar rows for connection of lengthwise sheaves between stones, and this increases carrying ability of the laying. At the same time, its surface has different surface finish. The laying was usually made of small stone blocks of parallelepiped form.

Availability of great limestone reserves in Absheron and in the areas around allowed to build the houses and buildings of mainly limestone - cockleshell stones, for example, Nizamaddin mosque in Amirjan village (XIV century) (fig.1), or minaret of Mahammad mosque (XI century) (fig.2) and other prominent buildings – stores, guest houses, baths, big mosques etc.



Fig. 1. Nizamaddin mosque (XIV century)



Fig. 2. Minaret of Mohammad mosque (XI century)

5 CONCLUSION

In XIII-XIV centuries some architectural forms had decorative character losing its primary constructive meanings, for example, as stalactite fillings of sub-tombeau of archniche. It can be observed in banisters of Shirvan minarets. In connection with the speedy development of

the technique of glazed tile mosaic the use of plaster work gets weaker beginning with the XIV century.

The level of development of the religious architecture in Nizami period (XI- XIII) was also reflected in an integral part of the mosque – minarets. The minarets with cylindrical trunks built in Azerbaijan in the XI – XII centuries have complete structures, among which are straight minarets that stood apart as Shamkir minarets (XI century) (fig.3) and minarets that stood attached to the building as Pirsaat-khanegah. (fig.4)



Fig. 3. Shamkir minarets.(XI century).



Fig. 4. Pirsaat minaret. (XIII century)

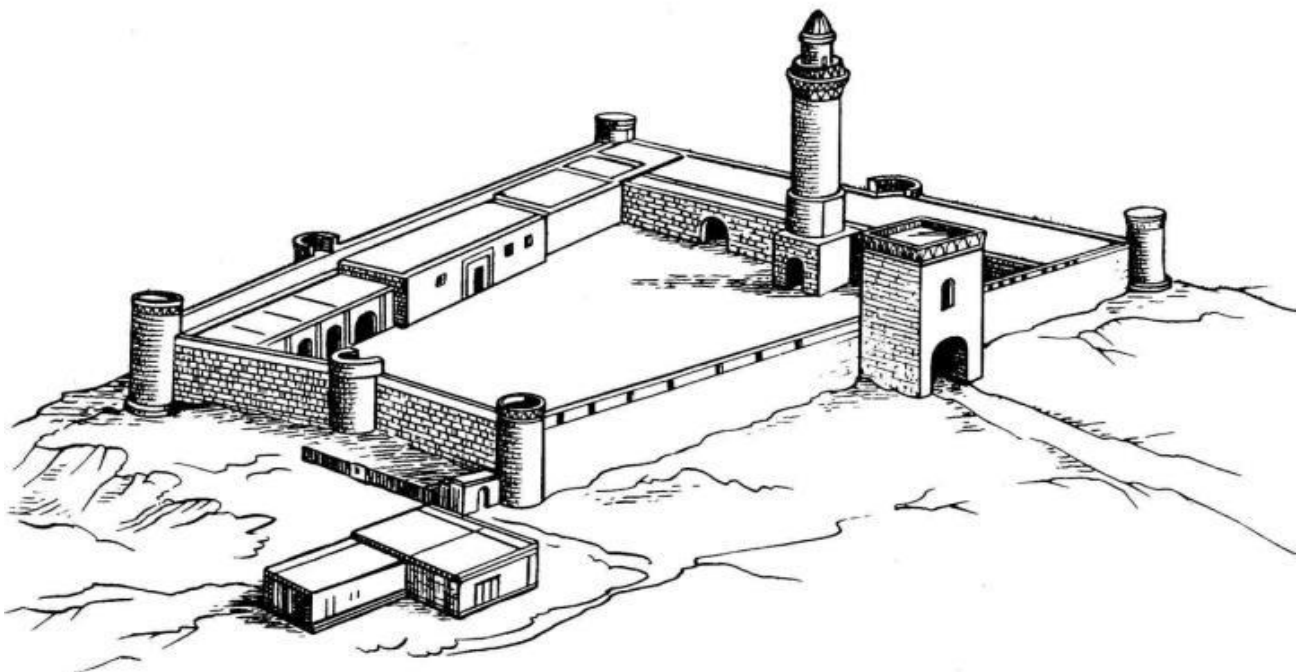


Fig. 4. Khanegah on the river Pirsaat (XII-XIV century)

The unique of architecture clearly expressed is observed in the buildings like Gosha Nakhchivan and Garabaghlar minarets (XII century) (fig. 5) and minaret of Mahammad mosque in Baku.



Fig. 5. Garabaghlar minarets (XII century)



Fig. 6. Portal of Divan khana (XV century)

The monumental minaret of Muhammad mosque which isn't in connection with the two storey vertical volume and coincided with the relief gave this district mosque a dynamic and expressive structure. Tombs, their stalactite compositions belonging to the artistic examples of architectural forms are widely used in court-house and palace ensembles in Baku. The stalactites widely spread everywhere of Azerbaijani architecture allow us to follow how the stalactites as genetic element had been decorated slightly before become such a difficult ornamental form during several centuries.

Ornamental compositions used widely in decoration work were made and performed differently in the northern and southern regions of the country. They were considered for lightening and shadow contrast differing multidimensional webbed ornaments on the even surface of the wall consisting of flagstones cut accurately, where stones were widely used in the northern regions. Important buildings, mainly the facades of memorial monuments were nearly covered with ornament decorated with brick beginning from XII century, in the southern regions where brick is widely used.

Installation technique of stalactites depended on the specifications of the building materials. They are mainly installed from pre-prepared elements at the site. The character of joints made of masonry where portals of Divan khana XV century (court-house) (fig.6), tombs and other monuments filled with stalactites.

In the XI – XIII centuries there were many village and district mosques, big and grand Juma and also large squares for holding public worships and religious holidays in Azerrbaijan. Only the most monumental ones of them, some of the Juma mosques have remained safe up to nowadays. The names of the first architects known to the science have been found on the plates. It reflects the authority of the architect in the society.

Some changes happened during the period studied (XIII-XV centuries) in the field of construction technique in comparison with former centuries (X-XII centuries). The type of burnt brick covered with glaze is widely spread, simultaneously, using mainly limestone and burnt brick as usual in the construction of monumental and religious buildings. It was natural and allowed architects' creative work to experience a new method to increase the artistic expressiveness of the buildings. As the result, the façades of monumental and religious buildings in the southern regions of the country are capped with glazed brick in XIII-XIV centuries.

During this period some architectural forms had decorative character losing their primary constructive meaning, for example, architectural decoration elements standardization was getting developed gradually as stalactite fillings of sub-tombeau of arch niche. Gradually, coverage blocks used until that date gave its place to more simple and effective double colored coating.

The forms and measures of the covering brick changed depended on the place and character of the coating. The covering laying begins after liner laying and carried with coordination of glazed brick with ordinary brick. The glazed brick is built vertically and ordinary brick horizontally.

Wooden beams are used as usual for additional lengthwise connection of the laying made of brick slab. They divided lancet structures to equal big spaces taking into account their (structures) tractive effort.

It may be summarized that the building materials used influenced architects to realize their ideas while creating monumental-architectural and religious monuments. Formation of architectural style and the development features is closely related to the location sources of natural material reserves. The more the types of building materials, the more opportunities for architects to create artistic – architectural works.

In some cases middle ages masters made their buildings of one material applying proper artistic traditions and created their work via another method guiding to various environments, using other building materials. We may show “Sharg Darvazalari” (“Eastern Gates”) made of stone, Shirvanshahlar Palace built by Tabriz masters in Baku by traditional building material-brick. Consequently, the master made his work by brick creates it in another style using another material, i.e. stone. It allows us to recognize that the materials used in the construction of buildings have an artistic-architectural solutions of such buildings. Variety of building and facing material provided a guiding effect on the architectural appearance, the forms, relations, scale of buildings, erected in various parts of the country.

Every created architectural form serves as a bearer of social trends. Eminent works of architecture have a high emotional impact on human being by their harmonic architectural forms. The development of architecture occurs in constant cyclic throwback to the past and the view to the future. To honor the old and create the new – that is a road of progress - so that the new in the city could cleverly harmonize with the old.

REFERENCES

- [1] Zasipkin B.N., *Monuments of monumental art of the Soviet East. Collection “ Art culture of Soviet East.”* M-L., 1934.
- [2] Useynov M., Bretanitskiy L., Salamzade A., *History of Azerbaijan architecture* M. 1963
- [3] Feliks Novikov., *Formula of architecture.* Moscow 1984.
- [4] Rzayev N.I., *Mosque of Muhammad. Architecture of Azerbaijan (essays).* Baku 1952.
- [5] Mamedov F.G., *Architectural connections school of medieval Azerbaijan.* Baku ,” Elm” 1988.
- [6] Mamed-zade K. M. *Memorial constructions of the Nizami era. – Baku, Elm.* 1991.
- [7] Mamed-zade K.M., *Construction art of Azerbaijan. (from ancient times until the XVI century.)* Baku ,”Elm” 1978.
- [8] Fatullayev Sh. S. *Absheron (Town planning and mosques)* Baku, “Elm” 1991.
- [9] J. Giyasi. *The architectural monuments of Azerbaijan of Nizami period.* Baku Ishig-1991.



ARCHITECTURAL MONUMENTS OF SHEKI: STUDY, PRESERVATION AND ADAPTATION

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ABSTRACT

Sheki is one of the most picturesque and ancient towns of Azerbaijan. It is one of the mostly visited towns in the country because of the great number of architectural monuments preserved up to now from different historical stages. There are fortresses, mosques and churches, civil erections etc. But historically established, traditional image of Sheki dwelling house with a deep verandah – “eyvan”, bright tiled roofing and the mixed masonry from the brick and river stone build up an image of Sheki. Mostly interesting architectural monuments are placed in architectural - historical preserve “Yukhary Bash”-“The upper part”: house of Shakikhanovs, a minaret of Gileyli mosque, a mosque and a grave, a round temple, fortress, upper and lower Caravanserais and famous Palace of Sheki Khans. Architectural monuments of Sheki are in different preservation state, some of them are under restoration now, but many of them still should be studied and explored. High rate of town development in the modern stage can destroy monuments and their historical appearance if not creating necessary conditions for preservation. The analysis of the above-listed architectural monuments, which form an insignificant part of the architectural heritage of the town infers that throughout its century-long history, the town of Sheki, silkworm breeding and commercial center of Azerbaijan, has not lost ancient traditions of popular construction which found the parallels in numerous public and cult buildings, palace structures and residential houses. Surviving buildings are illustrative of the highest engineering mastery, skilful use of local building materials, and peculiar methods of architectural design. This ancient land, located in the wonderful region of Azerbaijan, attracting numerous tourists from all over the world, is sure to be inscribed on international tourist itineraries. The main task now is to preserve the historical environment of Sheki, and protect it against any negative effects of contemporary development processes. Thus, our major mission is to preserve century-old architectural-artistic national wealth and pass it over to the future generations. Study of the monument’s architectural peculiarities and their preservation state, as well as ways of preservation of single monuments and town integrity are under investigation in the given article.

Keywords: monument’s preservation, architectural monuments of Azerbaijan, historical town.

1 INTRODUCTION

1.1 Sheki town: history and contemporaneity

Sheki is one of the most picturesque and ancient towns of Azerbaijan, located on the slopes of the Major Caucasian Ridge, in an area rich in woods, and mountainous rivers. The picturesque panorama of the town with its narrow side-streets and tiled roofs of the houses looks untouched by the spirit of contemporaneity (fig.1). The region where Sheki is located is famous not only for its climate and natural riches; it is also abundant in monuments of architecture. Numerous majestic ruins of medieval structures, temples, fortresses, mosques,

caravanserais and dwelling houses of the 18th and 19th centuries are indicative of a long construction culture lasting for centuries.

It should be remembered that once the territory of Sheki region was a part of historical area of Sheki of the State of Caucasian Albania (4th cent. BC- 7th cent.AD). The ancient Greek historians Pliny the Elder (1st century A.D.), Ptolemy (2nd century A.D.), Strabo made references to the region. Silkworm breeding imported from China and widely spread in Azerbaijan contributed to the growth of Sheki as a large center of handicrafts and trade. In the 18th century, the Sheki khanate sprang up here to play an important role in the development of Azerbaijanian culture [2]. It has to be kept in mind that following the 18th century, the importance of Sheki as a rich and developing town increased. An eloquent testimony is the growth of urban population. In the early part of the 20th century, Sheki ranked fourth among the towns of Azerbaijan.

Owing to the synchronous town building, Sheki is notable for a certain architectural integrity. The picturesque location of Sheki is attributable to the fact that the town stretched out along the twisting riverbed of the Gurdjanachay River, which as an arterial line of the town accounted for the town planning to the complex relief. The layout center of Sheki was a fortress located on a hill. A main line of the town lay by the fortress. Contiguous to the fortress were residential and handicraft estates, growing into less densely populated suburbs with spacious personal plots and gardens. In the mountainous parts, these plots and gardens imperceptibly fade into woods. The town is traversed by several broad streets with a dense and complex network of narrow side-streets. Sheki's layout was reflective of feudal-type division into *mahalla* (blocks) by tribal and gild lines [15].



Fig. 1: Panorama of Sheki

Today Sheki is one of the most visited towns in the country because of the great number of architectural monuments preserved up to now from different historical stages. There are fortresses, mosques and churches, civil erections etc. The historically established, traditional image of a Sheki dwelling house with a deep verandah – “*eyvan*”, bright tiled roofing and mixed masonry from the brick and river stone build up an image of Sheki. Visitors of the town manifest their greatest interest in the objects forming part of the architectural- historical preserve “*Yukhary Bash*”-“The upper part”. These objects include the House of Shekikhanovs (18th century), a minaret of Gileyli mosque (18th century), a mosque and a grave (18th century), a round temple (19th century), fortifications (18th century), Upper and Lower Caravanserais (18-19th centuries) and the Palace of Sheki Khans.

Architectural monuments of Sheki are in different states of preservation, some of them are under restoration now, and many of them still should be studied and explored. High rate of town development in the modern era can destroy monuments and their historical appearance if the necessary conditions for preservation are not created. Priority should be given to creating the necessary conditions and the state of preservation for each monument should be identified and recorded.

2 ARCHITECTURAL MONUMENTS OF SHEKI

2.1 Fortifications

Numerous fortifications on the territory of the Sheki region are illustrative of the ancient history and abundant engineering experience of the region. The construction of defensive and cult buildings in the region of Sheki reaffirmed the importance of the ancient town.

Sheki fortress, located in the upper north-eastern part of the town was built in the 18th century (fig.2a). One can mention the fortress as the planning center of Sheki. The stone walls of the fortress with a total length of 1300 m and thickness of 2.2 m are protected by protruding towers and equipped with loopholes. Due to the relief of the fortress area, the outlines of fortified walls are rather cut off. The location of the fortress is favorable not only from a military strategic point of view but also a positive microclimate in this part of the town. Following Sheki's joining to Russia, erections inside the fortress were used for the purpose of the military garrison stationed in Sheki. Under the military plan of 1853, there were about 40 multifunctional objects on the territory of the fortress. A palace complex, numerous housing structures, pools, fountains, etc. were integrated into the design. In the main, the basic components of the citadel were various chambers of Khan family members. There were also 9 pools shown in the layout with water pipe lines. Prior to the 20th century, the fortress remained destroyed, but it was restored from 1958 to 1963. There is only the Palace of Shekikhan's with a big park in front of it and few buildings of different purposes preserved up to now [12].

Fortress “*Gelersen-Gerersen*” (“Come and see”) is located approx. 4 km to the north of the town, on the left bank of the upper stream of the Kish river on a strategically important plot-top (fig.2b). The fortress was supposedly founded in the 15th century by the Sheki ruler Alidjan. The name of the fortress goes back to the events of 1743 where the fortress could not

be conquered because of its inaccessibility. Today it is in reasonable condition however, it is hard to recognize its initial appearance.



Fig. 2a: Sheki fortress



Fig. 2b: Fortress "Gelersen-Gerersen"

2.2. Churches

The rich history of the Sheki region is personified in the monuments of various cults reflective of different historical landmarks of the ancient land in the past. It was no mere coincidence that Christianity became the official religion of Caucasian Albania in the beginning of the 4th century, and gave a powerful impetus to the construction of cult Christian formations. The Arab conquest of Azerbaijan in the end of the 7th century saw a new stage in the construction of new cult erections – mosques arising from the spread of the new belief. Since the dissemination of Islamic ideology in the society meant no rooting out of Christianity, churches and mosques had been erected on the territory of the region up to the 19th century. It was peaceful coexistence of Christianity and Islam that gave rise to scores of monuments of both religions in the region of Sheki.

Of particular interest among Albanian monuments of the region are temples in the villages of Kish and Orta Zeyzit. *The church in the village of Kish* enjoys a special status among Albanian monuments. The history of its origin is closely tied with the history of Christianity spreading in Caucasian Albania. "History of Albanians" by Moses Kalankatuklu provides valuable information about the construction of the church by the apostle Elise, symbolizing the start of Christianity in Caucasian Albania 2000 years ago [10]. It was the church's uniqueness that gave an incentive to the creation of the first museum of Albanian culture at the temple.

The church is located on an elevated bank of the Kish river. Old-timers allege that formerly there had been a complex with numerous buildings and a stone wall around the church. Note that the church's territory, like the church proper, has presently been worshipped by the Moslem population as a sacred place, an ancient Albanian sacred object. This accounts for the good intactness of the temple. It has to be kept in mind that the temple of St. Elise is a domical hall with a semicircular apse protruding in the east. A temple's layout is typical for Albanian hall-type churches. With slightly elongated proportions, a meeting-hall is divided into two parts by pair of pilasters. Adjacent to the eastern part of the hall is an altar apse. An arrow-shaped bellyband arch is flung over pilasters of T-section. Of the same geometry is a triumphal arch of the apse. Pressed sections of side walls between pilasters and apse are framed with double-stage arches of identical form. Formed by four arches, a rectangle grows

into an oval foundation of the dome drum. Note that the dome drum has six windows, which light up an inner space of the church.



Fig. 3a,b: Church in Kish village, Sheki region

A distinctive feature of the church is the semi cylindrical mass of the altar apse protruding from the rectangular space of the meeting-hall. Another interesting feature of the church design is a small three cornered eminence of sum-domical part of side walls, which forms transept-shaped gables of cross domical temple. Such a pseudo-transept is a unique phenomenon in the architecture of Albania, in particular, and Caucasian domical halls, as a whole. The church is built of big lime cut stones. Window ways are equipped with profiled casings and three fillets, the middle of which is twice as wide as the side ones. A cylindrical space of the drum at the foundation and below the cornice has semispherical profiling.

A joint Azerbaijan-Norwegian project “Kish” started in 2000 to study the monument from architectural-archaeological and historical points of view, restore and museify it (*fig.3a,b,c*). Following the project implementation, researchers have been successful in obtaining interesting information about historical stages of the monument, establishing major building stages. Archaeological excavations showed that the temple of Kish was founded as far back the first or second centuries on an ancient cult site, which preserved material remains of bronze epoch and early iron. The temple underwent numerous reconstructions, and worked its way up from a rectangle-shaped apse-free structure to its final form. The temple’s layout shaped in the fourth or fifth centuries, where a lower part of the building with protruding altar apse was erected. Later on, a dome of the church was built [8].

An interesting architectural monument is a temple in the *village of Orta Zeyzit (fig.4a)*. This small cross-shaped erection has a rectangular apse placed in the eastern sleeve. The length of the western sleeve is slightly above the eastern one and has a doorway. Corners of the middle cross are supplied with pilasters and rectangular capital plate [4]. Four semicircular arches support a round belt, above which there rise the drum and the dome. The transition from the sub-domical space to the dome was completed with the help of conic pendentives.

From the outside, the altar part is shaped as pentahedron with three window openings; other sleeves have openings too. Overlapping of sleeves from the outside is slightly elevated in the middle part which imitates a basilica silhouette. Over the vaults, there are small empty rooms. Walls of the construction are made of trimmed quadres of limestone “shirindash” with

rubble concrete aggregate. Windows on the outside are equipped with profiled fillets of three beads. On the western wall of the southern sleeve there is a superficial bay decorated with an arch. The temple of Zeyzit was built in around the 11th to the 12th century [6].

In the northern outskirts of the *village of Bideiz*, in the Sheki region, there is a half-destroyed, small Albanian church (*fig.4b*). The vaulted hall is built of large cobblestones. The outward walls and some constructive elements, including the altar arch and fillet of the door, are faced with trimmed stone. The techniques of construction which are typical for the early Middle Ages of horseshoe-shaped forms of arches and altar apse indicate that the church dates back to between the 5th and 7th centuries [8].



Fig. 4a: Church in Orta Zeyzit village, Sheki region



Fig. 4b: Church in Bideiz village, Sheki region

2.3. Mosques

It was the use of local building materials – baked brick and river cobblestone to trim facades, and wider application of wood in the interior that predetermined the architectural-spatial arrangement of mosques.

The layout of mosques is, most frequently, an elongated rectangular with open gallery of portico, behind which there is a meeting-room divided by stony or wooden pillars to overlap a bigger bay. An important place in the design of cult erections belongs to minarets against the background of abundant verdure of gardens and not high residential houses [14]. As a rule, minarets are separately standing erections located on an area, at a distance of 8-15 m from the mosque. However, there are mosques with minarets constituting a major space of the building (Juma mosque). An ornamental design, covering the surface of minarets, imports an inimitable local color. Balconies for muezzins, crowing verticals of minarets, are overlapped by polyhedral wooden roofs on pillars. The design of internal space of cult erections, including Juma-mosque, is meager. Mihrabs, the sole elements of interior décor, bear no imprint of trimming.

“*Khan mosque*” in *Sheki* built in 1745-1750 in a traditional manner, of brick and cobblestone, has an outward portico. A relief brickwork of portico arches in combination with cobblestone laying, as well as verticals of minarets in the space of the mosque-such as an outward appearance of Khan mosque. The design of its internal space is simple coloured panels which brighten up a mosque’s interior. Next to the mosque there is a cemetery with surviving tombstones, completely covered with a highly artistic ornament.



Fig. 5a,b: The mosque of Omar Efendi and Juma mosque in Sheki

The central Juma-mosque is located in the center of the town to play an important role from town planning standpoint. Rising above the intersection point of arterial roads, the mosque is presently dominating in the buildings of the 18-20th centuries. The mosque complex, built in the 19th century, includes a building of the mosque and a separately standing minaret. Facades of the mosque are simple and strict. The surface of the main facade is decorated with brick ornament. The building of Juma-mosque is made of red baked brick. The design of the surface of the cylindrical minaret is composed of pressed-in diamond-shaped patterns. Unfortunately, in recent years there have been some reconstructions and additions to that mosque.

