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Issue Article

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VARIATIONS OF THE "LITTLE MAN" IN N. V. GOGOL'S "PETERSBURG TALES"

Abstract: *The article examines the stories of N. V. Gogol's St. Petersburg cycle, in which he aims to identify the reasons that led God's creation to moral degradation. He is driven by the desire to understand why the inner, mental and spiritual fall of the "little man" occurs, whether it be a poor artist, an unhappy poor crazy man, or an outwardly submissive executive official.*

Key words: *N. V. Gogol St. Petersburg cycle, social status, little man, moral degradation, reality.*
Language: *Russian*
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ВАРИАЦИИ «МАЛЕНЬКОГО ЧЕЛОВЕКА» В «ПЕТЕРБУРГСКИХ ПОВЕСТЯХ» Н. В. ГОГОЛЯ

Аннотация: *В статье исследуются повести петербургского цикла Н. В. Гоголя, в которых он задается целью выявить причины, приведшие творение Божие к нравственной деградации. Им движет желание понять, отчего происходит внутреннее, душевно-духовное падение «маленького человека», будь то бедный художник, несчастный бедняк-сумасшедший, или внешне покорный исполнительный чиновник.*

Ключевые слова: *петербургский цикл Н. В. Гоголь, социальное положение, «маленький человек», нравственная деградация, действительность.*

Введение

В «петербургских повестях» Н. В. Гоголь обратился к отнюдь не новой теме, избрав своими героями людей маленьких по своему социальному положению.

В критике 1830-х годов то и дело раздавался возглас быть ближе к действительности. «Чем предмет необыкновеннее, – пишет В. Г. Белинский, – тем выше нужно быть поэту, чтобы извлечь из него необыкновенное и чтобы это необыкновенное было между прочим совершенная истина» [1].

Сознательное ограничение личности, забвение старины, делает такую личность уязвимой и беззащитной перед любыми катаклизмами. Не даром труп Евгения находят возле дома, торчавшего, как черный куст, на острове, где не растет ни былинки. Дом, без фундамента, снесенный наводнением – метафора человека, погибшего вследствие этого же события. Но если Евгений – кривое отражение Всадника, то и Всадник, подобно «маленькому человеку», страдает тем же недугом: он так же безумен. Бунт русского царя, решившего поспорить с Богом в отношении природы, через сто лет вызывает бунт природы. Пушкин Неву уподобляет то дикому обезумевшему зверю: «...как зверь, остервенясь, // На город кинулась...» [11], то дикой разбойной шайке: «Так злодей // С свирепой шайкою своей // В село ворвавшись, ломит, режет, // Крушит и грабит...» [11]. Бунт – то же безумие. Причем, любому мятежу, случавшемуся время от времени в какой-либо стране, всегда предшествует «умственный» мятеж. Более того, в том же 1833 году Пушкин начинает работать над статьей «Путешествие из

Москву в Петербург», которая является полемикой с Александром Радищевым. Спустя три года уже в другой статье «Александр Радищев» поэт скажет: «...если подумаем, какие суровые люди окружали еще престол Екатерины, – то преступление Радищева покажется нам действием сумасшедшего. Мелкий чиновник, человек безо всякой власти, безо всякой опоры, дерзает вооружиться противу общего порядка, противу самодержавия, противу Екатерины! И заметьте: заговорщик надеется на соединенные силы своих товарищей; член тайного общества, в случае неудачи, или готовится изветом заслужить себе помилование, или, смотря на многочисленность своих соумышленников, полагается на безнаказанность. Но Радищев один. У него нет ни товарищей, ни соумышленников. В случае неуспеха – а какого успеха может он ожидать? – он один отвечает за все, он один представляется жертвой закону».

Здесь А. С. Пушкин однозначно связывает саму идею мятежа с безумием. Глядя же на историю России, поэт находит всюду подтверждение некой закономерности, по которой один мятеж обязательно ведет за собой другой. Дворцовый переворот, как правило, содержит в себе зерно будущего мужицкого бунта. Самозванство Бориса Годунова или Екатерины II навлекают на страну бурю крестьянских войн. Именно «мятежный шум» реки, услышанный героем, сбивает его ум: «...Мятежный шум // Невы и ветров раздавался // В его ушах. Ужасных дум // Безмолвно полон, он скитался. // Его терзал какой-то сон...» [11].

Безусловно, что А. С. Пушкин здесь спорит с романтической традицией, видевшей в безумии знак гениальности и богоизбранности. В 1833 году поэт напишет: «Не дай мне бог сойти с ума. // Нет, легче посох и сума; // Нет, легче труд и глад...» [11]. Тема безумия не на шутку занимала Пушкина. В этом же году появилась «Пиковая дама», где герой тоже сходит с ума. Для А. С. Пушкина, воспитанного на классицистической французской литературе, ясность ума – признак гармонии и красоты. Прозрение наступает у Евгения именно в тот момент, когда его мысли прояснились. Тогда он ясно увидит связь между «физическим» бунтом Невы и «мысленным» бунтом Евгения перед Всадником: «Он узнал // И место, где потоп играл, // Где волны хищные толпились, // Бунтуя злобно вкруг него, I/ И львов, и площадь, и того, // Кто неподвижно возвышался // Во мраке медною главой, II Того, чьей волей роковой // Над морем город основаяся...» [11]. Статика Всадника обманчива. Герой увидит на челе «неколебимого» кумира думу, думу, повлекшую царя всю Россию поднять на дыбу, то есть казнить, пытать, совершать насилие не только над «бедной» природой, но и над народом. Но, прозрев это, Евгений вновь «заражается» тем же безумием: «По сердцу пламень пробежал, // Вскипела кровь. Он мрачен стал // Пред горделивым истуканом II И, зубы стиснув, пальцы сжав, // Как обуянный силой черной, // Добро строитель чудотворный! – // Шепнул он, злобно задрожав, // – «Ужо тебе!..»» [11].

Таким образом, в поэме тема бунта-безумия варьируется тремя героями: Петром Первым, безвестным чиновником Евгением, и Невой. Если Петр, одержимый гордыней, бросает вызов Богу, выступая как обновитель мира, как демиург, то Евгений бросает вызов Петру, не как, возможному историческому сопернику, виновнику изведения древнего его рода, но в большей степени, как инфернальной силе, виновной в личном несчастье, как злому року. Протеистичный образ взбунтовавшейся Невы становится фокусом бунта-безумия и Петра и Евгения.

В «Пиковой даме» та же проблема реализуется несколько иным образом. Здесь один герой сосредоточивает в себе все три мотива, связанные с тремя образами поэмы. С одной стороны, Герман – типичный «маленький человек». Он не родовит, живет на одно жалование и мечтает, что, возможно, какой-нибудь случай «усемерит» его капитал и доставит покой и независимость. С другой стороны, личные амбиции Германа подчеркиваются внешним сходством с гением века – Наполеоном. Наконец, идея достигнуть желаемого с помощью тайны трех карт, роднит героя со стихийными силами природы через мистические увлечения представителей восемнадцатого века. Три карты – три мотива поступка: гордыня, желание богатства и славы, и ради них совершение трех преступлений: союз с дьяволом, убийство старухи, обман девушки, и, – как следствие раздутой гордыни и бунта «маленького человека» против своего положения, безумие героя.

Мы намеренно более подробно, возможно, чем следовало бы, остановились на пушкинской трактовке образа «маленького человека», дабы показать, что именно А. С. Пушкин впервые связал образ социально неудовлетворенного чиновника с темой бунта, при этом он уравнял сочувственное отношение, любовь к «маленькому человеку» с критической оценкой его поведения. Н. В. Гоголь, на наш взгляд, продолжил традицию, заложенную
А. С. Пушкиным, только в несколько иной, более «жесткой» трактовке темы «маленького человека», в связи с чем, опосредованно, и вызвал упреки Макара Девушкина.

К концу 1830-х годов «маленький человек», бедный чиновник настолько обычное явление в литературе, что часто сочувствие к нему автора заменяется пародией [5]. Когда Гоголь начал работать над «Записками сумасшедшего», можно

предположить, что он был уже знаком и с поэмой А. С. Пушкина «Медный всадник», и с «Пиковой дамой», которые были написаны в 1833 году. Тем более что и «Пиковая дама» и «Вступление» из поэмы были опубликованы в 1834 году. Первоначально повесть «Записки сумасшедшего» в одном из планов сборника «Арабески» носила название «Записки сумасшедшего мученика».

На наш взгляд, это было вызвано, что Н. В. Гоголь хотел показать пошлый тлетворный дух мира чиновного Петербурга. Отказ же от первоначального названия повести был, скорее всего вызван стремлением писателя завуалировать идею произведения, сделать повесть еще и остро социальной. Дневник титулярного советника Поприщина – это еще одна возможность отразить духовную болезнь общества «изнутри».

Сумасшествие в эстетике романтиков, восходящей к мифологическому мышлению, было осмыслено как гениальное безумие, как знак творческого начала, как провидение иного высшего мира и, наконец, принадлежность к нему. У романтиков всегда и однозначно сумасшествие героя – выделение его из среды со знаком «плюс». Поскольку сумасшествие – это абсолютная свобода личности, вознесение над костным миром, где человек, в чем-то отличающийся от остальных своим поведением, не укладывается в прокрустово ложе общественных норм, то он обречен на осмеяние и однозначно негативную оценку окружающих.

Романтическая личность с ее правом на исключительность чувств, на первый взгляд, противоположна «маленькому человеку», выделившемуся к середине 1830-х – началу 1840-х из «толпы». В.Г. Белинский, приветствуя зарождающееся направление литературы, противопоставлял романтиков новым писателям: «В двадцатых годах раздалось в нашей литературе слово «романтизм». Все заговорили о Байроне, и байронизм сделался пунктом помешательства для прекрасных душ... Вот с этого-то времени и начали появляться у нас толпами маленькие великие люди с печатию проклятия на челе, с отчаянием в душе, с разочарованием в сердце, с глубоким презрением к «ничтожной толпе» [11]. С зарождением нового направления появляется и новый герой, герой из толпы, а точнее сказать, герой среднего общества, имеющий, однако, ту же печать проклятия на челе, то же отчаяние в душе, которое было и у героя романтических произведений. Он также глубоко презирает, и одновременно зависим от «ничтожной толпы», являясь ее частью, но ко всему прочему он также претендует на исключительность, только в отличие от романтических героев, главной причиной, являющейся препятствием к достижению цели, считает свою социальную ограниченность и ущербность. Такая категория «маленьких людей» тяготится своим низким социальным положением, его пугает больше не маленькое жалование, которое обрекает его на голод и холод, а то, что он в глазах других выглядит таким бедным и необеспеченным порядочным ужином и добротной шинелью.

Романтическая исключительность, умноженная на социальную ограниченность, породила особенную «физиономию» «маленького человека», которую первым увидел, «предопределил» еще А. С. Пушкин.

Н. В. Гоголь развил и углубил его мысль. Изображая Поприщина, писатель в чем-то сохраняет романтическую коллизию: герой находится одновременно в двух мирах. В реальном мире он бедный чиновник, мечтающий о высоких чинах, которые могут дать положение в обществе и богатство. Для окружающих – он полное ничтожество, нечто вроде мебели: «Фамилия его престранная. Он всегда сидит и чинит перья. Волоса на голове его очень похожи на сено. Папа всегда посылает вместо слуги...» [11]. В ином мире он совсем не тот, за кого его принимают окружающие. Он – испанский король. Поприщину открыто то, что закрыто для других. Он понимает язык животных, посредством которого узнает о начавшемся романе и о предстоящей свадьбе девушки, в которую влюблен. Наконец, он постигает, что и мечта его о земном блаженстве фикция: «О, это коварное существо – женщина! Я теперь только постигнул, что такое женщина. До сих пор никто еще не узнал, в кого она влюблена: я первый открыл это. Женщина влюблена в черта. Вон видите, из ложи первого яруса она наводит лорнет. Вы думаете, что она глядит на этого толстяка со звездою? Совсем нет, она глядит на черта, что у него стоит за спиною. Вон он спрятался к нему во фрак. Вон он кивает оттуда ей пальцем! И она выйдет за него. Выйдет. А вот эти все, чиновные отцы их, вот эти все, что юлят во все стороны и лезут ко двору и говорят, что они патриоты и то и се: аренды, аренды хотят эти патриоты! Мать, отца, бога продадут за деньги, честолюбцы, христопродавцы!» [11].

Однако противопоставление ничтожного-великого в повести Гоголя имеет, во-первых, социальную определенность, а, во-вторых, герой постепенно «углубляется» в иной мир. Среда как бы вытесняет человека в блаженные страны, где он выше всех желаний, где он недосягаем ни для какого начальства. Даже русский царь над ним не властен. Но, что важно, герой не сразу становится испанским королем. А в сумасшедшем доме его уже не спасает расстроенное воображение: «великий канцлер», он же «великий инквизитор» больно бьет его палкою, льет холодную воду на голову.

Но если у Одоевского героя насильно возвращают «на землю»: лечат, поправляют состояние, женят, то здесь, напротив, героя как бы загоняют в абсурд: «А знаете ли, что у алжирского дея под самым носом шишка?» [11]. Великий абсурд мира, где человек теряет свой человеческий облик (сопоставление героев с собаками), отражается в бреде окончательно впавшего в безумие чиновника: «Сумасшествие есть один из видов изгнания, вытеснения за пределы жизни; этим оно сродни смерти: но так как сумасшествие восходит всегда к некоторому личному решению resp. согласию души, то оно особенно сродни самоубийству» [10].

Таким образом, крайности сходятся, нет уже ни прекрасного идеального мира, которому причастна светлая душа героя и куда он может укрыться. Идеальность эта несет в себе черты того же грешного мира, в котором обитают чиновники: чин короля – наивысший. Внешние очертания пространства-времени хотя и нарушены, но имеют подобие реальности. Заметим календарные записи: «Год 2000 апреля 43 числа», «Мартобря 86 числа. Между днем и ночью», «Никоторого числа. День был без числа», «Числа не помню. Месяца тоже не было. Было черт знает что такое», «Числа 1-го», «Мадрид. Февруарий тринадцатый», «Январь того же года, случившийся после февраля», «Число 25», «Чи 34, сло Мц гдао, февраль 349». В календарных записях окончательно обезумевшего чиновника можно увидеть некую «эволюцию», соответствующую состоянию героя [11]. Самый пик торжества Поприщина «День без числа», когда он, гуляя по Невскому, увидел императора и снял перед ним шапку вместе с остальными только потому, что на нем не было соответствующего платья: «Я почел неприличным открыться тут же при всех; потому что прежде всего нужно представиться ко двору. Меня останавливало только то, что я до сих пор не имею королевского костюма» [11]. Бесформенность числа отражена в буквальной бесформенности героя и соответствует наибольшей свободе личности, возвысившейся до царя. Он снимает со всеми шапку, только потому, что он волен этого и не делать. У героя есть свобода выбора, но опять-таки она замкнута социально.

Потом само прозрение греховности этого мира не дает спокойствия душе мученика, напротив, усиливает протест против социальной несправедливости: «великий инквизитор» (у Гоголя «великий» с маленькой буквы как намек на относительность величия) зовет героя по фамилии. Сначала он закричал: «Поприщин!». Когда «маленький человеко) не откликнулся на фамилию, последовали имена в порядке возрастания социализации. Сначала имя личности: «Аксентий Иванов», затем чин: «титулярный советник», затем принадлежность героя к сословию: «дворянин». Одновременно с возрастанием социального, убывает само значение личности, поскольку происходит отталкивание от конкретного в сторону обобщенного. И вот взрыв: «Фердинанд VIII, король испанский». В нем личностное и социальное совмещены, но «высшая гармония» достигается ценой бунта, протеста, попрания социальных устоев.

Таким образом, урок А. С. Пушкина был усвоен. Тема бунта-безумия затем будет закреплена за архетипом этого героя. Очень важно подчеркнуть еще, что именно через «Записки сумасшедшего» Гоголь пришел к теме «маленького человека». «Маленький человек» – это тот, кто хочет стать великим во внешнем, социальном плане.

Для писателя повести о «маленьком человеке» – это повести о Петербурге, городе чиновничества, о пошлости цивилизации, возникшей в Российском государстве со времени появления огромной иерархической машины, где человек теряет свой богоподобный образ и, превращаясь в жалкое существо, заботится только о собирании «сокровищ земных».

С повестей петербургского цикла для Н. В. Гоголя начинается духовное осмысления человеческого образа, впервые он задается целью выявить причины, приведшие творение Божие к духовной деградации. Писателем двигал интерес понять причины внутреннего, душевно-духовного падения «маленького человека», будь он бедным художником Пискаревым, сумасшедшим или внешне смиренным чиновником Башмачкиным. Н. В. Гоголь подошел к осмыслению проблемы «маленького человека» «изнутри». Мир петербургского чиновничества был хорошо известен молодому Н. В. Гоголю.

27 июля 1828 года он окончил гимназию с правом на чин XIV класса. Приехав в Петербург, с января и до июля 1829 года, времени своего первого отъезда за границу. Гоголь находится в безуспешных попытках устроиться на службу. Наконец, только через полгода после возвращения из Германии, 10 апреля 1830 года, соискатель места получает резолюцию о зачислении его на службу в департамент уделов на вакансию писца. Около года пробудет он на этой должности, 10 марта 1831 года Гоголь становится младшим учителем истории в Патриотическом институте. Таким образом. Гоголь достаточно тесно некоторое время соприкасался с чиновничьим миром и вынес из этого общения собственные впечатления и понятия о жизни чиновников низшего класса. Это, в свою очередь, не могло не повлиять на выбор того социального слоя «маленьких людей», который изображен в «петербургских повестях».

Очарование столицей у молодого Гоголя длилось недолго. Заботы о своем финансовом положении выходят на первый план. Из письма к М.И. Гоголь от 3 января 1829 года: «Скажу еще, что Петербург мне показался вовсе не таким, как я думал, я его воображал гораздо красивее, великолепнее, и слухи, которые распускали другие о нем, также лживы. Жить здесь не совсем по-свински, т.е. иметь раз в день щи да кашу, несравненно дороже, нежели думали. За квартиру мы плотим восемьдесят рублей в месяц, за одни стены, дрова и воду. Она состоит из двух небольших комнат и права пользоваться на хозяйской кухне. <...> В одной дороге издержано мною триста слишком, да здесь покупка фрака и панталон стоили мне двухсот, да сотня уехала на шляпу, на сапоги, перчатки, извозчиков и на прочие дрянные, но необходимые мелочи, да на переделку шинели и на покупку к ней воротника до 80 рублей» [11].

Письма Н. В. Гоголя к матери 1829-1830-х годов испещрены финансовыми выкладками и расчетами: «Вы не поверите, как много в Петербурге издерживается денег. Несмотря на то, что я отказываюсь почти от всех удовольствий, что уже не франчу платьем, как было дома, имею только пару чистого белья для выхода и халат для будня» (письмо к М. И. Гоголь от 30 апреля 1829 г.).

Однако не только внешняя, «материальная» сторона петербургской жизни занимает писателя. Он внимательно изучает «общий дух» столицы, пытается обозначить ее характер: «Петербург вовсе не похож на прочие столицы европейские или на Москву. Каждая столица вообще характеризуется своим народом, набрасывающим на нее печать национальности, на Петербурге же нет никакого характера: иностранцы, которые поселились сюда, обжились и вовсе не похожи на иностранцев, а русские в свою очередь объиностранились и сделались ни тем ни другим. Тишина в нем необыкновенная, никакой дух не блестит в народе, всё служащие да должностные, все толкуют о своих департаментах да коллегиях, всё погрязло в бездельных, ничтожных трудах, в которых бесплодно издерживается жизнь их».

Для двадцатилетнего Н. В. Гоголя, с младенчества дышавшего «малороссийским духом», отсутствие в российской столице «печати» национального характера служило тревожным симптомом «объиностранивания», духовного обмельчания и всех жителей России, ведь с понятием Петербурга тогда связывали и просвещение, и плод его, цивилизацию.

Весь столичный мир – это мир «служащих и должностных», но хуже всего то, что все они заняты ничтожным трудом, трудом, который не одухотворен, трудом бесплодным, не приносящим никакой пользы, кроме физического поддержания человека: «Это убийственно! Что за счастье дослужить в 50 лет до какого-нибудь статского советника, пользоваться жалованием, едва стающем себя содержать прилично, и не иметь силы принесть на копейку добра человечеству. Смешны мне очень здешние молодые люди: они беспрестанно кричат, что они служат совершенно не для чинов и не для того, чтобы выслужиться. Спросите же у них, для чего они служат? Они не будут сами в состояние сказать, так, для того, чтобы не сидеть дома, не бить баклуши» (письмо к М. И. Гоголь от 24 июля 1829 г.).

Долгие и безуспешные поиски места, наводят религиозного Гоголя на мысль о Промысле Божьем: «не явно ли Он наказывал меня этими всеми неудачами в намерении обратить на путь истинный?», продолжал же писатель свои поиски только в «угоду» маменьке. Таким образом, для Гоголя уже начала 1830-х годов необходимым условием труда была его полезность. Труд, пусть даже самый мелкий, чиновничий, не благословленный Богом, не одухотворенный Его высшей идеей, никчемен, лишен всякого смысла. Спокойствие и веселость сопровождают только труд полезный: «Труд, но только спокойный, полезный, без хлопот, суетливости и поспешности, всегда имеет неразлучную себе спутницу – веселость. Я не знаю, как могут люди жаловаться на скуку! Эти люди всегда недостойны названия людей. Я теперь более, нежели когда-либо, тружусь, и более, нежели когда-либо, весел. Спокойствие в моей груди величайшее...», – писал Н. В. Гоголь матери, покинув чиновничью службу (письмо к М. И. Гоголь от 16 апреля 1831 г.).

Подытожив высказывания писателя о чиновниках, о Петербурге, породившем их в великом множестве, о бессмысленности труда бесконечно-огромной бюрократической машины, можно придти к выводу о том, что Гоголь, который побывал «в шинели» служащего XIV класса, достаточно жесток по отношению к герою «Записок сумасшедшего», несчастному, лишенному рассудка Поприщину.

Для новичка, прибывшего в Петербург из провинции и отведавшего все тяготы столичной дороговизны и дефицита хорошей должности, изображение мелкого служащего должно было бы быть более лояльным. Почему же Гоголь не снисходит до помешавшегося от амбиции чиновника?

Вторую половину 1830-х годов С. И. Гончаров не случайно называет ощутимой границей гоголевского изображения героев, когда писатель начинает ориентировать своего читателя на сферу «внешнего» – «внутреннего человека» [3].

Пока же в «Невском проспекте» (1833-1834 гг.) и «Записках сумасшедшего» (1834 г.) внешним оказывается социальная

принадлежность героев, точная реалистическая характеристика «действующих лиц». Внутреннее же их содержание лишено цельности.

В. А. Воропаев, подойдя к проблеме влияния Гоголя-христианина на Гоголя-писателя, сделал следующие заключение: «Если брать нравоучительную сторону раннего творчества Гоголя, то в нем есть одна характерная черта: он хочет возвести людей к Богу путем исправления их недостатков и общественных пороков – то есть путем внешним. Вторая половина жизни и творчества Гоголя ознаменована направленностью его к искоренению недостатков в себе самом и, таким образом, он идет путем внутренним».