The mosque of Omar Efendi has its facades ornamented with brick decoration. A brick cornice, crowning facades, portions of walls above windows with complex profiled arches, flat walls between windows with alternating brick and cobble rows – all these shape the mosque's image (fig.5a). Just a minaret survived from the *mosque Gileyli*, located at the precipice of the Gurdjanachay river. The internal dimensions of the formerly rectangular premises of the mosque are 6x12 m. The ceiling was supported by four wooden pillars. The outwardly plastered walls of the mosque were erected using a traditional technique based on brick and cobblestone. Colorful polychromatic murals decorate the inside walls of the mosque. Mihrab of the mosque had an ogival portal decorated with stalactites and ornaments. The layout of the mosque, design of internal space, using numerous niches, polychromatic trimming of the walls – all bear resemblance to local dwelling houses. The minaret's ceiling is a hipped roof, the stairs start with a meter mark and are fitted with stone footsteps.

2.4. Dwelling houses and palaces

Traditionally, a dwelling house in Sheki is composed of several rooms stretched along the axis of a balcony (fig.6 a,b). Features of the traditional Sheki house are: Deep "eyvans"-verandahs decorated with brick or "gyaj"- stucco and consisting of high sloping roofs supported by columns. Different niches for household goods and the fireplace "Bukhara" with finely drawn decorative elements, formed the architecture of interiors. Like dwelling houses of other eastern countries, the Sheki type's facade has always been orientated towards the courtyard. Severe and blind facades, facing the street, have no openings. However, a tendency arose at the end of the 19th century to face main facades towards the street which, finally, resulted in plastic and spatial changes of the surface modified the layout structure of

the town as a whole [14]. Houses of Dadanovs, Alidjanbekovs, Zulfugarovs, Farhadbekovs emerged with a local design and composition. Under the effect of decorative elements, patterns and murals having been introduced in the practice of construction, there sprang up erections of semi-palace and palace types, for instance, the house of Shekikhanovs and the Palace of Sheki khans.



Fig. 6a,b: The dwelling houses in Sheki

The house of Shekikhanov's is notable for its decorations, a monument as an intermediate link between dwelling and palace buildings (*fig.7 a,b*). Strongly elongated, the rectangular layout draws a distinction between office premises and residential space. Thus, there are three large halls and two small rooms with stairs on each floor. The first floor rooms are equipped with fireplaces "*bukhary*" to heat the building.

Facing the street, the facade has no openings at all. Of particular interest is a main facade of the house of Shekikhanovs which look toward the courtyard. Five-part stained out the central axis of the facade. A facade of the lower part of the facade is rather modest with all the details having been thoroughly thought out.

The artistic value of the house is in the trimming of its inner surfaces. No ornaments are available in the lower floor, while the interior of the second floor is of particular interest. Splendidly painted "*bukhary*" serves as the central axis of the interior. Symmetrically placed rectangular niches are entirely covered with pictures, depicting heroes of the poems of the greatest Azerbaijanian poet Nizami Gyandjevi "*Seven beauties*", "*Leyli and Madjnun*", overlapped by stalactites from the top. Note that the stalactite cornice also supports a traditional Sheki shelf "*ref*", placed above openings and niches. Structurally complex mirror stalactites compose the cornice beneath the ceiling. From an artistic point of view, of interest are small niches "*takhcha*" with gabled completion, depictions of birds and animals, as well as remaining surfaces of three walls of the hall covered with picturesque ornamental patterns. The fourth, outward wall is covered with shebeke. A plafond of the hall is richly decorated. A complex stylized pattern depicting verdure and female figures with colored wings is typical for the plafond. Unfortunately incorrect use of the monument at the end of 20th century led to some parts being demolished. This monument was restored in 2013 by specialists from Azerbaijan Scientific Research and Projection Institute under Ministry of Culture and Tourism of Azerbaijan Republic.



Fig. 7a, b: House of Shekikhanov's.

Of particular interest among the architectural monuments of Sheki is the *Palace of Sheki khans* (fig.8a,b,c). Built in the 18th century in the upper part of the town, the Palace had once been a part of the greater complex. At present, just a pool and ancient trees have survived as a part of the complex. The Palace of Sheki khans is a two-storeyed building facing the south. Layouts of the floors repeat each other, three large premises alternate to rank with antechambers. In all probability, the first floor was designed for official receptions. The second floor was used by khan family members. An eloquent testimony is the lack of internal connection between floors: an outward staircase leads to the second floor.



Fig. 8a: Palace of Sheki khans

The most interesting facade of the Palace is southern. Its design and decorative division are reflective of the internal layout of the building, halls and antechambers. The design of the central part of the facade is an entire vitrification covered with a geometrical wooden pattern “*shebeke*” filled by colored glass. Each square meter of shebeke is composed of 5,000 elements fastened together with no nails. Thus, a carpet of colored shebeke is used as the southern wall of entrance halls of both floors. The same approach is used in the decoration of lateral halls. Entrances into the first floor are composed of deep portals with mirror stalactite vaults. A distinctive feature is a combination of colored glass shebeke with portals, as well as an all-round ornamentation which covers the remaining surfaces of walls.

Of particular interest are interiors of the monument, notable for wall paintings of the 18-19th centuries. There are paintings in the halls of both floors and two side rooms of the second floor. They are scattered on the surfaces of the walls, niches, stalactite passages, plafonds. Note that the plafond of the hall on the first floor is made of wooden elements with geometrical ornament. Among the murals of the Palace of Sheki khans, research indicated a preference to geometrical and pictures of nature, sometimes with depictions of birds. Particularly interesting are paintings depicting various hunting and battle sketches, placed in the hall of the second floor in the form of breeze between niches. Paintings of the Palace of Sheki khans are characterized by richness of colors and particularly, wider use of the colour gold. History has preserved the names of five painters engaged in painting the Palace of Sheki khans at different times. These are: Abbas Guli, Mirza Jafar, Usta Gambar, Ali Guli and Gurban Ali. The Palace of Sheki khans has been restored several times, the last restoration operations were done in the beginning of the 21th century [8].



Fig. 8b: Palace of Sheki khans



Fig. 8c: Palace of Sheki khans. Interior's decoration

2.5. Public and civil erections

The fact that Sheki has from time immemorial been the center of handicrafts and trade accounted for a great number of markets and caravansaries here. Most of them were located along the arterial line of the town that was at the same time a commercial center. With an interesting town planning structure, the arterial line combined three main aspects of the town: the Palace, located in the top of the town within the bounds of the fortress; caravansaries, upper and lower, stretched out the street; finally Juma-mosque, at the start of the street. Like everywhere, the caravansaries of Sheki, designed for sheltering caravans or travelers, were built to comply with their intended use. The general layout is as follows: a well organized courtyard surrounded by rooms – cells for wayfarers. Located within the bounds of the town, the two caravansaries had, in addition to lodgings for the night, commercial premises as well. At present, just two caravansaries out of five, which were active in the 18-19th centuries, have survived these were the upper and lower ones.

A distinctive feature of *the upper caravanserai* is that this structure with an area of 6000m² was skillfully blended with the relief of the locality, determined by the proximity of a river with steep slopes (*fig.9a,b*). Despite the difference of building altitudes from 8m to 14 m, the structure perfectly reflects the local color to blend with surrounding buildings and thus ensure a functional comfort. There is a beautiful view of tiled roofs of Sheki houses against

the background of green mountains from the windows of cells. The combination of brick and river cobblestone, typical for the architecture of the region, also imparts a particular color to the caravanserai. The design of the building provided for three stories on the southeastern side and two stories on the side of the courtyard. A richly decorated arch of the main entrance is situated in the corner of the building, at the level of the third floor due to the declivity of the relief. The design of the internal space is unpretentious. Cells of identical dimensions are overlapped by vaults. Outhouse loggias, pool and related verdure blend with the general composition of the building to provide a comfortable and beautiful interior. Besides, there is a special microclimate in the building to keep premises cool in hot summer-time. There are upwards of 300 rooms in the caravanserai. At present, it is used as a hotel and the public center where various events, receptions, and meetings are held.



Fig. 9 a,b: The upper caravanserai in Sheki

The lower caravanserai has 242 rooms despite its area (800m²) being greater than the upper one. The layout is similar to that of the upper caravanserai. The rectangular courtyard with truncated corners, 55x85m, is surrounded by alternating arched apertures of *eyvans*; a pool is in the middle of the courtyard. Four entrances lead to the courtyard from four corners. Such a structure of the entrances accounted for the truncated form of the corners of the rectangular building. By closing all four doors the caravanserai grows into a impregnable fortress. In general, the Sheki caravanserai were designed to serve as fortresses. This monument is under restoration now to be used as hotel in the future.

Of interest is the fact that the above-mentioned caravanserais of the 17th century, active in Sheki, are largest of the entire territory of Transcaucasia through their layout, dimensions, and conveniences.

Bath-houses of Sheki, like in other Eastern countries, served not only for bathing but also as a meeting place for the residents of the town to discuss the latest news and exchange opinions (*fig.10 a,b,c*). Besides, bath-houses were to perform Sharia-stipulated functions, i.e. ritual ablution in specially designed pools. A number of medieval bath-houses still operate in Sheki.

The so called “*Agvanlar*” *bath-house* of the 19th century is notable for its traditional structure of medieval bath-houses. It consists of two large rectangular rooms, divided by four pylons into several smaller ones. A group of rooms serve as cloak-rooms known as “*chol*” (“outside”), and another group, consisting of a hall and subsidiary premises, termed “*icheri*” (“inside”), is designed for bathing. The two types of space are incorporated into a system of

subsidiary premises. A cloak-room is supplied with all conveniences, including niches to keep clothes and toilet-bathing articles. *Abdul- Khalyg's bath-house* did not change much during its two centuries long existence. It is still in use as bath. *Abu-Salam's mosque* was unused for many years. But today it is under restoration.



Fig. 10 a,b,c: Bath-houses (hammams) in Sheki

One can mention several public buildings on the territory of the region. This is Sibiget school in the architectural – historical preserve “Yukhary bash” not far from Upper Caravanserai. Factories for silk cocoons and filatures constructed in the Sheki in the 19-20th centuries are of special importance.

3 MEASURES ON PRESERVATION OF ARCHITECTURAL HERITAGE

3.1. Present state of preservation

The last List of monuments of the Azerbaijan Republic was assembled in 2001 [13]. There are about 8000 architectural and archaeological monuments in different regions of Azerbaijan enumerated there. More than 180 monuments were discovered on the Sheki region area according to this list, including 7 fortifications, 12 Christian and 18 Moslem religious buildings, about 100 civil structures and houses and more than 35 archaeological sites. One can mention that monuments differ in many characteristics: significance, date, preservation level, initial and present function, place in the town planning structure etc.

To preserve each single monument we should obtain more specific information on them, make up an inventory to detail the number of architectural monuments and collect historical and archival data; to conduct a full-scale investigation and architectural measurement of the buildings including analyses of the present state, reasons of possible dilapidation and ways to preserve, complex study of their environment and connections to surrounding objects etc. Badly damaged monuments should be prioritized for preservation.

Analyses of the present state of the architectural monuments of Sheki allow them to be divided into several groups according to the urgency of preservation works:

- *First category* - monuments in non- satisfactory condition. Conservation should be conducted urgently;
- *Second category* - monuments in non- satisfactory condition. Restoration of the main constructive parts and junctions should be conducted immediately;
- *Third category* - monuments in satisfactory condition. Restoration of some parts of the building or liquidation of the incorrect preservation should be conducted;

- *Forth category* - monuments in good condition. There is a need in some restoration works on monument preservation. Mostly all the monuments in that category are in use today;
- *Fifth category* - monuments preserved recently;
- *Sixth category* - reconstructed monuments. Only some elements of the planning structure or initial decoration were preserved up to now. These monuments are known mostly from historical and written resources but cannot be identified today. Those are mostly dwelling houses, known on the measures of the 20th century but reconstructed or demolished totally.

The state of preservation of the monuments of the first four groups could be restored or conserved. Buffer zones should be defined for them all. Monuments of the fifth category were successfully preserved recently. Periodically conducted works on their repair could prolong their life and thus they should be controlled continually. The sixth category includes monuments demolished or totally reconstructed. They could be mentioned as monuments that have lost architectural significance. Only their models constructed in accordance with the detailed measures can help in preservation of their planning and constructive peculiarities. Such differentiation of the monuments can help in the definition of the preservation works priority. The ruined monuments of the first and second categories should be prioritized for preservation (conserved or restored).

3.2. Adaptation of the monuments at the modern stage

In preserving any architectural monument it is very important to identify the correct usage and to conduct appropriate measures on its adaptation. Many factors such as monument location, its initial function, modern state and etc. can influence on the further monument's utilization.

One can mention that the Upper caravanserai in Sheki is successfully used today as a hotel and town center. The preserved medieval spirit creates an especial atmosphere, which has constantly attracted local and foreign tourists. Unfortunately it was adapted contrary to the standards: some walls were punched in order to install equipment, and modern constructional materials out of line with the original ones were used in some places etc.

The Sheki fortress could be mentioned as another example of a new life for an old building. Several buildings on the fortress's area were given to local artists to be used as their studios. Just a few measures on adaptation were done there to create basic working conditions and to prevent monument being demolishing.

Unfortunately, the adaptation of monuments does not necessarily provide the measures for the prolongation of their life. One can mention the Lower caravanserai was for many years used as public centre in an inadmissible way: part of internal arcade was glazed and turned into a verandah, many walls were punched, and a large part of the ceramic roof was removed etc. It is hoped that measures on monument's restoration, which almost come to the end, were successful enough to liquidate all consequences of its inappropriate utilization.

Preservation of dwelling houses is of special importance. Unfortunately some inhabitants suppose they have the rights to change the features of the houses: reconstruct or repair without taking into account of their historical architectural appearance, destroying originality and the initial planning and compositional concept of the monuments. Ceramic

roofs in such buildings were replaced with the metallic; eyvan's railings were dismantled and replaced with misshapen glazed verandahs; old paintings changed for new ones, etc. The main reason for such changes put forward by the local population is due to financial problems. For example, it is much easier and cheaper to cover the roof by metal sheets than to restore an old ceramic roof. Just a few years ago an age-old ceiling in one of the Sheki houses was destroyed; it had consisted of wooden painted small tablets, similar to the details of Shekikhan's Palace and Shekikhanov's House. The house owner was not able to financially support the restoration of the ceiling and therefore removed it to change it to a modern one.

Dwelling houses should be preserved through the full participation of the local and state authorities under the guidance of the professional council on preservation. Only in the cases of the total dilapidation of any house in certain historical zones should its replacement by a new one be recommended. In this case any new house should be constructed in the local traditional way using old house's measures and fixations done in the 20th century as the basis for new projects.

3.3. Several completed restoration projects

Several projects of preservation were completed in Sheki recently: restoration and adaptation of the church in Kish, and restoration of Shekikhan's Palace. Other preservation projects are close to completion: Shekikhanov's House, Lower caravanserai and Abu-Salam's bath-house are under restoration now.

A joint Azerbaijan-Norwegian project «Kish» was dedicated to the restoration of the church (authors of the project of restoration prof. Mammadova G.H., ass.professors Abdullayev T.A. and Hajiyeva S.). Development and realization of this restoration project, and converting to a museum took place in 2001- 2003 with financial support of the Norwegian Government [7]. During the implementation of the joint Azerbaijanian-Norwegian project "Kish", which provided for architectural-archaeological and historical research into the monument, its restoration and museumification, experts obtained interesting information about the historical stages of the monument's major construction periods. Archaeological excavations demonstrated that the Kish temple was founded as far back as in the 1st century in place of the previous ancient area which preserved remains of Bronze and Early Iron epochs. The layout of the present building of the church, which ranged from a rectangular type structure without apse to its current image, had been shaped in the 4-5th centuries, when a lower space with the protruding altar apse was erected. Later, the dome of the church was constructed. In September 2003 the restored church was opened and since then it has been in use as the Museum of History and Culture of Caucasian Albania which at one time-existed on the territory of Azerbaijan.

Restoration of Shekikhan's Palace took place almost at the same time, in 2002-2004. Restoration was carried out mostly on the monument's wall paintings and windows fillings "shebeke".

House of Shekikhanov's was restored in 2013. One could say that after the restoration all the destructions of the monument. The works on preservation realize consolidation of the main constructions of the building, affected also wall paintings and windows fillings "shebeke".

3.4. Methods of preserving Sheki's integrity

Separate architectural monuments should not be restored without general preservation of the town's integrity. The majority of monuments of Sheki are concentrated along the main arterial road beginning from the fortress and continuing down between caravanserais, mosques, bath-houses, bridges, and most famous houses etc. This part of the town is called "Yukhary *bash*" – "Upper part". Taking into account the large number of architectural monuments concentrated there, it was proclaimed as an Architectural-cross the main arterial road.

The historical ambience of Sheki is preserved through its high concentration of monuments. New construction is prohibited. However, new buildings have been erected near to the border of protected zone. The high rate of economic development and preservation problems force zone expansion and liberation of the ambience from fortuitous buildings. The new project of a protected zone for Sheki was drawn up in 1990. The project specified several zones such as: a building regulation zone, a protected landscape zone plus others. The main idea of the project was height restriction of new buildings due to the artistic interrelation of silhouettes of the historical and newly constructed buildings.

Unfortunately the project was not realized because of unexpected political reasons (change of formation, gaining of independence etc.) and the problems connected to them. However, the project was renewed recently and took into account all modern requirements [3]. The widest possible exposure of the monuments and the total prohibition of any new construction in buffer zones were accepted key planning stipulations.

4 CONCLUSION

The analysis of the above-listed architectural monuments, which form an insignificant part of the architectural heritage of the town infers that throughout its century-long history, the town of Sheki, silkworm breeding and commercial center of Azerbaijan, has not lost ancient traditions of popular construction which found the parallels in numerous public and cult buildings, palace structures and residential houses. Surviving buildings are illustrative of the highest engineering mastery, skilful use of local building materials, and peculiar methods of architectural design.

This ancient land, located in the wonderful region of Azerbaijan, attracting numerous tourists from all over the world, is sure to be inscribed on international tourist itineraries. The main task now is to preserve the historical environment of Sheki, and protect it against any negative effects of contemporary development processes. Thus, our major mission is to preserve century-old architectural-artistic national wealth and pass it over to the future generations.

REFERENCES

- [1] Akhundov D.A. 1986. *Arhitectura drevnego i rannesrednevekovogo Azerbaidjana (in Russian)/ Architecture of Ancient and Early Medieval Azerbaijan/* State Publishing house, Baku
- [2] Bretanitskiy L.S., Datiyev S.I, Mamikonov L.G, Motis D.A. 1948. *Nuxa (Azerbaijan) in Russian/Nukha (Azerbaijan)/* Publishing house of Academy of Architecture of SSSR, Moscow
- [3] Hajiyeva S.X. 2011. *Arxitektura Sheki-Zagatal'skoy zoni Azerbaidjana. Istoricheskaya levoberejnaya Kavkazskaya Albaniya severo-zapadnyy region Azerbaidjanskoy Respubliki / Architecture of the Sheki-Zagatala district of Azerbaijan. Historical left-side Caucasian Albania- the north-western region of Azerbaijan Republic/* Elm, Baku
- [4] Karaxmedova A.A.1986. *Xristianskie pamyatniki Kavkazskoy Albanii (in Russian)/ Christian monuments of Caucasian Albania/* Elm, Baku
- [5] Mamedzade K.M.1983. *Stroitelnoe iskusstvo Azerbaidjana (in Russian)/ Construction art of Azerbaijan/* Elm, Baku
- [6] Mammadova G.G. 1997 *Kultovoe zodchestvo Kavkazskoy Albanii (in Russian) Cult architecture of Caucasian Albania/* "Elm", Baku
- [7] Mammadova G.G., Abdullayev T.A., Hajiyeva S.Kh. 2001. *Kish outstanding monument of Caucasian Albania (in Azeri, English, Russian)/* 21-st century, Baku
- [8] Mammadova G.G., Abdullayev T.A., Hajiyeva S.Kh., Agamaliyeva Y.Ch. 2002. *Architectural monuments of Sheki (in Azeri, English, Russian)/* Chashioglu, Baku
- [9] Mextiyev A.M.2001. *Narodnoe jilishe Azerbaidjana (in Russian)/Dwelling of Azerbaijan/* Tebriz
- [10] Moses Kalankatuklu 1993. *Albaniya tarixi (in Azery)/ History of Albanians/* translation by Ziya Buniyadov/Elm, Baku
- [11] Neymat M.S. 2001. *Korpus epigraficheskix pamyatnikov Azerbaidjana. Arabo-turkoyazichniye nadpisi Sheki-Zagatal'skoy zoni, 14v-nachalo 20 vv (in Russian)/ Code of epigraphic monuments of Azerbaijan. Arabic-Turkic inscriptions in the monuments of Sheki- Zagatala zone. 14th-beginning the 20th century/ XXI –YNE, Baku*
- [12] Salamzade A.R., Mamedzade K.M.1987. *Arxitekturiye pamyatniki Sheki (in Russian) Architectural monuments of Sheki/* Elm, Baku
- [13] *List of monuments of History and Culture of Azerbaijan Republic divided in accordance with their significance, approved by the decree # 132 of Azerbaijan Republic Cabinet of Ministers, 02/08/2001*
- [14] Useynov M.A., Bretanitskiy L.S., Salamzadeh A.R. 1963, *Istoria arxitekturi Azerbaidjana (Russian)/ History of Azerbaijan architecture, Nauka, Moscow*
- [15] Fatullayev Sh. 1986, *Gradostroitelstvo I arxitektura Azerbaidjana 19-nachala 20 vekov (Russian)/ Town planning and architecture of Azerbaijan of the 19th-early 20th centuries, Stroyizdat, Leningrad*



FORMATION OF SMALL RECREATIONAL AREAS IN BAKU

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ABSTRACT

Urban recreation usually means the sustainability of contemporarily cities. The first places for recreation appeared in certain fragments of main trade streets of the castle, in caravanserais at the castle gates and although it sounds paradoxical within hamam (bath) as the core of Baku was Old City. Later at the end of 18th century and at the beginning of 19th and 20th centuries due to population growth and oil production small gardens appeared as recreation places between the streets around the tower. Their activities were very important to the townspeople. The article analyses the role of small historical recreation places and their architectural and planning features situated in the city of Baku, Azerbaijan.

Keywords: recreation, gardens, sustainable, planning, formation, city, landscape, urban

1 INTRODUCTION

For the disclosure of this topic in the content plan, two approaches are needed. The first and foremost is the functional significance of places of rest and recreational areas in the residential environment of Baku. The second approach consists of the forms, the presentation of these zones in the nature of the organization and the location of such small "oases" recreational areas. If considering the problems of organizing small places of rest in Baku, then it is crucial to start with its historical environment - the fortress of Icherisheher, since it was in its structure that the first places of leisure for the population were planned. Naturally, the best example of the zones was a small island of rest like "paradise" in the courtyard of the palace complex itself as part of flower gardens, an octagonal pool with fountains and canopies organized by climbing plants - vine and intricately shady trees - figs and mulberries [1].

Speaking about the recreational areas and small recreationally significant spaces within the fortress, or rather within small architectural and planning fragments, an assessment of their landscape-relief capabilities and structure-forming elements (the main shopping street, the locations of the fortress gates, caravanserais and baths), which indirectly or directly had a connection with places of short-term rest should be briefly given. These were public areas where it was necessary to organize at least some island "oasis" in the scorching sun of the southern city. Such islets were organized on the way of pedestrian movement of the population to the places of trade rallies, usually having a "linear-band" character, and sometimes - at the intersection of streets and "compact character" in a very small number of

leisure facilities, i.e. small forms of landscaping in the obligatory order of a plane pool with a fountain, decorative shrubs (dog-rose, painting and oleander), single planting of trees and, of course, pronounced flower beds.

2 BACKGROUND OF FORMATION

Based on the fact that 80-85% of the territory of the fortress was occupied by a network of carpet-like configurations of "mahalle" and individual palace spaces, often accommodating in houses for 2-3 families, such places locally operated either in the microenvironment of courtyards or on their roofs with the mandatory organization of shaded areas on flat roofs; on the summer nights they served as a place to sleep. (Fig.1.Icherisheher).

For this reason, "balakhans" - small voluminous structures for storing beds were always included. In the inner spaces of these enclosed courtyards, shady broad-leaved trees were always planted - here are the figs, with the small circular areas for places of leisure and recreation around them.

If there was no possibility to place a pool, the presence of a well with water, which was also considered a place for storage or cooling of some perishable products was considered mandatory. As we see, even with very limited opportunities (territorial and biological), a man has strived to create the places of short-term rest and leisure for himself by maximally using local landscape conditions.



Fig. 1. Baku. Icherisheher

It is fair to note that for long-term rest, small recreational zones- individual summer cottages for family recreation on the northern coast of Absheron were chosen more. Along with them, much later in the 19th and early 20th centuries, due to the rapid growth of the city's economy, the discovery of underground resources - oil deposits, the Baku oil production tycoons, having big financial opportunities, began to build country palace buildings with a large gardens, water pools of incredible sizes, in a word, "oases", which the "chaarbag" gardens of Tabriz could envy. Due to the case that many people had the opportunity to travel and visit a lot of European countries, they invited famous architects from all over the world to build their city mansions and country palace villas. For this reason, the architectural decision of many mansions is eclectic - a mixture of Western European styles and our national-romantic style [2]. In addition to the above-mentioned places of recreation of very small sizes, as already noted, as the city of Baku grew and residential areas left the fortress in the direction of its forstadt, two types of planning structures began to develop within the boundaries of developing Baku. This is a ring structure with radial outlets of highways towards close regional countries. Residential areas represented a series of buildings and monumental houses - mansions of medium height, much larger than the network-like structure of "mahalle". These are the fundamental buildings, in the intervals of which, due to the implementation of mandatory measures for improvement, by order of the governor of Baku, they tried to place small islets of green plantations, which, of course, have a public importance.

3 FACTORS OF INFLUENCE

Due to the fact that in the natural and climatic conditions of Baku it was unacceptable to organize large gardens and parks, small areas of green spaces between densely built up residential areas began to be created. So these were the first examples when the local factors directed to origination of small recreational zones of "squares" occupying an area of 0.2-0.5 hectares.

The emergence or creation of such small gardens, places of leisure and recreation of the population of the nearby residential areas, determined not only the architectural and artistic appearance of that occupies almost half of the edge of the coastal zone longitudinal length. It is on its territory that many small recreational zones are located, which today are of polyfunctional significance, because along with the place for leisure, they also have bioenergetic properties of softening and cleansing the microclimate, the ecological environment of nearby quarters, the place of transport and pedestrian intersections and the enrichment of architectural and artistic images of structure-forming small spaces of the urban environment. For example, the peculiarities of their architectural and planning solutions can be mentioned, among which the parks embodying the memory of eminent figures of Azerbaijan are of particular interest. These are the squares of M.A.Akhundov with the correctly found ratio of green spaces and design elements, the square of the Museum of Art named after Mustafayev with the expedient terracing of the sharply expressed relief and shady resting places, surrounded by the winding greenery and the rockery, (Fig.2.), the square named after Nizami is set in place of one-story buildings of caravanserais, with an expressive and harmonious unity of the landscape and the Nizami monument, where the methods of

organizing the water cascade with an assortment of trees and decorative shrubs are very successfully combined (Fig. 3) [3].



Fig. 2. Baku. Square named after M.A.Akhundov



Fig. 3. Baku. Square named after Nizami

The garden, even the little garden or square, officially named the Mariinsky (after the name of one of the streets - the Mariinsky, now Rasul Rza), but forever in the memory of people as Molokan, was set up on the site of the Molokan settlement in the area of about 0.8 hectares in 1890-91 (Fig.4.). It should be mentioned that the need to organize this garden was, first of all, as they would say now, caused by the low ecological background of this quarter. The fact is that in the 19th century this territory was surrounded by caravanserais from all sides, where the Molokans who brought goods from different counties often stopped. In connection with the construction of the central (bourgeois) quarters, the Molokan settlement with its carrying yards and stables in the area of the Molokan (and later the Mariinsky) garden was demolished, and the Molokans were relocated to a completely new district of Zavokzalje.



Fig. 4. Baku. Molokan garden.1890-91 year

In the plan, the garden seems almost square in shape, and was, as now, surrounded by residential development. Despite the ideal layout, organized by intersecting in the center of perpendicular and diagonal alleys, with a fountain crowning this center, this garden was chronically suffering from a shortage of water for irrigation of a fairly meager gardening. Until the beginning of the twentieth century, the growth of green plantations in the garden was rather meager because of poor, saline soils with a thin layer of loose land, which, however, constituted the soil of Baku everywhere.

Otherwise, it would be correct to note the role of separate planning fragments of the present Baku National Seaside Park, which was periodically divided into local recreational zones, dominating in the architectural and artistic plan over the linear structure of green spaces and park alleys. (Fig. 5). It is a place of short-term rest for children, elderly people and, of course, guests of our city. We shouldn't forget the fact that modern landscape architects are trying to find, as they say, "a corner" for creating a microcentral recreation center in any corner of the historical part of Baku. These are the extended parts of the historical streets of Baku, small areas near cinemas, places of partial demolition of residential quarters, etc. [4]. These include: "Metro-Park", a rest corner and a cafe behind the former cinema "Azerbaijan", a site and the northern edge of the former Fountain Square, a small recreational zone overlooking the Neftchiler Avenue (opposite the Puppet Theater), the Philharmonic Garden (Governor's Garden) and others.



Fig. 5. Baku. National Seaside Park

The Metropolitan City of Baku is an example of an historic city, which originated as a medieval town and has expanded in a linear direction alongside the waterfront of Caspian Sea, achieving the metropolitan status it is known for today. Some parts of this town has been periodically transformed over time to become the recreation zone of the City, it's a popular tourist area [5]. It should be noted that in order to improve this urban green structure, first of all, it is necessary to take into account the degree of integration of small places of rest to the existing places of not only the center of Baku, but also to link them closely with the structure of other districts of the city, which received a great reorganization in recent years. These are the areas near the metro station "Ajami", the reconstruction of a locally significant site between the Huseyn Javid park and H.Hajiyev street, a large-scale reconstruction project around the Ganjlik square, behind the park, etc.

The practice has shown that, faced with the change and development of town planning processes in Baku, one has to face not so much the functional activity of the above-mentioned fragments of this city, but rather the nature of the use of their lands and the importance of maintaining stable micro comfort areas entering the existing space of the city districts. To implement realism and rationally invented projects, it's necessary again to resort to the continuity of the historical context of the spatial basis of Baku, which has satisfied the dynamic nature of the needs of the local population in one way or another for centuries.

However, taking into account the sharp change in the social orientation of modern people to the sector of short-term leisure nearby the housing, it was not possible to resort to general and quickly effective rules for the organization of recreational facilities. Here it became necessary to take into account the long-term interests of the city's entire urban development process, because recreation is also an inseparable part of urban life and, presenting a polycentric model of urban activity, has internal (everyday leisure) and external (environmental) influence.

Unfortunately, to some extent the general development plan of Baku, currently being developed, is rather a correction of the existing planning structure, although planning and the spatial structures of the closest adjacent sections of suburban areas, where the public service of the institutions of mass recreation is still not at the desired level should be attracted to the interest of leisure. The practice of attendance of these zones shows that for residents of the city and even for foreign visitors, the areas located outside the city but close to its territory are the most popular areas in any season of the year. It can be seen that the factor of the sea is simply a more spacious natural environment for the citizens, which is more attractive, especially as the city's transport routes make an organic extension to the suburban zones [6].

It becomes obvious that when developing a new master plan of Baku, which, in fact, has a multi-functional significance in many areas, including the recreation, it must also acquire a multi-faceted structure, especially since it has strong links with health and sports facilities and plan for rapprochement with fundamental large recreational complexes. It should be noted that losing its isolation and becoming a polycentric center, it acquires a new quality, becoming an integral part of a single planning and spatial recreation system of the whole Baku and partly of the agglomeration.

Nowadays the construction boom has led to a significant reduction in vacant lands in major cities. Intensive urbanization and infrastructure development are increasingly changing the town-planning map of cities; green areas are now occupied with residential,

administrative, public buildings. Gradually new buildings began to "conquer" even the peripheral lands, thereby continuing to actively help in the development of the city.

And what should be done with the situation in the central part of the city? Excessively dense buildings, loaded transport infrastructure - all this makes us seek new ways to develop and improve the architectural and artistic appearance of the city.

Under these circumstances, prerequisites are already created for recreation and park services for the population of the surrounding districts, which are part of a single body of Greater Baku, which has already been developing on the basis of changing life requirements.

Thus, the data presented in the article once again confirmed the importance of the proper organization of small recreational zones already covering the needs of the population of Greater Baku and structurally covering the whole system, opening to all locally operating environments that promote sustainable development and other services in Baku [7].

4 CONCLUSION

Analyzing the town-planning works performed in the late 19th and early 20th centuries, and later in the 30-50s of the 20th century in Baku, it can be concluded that the rationality of the integrated solution in the planning of the city was laid in the basis of the developed work in the district planning, first performed in the post-Soviet space only for Absheron with a highly professional account of the history of the development of the territories of the region and the peculiarities of natural and climatic conditions.

Therefore, it is not surprising that for a system of organizing of small recreational zones, the complexity in everything (in the structural, territorial-spatial, socio-ecological) is a real continuation of the formed processes, but aimed at the development of all service sectors. From these perspectives, to improve the already legitimized systems of the city, preference is given to recreational zones that are more in demand. These are small, artificially created oases in the densely developed residential building of Baku and located on the sea coast with better natural conditions and an economically transportable operation base.

The above gives us the opportunity to conclude that the main elements of people's lives in urban settlements are work, life and recreation. One of the main socio-cultural relations that determine the formation of the spatial structure of the city at the level of its master plan is the relation of the field of work and the sphere of life and leisure.

Planning and projects of recreational which enlarge green zone within the city center and transforming it into a city of public space and are in constant focus. Planning projects of sustainable city are continually being devised and implemented, to overcome undesirable environmental problems, which have recently been considered characteristic of crowded city centers and urban environments [8].

Based on this, it is necessary to contrast the two concepts - labor and recreation - and the corresponding social and spatial models of the city continuing throughout the 20th century. Sociologists and urban development researchers analyzing the organization of space and social life in future settlements, that is, the town-planning concepts of future settlements, which determine the location of places of employment, housing, recreation, noted that this will depend on the forms of the recreation organization. One way is to reduce the working time to a minimum with the maximum intensity of its use; the second way is to increase the

attractiveness of recreation, the introduction and activation of creative and artistic appearances.

Today the system of hierarchically coordinated point centers of different ranks and the surrounding serviced territories is the basis for the corresponding town-planning composition of Baku city. Under this concept, a lot of town-planning works were carried out. A number of master plans of the cities of Azerbaijan were developed on this principle [9].

However, observations of the actual town-planning processes in Baku did not confirm the viability of the described principles, since the stage principle was insufficient for constructing of urban structure and its service system. It is these circumstances that have strengthened the importance of such zones in the citywide branched recreation system.

The main reason for the existing disparities in public services is the underestimation of the development of the social sphere in the planning and implementation of economic and social development programs of Baku [10].

Despite these shortcomings, a retrospective analysis of the existing system makes it possible to note the following most typical progressive trends that have emerged in the development of recreation areas:

- development of new social types of public organized services and equalization of the level of their provision between different areas of the city;
- striving for the priority development of institutions for the preparation of free time, the reduction of the typical sedentariness of the local population;
- cooperation of recreation institutions in order to reduce the cost of construction and operation in the southern region;
- regulation of the organization of recreation, preservation, and development of traditional forms, the introduction of a more progressive system than the existing staged system.
- In this connection, the formation of new small recreation areas in the system of Baku is assumed:
- ensuring a comprehensive territorial organization;
- increasing the concentration of such zones;
- stimulating the process of their creation;
- providing the entire population with an accessible set of diverse places of cultural leisure, life, and recreation.

All this will make it possible to create an aesthetically integral city organism, to give Baku a peculiar architectural and artistic appearance. It is appropriate to take into account the existing successful practice of organizing recreation by combining the service and recreation sectors.

It is very important to start the works on the drafting of detailed planning of all the areas of Baku building along with the development of a new master plan.

REFERENCES

- [1] M.A.Useynov., A.V.Salamzadə., L.Britanskiy. *Istoriya arhitekturi Azerbaydjan.*, Moskva, Stroyizdat, 1963, p.363
- [2] Fatulayev Sh.S. *Gradostroytelstvo i arhitektura Azerbaydjana XIX – nachala XX veka.* Leningrad: Stroizdat, 1986, 440 p.
- [3] Gasanova A.A. *Sadi i parki (istoriya razvitiya landshaftnoy arhitekturi).* Izdatelstvo «Ishig», Baku, 1996, p.303
- [4] Nagiyev T.N. *Razvitie sanitarno-kurirtnogo stroitelstva i zon otdiha v Azerbaydjane*//AzASU, jurnal «Uchenie zapiski» №1, Baku, 2004, p.60-65
- [5] E.F. Huseynov, *Processing of International Conference on Green Buildings and Sustainable Cities*, 2011, p.1-2
- [6] Huseynov F.M., Salmanov A.A. *Otdih na yuge.* Izdatelstvo «Misl» M., 1988, 127 p.
- [7] Nagiyev T.N. *Sovremenoe gradostroytelstvo Azerbaydjanskoy Respubliki*
- [8] Nagiyev T.N. *Landshaftnaya organizatsiya kurortno-rekreacionnih zon*//jurnal «URBANIZM» №9, O.Y.A., Baku, 2006, p.67-68
- [9] E.H.Aleskerov, E.M.Huseynov, S.V.Huseynova, H.T.Qachayev. *Turizm merkezleri. Memarlıq-shehersalma teshkili.*



DEVELOPMENT OF ENERGY-SAVING HOUSES AROUND THE WORLD

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ABSTRACT

More and more people realize we need to save energy. Firstly because our fossil energy sources are decreasing. The estimated years of production for oil, gas and coal are 45, 65 and 200 years respectively [1].

Over the past decades, the uncontrolled extraction and wasteful use of non-renewable energy resources has brought humanity closer to the global crisis of world fuel supplies, as well as to a significant deterioration of the environmental situation on the planet: climate warming, diseases, pollution of the atmosphere, rivers, and forests [2].

Experts predict that, moving at such a rate, we will completely consume reserves of natural energy resources (gas, oil, coal) in the next fifty years. Serious energy crisis in the 1970s of the XX century forced Europe to think about environmental problems and start developing ecological projects. To restrict the climate change a large number of countries have made agreements on CO₂ reduction [3]. In 1997, the Kyoto Protocol was signed, according to which states should limit the release of CO₂ into the atmosphere.

To accelerate energy saving in the built environment, housing associations should apply low-energy techniques in existing houses that are in need of renovation. Because of a lack of knowledge it is difficult for housing associations to determine which low-energy technique has the best results for energy consumption and CO₂ emissions. In this decision support tool will be developed with a tendency in energy performance requirements at construction level including aspects such as houses, living quality.

Keywords: energy efficiency, energy saving, isolation, energy costs, construction norms, economic

1 INTRODUCTION

In most countries of the world, one of the most important objects of state regulation has become the requirements for increasing the thermal protection of buildings. In addition to saving state energy resources, these requirements are designed to protect the environment from harmful emissions, rational use of natural resources, and a reduction in the "greenhouse effect". All sectors of industry need to take appropriate action to reduce the use of fossil energy. For example in the Netherlands, the built environment is responsible for 40% of the total energy consumption [4], which makes exploration of the possibilities to reduce energy in the built environment relevant.

To date, the problem of reducing the energy consumption of residential buildings is urgent, which also gave impetus to the development of energy-saving technologies. For heating houses, states spend up to 40% of all energy resources of the country, and a huge amount of carbon

dioxide is thrown into the atmosphere, which leads to the development of a "greenhouse effect". Energy-saving technologies allow solving several problems at once:

- energy saving
- solution of many problems of housing and communal services
- reduction of environmental pollution
- increase profitability of enterprises
- energy saving in the country

2 STUDY AREA AND PROBLEMS

At present, Azerbaijan has much to develop in the issue of applying energy-saving technologies. According to experts, Azerbaijan has a huge potential, more than 40% of the entire level of energy consumption, energy efficiency. Azerbaijani homes have very low energy efficiency, huge energy losses. The energy costs of many Azerbaijani enterprises exceed those in developed countries by about two times. And although in European countries energy-saving technologies are becoming more popular, in Azerbaijan they are still not given due attention. One of the main reasons for their slow spread is the lack of interest of homeowners, they do not properly explain all the ways and means to modernize their homes. The most that an ordinary citizen will do is replace the electricity meters with new ones, with differential charging. There is not enough work done by the state apparatus in stimulating the construction of energy-efficient buildings. For example, tax benefits for construction companies involved in the construction of such housing.

Judging by the experience of foreign countries, the issue of technology promotion requires a comprehensive approach, improvement of the current legislation, development of legal and technical incentive measures, application of economic and legal mechanisms of impact on homeowners and construction companies:

- information measures of influence not only call for the economical use of energy, but also give concrete advice on its economy, as well as a description of the economic benefits of energy-saving technologies.
- the use by energy companies of a preferential tariff scale for buildings with low energy consumption.
- according to the experience of developed countries, effective measures include the right to use tax benefits, the receipt of subsidies to partially cover the costs of introducing technologies and loans with reduced interest rates.
- introduction of a system for monitoring energy consumption and bringing to responsibility for violation of established norms of construction and operation of buildings.

American citizens living in energy-inefficient homes, with insufficient insulation, have the right to count on state support, represented by the US Department of Energy in assessing the energy efficiency of housing and providing services for its further warming. At the moment, this program has covered more than 5 million families. It includes:

- energy audit
- insulation of walls and pipes
- thermal insulation of the house

- improvement of the climate control system (heating, ventilation, air conditioning)

The program to improve energy efficiency of housing will allow homeowners to reduce utility bills by 20%, which will reduce the budget expenses of the family and make a significant contribution to improving the environmental situation.

The program implies a 10% tax rebate on the cost of insulation works, installation of windows that meet the new requirements. As a result, the average family can save up to \$ 1500.

Under the program, taxpayers engaged in improving the energy efficiency of housing can count on benefits in the payment of income tax. (fig.1)

Improvement of housing includes:

- isolation
- installation of double window frames
- installation of double doors
- the window in the roof
- energy-efficient climate control system
- heat-reflecting roof
- energy efficient water heaters

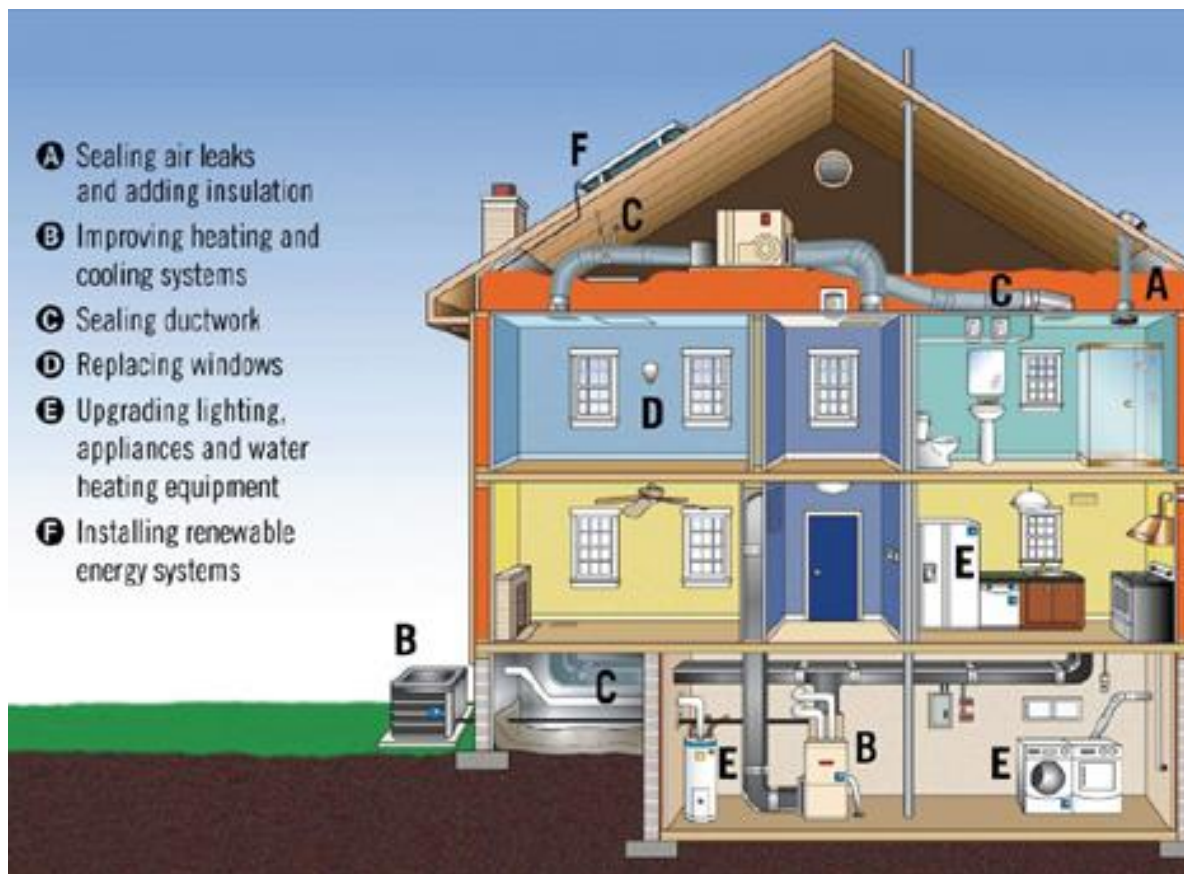


Fig. 1. Typical house improvements:

According to one of the options of the program, which provides an unlimited 30% tax benefit, homeowners must complete the work on improvement until 2016. The program implies compensation for the cost of materials. It includes: Installation of heat pumps, solar water heaters, and photovoltaic power systems.