В этом отношения цикл «петербургских повестей» имеет решающее значение. Не случайно он открывается «Невским проспектом». Центр Петербурга – это мишурный блеск, который скрывает множество искушений («О, не верьте этому Невскому проспекту!». Внешнее довольство жизнью, респектабельность и благонамеренность гуляющих по нему людей оборачиваются развратом души, романтизм – бессмысленной и пустой, изжившей себя вещью (об этом говорит семантика фамилии Пискарева), смертью художника и вечными муками его души, а непринужденность и веселость Пирогова – обычной, всепоглощающей пошлостью. Невский проспект – это маска лицедея, это черт, старающийся поймать в свои сети кого бобровым воротником, кого блеском эполет, мнимым величием или ложной, внешней красотой женщины. Гоголю еще в «Вечерах на хуторе близ Диканьки» и в «Миргороде» удалось показать оборотную сторону денег, власти, красоты. Только в этих сборниках «внешность», иллюзорность благополучной, прекрасной жизни основывается на материале фольклорном, историческом, в «петербургских повестях» в ход идет «сама действительность».

Однако социальный аспект – та же «удочка», на которую «ловятся» те, кто воспринимает лишь внешнее, лежащее на поверхности «противоречие мечты и существенности», овеянное романтическим ореолом.

В «Невском проспекте» Н. В. Гоголь показал разобщенность людей, их глубокое заблуждение в уверенности своей правоты, социальной значимости, погоне за наслаждениями, амбициозными мечтами. И в этих мелких, ничтожных перед вечностью устремлениях проходит вся жизнь, как смена людей всех сословий, прогуливающихся в разное время суток по Невскому. И в этом отношении не только Пирогов, но и все эти вояжеры – «маленькие люди» пред Богом, бедные духом, обуреваемые страстями в погоне за проходящим (в прямом и переносном смысле для двух главных героев повести), не замечающие вечного.

Мотив «маленького человека» (и здесь в первую очередь имеются в виду все люди со своими амбициями, мелкими заботами, страстями и «страстишками»), предстоящего перед Богом, у Гоголя говорит о преемстве пушкинского понимания «малости» человека («Станционный смотритель»).

Особенный смысл в связи с этим приобретает «Шинель» – повесть, на первый взгляд, рассказывающая только об унижениях чиновника, о «затирающей» действительности. Башмачкин, подобно Поприщину, титулярный советник, также беден и осмеян коллегами и, можно сказать, тоже сумасшедший, но на другой лад. Перед нами то же романтическое двоемирие. По сути, Гоголь в самом начале намекает на некий том романтического сочинения, который якобы был приложен в доказательство об оскорблении личности чиновника. Башмачкин, живя в Петербурге и трудясь в департаменте, пребывает в своем таинственном мире букв, так что не замечает ни насмешек товарищей, ни улицы, по которой идет со службы, ни мухи в супе. Вся повесть есть возвращение «блаженного» чиновника на почву реальных отношений, в реальный Петербург, который, однако, окончательно мифологизируется, приобретая черты демонического пространства.

Таким образом, в повести два мира: первый тот, в котором живет герой до истории с шинелью, второй тот, в котором пребывают чиновники и который во всем противоположен первому.

Акакий Акакиевич в начале представляет собой тоже как будто бы романтического героя, но в отличие от других романтических персонажей, он кажется неуклюжим, нелепым и ничтожным, о нем говорится как о посредственности. Гоголь не отмечает высоты его духа, напротив, ангельские черты искажены: кротость, смиренность, немногословие в кривом зеркале гордыни и самолюбия кажутся достойными одного осмеяния. А поскольку мир Акакия Акакиевича для нас непроницаем, то мы и судим о нем с внешней стороны, хотя бескорыстная добросовестная служба чиновника букве закона в принципе дает основание считать его однозначно положительным героем. Непроницаемость внутреннего мира Башмачкина, его внешняя сторона вскоре материализуются в виде некой вещественной оболочки – шинели. Истончение «оболочки» чиновника в данном случае может привести только к одному: к окончательной утрате внешнего – условия существования внутреннего. Конечно, Гоголь был знаком с проблемой внутренней и внешней Церкви, разработанной А. С. Хомяковым, который писал: «Внешнее единство, проявленное в общении таинства;

внутреннее же единство есть единство духа. Многие спасались (напр., некоторые мученики), не приобщившись ни к одному из таинств Церкви (даже и Крещению), но никто не спасается, не приобщившись внутренней святости церковной, ее вере, надежде и любви, ибо не дела спасают, а вера» [13]. Подобно противопоставлению внешней и внутренней церкви в творчестве Гоголя «внешний человек» противопоставлен «внутреннему человеку», способному к умной молитве, тихому деланию. В повести «Шинель» «внутренний человек) – это наиболее полное состояние души героя. С гибелью «неказистой оболочки» душа Башмачкина должна воспарить. Однако приобретение нового тела – шинели – равно измене души, это и приводит к гибели «внутреннего» и торжеству «внешнего» человека. Появление у Калинкина моста привидения, которое грабит прохожих, сдирая с них шинели, свидетельствует об овеществлении духовного, роковой подмене истинного ложным. И такой финал подводит нас к осознанию того, что Башмачкин скорее не романтический, а антиромантический герой.

Таким образом, Н. В. Гоголь идет тем же путем – от внешнего к внутреннему – (то, о чем говорили С. А. Гончаров и В. А. Воропаев) и в изображении «маленького человека», ориентирует читателей на осознание пустоты, никчемности, иллюзорности существования человека, лишенного божественного света.

В «Невском проспекте» Н. В. Гоголь отразил всеобъемлющую пошлость, от которой повествователь старается «закутываться покрепче плащом своим», она видится Гоголю как богоотступничество», сопровождающееся погоней за «внешним» и забвением того сокровенного «внутреннего», связывающего всех нас, маленьких, с Творцом.

Амбициозные притязания Поприщина так же пошлы, потому что «овнешнены». Мелкий чиновник, бедный духом, бунтует, и именно бунт приводит его к сумасшествию. В этом проявилась близость Н. В. Гоголя с пушкинской трактовкой «маленького человека».

Герой «Шинели», пожалуй, один из немногих героев гоголевских произведений вообще, кто заслуживает хоть какую-то авторскую жалость. Поэтому нам хотелось бы согласиться с М. М. Дунаевым, который так выразил отношение Гоголя к Башмачкину: он «сострадает не жертве социального угнетения, но творению Божию, не сумевшему проявить в своей любви образа и подобия Отца, в нем, в творении, заключенного».

«Гуманистическое» направление 1840-х годов породило живой интерес писателей «натуральной школы» к проблеме «маленького человека».

Бытописание мелкого чиновника становится одной из основных тем, разрабатываемых литераторами, которые считали себя прямыми наследниками раннего гоголевского творчества. Однако многие из них восприняли лишь внешнюю, социальную сторону его повестей, тогда как внутренняя духовно-душевная, оставалась для них не разгаданной.

По верному замечанию А. Н. Пыпина, «пробелы и суждения» Белинского произошли главным образом потому, что «современникам не был и не мог быть известен ход внутренней жизни Гоголя, который стал раскрываться только впоследствии, с изучением его биографии» [12]. Таким образом, молодые писатели 1840-х годов восприняли гоголевские «приемы», но не гоголевское мировоззрение [2].

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Issue Article

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HISTORICAL AND THEORETICAL ASPECTS OF STUDYING THE ETHNOCULTURAL HERITAGE OF KARAKALPAKSTAN

Abstract: *The article deals with the artistic cultural heritage of the karakalpak. Taking this into account, during the years of independence, the Republic developed decisions on the inclusion of ethnocultural heritage in state protection in order to preserve on the example of folk oral creativity.*

Key words: *heritage, creativity, ethnographic, expedition, folk, history.*

Language: *English*

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Introduction

Today, special attention is paid to the artistic cultural heritage of the Karakalpak. In particular, a number of reforms are being carried out to preserve our artistic culture and bring them to future generations. In addition, this problem is in the spotlight of a number of international organizations in the world, where special regulatory documents have been implemented [1]. Taking this into account, during the years of independence, the Republic developed decisions on the inclusion of ethnocultural heritage in state protection in order to preserve on the example of folk oral creativity.

It is known that in the endless deserts of the Karakalpak valley under the sand there were some ethnocultural monuments. Many famous Orientalists became interested in studying this heritage. For example, Academician V. Bartold is one of the scientists who perfectly understood the possible significance of ethnographic materials for history. These scientific studies are of particular interest, since they are surrounded by desert and sea, where, as in England, all life had a peculiar lifestyle, and even from the outside the acquired features had a characteristic viability.

The scientific work of the karakalpak ethnographic expedition is noteworthy. In particular, archaeologist S. As a result of the large-scale scientific research conducted on this territory by Tolstov, he clarifies some issues. Wada has long developed urban culture and agriculture, animal husbandry, and also bordered on territories inhabited by nomadic tribes. Large-scale studies of these scientists over the years have enriched cultural science with important scientific sources [2].

Thanks to its 70-year scientific research, the expedition was able to widely disseminate numerous archaeological sites and information about antiquity. The result of the expedition is rich ethnographic materials of Khorezm and its adjacent territories. Many monuments, traditions that have practically disappeared so far do not lose their significance for science as a result of research by the Khorezm archaeological and ethnographic expedition. The pre-Islamic period, that is, in ancient Khorezm lands, was first described by Uzbek archaeologists - Ya. Gulomov and T. Mirgiyasov conducted large-scale research work. In particular, Y. Gulomov studied in detail the history of the ancient irrigated lands of South Karakalpakstan. As a result, it became known that the Khorezm expedition also began its initial activities in this territory [3].

S.P. In 1934, Tolstov, as the head of the expedition on the history and ethnography of Central Asia of the Museum of the Peoples of the former Union, also studied the past of the Khiva, Turtkul and Chimboy regions. According to the scientist, Khorezm is important not only in Central Asia, but

also in the history of all neighboring countries. Since 1937, Tolstov began to lead an expedition organized by the USSR Academy of Sciences.

Before the outbreak of World War II, expedition employees conducted archaeological excavations in the northern territory, and also discovered previously unknown historical monuments on the Karakum and Kyzylkum wasteland. However, due to the outbreak of World War II, the scientific activities of researchers temporarily ceased. In 1945, after the complete evacuation of the Institute of Ethnography to Moscow, S. Tolstov conducted archaeological research on Khorezm and Ostrov.

S. Uchenik and colleague Tolstov M. According to Itina, he noted the support in the development of the expedition from the central government, that is, local authorities of the Republic of Karakalpakstan. At the same time, several detachments were formed in the Central Asia region [4]. At their disposal were caravans of aircraft, mobile power plants and special vehicles.

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Ancient Khorezm studies were carried out not only in the Amu Darya delta, but also in the lower reaches of Syrdarya, on the Eastern Caspian coast, on the Ustyurt plateau, in the central part of the Karakum and Kizilkum deserts. The most famous monuments in the lower reaches of the Amu Darya and Syr Darya were investigated, including in the Soils, Kuikirilgylkale, Jonbos-4, the right bank of Khorezm, cemeteries in Tagisken and Uygarak.

Archaeological scientific research was also carried out in the settlements of Zhetiasar - castles and "swampy settlements" in the lower reaches of Syr Darya. Since 1946, for more than 10 years, several small aircraft of the civil aviation system PO-2 the Khorezm archaeological and ethnographic expedition were assigned to the Nukus airfield.