Already for many years in Europe, the Scandinavian countries have been using energy-saving technologies in the construction and reconstruction of buildings. In these countries, the necessary legislative norms have been created, taking into account the economic interests of homeowners and investors. Increasing the level of energy efficiency is achieved through the use of effective thermal insulation, installation of heat pumps, modern window frames and doors that prevent leakage of warm air, use of boiler plants with high efficiency and room temperature control devices [5].

Germany spent more than 1.5 billion euros on reconstruction of houses to reduce energy consumption. Moreover, homeowners who wish to renovate a house receive tax credits of 20% and bank loans with a low interest rate. Being energy-dependent from energy supplies by other countries, Germany solves the problem of energy security by saving energy and stimulating the development of alternative types of energy. More than a third of the total electricity is received from wind turbines. Investors will be able to place solar panels on the roofs of buildings and supply the received energy to the city network. When buying computers and electrical appliances, administrative institutions are required to purchase energy-saving appliances.

In Austria, a biogas plant started operating. Biogas, produced from wood, is not inferior in quality to natural gas, it is used for heating power plants, cars that run on mixed fuel. Biogas plants are capable of producing about 100 cubic meters of biogas per hour. Currently, similar projects are being prepared in Germany and Sweden.

In France, in 2005, a program of tax incentives was introduced for families wishing to use thermal energy saving technologies in their own dwelling. When modernizing housing, they are given a loan, the right to reimburse up to 50% of the cost of installing thermoregulation systems, modernizing heating and using alternative energy sources: biofuel, solar and wind energy.

In Japan, energy-saving policies began in 1973. Measures are being taken to reduce the energy intensity of houses, improve the structure of buildings to reduce the cost of heating and air conditioning. Much attention is paid to training citizens in preserving energy in everyday life: partial refusal of television remotes, from night warming up of water to save time for preparing breakfast in the morning, temporary deactivation of air conditioners in the summer. The experience of 200 families provided energy savings of 14.2% of the usual energy consumption. Particular attention is paid to the development of solar energy. The use of solar panels can significantly reduce the cost of electricity. Installation of solar panels by a third is paid by the government. The area of the roof of the house is 120sq.m. Even if half the roof is covered with batteries, they will give 6 thousand kW.H of energy per year. In terms of petroleum products - this is about 558 liters of oil [6].

In Sweden over the past few decades, it has been possible to significantly reduce the dependence on fossil fuels. In 1970, 80% of the energy was produced from natural fuel, in 2009 this figure was reduced to 37%, and the value of biofuel increased, in 2009 32% of energy was generated from it. Swedes, as a diligent master, are trying to integrate everything that can be integrated into one process. For example, the Hodgalen incineration plant, in addition to recycling, is engaged in combined generation of heat and electricity. One of the Swedish features in the energy sector is centralized heating and cooling of premises due to the use of heat pump stations. The raw material for such stations is the potential of water, atmosphere and land. For example, a station in Stockholm supplies the city with 400,000 heat. Here, the number of consumers of energy generated by heat pumps continues to grow, as they are very effective and

reduce the harmful impact on the environment. At present, Sweden has more than 500,000 heat pumps [7].

Abroad, concerned about the environmental situation, people are increasingly engaged in turning their homes into ecological ones: thermal insulation of walls, windows, doors, roofs, installation of batteries for the use of alternative energy sources. For these purposes, special companies offer their services, not only replacing obsolete equipment, but also building eco-houses. In such houses, for example, try to arrange the windows so that the occupants have natural lighting as long as possible, create rainwater harvesting tanks, install modern heating systems, economical lighting, and efficient garbage sorting system. All initiatives are supported by government subsidies [8].

3 NEW CONCEPT

The concept of "passive house" in our country appeared relatively recently. In such a home, energy costs for heating are minimized through the use of internal energy sources. Heating should be carried out at the expense of heat generated by household appliances, people, and alternative sources of energy. (fig. 2)

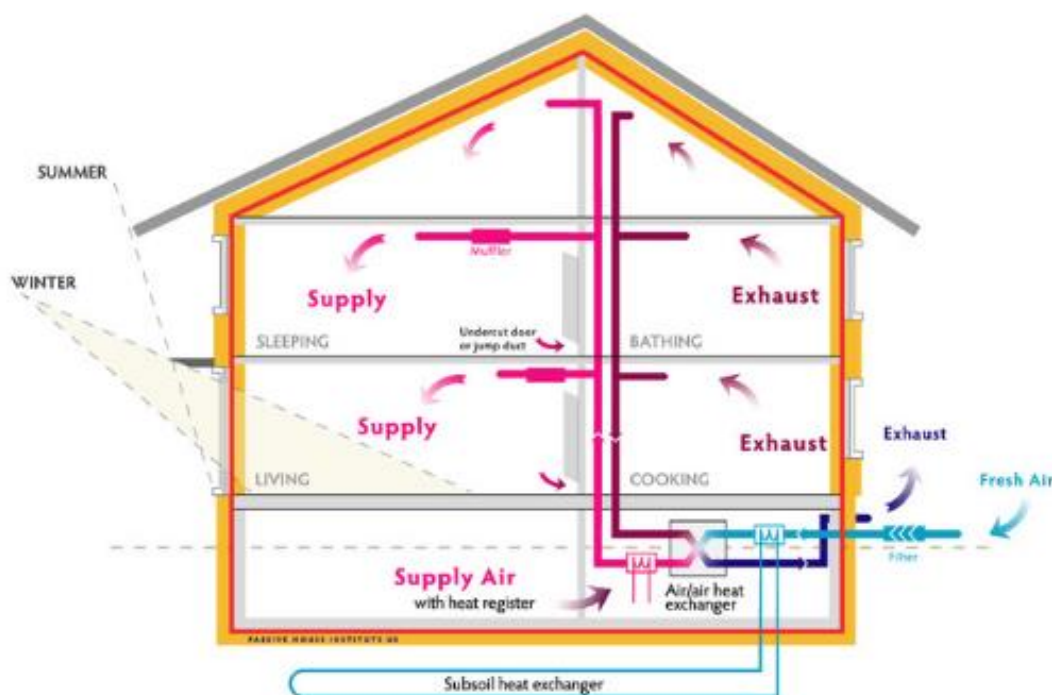


Fig. 2. Passive house principles

The concept of "passive house" is reduced to the use of supply and exhaust ventilation (heat pumps) with the use of recuperators that use the heat of the outgoing home air to heat the air coming from outside; Use of natural energy sources (sun, wind) for heating and hot water [9]. Practical experience of the construction of "passive houses" is enjoyed by European countries, in particular Germany. Currently, more than 4,000 houses have been built here that meet the requirements of an energy-efficient house:

- Highly effective insulation of the house, not only the walls, but also the ceiling, the floor, the attic, the basement. Several layers of thermal insulation (external and internal) are

formed, which do not allow the release of heat and let in cold air. Heat loss is 15 kW per sq. M. In an ordinary building - 250-300 kW per sq.m.

- Innovative window systems use two- or three-chamber designs, a special technology is used to connect windows to walls. The largest windows are directed to the south, from where the maximum solar radiation comes, which will bring more heat than to lose.
- The heat recovery system of the air leaving the room. The air leaves and enters the house through a special air line. In the recuperator (heat exchanger), the exhausted domestic warm air heats the incoming outdoor air (warmed already in the air line from the heat of the earth) and then discharged to the street.

"Passive houses" are comfortable and comfortable for living, they are built from environmental materials, with a tendency to use recycling products of inorganic debris. In Germany, factories for the processing of concrete, glass, metal in building materials for "passive houses" have been established [10]. It is known that when heating the housing in the atmosphere, up to 40% of the carbon dioxide produced by burning the fuel is emitted from the total amount of emissions. For the heating of houses of a new type, alternative energy sources are primarily used. (Fig. 3)

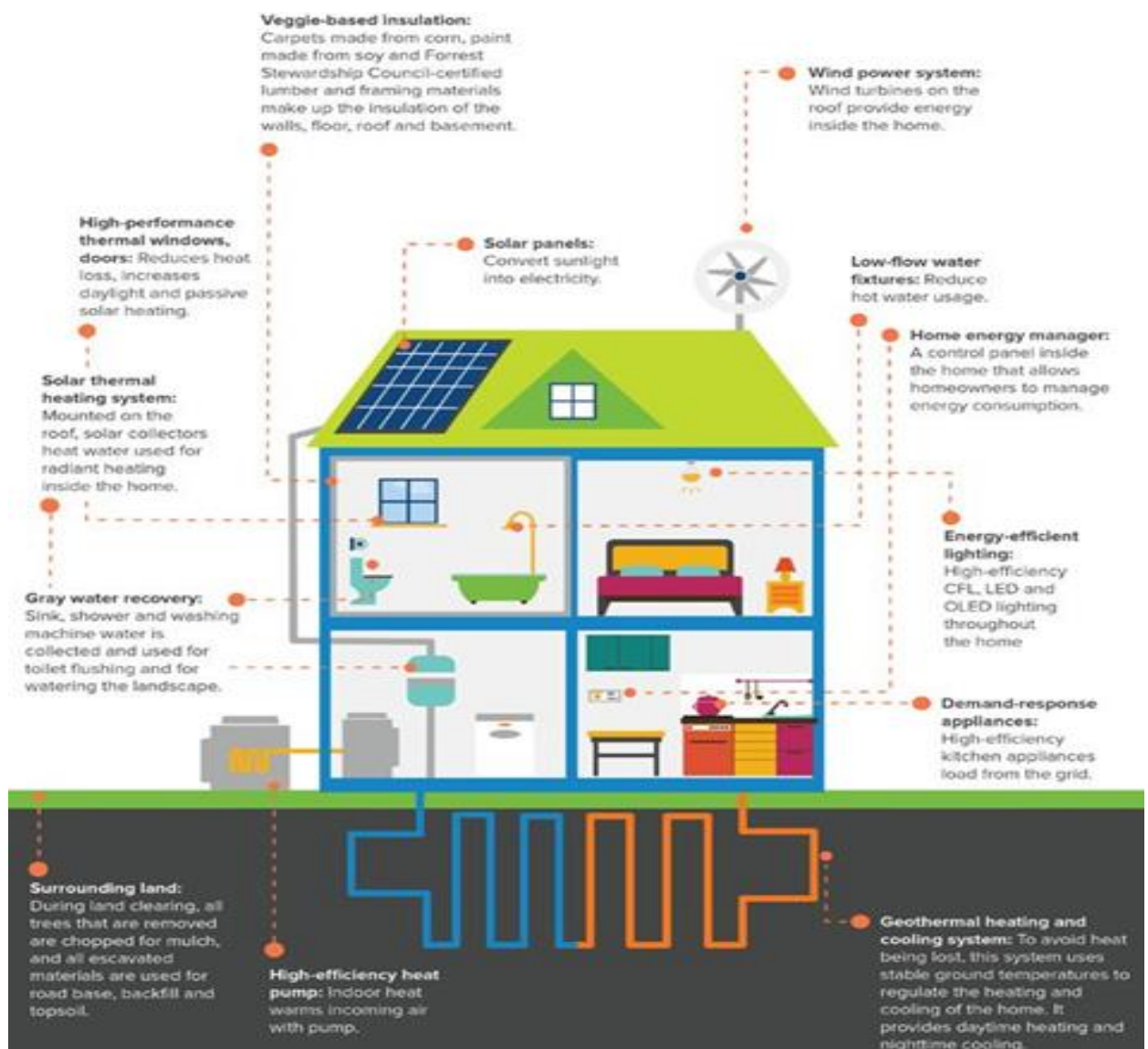


Figure 3. Saving heat energy in house and automated control systems

An additional means of saving heat energy are automated control systems for technical devices in the building. Such systems, for example, reduce the temperature of the room during people's absence or at night. "Smart" heating equipment will allow you to monitor and automatically adjust the intensity of heating depending on the temperature on the street.

4 CONCLUSION

Unfortunately, in countries where construction components are not manufactured and sold for passive house standards, the difference in construction costs compared to the traditional house will significantly exceed the level to 6-10%.

Nevertheless, the continuous development of energy-saving technologies and systems for the use of renewable energy sources makes them more affordable every year. In addition, additional financial support and tax benefits in many states thinking about the future makes passive houses even more accessible and more attractive for construction. Thus, the currently promising passive house standard will become the standard for the construction of new buildings not only in the European Union in the upcoming future.

REFERENCES

- [1] Ministerie van Economische Zaken, *Derde Energienota*, SDU Uitgevers, Den Haag, 1995.
- [2] World Energy Council, *Survey of energy resources*, Elsevier, Oxford, 2004.
- [3] Alley, R., Berntsen, T., Bindoff, N., Chen, Z., Chidthaisong, A., Friedlingstein, P., et al., *Climate Change 2007: the physical science basis*, The IPPCC 4th assessment report, 2007.
- [4] Wesselink, L.G., Eerens, H. & Vis, J., *EU 2020 climate target: 20% reduction requires five-fold increase in impact of CO2 policies*, Netherlands Environmental Assessment Agency (MNP), Bilthoven, 2008.
- [5] Norber Lechner - "*Heating, Cooling, Lighting: Sustainable Design Methods for Architects*" 3rd Edition, 2008
- [6] Sandra F. Mendler – "*The HOK Guidebook to Sustainable Design*" , 2005
- [7] Richard Ingersoll – "*World Architecture: A Cross-Cultural History*", 2012
- [8] Douglas Farr – "*Sustainable Urbanism: Urban Design With Nature*" ,2007
- [9] Mark DeKay – "*Sun, Wind, and Light: Architectural Design Strategies*", 2014
- [10] J. Barry Cullingworth – "*Planning in the USA: Policies, Issues, and Processes*", 2013



PROBLEM OF TERRITORIAL AND FUNCTIONAL DEVELOPMENT OF THE CITY OF ALMATY

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ABSTRACT

Since the beginning of the 20th century in the city of Verniy - which was later renamed to Alma-Ata and afterwards to Almaty - implementation of the "garden city" concept starts. With city's growth and acquirement of the status of capital its public center structure becomes more complicated, the ratio of urban area greening raises, landscape architecture objects typology is broadened. The largest city of the Republic of Kazakhstan, Almaty, having overstepped millionth milestone in the population, during its functioning nowadays faces series of issues in providing comfortable accommodation for residents: ecological – noncompliance with regulatory norms of greening ratio within the city limit; social - failure to ensure the accessibility of landscape architecture objects of recreational purpose, as well as thematic variety of public use green territories for residents of the peripheral areas; low quality of pedestrian area aesthetics. Feasibility of saving valleys of mountain rivers undeveloped, placing elements of green areas system along the direction of the breeze, presented with latest master plans of the city is not being implemented in full. This leads to development of fragmented mesh structure of the whole natural complex and is one of the most important factors of lowering resistance of city's natural ecosystem against anthropogenic exposure.

In 2017 within implementation of program on raising quantity and quality of open recreational public spaces in the city, on broadening pedestrian areas an architectural-landscape reconstruction was conducted of existing pedestrian street, and in the core of public center of the city functional reorientation of transport street into a pedestrian street was carried out. During execution of architectural-landscape reconstruction of the new pedestrian street fragments of historical paving were uncovered and its accentuation was then made with use of decorative paving, that allowed to improve the characteristics of recreational space and identity of the city's center. To increase the attractiveness of the historical part of the city some radical reconstruction of historical Almaty plaza was conducted. Its transport dimensions were reduced, the emerged pedestrian space was filled with parametric park and garden furniture, flower beds and planar fountains that in evenings are enriched with decorative lighting.

Abrupt drop is demonstrated by the retrospective analysis of ratio of Almaty city area greening in conditions of increased building density. To solve the problem of approaching to normative sufficiency of city areas greening, the important aspect is saving the reserve territorial fund of natural complex of small rivers of Almaty city for recreational purposes. The lesser sizes of riverbeds of small rivers typical for foothill cities, their deep laying entail feasibility of attention to urban-planning and artistical solution of near water territories, equal to advantages of natural water area. Issues discovered, deficit of reserve territories mandate use of additional resources of architectural-landscape character: forming gardens of man-made foundations, rebirth of vertical greening which was once-traditional for Almaty.

Keywords: functionality, landscape, nature source, climate, green area, recreational purpose, urban-planning

ПРОБЛЕМА ТЕРРИТОРИАЛЬНОГО И ФУНКЦИОНАЛЬНОГО РАЗВИТИЯ ГОРОДА АЛМАТЫ

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1 ВВЕДЕНИЕ

Город – как территориальное образование жизнедеятельности населения изначально формируется, а в дальнейшем и развивается на основе природных ресурсов, определяющих демографический и рекреационный потенциал территории. Его планировочная структура, территориальное размещение в ней общественного центра, ландшафтно-рекреационной составляющей определяются природным контекстом. Эстетический и экологический комфорт городской среды во многом зависит от развитости его водно-зеленой инфраструктуры.

Об оптимальных соотношениях между открытыми озелененными территориями и застройкой задумывались еще и при строительстве древних городов. Данный принцип в виде нормативного баланса территории города Месопотамии Урука был приведен в «Эпосе о мифологическом герое Гильгамеше»: «Один Сар города, один Сар садов, один Сар заливного луга и округу Иштар, - три Сара да еще округу Урука (стены) объемлют» [1]. Принципы введения природных элементов в городскую структуру вырабатывались в разных государствах по-разному, но всегда большое значение придавалось показателям озелененности территории и типологическому разнообразию объектов ландшафтной архитектуры.

Для южных городов с высокой степенью летней инсоляции важным фактором экологического комфорта для населения выступает обеспечение затененного подкранового пространства вдоль основных путей пешеходных передвижений. Ряд исследователей в этом аспекте выступают с концепцией формирования транспортно-экологического каркаса, отвечающего требованиям экологически устойчивого развития. Отмечается, что формирование рекреационных территорий вдоль транспортных коридоров будет способствовать пешеходной взаимосвязи расчлененных подобной сетью территорий города [2].

2 ОБЛАСТЬ ИССЛЕДОВАНИЯ

Составляющими системы территорий природного комплекса города являются как природные, так и искусственно сформированные открытые озелененные пространства, выполняющие рекреационные, оздоровительные, ландшафтообразующие, средозащитные и природоохранные функции. Предметом исследования являются их качественные и количественные характеристики в исторической ретроспективе. Так как качество городской среды определяют размеры, конфигурация, распределение в структуре населенного пункта, а также композиционное и тематическое решение открытых озелененных и обводненных городских пространств. Основным же количественным

показателем социального комфорта выступает обеспеченность населения озелененными территориями по критерию общественного пользования с учетом максимального удобства для человека.

3 ПРОБЛЕМЫ

Этапы развития любого исторического города характеризуются проявлением определенных проблем. Не является исключением в этом плане и г. Алматы, перешагнувший по последним данным 1000-летний рубеж. Живописность предгорного ландшафта, относительно мягкий климат исторически предопределяли комфортность условий жизнедеятельности населения в данном регионе. В начале XX века происходит изменение климата на более континентальный. В этот период в г. Верный (в дальнейшем г. Алма-Ата (с 05.02.1921 г.), а ныне г. Алматы) ставится задача по улучшению ландшафтной составляющей территории и в этот период город начинает приобретать статус «города-сада». Вся его центральная часть «пронизывается» капиллярной сетью бульваров, формируются общественные сады, озеленяются улицы, в плановом порядке повышается экологическая составляющая и ландшафтное декорирование частных садов жилого сектора.

Город Алматы, располагаясь на стыке гор и равнины, на расстоянии в меридиональном направлении в 31 км формируется на базе шести типов природных ландшафтов [3]. Территория обладает относительно благоприятными лесорастительными условиями, так как здесь для архитектурно-ландшафтной организации территории требуется искусственное орошение, а природно-климатические условия отличаются континентальностью. Внешняя привлекательность города во многом определяется панорамой горного ландшафта, озелененными территориями ограниченного пользования у транспортных коридоров, а также крупногабаритными пространствами озелененных территорий общего пользования. И в этом плане г. Алматы всегда воспринимался гостями как город-сад. Но исследование в течение нескольких десятилетий качественных характеристик и количественных показателей сложившейся сети объектов ландшафтной архитектуры позволили выявить в этом плане несколько проблем:

- экологическую – не соответствие нормативным показателям озелененности территории города;
- социальную – не обеспечение для населения периферийных районов доступности объектов ландшафтной архитектуры рекреационной направленности и тематического разнообразия озелененных территорий общего пользования
- низкое качество эстетики пешеходной среды

4 РЕШЕНИЕ

В ходе исследования в исторической ретроспективе был рассмотрен вопрос формирования и дальнейшего расширения сети объектов ландшафтной архитектуры гг. Верного - Алма-Аты – Алматы. В конце XIX и начале XX веков в данном населенном пункте наиболее крупными объектами ландшафтной архитектуры являлись Казенный сад (ныне Центральный парк культуры и отдыха) как парк, основанный в 1935 году и

Пушкинский сад. Вековые посадки дуба и сосны на его территории Казенного сада заложены в 1880 г. школой лестничества. Композиционным акцентом сада являлись два водоема с площадью водного зеркала 2400 кв.м [4]. Пушкинский сад (ныне Парк им. 28 гвардейцев-панфиловцев) с начала своего формирования именовался Старокладбищенским парком (заложен на месте станичного кладбища), а затем был объединен с соборным и трактовался как Городской сад, который, впоследствии расширившись, получил название Пушкинского [5]. С этого периода данные объекты становятся настоящими градостроительными магнитами – центрами социальных контактов. К 1917 году обеспеченность населения озелененными территориями общего пользования достигает 22 кв. м/чел [6]. И уже с этого периода большое значение придавалось озеленению улиц.

В городе Верном в виду строго выверенных габаритов кварталов и нормативной угловой посадки жилых зданий, в функцию древесных насаждений в основном входило планировочное и пространственное формирование аллей, ограничение тротуаров, а также микроклиматическое воздействие на окружающую территорию. Кроме экологических, композиционных и декоративных качеств дерева первой величины в среде одно-двухэтажной застройки играли роль пространственных ориентиров во все разрастающемся городе. Архитектурно-ландшафтными средствами, в основном с помощью простой ритмической посадки пирамидальных тополей акцентировалась городская сеть улиц.

Особенности нового этапа XX века в развитии ландшафтной архитектуры Казахстана связаны с установлением нового общественного строя и наиболее ярко проявились на примере г. Верного. Кроме этого на рубеже 20-х гг. XX в. в границах г. Верного-Алматы и его окрестностей произошло ряд изменений природного характера. Большой урон всему городу нанесла экологическая катастрофа в виде грязекаменного селевого потока, причиной которой послужило нарушение принципов эксплуатации охраняемых территорий, в том числе несанкционированная рубка лесов в районах, прилегающих к руслам рек Малая Алматинка и Весновка (ныне Есентай) [4].

Изменение климатических условий повлекли за собой необходимость проведения научных исследований в растениеводстве. И в 1932 г., когда был организован ботанический сектор в структуре Казахской базы АН СССР, в 2-3 км от юго-западного угла города создается первый в республике ландшафтный объект специального назначения, первая (по современной типологии) особо охраняемая территория в городе - Ботанический сад, который к 1934 г. занимает около 100 га. Результатом многолетних научных исследований Главного ботанического сада страны явилось ранжирование территории страны на три региона с различными климатическими режимами, требующими специфических подходов к интродукционному прогнозированию: северный и северо-восточный (вегетационный период – 4 месяца), центрально-казахстанский «умеренный» (вегетационный период – 4 - 6 месяцев), южный и юго-западный (6 и более месяцев) [7].

По генеральному плану 1936 г., разработанного АПИМ №1 Наркомхоза РСФСР под руководством арх. Н.С.Несиса, территориальное расположение Ботанического сада подключало его к кольцу периферийных парков и бульваров (по ул. Ташкентской – ныне пр. Райымбека, ул. Абая). В этот же период, в 1936 г. Комитетом по науке ставится на

обсуждение вопрос о создании еще одного объекта, относящегося к типологической группе особо охраняемых территорий, - зоологического парка в г. Алма-Ате. Создается комиссия для определения места его расположения и разработки архитектурно-планировочного решения, в состав которой был включен московский архитектор Гуревич. В 1937 г. на территории, запроектированной под Парк культуры и отдыха им. М. Горького, на его восточном участке, закладывается зоопарк (ныне площадью 21 га) [4].

Вторая половина 30-х гг. является определенной вехой в развитии ландшафтной архитектуры Казахстана. В генеральном плане 1936 г. архитектурно-ландшафтная организация столицы республики - г. Алма-Аты разработана с позиции рассмотрения в целом всей сети данных объектов в территориально-функциональной структуре города. Общая озелененная площадь города по проекту должна была составить свыше 50% его территории. С учетом развития города в западном направлении в проекте закладывался новый Центральный парк площадью 135 га по юго-западной границе Алма-Аты [4]. Вторая Мировая война не дала возможность реализовать многие архитектурно-ландшафтные предложения.

Более интенсивное развитие данная отрасль получила уже во второй половине 40-х – 50-х гг. Количественный показатель озелененных территорий общего пользования на одного жителя города от 1950 года к 1970 г. в г. Алма-Ата начинает быстро возрастать [8]. Система озелененных территорий города формировалась из лесопаркового защитного пояса, парков, садов, скверов и бульваров. По отчетам 1951 г. управление парков города объединяло 4 парка: Парк культуры и отдыха им. М. Горького, Парк им. 28 гвардейцев-панфиловцев и два Детских парка площадью по 2 га – им. Дзержинского (ныне Сосновый парк, где в ассортименте преобладают вековые сосны, посаженные в 1900 г.) и им. Кагановича (при станции Алматы I) [4]. Но, начиная с 80-х годов XX в., в связи с ухудшением социально-экономических условий в стране стабилизируется устойчивая тенденция по снижению показателя обеспеченности населения общедоступными открытыми озелененными территориями.

В генеральных планах города 1989 г. и 2000 г. обеспеченность озелененными территориями начинает постепенно снижаться [8]. На сегодняшний же день в самом крупном городе Казахстана, г. Алматы, насчитывающего 1,7 млн. жителей, проектный уровень не достигнут, а обеспеченность озелененными территориями общего пользования уменьшилась до 3 кв.м/чел (по данным ТОО «ПИ «Алматыгипрогор-1»), что ниже нормативного показателя в 5 раз.

Таблица 1. Показатель обеспеченности населения г. Алматы озелененными территориями общего пользования

Годы	1950 г.	1970 г.	1989 г.	2000 г.	2009 г.	2016 г.	2017 г.
Обеспеченность озелененными территориями общего пользования (в кв.м /чел.)	50.0	80.0	18.8	21.0	5.0	3.0	22.0

В городе Алматы на современном этапе наиболее крупные объекты ландшафтной архитектуры общего пользования начали формироваться во второй половине XIX в. Их расположение фиксируется в Центральном планировочном районе города, в его исторически сложившейся части, на основной композиционной оси (ул. Гоголя). Это

такие объекты как: Центральный парк отдыха (47 га), Парк им. 28-ми гвардейцев-панфиловцев (18 га) был переименован в 1942 году, а до этого периода с 1917 г. именовался в разные годы, Парком павших борцов и Федерации [5]. Посадка ведущего древесно-кустарникового ассортимента произведена в 1870 году. В продолжение бульвара по ул. Пушкина на пр. Суюнбая функционирует лесопарк - Роща Баума (ранее лесная Казенная роща - 130 га). На современном этапе данный объект является своеобразными «зелеными» воротами при въезде в исторически сложившуюся часть города, к станции Алматы-II по железнодорожному пути.

Параллельно с развитием г. Алма-Аты - Алматы, согласно разработанным в разные годы 7 генеральным планам города (в 2015-2016 гг. проводилась корректировка генерального плана г. Алматы) в меридиональном и широтном направлениях развивалась и сеть объектов ландшафтной архитектуры [5]. Вслед за строительством в 30 - 40-х годах архитектурных ансамблей и отдельных уникальных общественных зданий начинается формирование скверов Меридиональной оси исторически сложившейся части города. В 1940 г. - по обе стороны Театра оперы и балета, в 1948 г. - в западной части площади Коминтерна, до 1927 г. - соборная Покровская площадь (ныне им. Амангельды Иманова), где при ландшафтной реконструкции сохранены вековые дубы старого церковного сада, в 1958 г. – у Дома Правительства (ныне КБТУ), в 70 – 80-х годах – наряду с локальными ландшафтно-рекреационными территориями продолжают формироваться и озелененные территории сопутствующего характера у отдельных общественных зданий [5].

В 1963 г. на пр. Коммунистическом (ныне пр. Аблай хана) вокруг нового здания театра драмы им. М.О. Ауэзова заложен парадный сквер строгой регулярной планировки, который вместе со сквером у памятника Амангельды Иманову в духе парадной стилистики общественных зданий всей Меридиональной оси, формирует высокодекоративный градостроительный узел. В дополнение к историческим паркам городского ранга, в развитии северного и западного направлений на площадях в 18 га закладываются парки районного значения: в 1950 г. – им. Сакена Сейфуллина и в 1967 г. на территории существующего сада - им. 50-летия Октября (ныне «Femeli Park»).

Бульвары в городе формировались, начиная с первых генеральных планов, при этом, с годами актуальность их не снижается. Данные линейные озелененные территории имеют преимущественно меридиональную ориентацию и являются своеобразными экологическими коридорами для прохода горно-долинных бризов. В генеральном плане 1936 г. предлагалась к формированию равномерная сеть бульваров вдоль основных магистралей. В генеральном плане города Алма-Аты, разработанного в 1949-1950 гг. (ленинградское отделение Гипрогора, арх. Д. Д. Брагин, И. И. Белоцерковский, Л. К. Вертоусов), в качестве главной композиционной оси западного района была определена широкая улица с бульваром – 13-я линия (ныне пр. Гагарина) с поперечным профилем от 30 до 52 м [9, 5]. На этой ландшафтной оси был сформирован парк районного значения, идентичность которого достаточно ярко проявилась уже в XXI в. после установки в центре данного объекта памятника крупному общественному деятелю Индии М. Ганди. Планировочно бульвары сформированы на принципах простых композиционных схем регулярной планировки с одной пешеходной аллеей в центре. В 2010 году в ходе реконструкции бульвар по проспекту Гагарина приобрел дополнительную пешеходную аллею и был обустроен серией детских игровых комплексов.

С развитием города в западном направлении формируются широтные благоустроенные бульвары по ул. Виноградова (ныне Карасай Батыра), пр. Абая, Ботанический бульвар (1950-е гг.). Историческая широтная Ташкентская аллея в пределах Центрального планировочного района (ЦПР) уже к 60-м гг. XX в. на отдельных отрезках либо переходит к другому типу озелененных территорий – озелененные разделительные полосы, либо вообще исчезает. В прежней функции аллея-бульвар на современном этапе существует на отдельных отрезках по пр. Райымбека за пределами ЦПР.

По третьему генеральному плану 1962-1963 гг. (Ленгипрогор, арх. Г. Н. Бобович при участии Т. К. Басенова) при дальнейшем развитии города в западном направлении предусматривается Западный планировочный район [9]. В основе главной композиционной оси района закладывается новый меридиональный, наиболее комфортный для пользования населением принцип бульвара – с одной стороны от транспортной магистрали (просп. Правды – ныне просп. Алтынсарина).

Все бульвары города активно озеленяются декоративным древесно-кустарниковым ассортиментом. В прежние годы большое внимание уделялось декоративному оформлению скульптурой. На современном этапе декоративной скульптурой, фонтанными композициями отмечены отдельные композиционные узлы бульвара по ул. Тулебаева, Карасай Батыра.

На сегодняшний день доля озелененных территорий общего пользования сложившегося ядра центра почти в два раза выше доли подобных территорий всего Центрального района, расположенного в пределах рек Малая Алматинка и Есентай. Данные объекты ландшафтной архитектуры общего пользования поддерживают устойчивое экологическое развитие центра и всего города, обеспечивают социально гарантированные площади рекреационных пространств для отдыха населения. Качественной же стороне данных объектов, кроме плановых уходовых работ, долгие годы не уделялось внимания, не велось их должного эстетического усовершенствования и ландшафтной реконструкции.

В 1982 году система озелененных территорий г. Алматы была сформирована на площади 7652,6 га, куда входили озелененные территории общего, ограниченного пользования и специального назначения. Озелененные территории общего пользования (лесопарки, парки, сады, скверы, бульвары) составили 1081,46 га, специального назначения, состоящие из лесозащитных зон (262 га) и озеленения транспортных коридоров протяженностью 1796 км. [5]. По опорному плану проекта планировки города Алматы от 1992 года, озеленение города представлено рассредоточенной сетью озелененных территорий. Согласно же последнего генерального плана города 2000 года предусмотрено сохранение существующих территорий природного комплекса на площади 2765 га и доведение их площади за счет резерва до 6797 га, то есть произошло снижение плановых показателей площади озелененных территорий [3]. (Рис. 1)

В центральном планировочном районе г. Алматы перечень объектов ландшафтной архитектуры практически не изменился за последние 30 лет, но изменения произошли в архитектурной среде, окружающей озелененные территории. Вокруг скверов у площади Астана, здания театра им. Ауэзова поднялась застройка, превышающая по своим габаритам деревья 1-ой величины, составляющим основу их объемно-пространственного решения. В результате чего произошла корректировка сценария восприятия внешнего

пространства с территории ландшафтных объектов, была перекрыта часть визуальных коридоров на «золотые» точки рельефа - панораму гор Заилийского Алатау.

Обострение экологической напряженности на протяжении последних десятилетий с преобладанием типового ландшафтного обустройства по остаточному принципу финансирования фактически привело к «подавлению» природы в городе. Прежний же символ «Алматы – город сад» поддерживается в основном отдельными ландшафтными объектами ограниченного пользования и специального назначения, такими как частные сады, архитектурно-ландшафтной организацией дворовых пространств массовой жилой застройки и озеленением территории транспортных коридоров.

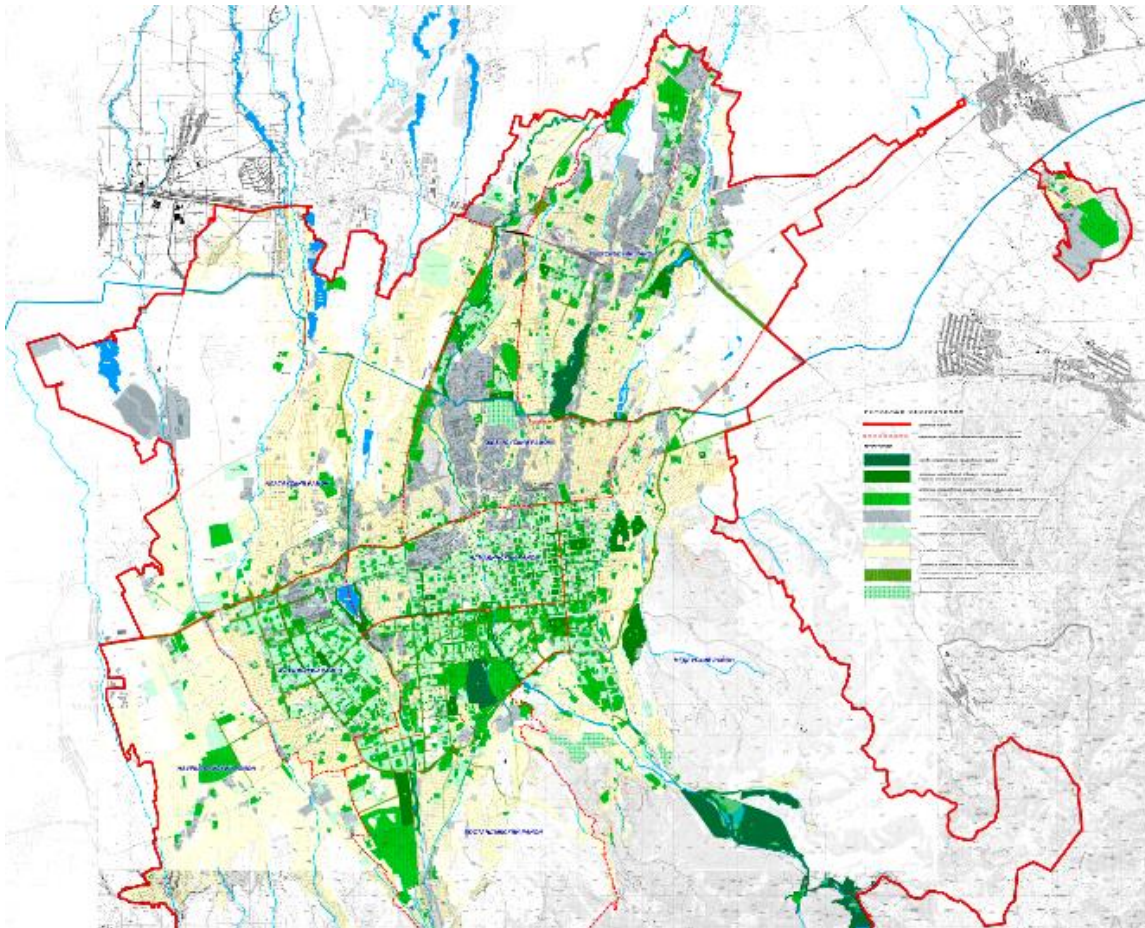


Рис.1: Схема существующего состояния озелененных территорий г. Алматы на 2017 г., ТОО «ПИ «Алматыгипрогор-1»

Еще одна проблема заключается в том, что активно сносимая ветхая усадебная застройка периферийных зон центрального планировочного района, юго-западной части города и примагистральных территорий могут значительно уменьшить площадь его озелененных территорий, так как в возводимых на ее месте элитных жилых комплексах повышенной этажности, как правило, первые этажи отводятся под деловые функции. Для нормальных условий жизнедеятельности постоянного населения и функционирования данных организаций требуются большие площади гостевых стоянок. Такие стоянки застройщику приходится выделять как на дворовой, так и примагистральной территории, значительно урезая озелененные территории при транспортных коридорах.

Исторически на данного вида территориях г. Алматы высаживались в основном древесные насаждения первой величины, что всегда создавало впечатление

крупногабаритных зеленых интерьеров, а ориентация меридиональных транспортных магистралей на живописную панораму гор Заилийского Алатау, украшенных изумрудным ожерельем хвойной растительности завершало полноту благотворного эмоционального впечатления. Но этот результат мы получаем при кратковременном восприятии городской среды туристом, подробный же анализ картографических материалов позволяет выявить глубокие проблемы территориального распределения в городе Алматы архитектурно-ландшафтных объектов общего пользования.

Немаловажная проблема встает в связи с капитализацией земельных ресурсов. В новых экономических условиях отдельные объекты ландшафтной архитектуры города были переданы в аренду частному капиталу. В связи с чем, при ранге в последнем генеральном плане г. Алматы как объекты общего пользования Центральный парк отдыха (отдельные его зоны), бывший парк районного значения - «50 лет Октября», ныне «Femeli Park» и сквер у здания цирка становятся объектами ограниченного пользования. То есть не соответствующие норме 5 м²/человека по статистике на деле еще больше урезаются.

Город Алматы, перешагнув миллионный рубеж, «приобрел» хронические болезни экологического дискомфорта. Еще по генеральному плану города 80-х годов выдвигалась целесообразность сохранения незастроенными долин горных рек, по которым спускаются прохладные ночные бризы, и размещения элементов системы озеленения вдоль направления горно-долинных ветров [10]. Данные проектные предложения реализовались не полностью, что приводит к образованию раздробленной ячеистой структуры целостного природного «комплекса и является одной из важнейших предпосылок снижения устойчивости природной экосистемы города к антропогенным воздействиям» [11]. Наряду с этим, возникает изменение самого облика природного окружения, меняется его естественный характер, ухудшается визуально-пространственная взаимосвязь жилой застройки с природными составляющими города и озелененными территориями.



Рис.2: пешеходная улица Жибек Жолы после реконструкция

В начатом в 2015-2016 гг. проекте корректировки генерального плана г. Алматы, творческим коллективом ТОО «Градостроитель и К» выявлены современные проблемы и сложившиеся тенденции в развитии г. Алматы по всем функциональным

жизнедеятельности населения. В 2017 г. в русле реализации программы по повышению количества и улучшению качества открытых рекреационных пространств города, рекомендаций датского архитектора Яна Гейла по расширению пешеходных площадей была проведена реконструкция пешеходной улицы Жибек Жолы. (Рис. 2).

В ядре общественного центра города изменен статус улицы Панфилова с транспортной на пешеходную. (Рис.3).

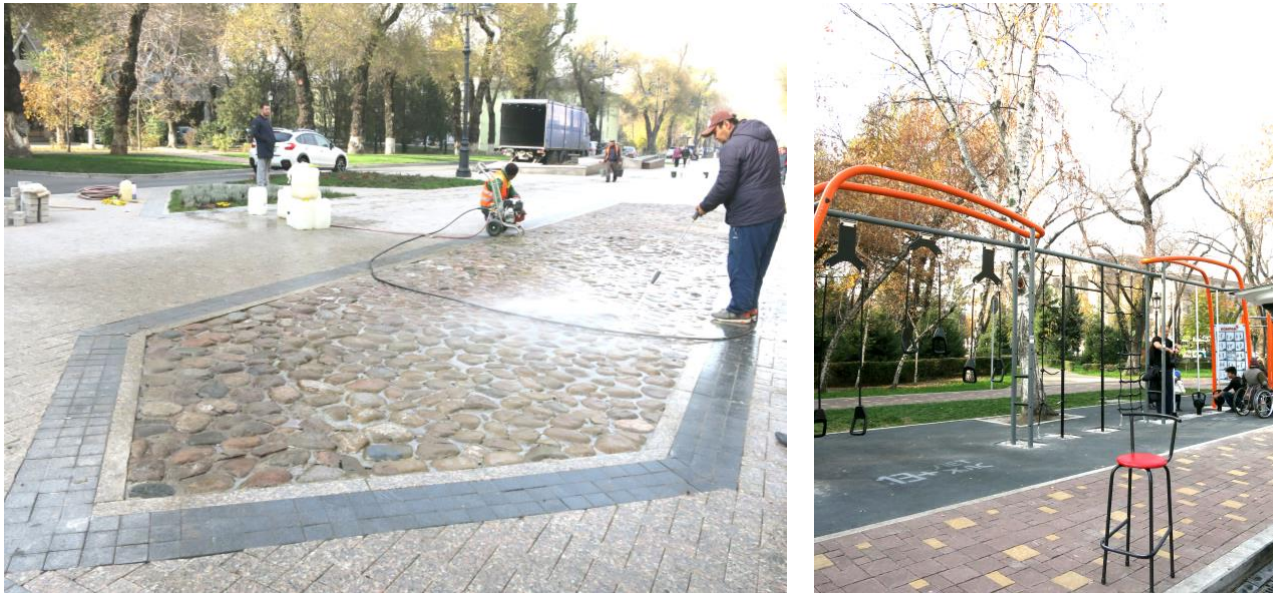


Рис.3: Выявление исторической мостовой и введение спортивного оборудования в структуре пешеходной улицы Панфилова



Рис.4: Площадь Алматы после реконструкции

При проведении ее архитектурно-ландшафтной реконструкции были вскрыты фрагменты исторической мостовой и произведено ее акцентирование с помощью декоративного мощения.

Подобного рода элементы, бесспорно, повышают качественные характеристики рекреационных пространств и идентичность центра города.

Немаловажным фактом в повышении привлекательности исторически сложившейся части города в 2017 г. явилась и кардинальная реконструкция площади Алматы. После переноса в 1997 г. столицы Республики Казахстан из г. Алматы в г. Астану было произведено перепрофилирование основного объекта центральной административной площади города - Дома правительства на учебную функцию. В настоящее время в историческом здании функционирует Казахстанско-Британский технический университет (КБТУ). Габариты транспортной части площади были сокращены, а на вновь организованное пешеходное пространство введены плоскостные фонтаны, которые в вечернее время обогащаются декоративной подсветкой, параметрическая садово-парковая мебель и цветники. Новую трактовку получило декоративное решение амфитеатра. (Рис. 4).

Площадь является историческим сердцем города и со всех сторон окружена ожерельем исторического ландшафта, стилистика архитектурно-планировочной организации и МАФ которого в свое время была решена комплексно с архитектурой Дома правительства. Грамотно проведенная их архитектурно-ландшафтная реконструкция была очень важна для сохранения духа места.

При формировании системы территорий природного комплекса города важным вопросом является архитектурно-ландшафтная организация приречных территорий. В зависимости от ситуационных условий расположения реки в планировочной структуре города в научной литературе выделяется типизация взаимосвязи город – река: фронтальный, внутренний и островной тип [12].

По территории города Алматы протекает серия малых горных рек. Все они расположены в «теле» города и могут быть отнесены к внутреннему типу. Быстрое течение данных рек определило их глубокое заложение, в связи, с чем несколько десятилетий назад большая часть их длины была оформлена в бетонные берега. В границах города спуски к воде в виду высоких берегов и небольшого поперечного профиля практически не решаются. Отчасти как положительный фактор это работает против возникновения опасных ситуаций в периоды сходов селевых потоков. То есть во взаимодействии человек – река в пределах города работают в основном визуальные связи. Причем, более информативными являются визуальные коридоры меридиональной направленности. Где при южной направленности взгляда пейзажная картина обогащается живописной панорамой заснеженных горных вершин. Увидеть же течение реки в широтном направлении возможно только с ближнего расстояния у кромки берега.

В условиях реконструкции сложившейся части городской территории специфика местных территориальных резервов приречной территории может предоставить возможность моделирования локальных амфитеатральных пространств. Особенности же визуального восприятия природного контекста для подобного типа ситуаций предгорного ландшафта влекут за собой целесообразность равноправного с эмоциональными достоинствами рек внимания к архитектурно-планировочному и художественному решению приречных территорий. Удаленные от рек периферийные участки формируемых линейных садов и парков необходимо обогащать дополнительными ландшафтными средствами.