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Based on archival data from 1937-1959, field documents of the Khorezm archaeological and ethnographic expedition with several tens of thousands of storage units are stored at the Institute of Ethnology and Anthropology of the Russian Academy of Sciences. At the same time, the materials collected as a result of many years of expedition activity, in addition to archaeological, anthropological and numismatic collections, contain many works of art, sculptural and color samples, jewelry, ancient camps, Turkic, Arabic inscriptions, etc [5].

Also in the state archival funds are field diaries of researchers, expedition reports, drawings and extensive illustrated materials, sketches, copies of wall tempos, finds, drawings of expeditionary artists - I. Savitsky, V. Pentman and G. Images of bayovs, photo archives, including negatives (films and glass records), positives (slides), publications, as well as several thousand aerial photographs

In turn, the activities of the Khorezm archaeological and ethnographic expedition are divided into the following stages; the first - 1937-1940, the main - 1945-1970 (research on complex methods of starting the operation of aerial photography), the final stage - 1970-1990. In connection with the outbreak of World War II, the expedition took a break. He began to use aerial methods at the main stage. In 1945-1950, research was carried out in the Soil, in 1945-1946 - in Dzhunboskal, in 1951-1957 - in Kunkirylkal, in the 1950s - in the Urals-Ustyurt [6].

At the same time, the history of origin and stages of the development of fortresses were studied. In the first medieval times, island tribes of primitive fishermen, a bright and peculiar civilization of ancient Khorezm began to appear in the water-rich Aral lowland of the ancient Oka delta.

In 1939, 1.5 km south of Dzhamboskala, members of the expedition, students of Moscow State University - A. Abramovich and N. Vaccinator discovered the addresses of Kaltaminor and Jonbos - 4, dating back to the first period of the Neolithic culture of Khorezm.

According to data, during the Neolithic era, tribes of the Kaltaminor culture lived in the Akchadaryo Delta, which served as an example of the discovery in 1939 of the species Yonbos - 4. This species is located in the south of the delta mountain, where the living tribes were mainly engaged in fishing and hunting. Jonbos-4, which is still a classic cultural monument of Caltaminora, is an important object of the cultural layer up to 40 cm thick and covered with mud lying under the sand.

According to the results of archaeological excavations, the remains of the burnt monument Yonbos-4 have a rectilinear shape and are residential buildings built of wood and stone. Researchers

managed to fully restore the structure of the monument based on the burned remains.

After the flood fire, the monument was covered with layers of clay, and thus the remains of this structure survived underground for more than five thousand years.

The Yonbos-4 structure was built on top of a sandy mountain range, 26x17 m long. According to archaeologists, in the center of the house there is a hole for fire smoke 8-10 m high, which is called "silent fire." Fish bones, kulak products and quartz tools were found in the Yonbos-4 fortress. Among the monuments found in this place, the oldest are the site of Yonbos - 4, dating back to the end of the IV millennium BC. E [7].

In the course of archaeological research, more than 200 fragments of found objects were transferred to the Karakalpak State Museum of Local Lore, which is currently stored in the museum's archaeological collection. At the same time, thanks to the drawings of the fortress, its layout was developed, which is currently KP.1070 in the archaeological collection of the museum and exhibited at the exhibition under Inv.101. In addition, fragments of slave goods made of red bark found in Jambaskalaa with the number KP 1/1-146 were preserved in this collection [8].

The archaeological collection was replenished with field research, some of which were attended by museum researchers. Archaeological expeditions were also carried out in the fortress, dating back to the late ancient period. It is known from history that in the IV-I centuries BC. e.

Almost all cities of the ancient Khorezm period were built to protect the valley from raids by neighboring tribes. The right side of Amu Darya from east to west is built up with Dzhamboskala, Buzorkala, Kurgoshinkala, Kirghizkkala, Ayazkala, Burylashala and Soils. From the fact that the plan of these fortresses was built taking into account the defense system, it is clear that Khorezm was a powerful centralized state [9].

In 1937, the Khorezm archaeological and ethnographic expedition first investigated the ancient monument of Kuikirilgylkale, located in the city of Turtkul of the Republic of Karakalpakstan, 22 km northeast of the territory of Kadym Khorezm. The geographical location is located on the territory of the Akchadarya delta of the southern part of Turtkul, where field research has been carried out partially since 1950, and systematic excavations have been carried out since 1951 [10].

The filling has the shape of a large cylinder, diameter 44.4 meters, height 8.5 meters. During the survey, it was found that the building consists of two floors. On the first floor there were rooms, on the second - galleries for shooting. Outside, neighbors (86.5 meters in diameter) surrounded it like a ring. There were plenty of domed rooms inside the wall. Unlike the objects found inside the walls, employees lived here. The found objects can be seen as the economic and cultural life of the population of the fortress in the 4th-1st centuries BC, that is, during the period of the Kang state. Among the very common oval vessels, images on water-like urine, which is delivered to men for hunting or, if not for sale, are particularly noticeable. One of these dishes shows a woman sitting on a throne and feeding a child, and the other shows a man preparing for a fight.

Among the drawings made, statues were found showing a woman raising wine, dressed in dark dresses and coats with pepper, on one hand - with an eye, on the other - with a pencil. There are suggestions that the images of this woman depict the wine god Mina.

Archaeologists - S. Tolstov, B. Weinberg and N. As a result of scientific studies of the two-river sculptures, it was noted that terracotta sculptures are associated with the religion of Zoroastrianism. The confirmation that in the territory of Khorezm until the period of the Arab invasion, crowded and Zoroastrianism developed well can be ostadons of various forms. As a result of archaeological excavations in this fortress, about 80 terracotta figures were discovered, about 83 fragments.

Identifying the eras of these terracottes caused some difficulty. Depending on the place of discovery and the raw materials used, the objects of slavery can be assumed early Kang period. 25% of terracotta found in sediments look like a man. They are divided into two parts, that is, terracottes with the lower parts of the head and shoulder, which scientists studied in several pears.

With the help of photographs stored in the collection of photographs of the Karakalpak State Museum of Local Lore, a model of Sunflower was developed. At number 1127, Inv.100 currently occupies a place in the museum exhibition, allowing each visitor to see its significance as a structure and architectural monument.

The museum staff provides the audience with detailed information about the history of the fortress, found as a result of archaeological research conducted there, their periodic stages, the first stage of excavation and its current condition.

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Issue Article

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STUDY OF THE INFLUENCE OF THE ALIMENTARY FACTOR ON DEVELOPMENT OF IRON DEFICIENCY ANEMIA IN PEOPLE OF REPRODUCTIVE AGE

Abstract: *The article provides statistical data on the prevalence of iron deficiency anemia, discusses the results of a study conducted by the Union of Scientists "Spectrum" with funding from BPRM in conjunction with the IRC. The presence of iron deficiency among different social groups of the working population was revealed and the dependence of iron deficiency states on the type of nutrition was determined. The need to create new iron-containing herbal medicines is also discussed.*

Key words: *iron deficiency, anemia, alimentary factor, balanced diet.*
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ИССЛЕДОВАНИЕ ВЛИЯНИЯ АЛИМЕНТАРНОГО ФАКТОРА НА РАЗВИТИЕ ЖЕЛЕЗОДЕФИЦИТНОЙ АНЕМИЙ У ЛЮДЕЙ РЕПРОДУКТИВНОГО ВОЗРАСТА

Аннотация: *В статье приводятся статистические данные о распространении железодефицитной анемии, обсуждаются результаты исследования, проведенного Союзом ученых «Спектр» при финансирований BPRM совместно с IRC. Было выявлено наличие дефицита железа среди разных социальных групп работающего населения и определена зависимость железодефицитных состояний от вида питания. Также обсуждается необходимость создания новых железосодержащих фитопрепаратов.*

Ключевые слова: *дефицит железа, анемия, алиментарный фактор, сбалансированное питание.*

Введение

Железодефицитные состояния (ЖДС) - одна из распространенных форм алиментарной недостаточности железа, а железодефицитная анемия *(ЖДА)* является наиболее частой в структуре малокровия. Известно, что среди населения широко распространен латентный (скрытый) дефицит железа (ЛДЖ), когда показатели гемоглобина еще в норме, но транспортные и органные запасы железа уже истощены. Дефицит железа алиментарного происхождения может развиться у детей и взрослых при недостаточном его содержании в пищевом рационе, что наблюдается при хроническом недоедании и голодании, при ограничении питания с лечебной целью, при однообразной пище с преимущественным содержанием жиров и сахаров.

Судя по отчету Всемирной Организации Здравоохранения (ВОЗ), 1,8 млрд. человек в мире страдают *железодефицитной анемией* и 3,6 млрд. - латентным дефицитом железа [1]. Распространенность ЖДА неодинакова в различных странах и зависит от социальных и экономических условий. В 1993 году Мировой Банк назвал анемию восьмой ведущей причиной заболеваемости среди девочек и женщин в развивающихся странах [2]. В отдельных

регионах мира частота ЖДА среди детей достигает 30-70%, среди женщин - 11-40%, а среди девочек-подростков - 9%. Нужно отметить, что нет реальных статистических данных по распространению ЖДА во всем мире и отдельных странах. В основном публикуются исследования распространения ЖДА среди детей и беременных женщин [3].В документах 55-ой сессии ВОЗ (2002 год) ЖДА занимает седьмое место в списке особо опасных для здоровья факторов риска в странах с высоким показателем смертности, восьмое место - в странах с низким показателем смертности и десятое место - в странах с очень низким показателем смертности [4]. Международный опыт по борьбе с анемией доказал, что самым экономичным, безопасным, доступным и долговременным методом профилактики дефицита железа является обогащение пищевых продуктов профилактической дозой железа. Некоторые развитые страны (США, Англия, Швеция, Голландия) приняли общенациональные программы по профилактике железодефицита с помощью обогащения хлеба, зерновых продуктов, фруктовых соков, детских молочных смесей неорганическими солями железа. Однако это не дало ощутимых результатов в экономически слабо развитых странах. Несмотря на усилия ВОЗ и ЮНИСЕФ по распределению пищевых добавок в тех странах, где наиболее распространена ЖДА, изменений с 1990 года практически не произошло. К примеру, в середине 90-х годов уровни распространенности ЖДА среди беременных женщин в Юго-Восточной Азии и странах Африки, расположенных к югу от Сахары, оценивались, соответственно 79 и 44 %. Главное, данный показатель существенно не меняется вот уже много лет.

Систематических исследовательских данных о распространенности ЖДА в Грузии не существуют. Однако, имеются определенные результаты исследований, которые не в полной мере отображают реальную картину.

Союз ученых Имеретинского Региона Грузии «Спектр» при финансирований BPRM - Американского Бюро Миграции, беженцев и Гражданского населения совместно с International Rescue Committee (IRC) провел исследование населения г. Кутаиси с целью выявления среди них людей с ЖДА. Выделены несколько групп риска: беременные женщины и женщины репродуктивного возраста, часто рожающие женщины, вегетарианцы, доноры и люди работающие во вредной среде. В отдельной группе объединились многочисленные беженцы, живущие в местах компактного проживания. Следует отметить, что Грузия православная страна, в которой большинство населения полностью или частично соблюдает православный пост, не принимая продуктов животного происхождения, поэтому в особой группе рассматриваются духовенство и верующие люди.

Целью нашей работы являлось обследование трудоспособного слоя населения в возрасте 20-50 лет. Были выделены 3 социальные группы:

I группа - беженцы из конфликтных регионов, проживающие в местах компактного проживания;

II группа - жители г. Кутаиси, имеющие постоянную работу, следовательно, постоянное средство на существование;

III группа - жители г. Кутаиси из социально незащищенных слоев.

В отобранных группах провели анкетирование. Анкета содержала следующие основные медико-социальные показатели:

1. Ежемесячный доход
2. Интенсивность употребления мясных продуктов
3. Интенсивность употребления фруктов и овощей
4. Проживание на улицах, перегруженных транспортом
5. Контакт с вредными веществами
6. В течении года имели место: хирургические вмешательства, повторные роды, кровотечения, длительная менструация
7. Жалобы пациента на быструю усталость, снижение трудоспособности и резкое ухудшение памяти, частая головная боль, изменение вкуса и обоняния, ломкость волос и ногтей, трещины на пятках и др.
8. Имеются ли хронические болезни, в том числе, туберкулез и патологии печени.

Анкетирование прошли около 10 000 человек. Врач-гематолог из них выделил 8000, предположительно относящихся к группе риска. В результате лабораторного исследования крови (общий анализ) этих пациентов из них были отобраны 4550 человек, в крови которых количество гемоглобина было на нижнем уровне или же ниже нормы. Также были учтены количество и формы эритроцитов и цветовой показатель.

В дальнейшем в отобранной группе провели углубленный анализ венозной крови, определены количество сывороточного железа и феритина, на основе чего была выявлена группа больных ЖДА.

Исследования показали, что 27% пациентов из всех анкетированных людей страдали ЖДА. Данный показатель довольно высок и вызывает тревогу, так как это касается людей активного трудоспособного и репродуктивного возраста, т.е. практически здорового слоя населения.

Установлено количество больных ЖДА в каждой отдельно взятой группе людей, определены зависимость наличия дефицита железа с факторами риска. Тщательно

проанализирована зависимость ЖДА от характера питания и социального уровня жизни населения.

В таблице 1 приведены статистические данные проведенного исследования.

Таблица 1. Медико-социальные результаты исследований групп

Показатели		Количество (человек)	Больные ЖДА	
			Количество (человек)	Количество (%)
Общее число опрошенных		10 000	2700	27
В том числе	мужчины	4500	945	35
	женщины	5500	1755	65
Из числа опрошенных	Беженцы	3500	1125	32
	Люди имеющие постоянную работу	3300	495	15
	Люди из социально незащищенных слоев	3200	1080	33

Проведенные исследования показали, что ЖДА чаще встречается у женщин, исходя из физиологических причин (беременность, роды, лактация, менструальное кровотечение). Высок этот показатель для группы людей из социально незащищенных слоев (безработные, беженцы). Неудовлетворительные социальные условия, неполноценное питание и недоедание, стресс, необустроенный быт, недоступность своевременной медицинской помощи являются основной причиной развития ЖДА для пациентов этих групп.

Известно, что основным источником железа для человека являются пищевые продукты животного происхождения (мясо, свиная печень, почки, сердце, желток), которые содержат железо в наиболее усвояемой форме. Количество биодоступного железа в мясе гораздо выше по сравнению с продуктами растительного происхождения. По своей структуре двухвалентное гемное железо близко к гемоглобину человека и максимально всасывается в организм без разрушения. Существуют растительные продукты, содержащие железо с высокой концентрацией, но так называемые ингибиторы, находящиеся в растительных продуктах, до минимума сводят абсорбирование железа. Количество железа в пище при полноценном и разнообразном питании составляет 10–15 мг в сутки, из которых только 10-15% усваивается организмом [8].

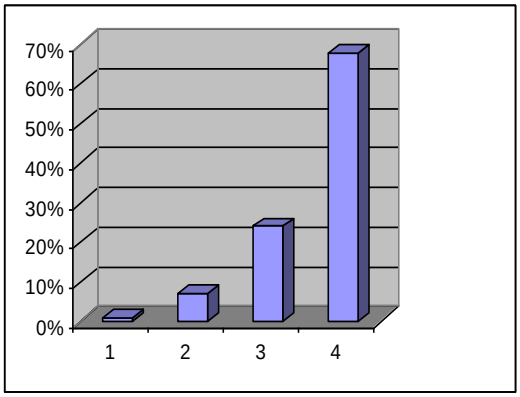

Рис.1. Частота приема мясо и мясных продуктов в среди больных ЖДА

1 - Питаются каждый день
2 - Питаются 2 раза в неделю
3 - Питаются 1 раз в неделю
4 - Питаются 1 раз в месяц

Исследование показало, что большинство больных ЖДА редко (1 раз в месяц и реже) питались мясными продуктами. На диаграмме (рис.1) показана частота питания мясными продуктами среди больных ЖДА.

Сбалансированное питание, разумное сочетание продуктов животного и растительного

происхождения является наиважнейшей при профилактике и в лечении ЖДА. Однако, известно, что невозможно купировать железодефицитную анемию без препаратов железа лишь диетой, состоящей из богатых железом продуктов [9]. Необходимо длительное медикаментозное лечение.

До настоящего времени проблема анемии в полной мере не решена ни в одной стране мира, поэтому поиск новых путей является одной из серьезнейших задач в биохимии и физиологии питания. Исследование рациональных железосодержащих источников и разработка эффективных мультивитаминных биоактивных добавок являются одной из актуальных проблем современной медицины и фармакологии [10]. Поиск и разработка новых богатых железом фитопрепаратов особенно важен для тех людей, которые по религиозными или ментальными соображениями редко употребляют животную пищу.

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Issue Article

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OPTIMIZATION OF TECHNOLOGICAL PROCESSES OF EXTRACTION OF THE WILD BLUEBERRIES

Abstract: *The article describes the basics of optimization of technological processes for the extraction of wild blueberries - Vaccinium. The task of optimization is to maximize the content of elemental iron in the dry extract of plant materials. Methods of mathematical planning, modeling and optimization of the experiment are used. The matrix of the experiment included three factors: extraction temperature, extraction duration, mass ratio of water and vegetable raw materials (modulus). Geometric interpretations of the mathematical model are presented. The analysis shows that all these factors significantly affect the optimization criteria. They reach a maximum closer to the center of the experiment.*

Key words: *blueberries, optimization, modeling.*

Language: *Russian*

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ОПТИМИЗАЦИЯ ТЕХНОЛОГИЧЕСКИХ ПРОЦЕССОВ ЭКСТРАКЦИИ ДИКОРАСТУЩЕЙ ЧЕРНИКИ

Аннотация: *В статье описываются основы оптимизаций технологических процессов экстрагирования дикорастущей черники - Vaccinium. Задачей оптимизации является максимальное увеличение содержания элементарного железа в сухом экстракте растительного сырья. Использованы методы математического планирования, моделирования и оптимизации эксперимента. В матрицу эксперимента вошли три фактора: температура экстракции, длительность экстракции, массовое соотношение воды и растительного сырья (модуль). Представлены геометрические интерпретации математической модели. Анализ показывает, что все указанные факторы значительно влияют на критерии оптимизаций. Они достигают максимума ближе к центру эксперимента.*

Ключевые слова: *черника, оптимизация, моделирование.*

Введение

Железо является важным макроэлементом и необходим для функционирования человеческого организма. Оно принимает участие в переносе кислорода гемоглобином, в синтезе гемоглобина, ДНК и многих ферментов, а также в обновлении определенных клеток.

Существуют огромные разновидности богатых элементарным железом растений, которые также содержат множество полезных биологически активных веществ и активаторов железа. Фиторепараты на базе этих лекарственных растений могут быть эффективно использованы в процессе превенции и лечения дефицита железа. Следует отметить, что фитопрепараты отличаются от химических лекарственных средств мягким пролонгированным действием на организм человека и почти полным отсутствием токсичности[1-3].

Объекты исследования

Объектом данного исследования является плод черники - Vaccinium, дико растущей в высокогорных экологически чистых районах Грузии. После надлежащей сушки спелых плодов черники была проведена нано диспергирование растительного сырья, что позволило повысить эффективность процесса экстракции и выхода биологически активных веществ. Полученную измельченную массу экстрагировали с помощью специальных технологий и после фильтрации экстрагировали экстракт через вакуумиспаритель [3]. Полученный сухой экстракт плодов черники исследовали физико-химическими методами. Методом жидкостной хроматографии высокого давления определены количества антоцианов и флавоноидов. Было обнаружено, что доминирующим веществом является антоциановый пигмент, который после экстрагирования сохраняется в экстракте до 50%. Исследования спелых сухих плодов черники доказали, что среди фенольных соединений доминируют антоциановые пигменты, количество которых намного превышает содержание флавонолов. Среди фенолкарбоновых кислот доминирует хлорогеновая кислота, которая обладает высокой антиоксидантной активностью. Наблюдается сравнительно низкое количество катехинов, лейкоантоцианов и флавоноидных гликозидов [4-8].

Методы исследования

Для оптимизаций технологических процессов экстрагирования черники использованы методы математического планирования, моделирования и оптимизации эксперимента [9, 10]. Изучен характер и диапазон влияния ряда факторов на параметры оптимизаций, в частности, температуры и длительности экстракции, массового соотношения экстрагента и сухого растительного сырья. В матрицу эксперимента вошли три фактора: температура экстракции t, ^{0}c; длительность экстракции T, мин; массовое соотношение воды и растительного сырья (модуль) n, л/кг.

Для оптимизации технологических процессов экстракции растительного сырья основным параметром выбрано количество сухого биологически активного экстракта - E, мг/г, получаемого из 1 г сухой массы черники. Второй основной показатель - количество элементарного железа в 1 г сухого экстракта растительного сырья, F, мг/г. Этот параметр определили атомно-абсорбционным методом на атомно-абсорбционном спектрофотометре производства Agilent Technologies. Паралельно определяли сгенерированный параметр

$$K = (\mathrm{E} \times F) / 1000 \ [\text{мг/г}], \quad (1)$$

что является числовым значением выхода элементарного железа из каждого 1 г сухого сырья черники при экстракций.

Результаты исследования

Технологический процесс экстракции железосодержащего концентрата диспергированной черники можно представить в виде следующих адекватных уравнений регрессии в относительных единицах:

$$E = 60 + 2{,}2X1 + 2{,}6X2 + 1{,}8X3 - 1{,}0X12 - 0{,}8X22 - 0{,}6X32 + 2{,}4\,X2\,X3 \quad [\text{мг/г}] \quad (2)$$

$$F = 2{,}00 - 0{,}10X1 - 0{,}12X2 - 0{,}15X3 + 0{,}09X12 + 0{,}07X22 + 0{,}05X32 - 0{,}11X2\,X3 \quad [\text{мг/г}] \quad (3)$$

Геометрические интерпретации (3) математической модели представлены на рис. 1-3.

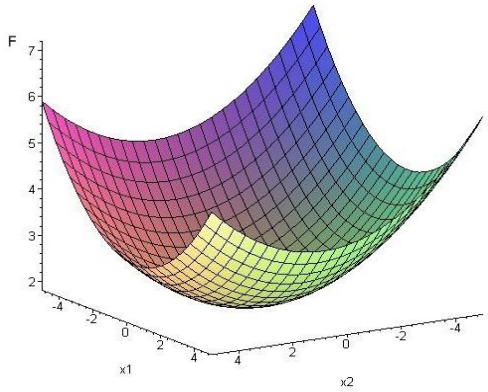

Рис. 1. Зависимость количества железа (F) от температуры экстракции (X_1) и времени экстракции (X_2) в экстракте черники

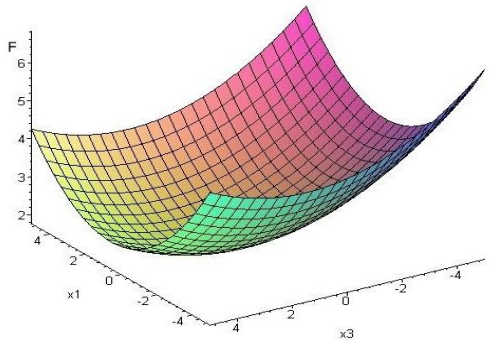

Рис. 2. Зависимость количества железа (F) от температуры экстракции (X_1) и модуля экстракции (X_3) в экстракте черники

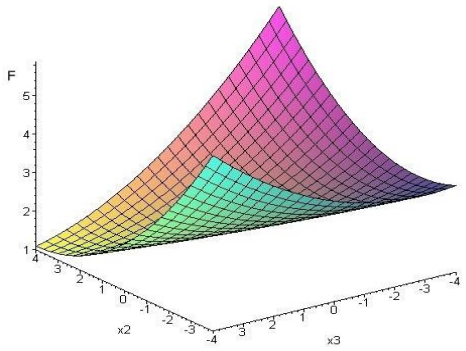

Рис. 3. Зависимость количества железа (F) от времени экстракции (X_2) и модуля экстракции (X_3) в экстракте черники

В условиях варьирования действующих факторов выход элементарного железа (мг/г) на 1 г сухого сырья черники рассчитали по формуле (1).Анализ показывает, что все указанные факторы значительно влияют на критерии оптимизаций. Они достигают максимума ближе к центру эксперимента.