5 ВЫВОДЫ

1. Ретроспективный анализ показателя степени озелененности территории города Алматы в условиях роста плотности застройки продемонстрировал его резкое снижение.
2. Для решения проблемы приближения к нормативной обеспеченности озелененности территории города немаловажным аспектом является сохранение резервного территориального фонда природного комплекса малых рек города Алматы для рекреационных целей.
3. Типичные для городов предгорных районов небольшие размеры русел малых рек, и их глубокое заложение влекут за собой целесообразность равноправного с эмоциональными достоинствами природной акватории внимания к архитектурно-планировочному и художественному решению приречных территорий.
4. В условиях низких показателей степени озелененности территории города, дефицит резервных территорий требует использования дополнительных средств архитектурно-ландшафтного характера: формирование садов на искусственных основаниях, возрождение традиционного для г. Алматы в прежние годы вертикального озеленения.

REFERENCES

- [1] Gorokhov V.A., Lunz L.B. 1985. *Parki mira*. – М.: Stroyizdat, 1985. – 328 p.
- [2] Minin A.A., Oparina S.D., Titova M.I. *Transportno-ecologicheskii karkas Moskvi // Gradostroitelstvo*, 2017, №2 (48), pp. 35-40.
- [3] Boiko B., Khairov S. *Sokhranenie i razvitie territoriy prirodnogo kompleksa Almaty // «Kumbez»*, (2 (11), pp. 54-55, 2001.
- [4] *Parki i skveri goroda Almaty 1917-1991 gg.* Sbornik arkhivnikh doklmentov / Sost K.S. Alimgazinov, k.i.n., A.L. Krivkov, k.i.n. – Almaty, 2008. – 490 p.
- [5] *Entsiklopedia «ALMA-ATA»*. – Alma-Ata: «Kitap», 1983. - 608 p.
- [6] Tuyakbayeva B.T. *Almaty: drevniy, srednevekoviy, kolonialniy, sovetskiy etapi urbanizatsii*. – Almaty: Izd. «World Discovery», 2008. – 248 p.
- [7] www.ibfi.nauka.kz
- [8] *Gradostroitelstvo Kazakhstana*. – Alma-Ata, «Kazakhstan», 1973. – 180 p.
- [9] Kapanov A.K., Baimagambetov S.K. *Almaty. Arkhitektura i gradostroitelstvo, vtoroi tom, vtoroe izdanie*. – Almaty: DIDAR, 2002. – 352 p.
- [10] Vergunov A.P. *Arkhitekturno-landshaftnaya organizatsiya krupnogo goroda*. – L.: Stroyizdat. Leningr. Otd-nie, 1982. – 134 p.
- [11] Vladimirov V.V., Mikulina E.M., Yargina Z.N. *Gorod i landshaft: (Problemi, konstruktiv.zadachi i resheniya)*. – М.: Misl, 1986. – 238 p.
- [12] Melnikov G.L., Zaytsev A.B. *Tipologiya zon vzaimodeistviya sistemi gorod i sistemi reka // Gradostroitelstvo*, 2017, №1 (47), pp. 29-34.



URBAN DEVELOPMENT OF MEZZO - SPACES IN THE CENTRAL PART OF VOLOGDA

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ABSTRACT

Abstract: The development of the historic center of Vologda interconnected with many problems, one of it is the practical use of the public space. According to the proposed concept, of socio-spatial analysis, called Cognitive Urbanism can be used as a method for architectural design of vibrant, recognizable, prestigious built environment of the city of Vologda. Appropriation of cognitive models of the built environment can be considered as a contribution to the fundamental theory of Architectural Space. In Urban Design Practice the use of cognitive models provides the easy systemization of guidelines and methods for renovating of public space in the historical center of the city. According to the proposed concept, center "Mezzo-space" of built environment compile a single system that provides meaningful, convenient and comfortable functioning of public spaces in the central part of Vologda.

Keywords: cognitive urbanism, built environment, micro-spaces, macro-space, urban design, life

1 THE STUDY AREA

Vologda is one of the most preserved and unique among the big cities of Russia, it is the cultural and administrative center of the Vologda region. Like Moscow, it was founded in 1147. During the reign of Ivan the Terrible the city became one of the most important centers. The roads to England, Holland and other European countries passed through Vologda. There were ways to Siberia through Vologda. Ivan the Terrible wanted even to make Vologda the capital of the Russia and laid the Kremlin. Vologda is on the highway from St. Petersburg to Beijing [1] and is still a significant center. The modern historical appearance of the Vologda center is a combination of monuments of wooden and stone architecture. More than 200 monuments of history, culture, and architecture contribute to the city's identity.

The task of urban development of the city should be both the preservation of architectural heritage and redevelopment to keep on with global processes of international integration.

Public spaces serve as an indicator of the socio-cultural achievements of the city. Apparently, improving the quality of the built environment, we create a more positive image of the town and, as a result, increase its rating. At the same time, public space is the primary resource for enhancing identity and uniqueness of the built environment. [2]

2 PROBLEMS

The modern outlook of the historic city of Vologda undergoes significant changes in the Soviet era. Two central squares occupy the site of demolished monasteries, transport streets and

highways cut through the pedestrian zone of the historic area. During the field surveys of the built environment that took place in 2014-2015, the following defects were redetected [3]:

- Very few people use the streets both in winter and summer;
- Traffic streets cut the central part of the city and its historic center;
- The lifeless core of pedestrian macro-space;
- The public space is used mainly as transit, and there are few amenities and services,
- Landscaping of the streets is poor: large sites seem to be obsolete, and there are no premises for active street life;
- Public spaces ignore the unique landscape of the city, such as embankments and floodplain areas of rivers composition of the city center.

3 RESEARCH

The task of the conducted study was the built environment structural and functional analysis of the best urban sites and systematization of prototypes models of the built environment.

In the tradition of architectural design, the interior of the city is built as a spatial composition to obtain a meaningful, expressive, memorable system of images consisting of sites scenes. "Scenes" are collected in a "Film" of individual reflection. The architect is a director of that film and has a chance to improve the built environment with changing of scenes decorations and scenario constructions. In addition to this technique, cognitive urbanism suggests the social context and archetype models of the built environment. In this new paradigm, the built environment is the order of recognizable models that are designed to give the impulse for social activity and other forms of environmental behavior.[4]

The proposed method of study starts with the stratification of public space in - "mezzo-spaces." Mezzo-space is the analog of Convex place [5] or the immediate surroundings of people limited by the factor of informal social control. According to the concept of O. Newman, social control differs from the source - personal/public, and by intensity (duration) - permanent/temporary "[2]. Thus, four types of social control gives four basic mezzo-spaces of built environment: The Yard- place with constant personal control (usually manifested by fencing of a site); The Lane- place with temporary personal control (single pedestrians in a deserted alley); The Park -place with temporary public control (sites for rest) and the Street - places with constant public control (the streets near public objects and transport stops). [6]

The subject of the study is the Environmental Behavior of people The Diagram of Environmental Behavior [7] (Fig.1) is an instrument of study. In the Diagram, individual types of behavior are described by the set of points on the coordinate field formed by two axes: Social Density and Physical Mobility [8]. The EB Diagram has three levels of Social Density, (ranging from 1 to 10 people in a personal sphere) and three intervals of Spatial Mobility of people under observation. Scenarios of social activity are pictured as a chain of episodes, (the play of children, board games, walking, etc.) as a set of points on the diagram "[2].

We had selected five most significant and most vivid sites of the city center for the field survey.

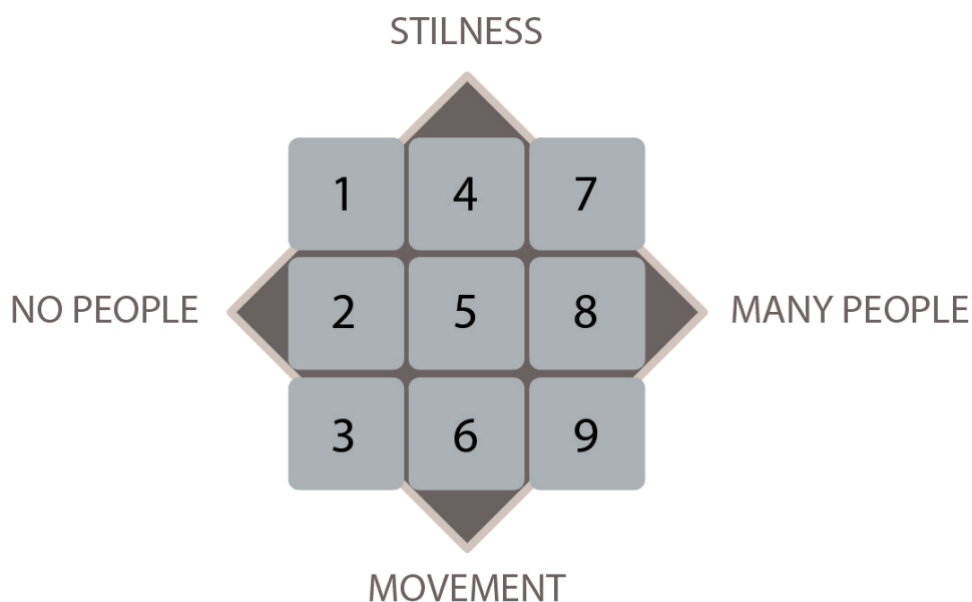


Fig. 1: Diagram of Environmental Behaviour (EB Diagram) [8] [9]

4 FIELD SURVEY OF PUBLIC SPACES

The macro-space of the historical center of the city embraces the area of pedestrian proximity to the most significant heritage sites. These include the Vologda Kremlin, about 70 churches (lost, existing and operating), the house of Peter the Great, the monuments of K.N. Batyushkov, N. Rubtsov, P. Belyaev, and others (Fig.2). Macro space of city center is the concentration of business life and public amenities that gives us a vivid picture of urban life and reflects its main features of the town. In that area, five sites became the subject of field surveys (Fig.3).

Site number 1. The pedestrian part of Blagoveshchenskaya Street

The area of 4650 square meters, enclose a part of the street in the historical core of the city. On one side it goes department shop building and the entrance to the shopping center, on the other - the Sberbank office and the cafe "Arbat." - The transverse dimension of the street is 28 and 34 m.- that is is enough to build an additional path for bicycles and to plant some trees.

The observation was carried out in autumn. During the 15 min observation, 37 people including pedestrians and visitors provide the conditions of permanent public control. The observed type of environmental behavior corresponds to the lower right part of the EB Diagram, such micro-spaces as:- *Niche (2 sets)*, *-Angle (8 sets)*, *-Knot*, *-Circle*.

People intensively occupy the pedestrian area in the daytime, even more on the weekend, especially in spring and summer time, but in winter and autumn days the street is empty, people are rare, temporary outlets are closed of the architectural space. Once upon a time, there was a fountain before the Central Department Store, that was removed because of car traffic. Lanterns, benches and forged fences seedlings of trees in the center of the pedestrian street that reduces the comfort and blocks the views.

The main pedestrian routes pass along the facades, crosses the area diagonally to enter the buildings. About 40% of space stays empty as a reserve for intensification of land use: the pedestrian corridor can be narrowed, the entries to buildings can be more articulated,

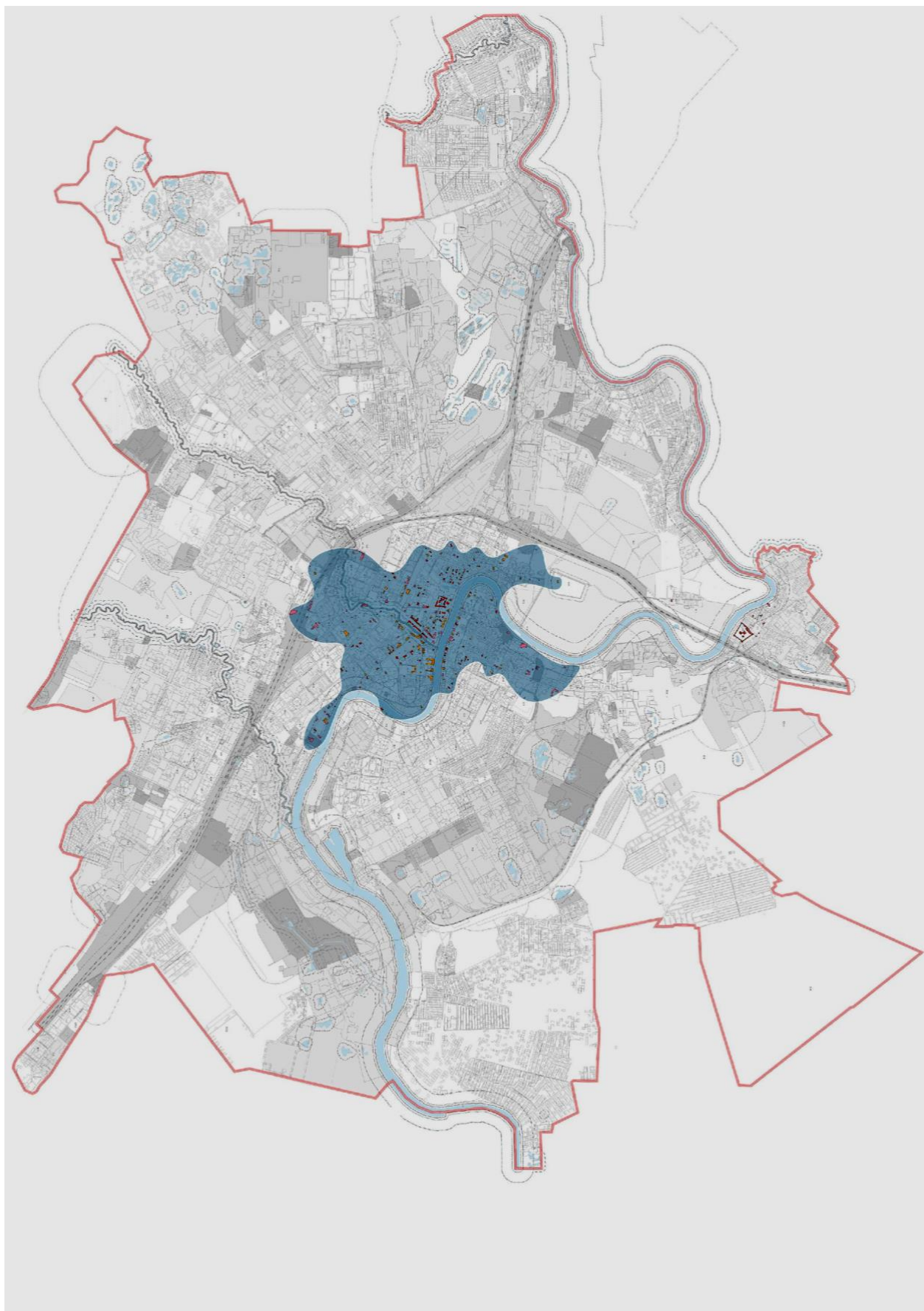


Fig. 2: The centre of Vologda town

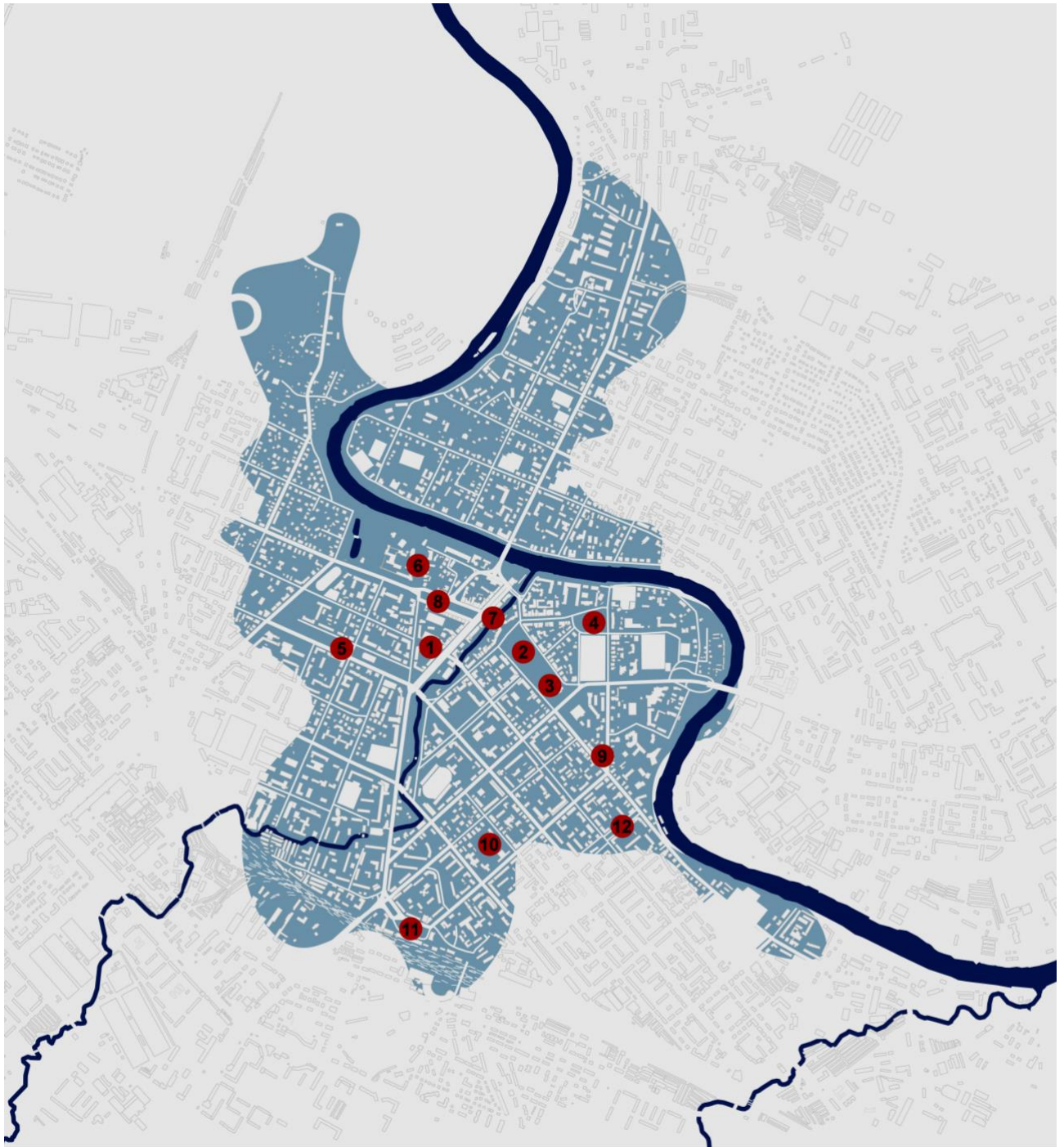


Fig. 3: Sites of field surveys

Site number 2. The Revolution Square

The Central Square of Vologda with an area of 21 280 sq.m. is surrounded by roads on three sides, on the fourth side, the square has a border with the Children's Park. The transverse dimension of the open space is 133m, the cross length of the mezzo-space is 160 m. That is enough to build another path for bicycles, trees and to save square for big festivals. The visual pool is closed by the buildings of the children's music school standing across the road, the buildings of the Vologda City Administration, the library named by Babushkin and the Philharmonic Society named after Gavrilin.

Before the revolution of 1917 there stood three churches on the Revolution Square: the Church of Athanasius of Alexandria, the Church of St. Nicholas the Wonderworker, the Vernadsky Ordinary Temple in the name of the Savior of the All-Merciful.

During the observation, 78 people were recorded on the territory forming 25 sets of environmental behavior. Conditions for permanent public control are recorded due to the constant presence of people and intensive pedestrian traffic. The observed type of environmental behavior corresponds to the lower right part of the EB Diagram and include: - *Angle (6 sets)*, - *Path (4 sets)* -*Platform (4 sets)*, -*Forum (2 sets)*, *Knot (8 sets)*, *Niche*.

The open space can be subdivided into several mezzo-spaces: Memorial site, Play-ground, Pedestrian corridor.

The Memorial site in the North-east is called the Komsomolsky Square with the "Eternal Flame." Opposite to it on the site of the former church is a white stone obelisk for the heroes of the Civil War, nicknamed the "tooth" because of its shape. You can occasionally meet newlyweds who came to bring flowers to the eternal fire, and at the monument to the heroes of the Civil War. The square is fully occupied in a time of state holidays (city day, May 1, Maslenitsa, etc.). In winter, the main Christmas tree is placed in the square, a competition of snow sculptures takes place. In summer, you can ride children on a pony, a camel, and a children's typewriter, or go roller-skating. The analysis of the spatial scheme of mezzo-space organization revealed the following features:

The fair site serves as a market square or festival place. Social control also varies from temporary to the permanent public. Too many spaces stay vacant, and about 80% of the territory' can be planned for better use or landscaping.

The pedestrian corridor passes through all the tracks provided by the existing layout. Graphical analysis of micro-space shows that only 20% of the territory is used even on weekdays.

Site number 3. Pushkin's Park for Children

The area of 22 600 sq.m. is formed by roads on three sides, and flanked by the Revolution Square. The ample open space is crossed by the pedestrian passage of 133 m length, another dimension of the square is or s 200 m. It adjoins the Revolution Square through the Pushkinskaya street. During the observation, only 16 people were recorded, making 13 sets of Environmental Behavior, such as : -*Trail (3 sets)*, -*Site (3 sets)*, -*Forum (7 sets)*, -*Corner*.

Once, where stood the Church of St. John the Baptist in Roshenje, now stays the monument to V.I. Lenin, contrasting with the Adventure theme park for children nearby. Along the main pedestrian axis, there are several benches that are used in summer. A pleasant, green alley in the heart of the city stays empty during winter time. The micro-space analysis revealed the area for the seasonal use, and places for ice-cream barrow, burgers wagon, benches; bicycle's, skateboard's, rollers, etc.

Site number 5. Square named by Pilot-Cosmonaut Pavel Belyaev

Site area of 1144 square meters is formed by the three roads and the retaining wall. The transverse dimension of the pocket garden is 26 m, the length between the two road crossings is 44 m. The main observation took place in autumn: 17 people were recorded in 10 sets of Environmental Behavior: *Trail (5 sets)*, -*Angle (5 sets)*.

In summer it is a favorite meeting place for meeting and rest, starting point for rollerblading and biking. Young people like to sit on the benches at the monument - from there it's fine to watch strangers. In winter, the behavior of visitors is changing: the area becomes

completely deserted. Only occasionally can you see a random passerby. In summer, the meeting area is a public space with a permanent public, and in the winter - with a temporary public control. The place is well organized for warm weather but, more comfortable conditions is needed for the wintertime. Graphical analysis of micro-spaces shows that 70% of the territory is used, but you can still find some spots for winter amenities for pedestrians to hang around in cold weather

Site number №7. Stone Bridge (Fig.4)

The plot of 2340 square meters is formed by two rows of houses, and the pedestrian routes along the public services. The width of the street is 20 m, the range is 117 m. This is actually a bridge over the river Zolotuha that connects the Mira street with the Maria Ulyanova street, that goes along the Revolution Square. The observation was carried out in autumn.