Задача оптимизации заключалась в том, чтобы максимально увеличить содержание элементарного железа в сухом экстракте черники, в условиях получения ограниченного количества биологически активного сухого экстракта вблизи центра эксперимента.

Выводы

Оптимальные технологические режимы экстракции железосодержащих соединений из сухих плодов черники можно представить следующим образом:

- Температура экстракции **t** = 71 ^{0}C;
- Продолжительность экстракции **T** = 46,5 мин;
- Модуль экстракции n = 5,36 л/кг.
- Данным значениям факторов соответствуют оптимальные значения параметров:
- Количество сухого биологически активного экстракта от 1 г сухой массы плодов черники E = 60,2 мг/г;
- Количество элементарного железа в 1 г сухого экстракта плодов черники F = 2,353 мг/г;
- Выход элементарного железа от 1 г сухой массы плодов черники K = 0,142 мг/г.

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Issue Article

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THEORETICAL AND METHODOLOGICAL BASES OF COST REDUCTION IN INDUSTRIAL ENTERPRISES

Abstract: *This article discusses the main steps in cost accounting research. In addition, the article summarizes foreign and domestic experience in organizing self-financing. When creating the article, a new approach to design and financial management was used.*

Key words: *cost classification, accounting, industry, economy, management system, tax, strategy, commodity products, money.*
Language: *English*
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Scopus ASCC: *2000.*

Introduction

The main stage in the research of cost accounting is the identification and study of the emergence and formation of cost accounting, conditions, methods, causes and features of their occurrence, prospects and trends, and unsolved problems. Also, it is necessary to generalize the foreign and national experience in the organization of cost accounting and apply it to the effective organization of the cost accounting system.

Strong competitive conditions in the world, the complexity of the production process require enterprises to implement new approaches to cost accounting management. In the 19th century, cost accounting split into financial and management accounting. It is this period that many scientists say is the period of origin of management accounting theory.

According to Article 18 of the Law of the Republic of Uzbekistan "On Accounting" "... expenses are reflected in accordance with accounting standards in the reporting period, regardless of the time of payment and the date of receipt of money. Incomes and expenses for the implementation of the State budget of the Republic of Uzbekistan and the budgets of state special funds are reflected in accordance with the legal documents on the budget" [1].

In accordance with the above law, the cost items are based on the Regulation "On the composition of the costs of production and sale of products (works, services) and the procedure for forming financial results" approved by the decision of the Cabinet of Ministers of the Republic of Uzbekistan No. 54 dated February 5, 1999. According to this Regulation, "Expenses classification is primarily aimed at accurate and complete reflection of expenses in accounting, as well as determining the financial results (profit or loss) of its activities in order to prepare the financial report of an economic entity" [2]. In the formation and accounting of costs, industrial enterprises follow this RegulationBased on this Regulation, all cost items can be expressed as follows:

- costs included in the production cost of the product: a) direct and indirect material costs; b) direct and indirect labor costs; c) other direct and indirect costs, including overheads with production characteristics;
- expenses that are not included in the cost of production, but are included in the profit from the main activity and are included in the expenses of the period: a) sales expenses; b) management costs (administrative costs); c) other operating costs and losses;-expenses of the financial activity of the economic entity, which are taken into account when calculating the profit or loss from the general

economic activity of the economic entity: a) interest expenses; b) negative exchange rate differences on transactions with foreign currency; c) revaluation of funds invested in securities; g) other expenses for financial activities.Contingent losses are taken into account in calculating profits or losses before the tax on those profits is paid.

Also, in accordance with the Tax Code of the Republic of Uzbekistan, "Expenses substantiated and confirmed by documents, and in cases provided for by this code, losses formalized in accordance with legal documents and (or) accounting policy of the taxpayer, are also expenses of the taxpayer" [3].

The study of the theoretical, methodological and practical aspects of cost accounting in economic entities operating in various sectors of the economy has always been in the focus of attention of economists. However, many economists, accountants, business managers define costs differently in the process of solving operational and strategic management tasks. Analyzing the meaning of the cost, several foreign scientists N.D. Vrublevsky [4], V.A. Konstantinov [5], M.M. Korostelkin [6], I.A. Maslova [7], J.B. Popova [8], G.R. Khamidullina [9] and others mentioned that the term "cost" is defined differently in economic literature. However, at the same time, it is important to correctly interpret these concepts, taking into account the current economic conditions (profit or loss), in order to generate reliable financial results.

Costs as an economic category were considered in the scientific works of several foreign and our republican scientists: D. E. Doland, D. E. Lindsey, E. Atkinson from foreign scientists [10], and others, as well as Russian scientists P.C. Aseynov, L.M. Burmistrova, T.G. Drozdova [11] and others.

The essence of the costs are among the scientists of our republic: A.A. Karimov, A.A. Abduganiev, M.K. Pardaev, B.A. Khasanov, A.K.Ibragimov S.Kadirkhanov [12].

According to V.V. Amosova, G.M. Gukasyan, G.A. Makhovikova, cost is a monetary expression of the amount of resources used to obtain a number of useful reserves [13].

According to K.A. Raitsky also approves the same opinion and adds the following definition to it, that is, "costs represent the value of goods and services attracted, used or consumed to achieve the enterprise's goals" [14].

Costs as an accounting category are expressed in the scientific works of a number of world scientists: Atkinson, H. Warneke, H. Bullinger, R. Hichert, A. Fegele, A. Anthony, Banker, D. Rajiv, S. Kaplan, S. Young Mark , K. Drury, C. Horngern, Dj. Foster, Sh. Datar, R. Anthony, Dj. Rees et al. The above authors defined costs as follows.

According to N.D. Vrublevsky, the costs of the enterprise are directly related to the creation of reserves of material and technical resources for production, to the services of suppliers of goods transferred to the manufactured product, to the purchase of labor resources, as well as to the direct production - economic activity of the enterprise. expenses that are not and are covered by profit or other financial sources, sources that are free of expenditure [18].

According to K. Drury, "costs are a frequently used word that reflects in monetary terms all the resources spent on purchasing a product or service to achieve a certain goal". At the same time, it is noted in the comments of the translator of K.Drury's studies that the use of the terms "costs" and "expenditures" is primarily determined by the features of translation, and not by an effort to clarify the difference between concepts [19].

According to D. Khan's point of view, the concept of "expenses" is more related to the creation of assets or reduction of liabilities of the enterprise than the concepts of "costs" or "costs" [20]. In this interpretation, "costs" are "expenditures" related to a certain period.

Our analysis shows that we can conclude from the above that the concept of "expenses" is broader than the concept of "expenses", because the costs of the enterprise should be conceptually understood as all actions related to the implementation of changes in the property structure of the business entity. In this case, the expenses will have a capital nature or will be aimed at ensuring the main activity.

In our opinion, the concept of "enterprise expenses" directly relates to the financing of excess capacity, business development and expansion, interest payments on debt resources (attraction of capital) and others.

In special literature, costs are considered as follows: "Costs, expenses, expenses - monetary expression of expenses related to the expenses of various resources (raw materials, materials, labor, funds) in the process of production and sale of goods. Mainly divided into production and sales costs. Production costs: fixed costs - costs that do not depend on the amount of produced products (for example, the costs of protecting the territory, maintaining the administration, buildings); variable costs are costs that depend on the volume of the product produced or the service provided (for example, costs related to the purchase of materials, raw materials, and the payment of wages to employees)" [21].

As an economic category, T. Juraev and D. Tojiboeva defined costs as follows: "Certain economic resources are required for the implementation of any type of economic activity. The costs incurred for their purchase are called economic costs. Costs incurred as a result of attracting and using economic resources to the production process are called production costs" [22].

Also, professors B.A.Erkaev and G.I.Karimova, scientists of our republic, defined the production costs

as follows: "Production costs are the total amount of material and labor costs incurred during production, costs, working time spent on goods" [23].

According to A.K. Ibragimov, "production costs are the sum of material and material costs spent directly on production and serve as the basis for determining the production cost of the enterprise" [24].

According to B.A. Khasanov and A.A. Khashimov, "expenses are the monetary expression of expenses related to production of products, sale of goods, performance of works and provision of services" [25].

According to A.A. Abduganiev, "Costs are the main condition for obtaining profit as a result of production, without which no activity, including production, can take place. All production costs are a set of materialized and living labor that occurs in the form of value as the consumption of labor tools and labor products" [26].

According to G'.N.Sanaev, "Costs or production costs are a sum of indicators in monetary terms recognized by the society, spent by the investor for the production of products at the expense of labor tools, labor objects and live labor funds" [27].

H. Artykov explains in his scientific research that "Cost accounting and product cost determination is a very narrow concept compared to production accounting and is an integral part of it" [28].

During our research, based on the opinions of the above scholars, we analyzed the nature of costs and distinguished four different approaches.

According to the first approach, costs represent the value of any resources necessary to achieve any goal, in monetary terms. In this, in most cases, the authors did not set a clear goal.

According to the second approach, costs are primarily monetary expressions of the total cost of material, labor, and financial resources directed to the development of products (work, services). In our opinion, these resources can be directed not only for the implementation of the current activities of the enterprise, but also for investment and financial activities of the enterprise.

According to the third approach, expenses are defined as a tool aimed at the purchase of resources, which will be reflected in the balance sheet in the form of assets in the future or recognized in the statement of financial results as expenses at the same time. This definition is very closely related to accounting, and it clearly states the main nature of costs: their exact change in accounting objects is indicated. But at the same time, it does not specify the list of resources.

In the fourth approach, the authors consider costs to be the same as outputs.

Our analysis shows that there is no single definition of the concept of "costs" among the scientists of our republic and foreign scientists.

Based on the above, in our opinion, we can define expenses as follows: "Expenses as an economic and accounting category - cash and non-cash money related to the purchase of resources (tangible, intangible, labor, financial) that affect the decrease in the company's assets or increase in liabilities during the reporting period payments, which arise as a result of financial and investment activities of the enterprise in the current period and are collected during the reporting period and reflected in the balance sheet in the form of assets (in-progress construction, fixed assets, inventories, expenses of the future period, receivables) or expenses (cost of production, administrative and other) expenses) reflected in the statement of financial results». Five important aspects can be distinguished in this definition. The first aspect is that expenses affect the decrease in the company's assets or increase in liabilities and are considered as payments (payments in the cash and checking account, increase in payables and decrease in receivables).

The second aspect of costs is determined by means of spent resources (material, immaterial, labor, financial). The cost element is the amount of materials used, the number of workers and the amount of other spent resources. The third aspect is the monetary expression of the value of the used resources. Fourth, expenses are always related to specific goals and tasks. Such tasks are product production; doing things; rendering of services; commodity can be the determination of the amount of resources used in the production of work and services in a monetary unit. Fifth, the costs can belong to a certain period, that is, the costs consumed in the production process are included in the expenses in the statement of financial results during the reporting period, or they remain unfinished and remain as an asset and are recorded in the balance sheet as part of the cost of the enterprise.

In our opinion, the above classification of costs can be applied to internal production planning (budgeting), management analysis, as well as financial accounting and management accounting.

S.Ross, based on the analysis of joint-stock companies, allocates costs of mediation that are formed in the process of relations between the owners and the management of the enterprise [29].

In this case, there is a possibility of a conflict of interests between these persons, and mediation costs are the cost of this conflict. It should be noted that these costs can be direct or indirect, the first of which, in essence, are the transaction costs of the enterprise (for example, the payment of audit and consulting services), and the second is the lost profit.

Our analysis shows that the relevance of the issue of cost management in industrial enterprises requires to consider the cost accounting process and the efficiency of the enterprise as a whole.

In our opinion, cost management is a continuous process that reflects the adoption of management decisions aimed at reducing costs and optimizing

them, in which cost accounting, analysis, planning and control serve as the basis.

In this process, information about enterprise costs and product (work, service) value is an important factor. In particular, the information about the costs is necessary for the evaluation and determination of the profitability of the enterprise, as well as for the control of the activities of its constituent units or types of services, etc.

L.V. Yurevani says that information about costs in industrial enterprises is necessary for the following [29]:

- analysis of prices of goods (works, services);
- making a decision on the introduction of the production of a product (work, service) or the termination of its activity;
- making a decision to increase or decrease the volume of product production, as well as to decrease the price;
- decide to increase or decrease power;
- assessment of investments allocated to production, development of various options for the implementation of the production process. In the effective organization of cost accounting, managers are required to use the method of classification of basic costs at all levels of enterprise management.

In the opinion of the author, relying on the opinions of the above scientists, we can say that the purpose of cost accounting in industrial enterprises is to correctly and timely account the costs incurred during the financial and economic activities of the economic entity based on the current legal requirements, and to provide timely, complete and accurate information to users of information.

Based on this goal, in our opinion, the main tasks of cost accounting in industrial enterprises are as follows: accounting of costs in accordance with the criteria that reveal their nature; proper categorization and grouping of enterprise expenses; formation of complete and reliable information on the movement of enterprise expenses; formalize enterprise expenses correctly, on time and with appropriate initial documents; ensuring full compatibility of account information and reporting information on enterprise expenses; accurate and timely accounting of costs of work in progress, their re-registration within the specified periods; to find out the causes and culprits of expenses that cause the excess of sales expenses, period expenses, to constantly control the activities of the persons responsible for preventing such expenses; control over efficient use of available resources and tools; correct formation of expenses as an object of the tax base; recognition of expenses in accordance with the principle of calculation from the moment they occur and reflected in the relevant accounts; correct reflection of expenses in financial statements, etc.

The settlement and development of market relations in the economy of our republic, the formation of new economic legislation, the increase in the independence and responsibility of accounting entities, create the need to study the methodological and organizational aspects of enterprise cost management with a new approach.

Decision No. DP-2692 of the President of the Republic of Uzbekistan dated December 22, 2016 [30], Decision No. 64 of the Cabinet of Ministers of the Republic of Uzbekistan dated March 7, 2012 [31], Decision No. 333 of the Cabinet of Ministers dated November 28, 2012 [32], Cabinet of Ministers of January 8 In accordance with Decision No. 5 of 2014 [33], Decision No. 8 of January 22, 2015 [34] of the Cabinet of Ministers, technological a complex for every large enterprise aimed at rational organization of processes and standards of consumption of raw materials, materials and energy resources, increasing the level of utilization of production facilities and increasing labor productivity, reducing operational and non-production costs, optimizing the number of employees and reducing the cost of industrial products due to other factors measures have been developed. a complex for every large enterprise aimed at rational organization of processes and standards of consumption of raw materials, materials and energy resources, increasing the level of utilization of production facilities and increasing labor productivity, reducing operational and non-production costs, optimizing the number of employees and reducing the cost of industrial products due to other factors measures have been developed"increase" is defined as one of the main directions of further development of the corporate management system [35].

In recent years, the industrial sector has observed an increase in production costs due to the increase in the price of raw materials, materials, fuel, energy, as well as the increase in the interest rates of credit use, the increase in the costs of advertising and mediation. Based on this, it is necessary to improve the practice of managing production costs, taking into account the specific aspects of international experience. This situation gives the enterprise the opportunity to operate in a competitive environment, to maximize income and minimize costs, to ensure the profitability of the enterprise. In the management and accounting of costs in enterprises of Western countries, three elements of costs or three nomenclature items are usually distinguished, that is, direct material costs, direct labor costs, additional costsThe basis of classification of expenses in foreign enterprises is their production volume. Depending on the volume of production, costs will be constant and variable. As different classification options that are often used in the practice and theory of cost management abroad are past (actual) and estimated (future) costs., plan) allocation to expenses, allocation of expenses according to the place of origin, according to the possibility of regulation and control, according to responsibility centers, it is possible to show the classification according to carriers of expenses [36].

The important cost groups used in the management and accounting practice of the costs of local economic entities are the division into groups by economic elements and calculation items. First of all, this classification of costs is explained by the orientation of local systems of cost management to accounting data and requests from external users. Calculus is limited in developed countries. The method of calculating production costs according to the abbreviated nomenclature is widely used. Costs include only variable costs: raw materials and materials, wages, variable part of indirect costs. These costs are considered as a function of the volume of production activities. It is reasonable to assume that fixed costs are associated with the production costs of certain types of products. Accordingly; It is widely accepted to divide enterprise production costs into fixed, gross and final costs [37]. In world practice, different calculation methods are used in cost accounting, and this is primarily related to the types of calculations, the type of production and the internal management of the firm. That is, in the classification of complete accounting systems for including enterprise costs in the cost of finished products in foreign countries, a distinction is made between a complete cost system that serves to organize strategic management and an incomplete (variable, limited) cost accounting system that serves operational management.

A common feature of both systems is recognition of administrative expenses, selling expenses and other expenses as expenses of the current period, which provides for their reimbursement at the expense of the enterprise's income. The difference between partial costing and full costing systems is the ratio of total production costs to fixed costs. The basis of the full cost accounting system is the reflection of the technological aspects of the production process. They are fully reflected in the accounting and calculation of orders and processes. An incomplete cost accounting system, on the other hand, is oriented toward the sales process, while its principles are oriented toward market research. It involves adding only the variable part of production costs to the product cost.

Currently, the most effective methods for cost calculation are full cost accounting methods (standard costing) or differentiated accounting methods (including direct costing), cost center accounting methods for the implementation of the planned control function - income and cost center accounting methods servesThe "standard-cost" system includes the development of standards (standards) for labor, materials, additional costs, standard (standard) calculation and calculation of actual costs, excluding deviations from standards (standards).

Direct costing is another method of accounting and management of costs used in practice in foreign enterprises, and it is based on the marginal approach to the consideration of enterprise costs.

"Direct-costing" method allows to establish relations and proportions between the volume of production and its costs, to obtain information about its profit or loss depending on the volume of production, to predict the behavior of the cost of the product when the volume of production is increased or decreased. Allocation of the amount of fixed costs allows to show the effect of their size on the amount of income in this calculation method.

Activity-based costing (ABC) is widely used in the United States, Western Europe, and Japan. provides for calculating the cost of works and services by implementing the calculation procedures [38].

Modern macroeconomics and microeconomics require completely new management methods based on the concept of cost reduction. The "Target-costing" system, which appeared in Japan in the 1960s, is such an innovation.

The principles of the target-costing system are always implemented in innovative production enterprises that produce new types and models of products and improve the existing ones. Up to 80% of target costing is from large Japanese companies (Toyota, Nissan, Sony, Matsushita, Nippon Denso, Daihatsu, Cannon, NEC, Olympus, Komatsu, etc.), as well as a large number of well-known American and European companies (Daimler/Chrysler, ITT Automotive, (Caterpillar, Procter & Gamble) and they use high quality products achieve profitability [38].

Our analysis shows that, summarizing the information about "Target-costing" and "kaizen-costing", we can say that enterprises with this cost management system will have an advantage in the conditions of intense competition, but they will significantly depend on the human factor.

Choosing the method of cost accounting, as well as their classification, depends on the management task to be solved, analyzing the national and international experience in management accounting, it is possible to distinguish the following main tasks facing production enterprises:

1. Calculating the cost of the manufactured product and determining the amount of income.
2. Management decision-making and planning.
3. Control and regulation of production activities of responsibility centers.

In conclusion, we can say that the wide use of international experience in the organization of cost management and accounting in industrial enterprises, the coordination of raw materials and materials and the reduction of purchase prices, the development of measures to reduce the use of fuel and energy resources, and the coordination of overtime costs will help.

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Issue Article

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STUDY OF WRITING SKILLS IN STUDENTS WITH LEARNING DISABILITIES

Abstract: *Inclusive education is a way, means and approach for high quality education for the students having learning disabilities. Scientists confessed that the students could have difficulties in acquiring academic skills even then they didn't have neurological disorders. Here we should mention that in the 30ies of the XX century teachers and scientists such as Levin, Boskis, Khvattsev, Rau and others started to study dysgraphia (and dyslexia). When we talk more precisely about dysgraphia, the most valuable contribution was done by Kirk, Nevolina, Kornev, Lyapidevsky, Shakhovskaya, Gogoshidze, Tkeshelashvili, Isakadze and others. While formation –development writing skills the students encounter various difficulties and require special assistance, merthodology, activities and resources. In order to study the dynamics of writing skills development among students with learning disabilities at school, it was important to listen to the opinion of teachers of the subject Georgian language and literature and find out how they develop their writing skills.Accordingly, our planned qualitative research was conducted in five public schools of the municipality of Telavi on the basis of fifth-sixth grades. The schools were chosen purposefully, during the preliminary investigation, students with learning disabilities were identified, especially in these classes. All of them are evaluated and an individual curriculum is compiled for them.As a research tool, we used a structured questionnaire prepared in advance by us, which was sent to teachers of the Georgian language and literature (their number is 5). We selected open-ended questions, the answers to which, according to our assumption, would present a kind of picture of the atmosphere in the classroom and the problems associated with the development of writing skills in students with learning disabilities. The research proves that while teaching for students with learning disabilities, one of the obstructive factors is students' low self-evaluation and motivation, aslo not having the skill of self-regulation own learning. While study process it is not managed to effectively improve them. If we don't teach self-regulation of learning to students step by step, s/he will always be relyed on others during learning which will influence self-evaluation and motivation.*

Key words: *Inclusive education, learning disabilities, writing skills, research results.*

Language: *English*

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Introduction

"Inclusive education is an equally accessible educational process in which all students are provided with education taking into account individual, educational needs and opportunities" [11, p 2]. This is a way, means, approach to teaching and educating students with learning disabilities. The basis for the occurrence of specific learning disabilities is the dysfunction of the central nervous system, which affects the reception, processing, storage and transmission of information. The term "Learning disability" was introduced by the first doctor Samuel Kirk in the second half of the last century. Learning

Disability (LD) is a general term describing specific types of learning problems.