Fig. 4: Photo of Stone Bridge

During the observation, 31 people were recorded. Conditions for permanent public control were detected due to the constant presence of people and intensive pedestrian traffic. The observed types of environmental behavior correspond to the upper right of the diagram with eight micro-spaces: *Platform (2sets)*, - *Forum (1 sets)*, *Knot (5 sets)* (Fig.5).

Two round three-story towers are flanking the north side of a bridge since the end of the 18th century. At the moment, the bridge is a kind of pedestrian and shopping street. The doors of the shopping center, small shopping pavilions, the doors of a bar and a cafe with the same name "Stone Bridge" open on it.



Fig. 5: Field survey of Stone Bridge

Today, most of the bridge space is occupied by transit traffic. But in the warm time of the year, grandmothers use to establish their street market to sell sunflower seeds or sunglasses. In 2012, students of the Vologda State University implemented a project for the improvement of this bridge. According to the project, benches of unusual shape were installed in the center of the street. Such a decision was in great demand among the people but unexpectedly was frustrated by the landowners because of noise and annoying behavior.

5 PROTOTYPES OF DERIVATIVE MEZZO - SPACES IN BUILT ENVIRONMENT

The four basic types of mezzo-space were explained in the article "Mezzo-space of Built Environment," published in 2015 [6]. Ten derivative patterns of mezzo-space were identified in Vologda field survey and interpreted as combinations of basic models. These derivative models are the sustainable patterns of public space in the city center of historic town.

"Public Court-Yard" - a prototype, built on the conflict of personal and public control. Court-Yards are private open spaces surrounded by walls or buildings. [10] At least a small area with personal control is required before entering to the administrative or business buildings. With time, it developed into the "front yard" or reduced to the small front terrace. Mezzo-space Public Court-Yard is a fenced area with symbolic elements of urban design (fountain, sculpture, decorative plants, etc.). Public Court-Yard as a complex mezzo-space occupies opposite corners on the EB Diagram. The required conditions for this prototype are the neighboring of opposite types of social control that needs extra buffer zone or additional barriers such as steps and railings. In the central city areas, a terrace courtyard next to the coffee-shops or restaurants can provide privacy for visitors, a break from the frantic pace of crowded streets, and a safe place for a food break.

"Pedestrian corridor" - a prototype, built on a combination of permanent and temporary personal control. [11] "Pedestrian corridor" is separated from the entrances to the buildings by buffer space or enclosures. Mezzo-space "Pedestrian corridor" requires certain boundaries narrowing the lane line. The conditions needed for this prototype are the pedestrian traffic and privately owned spots of a public area along the driveways. A roof turns the corridor onto a gallery that is a linear space with many openings. The pedestrian corridor as a complex mezzo-space occupies the left lower sector on the Diagram of environmental behavior.

"Urban Garden" - a prototype, combining several sources of temporary public control, which leads to the allocation of the entrance core as an open spot. "Urban Garden" is a busy area without transit traffic, surrounded by green spaces or stonework. Mezzo-space "Urban Garden" is distinguished by the predominance of the paved and stone surface above the natural soil and vegetation, The required conditions for this prototype are the neighboring the pedestrian traffic and intensive landscaping that isolate the rest area from the city jazz. Urban Garden as a complex mezzo-space occupies the right upper sector on the Diagram of Environmental Behavior.

"Pedestrian Square" is a prototype uniting several sources of permanent public control, which creates conditions for the vibrant built environment. [12]. Mezzo-space "Pedestrian area" usually accompanied by vertical dominants, iconic objects of urban design, and the emphasis of one or more intersection of spatial axes. The required conditions for this prototype are the intensive social activity, unique architectural objects, entrances to public buildings, crossings the routes of pedestrian traffic. "Pedestrian Square" as a compound mezzo-space occupies the left lower sector on the Diagram of Environmental Behavior

"Market Square" is a prototype that unites several sources of constant personal control around a common territory. In the residential environment, the center of the common courtyard becomes a universal platform for games or social interactions or designated area with several pavilions. So it looks like an amusement park, a food court or a street bazaar. The required conditions for this prototype are the fenced public site with from different establishments. "Common Courtyard / Market" as a complex mezzo-space occupies the upper left sector on the Diagram of Environmental Behavior.

"Inner Courtyard / Atrium" is a prototype combining permanent personal and temporary public control, conflict mezzo-space, caused by a combination of opposing types of social control. [13] In mix-use blocks, Atrium is open to the public, and instead of a garden, there is a public courtyard. In historic buildings, we meet with ceremonial courtyards open to the public. The required conditions for this prototype are the dense city environment that presses public life into the inner block space, the lack of space in the street before the entrance to the building. The atrium, like the courtyard, is a ceremonial space that serves as an open vestibule. The inner courtyard, when the gate is open, operates as a mezzo-space with temporary public control, and when it is closed, it becomes a space with personal control. Inner courtyard as a complex mezzo-space occupies the upper part of the EB Diagram.

"Alley/Lane" - a prototype that combines temporary personal and public control. The combination of these types of control can create a "no-man's" territory, unsafe and uncomfortable. Better control can be achieved by improving visibility, installing fences and marking the territory. The required conditions for this prototype are the pedestrian road in combination with green areas of a park. The line of trees or a drop of micro-relief creates a boundary between pedestrian movement and public niches. The parking lot is perfectly located

in this area of temporary personal control. To improve the situation, we must either increase the security of the public space by fencing or increase the flow of pedestrians by placing entrances for small institutions and enterprises. Alley/lane as a complex mezzo-space occupies left lower and upper right sectors on the EB Diagram.

"Pocket Park / Parklet" is a prototype combining temporary and permanent public control, which gives people a choice between active and passive recreation. [14] That combination of the pedestrian street and the park can bring us either to a Boulevard (if the "path" prevails) or a Park area (if the "place" prevails). In crowded streets, a Park could be "reduced" to Pocket Park or even Parklet. Pocket Park is a very small urban plaza or courtyard for public leisure. The required conditions for this prototype are a green space where benches and tables, bicycle parking, resting place, co-working, other tricks of people's attraction can be placed. Parklet is a temporary used outdoor place for relaxation in the size of a parking lot. Pocket Park and Parklet as a complex mezzo-spaces occupy the right sector on the EB Diagram.

"Crossroads of Alleys" - a prototype formed by crossing several passages with temporary personal control. The crossing increases the public status of the territory. The intersection of small streets has always been a place with an additional social function. In a traditional city, this is a place for street trade, like a mini-market. In the Italian towns a corner shape square is a place for a well or fountain. In the modern city, the intersection of pedestrian connections creates the prerequisites for placing additional trade and services. Underestimation of this trend leads to conflicts with residents of enclosing houses and appearance of fences, which does not adorn the built environment at all. The required conditions for this prototype are not only the crossing of low-traffic streets but also the possibility to place a small functional area for a mini-market that create a lively built environment. Crossroad as a complex mezzo-space occupies the left lower sector on the BD Diagram.

"The Gateway/Promenade" is a prototype built on the interaction of temporary and permanent public control, which reinforces the importance of the place [15]. The historical prototype is the square in front of the city gates. In the modern city, the Gateway or Entrance plaza requires the intersection of streets with public transport stops, and intensive pedestrian traffic with the Side Street or alley. The typical Gateway square decoration is the Triumph Arch or a Ceremonial Symbolic gate that reinforces the theme of the portal. The Promenade is the mezzo space with many gateways. Gateway/Promenade as a place assumes signs of navigation, large areas of the paved passage which show-windows, and exits. Gateway/ Promenade occupies the left lower sector on the EB Diagram.

6 CONCLUSION

Among a huge number of public spaces of Vologda, we managed to identify the most important places in the city - the places where one can concentrate on social life and enjoy the quality of the built environment. The pulsation of people and liveliness in the territory depends on the time of the year, and the time of day, it is reflected in the structure of the architectural space. In a traditional architectural design each planning element represents a spatial capacity filled with real or imagined social activity. **Cognitive urbanism** offers the method that adds the concern for environmental behavior to the assigned function and real use of the territory.

To study the best practice of comfortable public space, we had divided the area of city center into mezzo-spaces of Built Environment and then compose a list of positive prototypes that provide convenience and comfort to the meaningful social activity. Ten models of complex

mezzo-spaces were identified and tested. The Cognitive Urbanism provides a conceptual basis for architectural design and town-planning structure of public space in city center of Vologda

REFERENCES

- [1] Readings in planning theory. / Fainstein S., Campbell S. – 3rd изд. – Malden, MA: Wiley-Blackwell, 2012. – vii, p. 571.
- [2] Krasheninnikov A. V. Macro-spaces of built environment // *Architecture and Modern Information Technologies*. – 2016. – Т. 3(33).
- [3] Shirokova L. Socio-kulturniy potencial mesta (Rus) // *Book Socio-cultural potential of the place / Editor*. – MOSCOW, 2013.
- [4] *Graphic-analytical method for urban studies and planning (Rus)*. / Jakshin A. G. T. Y. A. M., Govorebkova T.M. [and others]: – М.: Stroyizdat, 1979. – p. 150.
- [5] Space is the machine. *A configurational theory of architecture*. / Hillier B., 2007.
- [6] Krasheninnikov A. V. *Mezzo-Space of Built Environment* // *Architecture and Modern Information Technologies*. – 2015.
- [7] Krasheninnikov A., Sgem. *COGNITIVE MODELS IN URBAN DESIGN AND SPATIAL PLANNING* // Sgem 2015, Book 4: Arts, Performing Arts, Architecture and Design, 2015. – p. 311-318.
- [8] Giles J. R., ebrary Inc. *The spaces of violence*. – University of Alabama Press, 2006.
- [9] Krasheninnikov A. V. *Micro-spaces of built environment* // *Architecture and Modern Information Technologies*. – 2014. – Т. 4 (29).
- [10] Southworth M. *Yard, Street, Park - the Design of Suburban Open Space* - Girling, Cl, Helphand, Ki // *Journal of the American Planning Association*. – 1995. – Т. 61, № 2. – p. 268-270.
- [11] Sutikno F. R., Surjono, Kurniawan E. B. *Walkability and pedestrian perceptions in Malang City emerging business corridor* // 3rd International Conference on Sustainable Future for Human Security, Sustain 2012. – 2013. – Т. 17. – p. 424-433.
- [12] Kalandides A., Millington S., Parker C., Quin S. *Shopping districts and centres, markets, neighbourhoods, public squares, and urban gardens Reflecting upon place management practice in Berlin* // *Journal of Place Management and Development*. – 2016. – Т. 9, № 3. – p. 351-359.
- [13] Shadar H. *The evolution of the inner courtyard in Israel: A reflection of the relationship between the Western modernist hegemony and the Mediterranean environment* // *Politikon*. – 2013. – Т. 40, № 2. – p. 51-74.
- [14] Nordh H., Ostby K. *Pocket parks for people - A study of park design and Use* // *Urban Forestry & Urban Greening*. – 2013. – Т. 12, № 1. – p. 12-17.
- [15] Krantz C. W. *Historical promenade (Ellen Lanyon's ceramic murals for the Riverwalk Gateway esplanade in Chicago)* // *Art in America*. – 2001. – Т. 89, № 3. – p. 66-67.



THE PROBLEM OF PRESERVING HISTORICAL MOUNTAIN VILLAGES OF DAGESTAN

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ABSTRACT

One of the important components of the cultural heritage are architectural monuments that absorbed all the events and processes of society, reflected the characteristics of the material culture and the art of building. The human often destroys and remodels according to the new requirements, he creates the architecture, often much better and more accurately. Worldwide, there are historic cities ensembles and individual buildings, protected by the state and UNESCO World Cultural Heritage.

The civilized world has realized the potential of the cultural heritage and the need for its conservation and efficient use. The source of human civilization wealth is the diversity of the cultural heritage. One of the major problems of architectural science is the study and protection of all components of the heritage. According to the Convention on the Protection of the World Cultural and Natural Heritage under the concept of cultural heritage are the architectural works, groups of separate or connected buildings, architecture, the unity of the landscape, presenting outstanding universal value from the point of view of history, art or science. And so historically mountain villages are inextricably linked with the surrounding landscape, fall under the concept of cultural heritage and generate appropriate attention to his investigators.

Physical loss (destruction) of any building is not only connected with the natural aging process, but also a number of external factors. But aging of buildings and building materials is a natural process. Eternal conservation practices do not exist even in the world. The main objective is to stop the processes of natural wear and tear, as well as minimizing the factors of acceleration. To save the mountain villages of Dagestan, falling under the concept of cultural heritage, it is necessary to conduct research that will make a tentative plan for the restoration, improvement and adaptation of the research object.

Keywords: monuments, villages, cultural heritage, landscape, materials, reconstruction, preservation

1 INTRODUCTION

The basis of civilization is the preservation and accumulation of cultural values, the loss of which is irreversible and irreparable. The development of modern culture and the construction of new significant works can not compensate these losses. Cultural heritage imbues modern science, education and culture is the main basis for national self-assertion and recognition by the international community. The civilized world has realized the potential of the cultural heritage and the need for its conservation and efficient use. Specialized agencies are dealing with problems of preservation of cultural values, including the architectural heritage of UNESCO stands.

The source of human civilization wealth is the diversity of the cultural heritage. One of the major problems of architectural science is the study and protection of all components of the heritage. According to the Convention on the Protection of the World Cultural and Natural Heritage under the concept of cultural heritage are the architectural works, groups of separate or connected buildings, architecture, the unity of the landscape, presenting outstanding universal value from the point of view of history, art or science. And so historically mountain villages are inextricably linked with the surrounding landscape, fall under the concept of cultural heritage and generate appropriate attention to his investigators. (Fig. 1)



Fig. 1: Citadel, Ancient City and Fortress Buildings of Derbent, Dagestan, Russia

In the north-eastern slope of the Caucasus and the south-west of the Caspian depression is located Dagestan, which occupies the southern part of the Russian Federation. It is a multinational region, where lives about 30 nations and ethnic groups, most of which are engaged in a trade since ancient times. In Dagestan, a historical and architectural monument can be referred to the whole village. The main elements of the layout and architectural features of the mountain villages of Dagestan formed in the very early stages of the settlements, and developing, have reached our time. (Fig. 1, 2, 3)



Fig. 2: Itsari village in Dagestan, Russia



Fig. 3: Ffortress in Gunib, Dagestan, Russia

Medieval Arab historians and geographers of IX-X centuries, Al-Masudi, al-Istahri and others called Dagestan a "country of mountains" and "Land of multilingualism." "This is because

that most of the Dagestan area is mountainous terrain, where several mountain ranges down to the sea, leaving a narrow coastal strip. Such geographic position determined the country's history, the foundation of which is a continuous struggle for the possession of the trade route along the coast of the Caspian Sea.

Considering the system of settlement in the mountainous Dagestan formed over centuries, can be found general principles that are effective for any settlements. Choosing a place to settle in most cases it was associated with the presence of a favorable natural factors. In conditions of the territory a mountainous terrain is an important natural factor that has a decisive influence on the composite image of the settlements. Two-thirds of Dagestan settlements located in the mountain area. The cause of the villages in remote mountains were the historical conditions, civil strife and danger of attacks. It is believed that the more uncomfortable and crowding the village, the more it is ancient. The development of any settlement is in a direct proportion to the level of social, ideological and economic life of the population. All significant changes in the social organization, ideological views and the economy, in some extent, leave their mark on the appearance of the village. Therefore, when considering a particular case, it is important to pay attention to the general criteria. These include the age of the settlement, the more they are old, the more are interesting; shape and nature of the buildings group, streets and squares; events left their mark on its history; traditions associated with its squares, streets; the beauty of the individual buildings. [3] (Fig. 4, 5)



Fig. 4: Kubachi village in Dagestan, Russia

The preference when choosing a place to settle was given mainly in the presence of the following factors: proximity to the water source; ensuring reliable defense; south orientation; maximum land savings; availability of fertile land; the presence of the forest.

1. An obvious and primary condition for life is water, so villages are always located close to the source, at the slopes of the river, often near to the terrace of the river. This factor of village formation is the most important and effective at any stage of history.

2. The countries where the political situation encouraged the use of steep slopes for the settlement was strongly influenced by defense factor. The villages are usually occupy the remote areas, securely protected by natural barriers. To ensure the defense capability there are in many villages walls and towers on the dominant heights at river passages were built. There are were two or three, and sometimes one narrow steep trails leading to the village. They were well protected and easily overlooked, the rear side always looked at the edge of a cliff or rested against the slope of the mountain impassable. The quest for a settlement inaccessibility often prevailed over the other factors.
3. In the context of upland Dagestan settlement orientation factor played an important role, it should be noted the desire to arrange the structure so that they are facing the sun most of the day. The main objective is to obtain from the sun as much light and heat, especially in winter when there is lack of fuel. The sun in the economic activity of the Highlanders had a great importance, for example for drying products, drying, processing wool, haying. According to anthropologists, the location of Dargin villages on the southern slopes of the mountains reflected the importance that was given to the sun in the beliefs of Dargin. Dagestanis often swore by the sun, with the decoration of the housing using solar images and comparing the person with the sun, emphasized its beauty and kindness. [6]
4. Earth is highly valued, and therefore the land suitable for sowing could not be used under the settlement. Leaving the bottom of the foothills comfortable flat areas, the population mastered the steep slopes. Landlessness and limited financial means make the population to build a strong and durable housing with no need to rebuild them often. Saving the earth is not unique to Dargin settlements, but also for the settlement of other mountainous countries where there is a shortage of land.
5. Agriculture and animal husbandry are two main types of work feed the people always. Therefore, the presence of favorable areas for cultivation and pasture cattle, are not less important than the presence near the water source. The exceptions are those villages that are mainly engaged in craft activities.
6. An important factor when choosing a location it is also the presence of the forest as a source of fuel, building material, as well as hunting and collecting forest fruits.

2 STUDY AREA

Dagestani village Kubachi is a shining example of urban education in difficult mountainous terrain. It is a historical ensemble, whose structure is characterized by villages, located in the mountains. Architecture of Kubachi valuable and interesting with its originality and organic integrity. It reflects the development processes and the formation of mountain villages, where skillfully used the terrain and architectural techniques applied to typical construction in mountainous terrain. The village is an example of a natural Kubachi solutions of architectural, artistic and urban problems. However, as a result, it formed a harmonious ensemble, located in the composite interaction with the environment and organic fusion with nature. The ratio of architectural forms, the distribution of space, color create a harmonious living environment, an ambitious and clear to people. [4]



Fig. 5: Chox village in Dagestan, Russia

Archaeologists believe that the history of this village has about 2000 years, and the first information about the village belong to the VI century. The heyday of the construction and stone-cutting art of Kubachi village fall on the medieval period. Until the XV century the village was called Ziriheran (from Persian suckermouth). Since the XV century, the village is known by the name of Turkic Kubachi with the same value. The architectural image of Kubachi begins to take shape since its inception and throughout the period of its existence. [4] (Fig. 6, 7)



Fig. 6: Tympanum of Kubachi, Dagestan, Russia



Fig. 7: Fight scene of Kubachi, Dagestan, Russia

Each time step of enriching the architectural image, introducing changes and new elements in the individual volumes which are the component of education units. "As time passes, - said P. Sanpaolezi - large and small cities and even villages take on individuality which is in fact a reflection of their history and often helps to understand the reasons for their safety. Their past is read in their appearance, in the layout of streets and squares, in their shape and size, how they fit into the surrounding landscape, in their position with respect to the rivers, seashores profile and so on". [7]

Appearance of Kubachi has a special flavor that achieved by the use of local stone in buildings, the color which blends with the natural background. The artificial form created by man, repeat the configuration of the natural topography, which "adopted" and made in the form

of the natural environment. The use of new materials, shapes, colors, any unprofessional intervention brings imbalance in the appearance of the village.

The bulk of buildings of any village will definitely make housing and farm buildings, which amaze at the same time with a natural solution of functional tasks and at the same time, according to environmental conditions. Man is always and everywhere tends to equip their homes and wherever possible, to increase its area. If we consider the process at Kubachi example, we see that starting from about 50-ies years of XX century in the housing and farm buildings of the old part of the village, there were processes to improve the ever-growing domestic human needs. (Fig. 8, 9)



Fig. 8: Kubachi, old village



Fig. 9: Kubachi (left the old village, on right new - Ihakazhila), Dagestan

Over time, any building decays, and the owner is committed to supporting it in order, and this leads to the appearance of new materials and elements in the old buildings. All seemingly minor changes brought in housing naturally affect the general architectural appearance of the village. For the researcher of folk architecture it seems unclear why people living in old home, do not take its beauty and do not appreciate its art dignity. The reason is that these homes embody a retarded life for the residents. The art dignity of old apartment buildings is probably easier to assess objectively, without being a tenant of the house. This demonstrates the specificity of architecture and its close link with the material and aesthetic aspects of life.

Residents of the village Kubachi, everything necessary for life - water, hay, fuel, and other products always delivered on foot, as the roads are only suitable for certain points of the village. These and other inconveniences in homes that previously were not so noticeable, and population growth, lack of roads within the village, the desire to have a more spacious housing and financial capacity contributed to the formation of a new settlement Ihakazhila in the 60-ies of XX century. Originally the houses were built mainly for newly created families, and then gradually moved to a lot of families here. It is impossible of course, to keep the residents in the old part of the village, as well as to prevent those adjustments that the owner brings in their homes.

3 PROBLEMS

The state of preservation of houses, i.e., durability of structures and the entire structure is in direct proportion to the frequency of its settlement. The man equips, watches, and contains a clean and tidy environment in which he lives. Many people try somehow to equip their homes, carrying out restructuring, extension and repair of housing. These are houses where the villagers live permanently. It is gradually falling apart abandoned houses, vacant lots and places are revived, showing a house built on a modern twist. This is a natural process that can not be influenced. The exception is the public buildings in the mountain villages, such as towers,

mosques, public buildings. They are in contrast to residential buildings built from the finest materials, with special responsibility, and with the best decor, so their safety is satisfactory. However, there are examples of public buildings that collapsed, and their description, references or images can be found in the literature.

Physical loss (destruction) of any building is not only connected with the natural aging process, but also a number of external factors:

- abandoned buildings (no occupants);
- adverse climatic conditions (humidity, duration of occurrence of snow and ice);
- natural disasters (landslides, hurricanes, winds, storms);
- inappropriate new construction in the historic environment;
- the wrong mode of operation of buildings;
- end of its life designs;
- fires;
- vandalism and other aggressive actions.

At the present stage the problem of preservation and use of historical and architectural monuments acquires a special meaning. In this issue closely intertwined scientific, theoretical and artistic issues of improving conservation techniques, choice of ways of regeneration and reconstruction, protection of monuments and their adaptation, keeping individuality, originality and uniqueness of individual buildings and urban education in general. The optimal solution of these questions is based on the study of individual elements and a deep analysis of compositional laws, according to which the appearance was formed.

Speaking about the importance of conservation of Kubachi village as historical and architectural monument, meaning a large amount of restoration and regenerative works, where the dominant position occupied by medieval monuments and much of the residential development. The problem of preserving architectural historical and architectural monument includes a long-term process, which implies: a plan for the reconstruction of the village; the development of relevant documentation; the implementation of specific projects. Work on the preservation of individual architectural monuments and architectural ensemble as a whole involves the creation of historical and architectural support plans, projects of villages protection zones, restoration and reconstruction projects.

4 SOLUTION

Aging of buildings and building materials is a natural process. Eternal conservation practices do not exist even in the world. The main objective is to stop the processes of natural wear and tear, as well as minimizing the factors of acceleration. For the suspension of buildings destruction process the following general steps must be provided:

- proper operation and maintenance of structures, weather protection, the elimination of defects weaken the structure and allow penetration and capillary movement of water;
- drainage device;
- the efficient use of buildings, monuments, worthy of their values and contrary to safety;
- ban on the use of unsuitable and harmful materials in the restoration, conservation and repair;

- physical protection (surveillance, control center, etc.);
- comprehensive fire prevention measures.

General measures provided for suspension of the destruction processes applicable to any settlements. We should not forget that an important condition for achieving success in the field of preservation of historical and architectural monument is the active and creative participation of all residents, and the formation of social consciousness in the spirit of understanding of the value of the historic space.

To implement the plan of conservation of mountain villages, the concept is needed, which will be based on a balanced and harmonious relationship between the demands of the public, the economic factor and the protection of the historic environment.

The problem of the conservation of mountain villages of Dagestan can not be considered a break from the problems relating to individual buildings. These are the issues relating to the restoration of existing monuments, reconstruction of housing, preserving their relationship with the environment, as well as issues fixtures and landscaping. In the study of individual houses and monuments, identified the following specific objectives for the majority of buildings of mountain villages:

- the elimination of defects and damage to load-bearing structures of buildings;
- the elimination of possible exchange or hide materials, not peculiar architecture mountain village;
- device buttresses and other activities to strengthen the shaky structures;
- restoration of load-bearing structures;
- analysis of debris and fragments of destroyed houses walls.

All these issues must be solved, provided by the use of appropriate building materials, taking into account local construction methods and in accordance with the agreed work plan. In the future, the state of buildings, of course, will depend on the quality of care and proper maintenance. Modern experience of heritage protection and development of historical cities refutes the outdated concept of the costly nature of the content and reconstruction of monuments. Analysis of economic benefits of preservation of historical and cultural heritage has revealed a positive impact on economic growth in three areas of urban development: the construction and restoration, the cost of real estate, tourism. Tourism contributes to the promotion of the historical and architectural monuments, strengthens the credibility of the country and abroad, and improves the quality of life of the population. The target allocation of the tourism income provides significant resources for the maintenance and preservation of architectural monuments.

Saving the mountain villages of Dagestan is necessary not only from the point of view of preservation of architectural monuments and urban education. This is necessary for the preservation of all cultural-ethnographic complex. It is necessary not only to restore and strengthen the housing, but to restore the historic environment and to create conditions under which people could pursue their traditional handicrafts, which are engaged in ancient times the peoples of Dagestan.

In the post-Soviet space, in Europe, Asia and the New World, there are many examples where the issue of preservation of historical buildings seen most sensitive attitude. Particularly respect for the preservation of monuments given in the cities of Italy, where in 1939 a law was adopted on the conservation of historical monuments. [1; 9]

5 CONCLUSION

To save the mountain villages of Dagestan, falling under the concept of cultural heritage, it is necessary to conduct research that will make a tentative plan for the restoration, improvement and adaptation of the research object. Indicative Plan for the reconstruction of the entire village as a whole, includes the following items:

- restoration of existing sites;
- reconstruction of the most characteristic residential houses;
- demolition of destroyed houses which are not represent architectural value;
- analysis of the debris formed by caved houses;
- reconstruction of the fence of the cemetery;
- cleaning abandoned wells;
- the installation of necessary engineering utilities;
- repair and improvement of streets, roads, squares with the installation of lighting, directional signs and maps of the village;
- create a workshop for the production of traditional products and the organization of their sales;
- creation of tourist centers;
- establishment of small hotels for tourists in repurchased homes;
- creating a museum of material culture;
- the sale of souvenirs, books and booklets.



Fig. 10: The restoration of the Juma Mosque of Kubachi by M.Omargadieva

The implementation plan for the reconstruction and preservation of the village, will preserve in its entirety the architectural and natural environment full of interesting architectural and ethnographic respect of facilities, having presented it as an open-air museum. The open air museum is a single organism, structures of which are connected with the culture, traditions and way of life of the people.



Fig. 11: Fragment of building Kubachi. Drawing by M.Omargadieva

Proposals for the preservation and reconstruction of the mountain villages of Dagestan.

1. Analysis of the village architecture current state will determine the concept of reconstruction of villages and development restoration issues of the historical environment and the restoration and use of monuments.
2. The implementation plan for the preservation and reconstruction of the village on the basis of the integrity of cultural and natural environment, ensure the development of the village and keep its historic character and traditional craft due to revenues from tourism.
3. The main architecture preserving objective of the village is a suspension of the buildings destruction process, their consolidation and reconstruction on the strict condition of local building materials usage and preservation of organic connection with nature.
4. A comprehensive solution to the problems of architecture and traditional crafts conservation will contribute to the prosperity of the tourist facility.
5. A careful study and creative approach to conservation will contribute to the comprehensive reconstruction of the historically formed village.
6. Carrying out restoration work on the monuments of village architecture and their use in accordance with the original function.
7. Destroyed buildings must be cleared from the calving designs and construction waste and conserved if necessary.
8. Areas where the buildings are completely destroyed should be cleaned and the formed grounds used for landscaping and tourist service.
9. Save not only monuments, but also the entire planning structure, housing areas, wells and the existing road network.
10. Work on landscaping of the village.

Using historically developed mountain village as a historical and architectural monument and tourist attraction, its inclusion in the tourist routes connecting nearby villages and some examples of medieval architecture, scattered in picturesque surroundings, attract many tourists. Tourism development stimulating factor in the conservation of architecture monuments, which is

both a source of material for the restoration and preservation of historical architectural structures as an object of cultural heritage.

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REFERENCES

- [1] A. Becker *On the preservation of urban systems of the past // Theory and practice of restoration work*. Collection number 3. Moscow, pp. 21-24, 1972.
- [2] Gulyanitsky N. *On the modern sense of the concept of "architectural monument" // Theory and practice of restoration work*. Moscow, 1972
- [3] Kobychhev V.P. *Settlements and dwelling peoples of the North Caucasus in XIX-XX centuries*. Moscow, p. 23, 1982
- [4] M.M. Mammaev *Zirihgeran-Kubachi: Essays on history and culture*. Mahackala, p. 25, 2005.
- [5] M.M. Mammaev *Art Zirihgeran-Kubachi XIII-XV centuries. and its place in the system of artistic cultures of East and West*. Mahackala, 2014.
- [6] Markovin V.I. *Roads and trails in Dagestan*. Moscow, p. 105, 1974
- [7] Piero Sanpaolezi. *Protection and restoration of historic quarters and towns. // The conservation and restoration of monuments and historic buildings*. Moscow, p. 289, 1978
- [7] *Restoration of architectural monuments*. Ed. S. Podyapolsky. Moscow, 1988
- [9] Ernest A. *Connolly protection of landscapes and monuments in the New World // The conservation and restoration of monuments and historic buildings*. Moscow, pp. 271-287, 1978



RETROSPECTIVE TYPOLOGY OF SOCIETY'S ATTITUDE TO MONUMENTS OF THE PAST

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ABSTRACT

The article discusses the aspect of society's attitude to the architectural heritage of the different stages. This question is relevant because the current stage of development of culture is characterized by a reinterpretation of historical and cultural values, and the problem of cultural continuity becomes a global social problem. Also identified the types of relationships that are predominant in certain historical periods and in certain areas: time borders of identifying types of data, on the one hand, the beginning of architectural activity at an early stage of human development, on the other - the beginning of the current stage in the development of restoration science, marked the transition to an integrated approach to the study of the historical experience. Only detailed retrospective analysis gave impetus to the development of modern architectural and restoration of science, since the basic aesthetic, moral and cultural problems facing restorers now have already been formulated and solved in its own way in the previous stages of history.

Keywords: restoration, architectural heritage, cultural, retrospective, history, development, monuments

1 INTRODUCTION

The current stage of development of culture is characterized by a reinterpretation of historical and cultural values. The problem of cultural continuity becomes a global social problem. Architecture, as an element of culture, integrates the spiritual and technological advances of the past, and every step in its development - rethinking the "old" in the light of new value concepts [1]. This holds true for the modern architectural object, and for the preservation of the monument to the past, adapted to the modern needs of our present times. Therefore, we can speak about the dual function of the monument of architecture - a reflection of its own historical epoch and matching the spiritual and material needs of the present. Architectural restoration of monuments is one of the areas of human activity, in which the methodology and theory formed by the way of "trial and error" is widely followed [2]. Therefore, the purpose of this article is a brief overview of the types of attitudes at different stages of history as a whole to the concept of "architectural monument", and to the individual characteristic of objects, without which it is impossible to determine the best direction of development of scientific disciplines related to the protection of monuments in our present and future.

2 PROBLEMS

The article proposes to consider a number of types of relationship to the monuments that are predominant in a certain period and in a certain area: with focus on time boundaries from the early stage of human development, to the beginning of the current stage in the

development of restoration science, marked the transition to an integrated approach to the study of the historical experience.

3 MAIN PART

In general, the restoration and reconstruction of buildings there since ancient times. However, in those days, the main reason for these actions was purely utilitarian: any building fulfilled its specific function. With the passage of time it is dilapidated, and repaired to continue its operation. For the same reasons, sometimes a decision was taken to re-create it [3]. It was about how those objects are in relation to who lived at the time people were already considered ancient and modern. Consequently, there could be no question of the restoration as a means of historical documentation. For example, Alexander the Great was engaged in the restoration of the chief Babylonian god Marduk temple to attract to their side of the local population of the elite, that is, purely for political purposes (Fig. 1). [4] And the same order of Alexander about the restoration of looted tomb of Cyrus II the Great can be interpreted as a gesture of personal empathy for the deceased. This type of relationship, by JG Bobrov, can be called spontaneous utilitarian. His contingent historical framework in European culture limited to the beginning of the Renaissance. The predominant utilitarian reason, of course, does not mean the absence of the ancient people's definition of spirituality and sacredness of some places. For the inhabitants of ancient Greece, as well as many of the contemporary civilizations, first of all, spiritually important, holy, is the temple. Nevertheless, the attitude of the Greeks towards religious buildings was determined by the same spontaneous utilitarian principle. That the location itself where a God is housed was sacred. To transfer it to another place was prohibited. And the appearance of the temple at the same time could vary significantly if necessary.



Fig. 1: Babylonian god Marduk temple

In the Middle Ages approach to preserving not fundamentally changed. Rather, there are new reasons why the heritage of the past must be destroyed or subjected to a radical restructuring. This was especially true of ancient buildings. Ancient temples ("sinful pagan temples"), entertainment facilities (known fact that many of them were places of cruel executions of the early Christians) caused extremely negative feelings among the population. This means that in the first place buildings that dissonant with the dogmas of religion and

morals of that time were destroyed. The ancient buildings, which had not lost their function, were in less danger.

However, there is an essential sign that the attitude towards the monuments of the past has not changed in principle: if the building could not use the new function that is relevant to the new society, its condition was maintained. For example, that's why the ancient Roman Pantheon, which served as the main Christian church in Rome, almost reached its original state. Also, in one of the remaining parts of the term Diocletian there is still a temple. The mausoleum of Adrian became the castle of the Holy Angel, where, in case of danger, the Roman pope and his immediate entourage took cover from the enemies. But older buildings could be used for the needs of the population only after reconstruction. An example is the amphitheater in the city of Nimes: its walls represented an almost ready fortified wall (it was necessary only to wall the archways), the arena was already a ready parade ground, and the entrances easily turned into a fortress gate. Elements of buildings that remained intact, most likely did not interfere with modern operation [5]. And in the amphitheater in Arles, one of the medieval towers (Fig. 2).



Fig. 2: Roman amphitheater in Arles with a medieval tower

When referring to this historical period, it is appropriate to recall one important exception - the activities of the late Roman emperor Majorian (ruled 457-461), but rather about one of his edicts - "About public buildings." In this document, he talks about the greatness of the buildings, [which were built in ancient times for the common good and for the decoration of the city, whether the temples or other monuments]; and obliges people not only do not destroy them, but protect them with love. [6] It seems that Majorian one of the first speaks of the architectural monuments of antiquity as a historical memory media and objects of cultural heritage. And an indication of the restoration works, not adaptation or alteration, was given for the first time in history.

A completely different type of attitude towards the architectural heritage, characteristic, primarily for the ancient cultures of the Far East, is spiritual and ritual. For example, the ancient Chinese mentality gave preference to the spiritual significance of the object, and not its material component. And, according to Confucius, it is precisely the strict adherence to the ritual that leads to the knowledge of the truth, as evidenced by the millennial tradition of replacing the ancient decrepit pagodas with their perfectly accurate copies in a new place (Fig. 4). The reconstructed temple assumed all the values of the previous construction [4].



Fig. 3: Emperor Majorian (ruled 457-461)

The supremacy of the spiritual over the material character and for Japan: according to the well-known orientalist-japonist TP Grigorieva, even in the days of Prince Shotoku, who lived at the end of the 6th and the beginning of the 7th centuries. It was decided that the sanctuary of Ise-dzing (the most important Shinto shrine, Dedicated to the supreme goddess Amaterasu) was rebuilt every 20 years. But unlike the Chinese shares, it should remain in its original place, which has been observed for almost 15 centuries [7, p.183]. But neither the dilapidation of an object, nor the maintenance of its architectural image are the goals of these reconstructions. The only meaning is the religious tradition of the regeneration of the dwelling of the goddess. Because [...without the Invariable there are no Fundamentals, without changeable - updating]. According to the Japanese architect Kenzo Tange, [...the form Ise reflects the primordial spiritual essence of the Japanese people], and [... the whole further path of Japanese architecture originates in Ise] [7, p.183].



Fig. 4: Famous “One Pillar Pagoda” (Chùa Một Cột). In Hanoi, Vietnam, which was rebuilt many times in a new place

If we talk about the history of restoration in general, distracting from purely architectural monuments, we can say that this type of relationship is also characteristic of Orthodox iconography: copies of icons have always been made with maximum accuracy of

reproduction - the copies themselves were transmitted not only by the value of the prototype, but also by its miraculous ones properties [4]. It was on this principle that the first large-scale restoration work was carried out in Russia - the renovation of icons and murals of the walls of the Moscow Kremlin in the 16th-17th centuries. [8, p.24].

The era of the Renaissance was marked by a transition to a completely different perception of the monuments of antiquity. It is during this period that a radical change in the history of restoration takes place: the recognition of the artistic and historical value of another culture and the emergence of the need for its preservation. Due to this, there are grounds for the origin of theoretical thought in the restoration activity. The type of relationship that has arisen at this time can be called subjective-idealistic.

He is subjective because of the fact that only ancient architecture was considered valuable, and the heritage of Romanics and Gothic was not considered significant. On the contrary, the rejection of medieval culture, perhaps, even outstripped in its strength and certainty a similar attitude to the ancient heritage in the Middle Ages. The goal of turning to antiquity was a comprehensive revival of antiquity, in order to be able to measure one's tastes with the harmony and perfection of exemplary ancient buildings [4].

The idea of restoring the original appearance of partially or completely destroyed monuments comes to the forefront. However, the approach chosen by the masters of the restoration of the Renaissance is still idealistic: the criterion of restoration was not genuine historical matter, but the representation of the restorer of beauty, formed by the study of ancient architecture. There are many cases where "false-antique" objects became prototypes for Renaissance architecture. They were, for example, objects of the Romance period, Byzantium, etc. [9]. The definition of losses did not come from a complex historical analysis, but, first of all, on the principle of searching for the missing elements of the composition. It was believed that the beautiful can not exist outside the completed form [4].



Fig. 4: Giorgio Vasari



Fig. 5: Bartolomeo Cavaceppi by Anton von Maron - Academy of San Luca, Rome XVIII century

Free treatment of the monuments of antiquity was still not considered wrong. The attitude of restorers to sculptural works is indicative: they could replace even original fragments, if for some reason they did not like them. Those. The principle of completion and renewal was still dominant [8, p.33]. The Italian architect, painter and writer Giorgio Vasari (1511-1574) (Fig. 4), in his *Biographies*, expresses his opinion on this method of restoration: [antiquities restored in this way are much more graceful than all armless and legless trunks with all limbs, but without a head, or mutilated and inferior] [10, p.381].

In the Baroque era, interest in antiquity did not go away, but rather intensified, which affected the radicalization of the invasion of the ancient monument and its renewal. For example, the outstanding sculptor and architect Lorenzo Bernini (1598-1680), as his contemporaries say, during the restoration, advised to re-polish the lost brilliance antique marbles. The tradition of arbitrary change in the form of the original continued, the practice of destroying monuments that do not correspond to the aesthetic ideals of the era, has a mass of examples [8, p.27].

With the growing fashion for antiquity to the XVIII century, the first albums and treatises on restoration are appearing. So, for example, the well-known sculptor-restorer Bartolomeo Cavaceppi (1716-1799) (Fig. 5) published an essay in three volumes entitled "Restoration of ancient statues, busts and bas-reliefs". In it, he first expressed the provisions, which later formed the basis of scientific restoration [8, p.28]. Cavaceppi spoke about the need to dominate the historical over the new, and believed that the new should not stand out [11].

In the era of Romanticism, the ruins of ancient buildings become a symbol of the irreversibility of the flow of time. English artist and traveler William Hodges so spoke about ancient Agra: "It was impossible to contemplate the ruins of this great and noble city without a deep sense of melancholy" [12]. The feeling of melancholy, which cast the ruins of past centuries, is an important feature of the romantic worldview: "... the ruins of ancient Rome can be regarded as an emblem of the meaning and history of the word" romantic "itself. Aesthetic qualities of the ruins and their ability to influence the feelings of a person, causing deep emotional experiences, contributed to the spread of artificial analogs in European landscape parks. Being in the focus of the philosophical attitude of the whole XVIII century, they, therefore, belittled the historical significance of real, but in a deplorable state, monuments of antiquity [13]. However, the practice of the ruined genre irreversibly led to raising questions about the significance of the historical context and the authenticity of the details.

At the turn of the XVIII-XIX centuries, the idea of returning the original appearance of damaged or reconstructed monuments comes to the fore. Despite the fact that the achievement of this goal is completely impossible, nevertheless the attitude towards the monuments began to change, forming prerequisites for a new type - documentary and historical [8, p.30]. This stage is marked by a new approach to ruined monuments - a conscious refusal to fill in for maximum preservation. Naturally, we are talking about buildings that were considered historically and aesthetically significant.

A special factor that shaped the attitude of society to the cultural heritage was the development of scientific interest - in the material monuments of the past, a European man found evidence of the authenticity of historical facts [4]. That means that the professional society has come to understand that it is impossible to find an equivalent replacement of the historical value of the monument, since, as the curator of the monuments of the Austrian Empire Alois Rigl wrote, "the historical is what was and what is no more" [4].

The last years of the XIX century - the time of searching for a modern restoration system [8, c.31]. Architectural creativity finally separated from the restoration practice in connection with the rejection of historicism. There was a new aesthetics that rejected stylization. This made it possible to distance the "modern" from "historical" to a large extent, and made it possible to evaluate the works of art of past epochs as cultural monuments [4].

4 CONCLUSION

It is the detailed analysis of historical types of relations to monuments that gave impetus to the development of modern architectural and restoration science, because the main aesthetic, moral, cultural problems that confronted restorers now have been formulated and solved in their own way at the previous stages of history. Despite the fact that types arose and transformed within the historical process, they do not lose relevance: now the existence of each of them is possible, as in the past. Sometimes even in relation to the same object.

REFERENCES

- [1] Pimenova G.I., Koptyaeva K.V. *Sokhraneniye arkhitekturnogo naslediya XX veka v Rossii. Voprosi kulturologii*. 2007. №11.
- [2] *Istoriya i teoriya restavratsii pamyatnikov arkhitekturi* [Digest of articles]. *Central Research and Design Institute for Urban Planning*; edited by Schenkov A. S. - M.: CNIIP gradostroitelstva, 1986.
- [3] S. S. Podyapolskii, G. B. Bessonov, L. A. Belyaev, T. M. Postnikova. *Restavratsiya pamyatnikov arkhitekturi*. Edited by S. S. Podyapolskii, Moscow, Stroiizdat, 1988.
- [4] Bobrov, Y.G. *Teoriya restavratsii pamyatnikov iskusstva: zakonomernosti i protivorechiya*. Ministry of Culture of the Russian Federation, All-Russian Art Research and Restoration Center named after academician Grabar I.E., State Academic Institute of Painting, Sculpture and Architecture named after Repin I.E., Academy of Arts of the Russian Federation. Moscow, Edsmit. 2004.
- [5] Musatov A.A. *Proiskhozhdeniye i evolyutsiya zrelischnykh sooruzheniy drevnosti. Chast' IV. Rimskiy amfiteatry – zhizn' posle smerti*. Academia. Arkhitektura i stroitel'stvo, 2015, №3.
- [6] Nov IIII. *De aedificiis publicis. Theodosiani Libri XVI, II*, Berlin, 1905, Ed. Th. Mommsen, P. Meyer
- [7] Dreyer L.M. *Khram zemnoy i nebesnoy*. Monography, Moscow, Progress-Traditsiya, 2009.— 608 p.
- [8] Kimeyeva T.I. *Osnovy konservatsii i restavratsii arkheologicheskikh i etnograficheskikh muzeynykh predmetov: uchebnoye posobiye dlya vuzov po spetsial'nosti «Muzeyovedeniye i okhrana pamyatnikov*. Kemerovo, Kemerovo State Institute of kulture, 2009.— 252 p.
- [9] Ryabskiy, A.V. *Formirovaniye i khudozhestvennoye svoeobraziyeye arkhitekturnogo yazyka rannego venetsianskogo Renessansa*. The dissertation of the candidate of architecture, Moscow, 2009. — 173 p.
- [10] Vasari, G. *The Lives of the Artists. Translated with an introduction and notes by J.C. and Peter Bondanella*. Oxford: Oxford University Press (Oxford World's Classics), 1991
- [11] Yakhont, O.V. *Revived masterpieces (restoration of sculpture)* Moscow, 1980. – 127 p.
- [12] Coleridge, *Romanticism and Orient: Cultural Negotiations* .Ed. By D. Vallins. Kaz Oishi and Seamus Perry. – London, New York: Bloomsberry Academic, 2013. – 233 p.
- [13] Ukhnaev A.Ye. *Ruiny – oveshchestvlennoye vremya. V teni «Bol'shikh stiley»*. Materials of the VIII Tsarskoye Selo Scientific Conference. SPb., 2002. p. 5 - 14