A weakened learning ability can make it difficult for a person to master certain skills and use them“ [6. p.1]. Samuel Kirk, like other scientists, attaches great importance to learning skills in a child's life: „, these skills are necessary for success at school and at work, as well as for life in general.[6; Page 2] " Subsequently, to assess the skills of students with this type of disorder, Brandar and Goyal confirmed his considerations : "I used the term "learning disabilities" to describe a group of children with disabilities in reading, communication and other language-related skills necessary for social interaction. This group does not include children with sensory impairments, such as visual orhearing impairment“ [1, p.15]

Before and after this definition, proposed by Samuel Kirk, the debate about learning disabilities continues to this day. Samuel Kirk's work allowed subsequent generations to study more deeply and better define what Learning Disability means. This scientist, who has many years of experience working with students with academic problems, mentioned the term "Learning Disability " to describe students who had low reading skills despite their age development .

This has led to a shift in emphasis from the medical point of view to academic difficulties. Instead of referring to brain damage to explain learning difficulties, they began to look at the cognitive processes that formed the basis of the learning process. It was recognized that students may have difficulty processing visual and/or auditory stimuli/information (this also contributes to the acquisition of academic skills), even if they did not have a neurological disorder. It should also be noted that from the 20s to the 30s of the 20th century, such teachers and scientists as Levin, Boskis, Khvattsev, Rau and others began to study dysgraphy and dyslexia. A significant contribution to the study of dysgraphia was made by Nevolina, Kornev, Lyapidevsky, Shakhovskaya, Gagoshidze, Tkeshelashvili, Isakadze and others.

Writing, in general, is a difficul, complex process and is a set of concrete skills, the development of which is one of the important tasks at the stage of primary education.The care and support of academic skills in the learning process begins with the first grade, but it is logical that already in preschool institutions they take care of the development of students' previous academic skills.There are students in the class who are not capable of learning, have difficulties with writing, reading, and writing reports.In many cases, they have medium or high intelligence, or they may have other disorders and may have learning difficulties. Teachers often confuse this problem with teaching problems. Those students who have learning disabilities are very different from each other.

Some have difficulty reading and spelling, others have problems with math skills. Special educational resources are needed . These students, as a rule, require a lot of effort and time to implement the writing process. Kurtsikidze and Tkeshelashvili (2018) offers a list of difficulties, some or all of which may be present in the case of dysgraphy: “

- Reading accordingly, although the difficulties in writing are clearly visible;
- The development of verbal skills precedes the development of writing skills;
- when writing, letters are blurred (in terms of size and shape;
- problems of missing spaces between letters and words;
- writes slowly;
- letters are often confused;
- difficult to change;
- it is difficult to convey your thoughts in writing;
- it is difficult to observe the basic grammatical structure when forming sentences;
- it is difficult to arrange words in the correct order in a sentence;
- does not follow the structure of the text (paragraph, hyphen, paragraphs)
- avoids writing activities.“[9, 14].

For them is also difficult to understand the material that the teacher explains, follow the instructions, communicate with peers and tell the lesson. Otherwise, the problem may be fine motor control of motor skills and imperceptible movements. At such moments, for a child is also difficult to remember how to outline and what movements to make when writing a letter. In some cases, the problem is a violation of the regulation and control of sequential actions. In this case, for the child becomes difficult to perform consistent actions without a supervisor, becomes difficult to follow the instructions of the teacher and perform them in such a way as to control his own mistakes“ [8, 45].

Early intervention is important for all children who have difficulty with reading, writing or other academic skills. The first stage is the assessment and identification of the student, and the next stage is the development of an individual learning plan, where methods are developed for the development of given skills and knowledge acquisition in accordance with the strengths and needs of the child, academic skills, cognition, communication, language - speech, socio-emotional, adaptive physical spheres.

The involvement of different individuals in ILP(Individual learning Plan) is crucial for achieving the set goals, where efforts and work of subject teachers and special teachers, parents are going on in a complex way. „ Accomodations are changes in the path that the student takes towards the general curriculum, or through which he or she demonstrates his or her own learning outcomes. Accommodation

provides the same access to learning, does not substantially change the level and content of teaching, is based on the individual strengths and needs of the student. It may vary between matters of intensity“ or level " [4,565].

Moreover, more and more teachers and scientists support the idea that curricula adaptation (accommodation, modification) is beneficial for typical development students as well, and many practical examples of this implementation in the classroom can be witnessed. ,, Curricula It should be adapted not only to a student with disabilities, but also to a student with typical development.Adaptation of standard curriculum can be of benefit throughout the period, from students with disabilities to a typical developmental student " [5, 80].

As we have already said, in Georgia, it is regulated at the legislative level that students with disabilities can study at school together with their peers and receive a quality education. However, practice shows that we still have problems in this direction, the reason may be related to various circumstances and factors. Accordingly, it is important for us to investigate the teaching practice of a student with learning disabilities and analyze such issues, circumstances, strategies, monitoring, involvement of the student in the lessons.

More and more studies and educators indicate that during learning disorders, children mostly lose motivation for learning, feel outcast and have low self-esteem. In response, the teacher can make various changes in the physical environment of the classroom, as well as in materials, resources, information delivery style and teaching strategies. The same is argued by Graham, Harris and McKeown(2013), who say that students with learning disabilities often have difficulty writing. These difficulties arise from limited strategies, skills, knowledge and motivation " [3, 127].

In order to study the dynamics of writing skills development among students with learning disabilities at school, it was important to listen to the opinion of teachers of the subject Georgian language and literature and find out how they develop their writing skills.Accordingly, our planned qualitative research was conducted in five public schools of the municipality of Telavi on the basis of fifth-sixth grades. The schools were chosen purposefully, during the preliminary investigation, students with learning disabilities were identified, especially in these classes. All of them are evaluated and an individual curriculum is compiled for them. As a research tool, we used a structured questionnaire prepared in advance by us, which was sent to teachers of the Georgian language and literature (their number is 5). We selected open-ended questions, the answers to which, according to our assumption, would present a kind of picture of the atmosphere in the classroom and the problems associated with the development of writing skills in students with learning disabilities.

Accordingly, the purpose of our study was to determine the process of teaching students by subject teachers, in particular, to identify actions, strategies and support that they carry out for the development of writing skills in students with learning disabilities.

Survey results the majority of respondents at the beginning of the survey identified typical problems associated with writing when teaching students with learning disabilities:

"students experience difficulties with consistent transmission of the content of the text or their opinions, separation of paragraphs, spelling of words, correct use of punctuation marks, recognition of basic information. Their vocabulary is scarce, which is why tautology is often found.“

Sometimes a student has problems with learning, namely, a violation of written and oral speech, difficulties with combining words, reading and writing coherent words."

"Tense manner of holding a pen, elongated body; inability to memorize graphic images of letters and draw them correctly; inability to write letters correctly; fuzzy handwriting; avoidance of tasks requiring writing or drawing; fatigue when writing; pronouncing words aloud during writing; unfinished or missing words in a sentence; inability to systematize thoughts and transfer them to a piece of paper; a big difference between what is written and what is transmitted orally;

it turned out to be very important for us to confirm the opinion often expressed by researchers and teachers about low motivation and self-esteem, inattention, weak organizational abilities, which, in their own opinion, prevents the involvement of these students in the educational process:

"I lost faith in my abilities, got used to being in a passive state, Perhaps lack of interest, low motivation." "The problem arises when I ask to go to the blackboard or ask a separate question. Most of the time he prefers to be in a passive role because of his low self-esteem,“"Low motivation and the feeling that he is not able to learn to write like others,"He has no interest in the learning process, he does not do homework, his motivation is low."

Since the respondents revealed low self-esteem and motivation of students, we naturally wondered what strategies are used to increase students' motivation.Teachers found it difficult to answer this question, answered very generally, and only a small part indicated concrete strategies and activities.which raises doubts that the student may have written in Nacional Curriculum, but the teacher cannot use it in practice.

Teachers who specify motivation-enhancing strategies use reinforcers, e.g., a student would receive his / her car if he / she sat at the desk throughout the

lesson and performed one task tailored to his / her individual skills given by the teacher.This had a kind of impact on the student's motivation and gradually overcame his behavior.

According to the second educator, social reinforcers work well considering age.Increasing motivation is achieved through activities, tasks and reinforcement tailored to his skills.

"In order to better identify their abilities, some of the respondents spoke about increased responsibility, attention to the student and praise, while some emphasized collaborative learning. They prefer to involve the student in group work: "the student's motivation is to praise, to impose responsibility, to celebrate his achievement in any work, task.“

One of the research questions also concerns the academic side: what do teachers use to make a student with disabilities feel confident in himself in class. Of course, one of the questions of the research also concerned the academic side, in this regard, what teachers use to make the student feel himself better in the class.

The study showed that they are familiar with the methods and activities developed and recommended by researchers and scientists that can be used by students with learning disabilities to develop writing skills. that they are familiar with the methods and activities developed and recommended by researchers and scientists that can be used with students with learning disabilities to develop writing skills. "Simplification of the text, its modification, increasing the time limit, repetition and gradual transmission of instructions, graphic systems involving teachers during the assignment, multimodal training, co-education and mutual learning, which will help the student to believe in their abilities and reveal them as much as possible.“

In the next question, in order to determine one short-term goal regarding the development of writing skills that they wanted to achieve with the student and the corresponding learning strategies/activities, some respondents could not delve into the question and instead of goals, told about the problems and causes for their appearance.

Thus, teachers still do not know the principles of drawing up an individual curriculum and the methodology of implementation, which we will return to below. However, some respondents also named a need, a goal, and strategies. For example.With the help of a specialist- teacher, we adapted.

""The history of the roe deer"" for students with disabilities. We have divided it into episodes and attached illustrations and a brief description to all episodes. The student was provided with this resource in a certain sequence. He had to describe the text and rewrite the text on a piece of paper and read it ."

To the question of which specific methods of teaching writing are used by teachers, which of them is more effective, the answers are diverse. One of the respondent's noted that it is too early to talk about this, because according to the plan he started working with the student in October. Some respondents consider it effective to fill out a character map, characterize a character with an illustration, describe a picture, draw and use colored pencils.

,,Effectively fill in the character characteristics map, use more visualizations, describe the picture using plot images, and draw and then visualize the content.

The use of colored pencils in the classroom is justified, the child was having fun and wrote letters in different colors, then I asked them to write with pencils of all colors that they had at hand.“

When the class writes a characterization of a person, he writes out a sentence of two or three words from the textbook on the instructions of the teacher. When the class writes a summary of the lesson, it takes the necessary things and consistently forms out the content of the text.“ ,, He finds 2-3 qualities in the text and writes it down”. From here you can see the answer of the majority of respondents to the question, most of the survey participants said that they regularly analyze achievements, but some of them find it difficult to achieve their goals

"I conduct monitoring and analysis of the results. It's hard to reach goals.""Yes, I always monitor to know what the child needs. ""Yes, I always make sure to know what the child needs. "The team meets four times a year, and we discuss all the needs, and when we talk about teaching students with learning disabilities, it should be noted that learning disability accompanies a person throughout his life".

Therefore, the development of mechanisms to support students who will develop social skills along with academic ones and contribute to their comfortable stay in society is on the agenda. Therefore, analyzing the answers of teachers about strategies to increase student motivation, we did not see any useful and scientifically based intervention for students with impaired writing skills, for example, the so-called self-regulation strategy (which we do not touch in detail in this study "(SRSD)", which: "is a six-stage strategic model", in which as a result of which the writing process in all subjects becomes complete, automatic and flexible [3, p.437].

Albert Bandura and Laura Burke also point out the advantages of using self-regulation strategies and offer a special table on how children develop self-regulation skills with age, and accordingly formulate strategies that teachers can offer students to develop self-regulation skills.

We came to the following conclusions: the study confirms that one of the important factors hindering the learning process of a student with learning

disabilities is his low self-esteem and motivation, as well as the inability to self-regulate his own learning, the increase of which cannot be effectively achieved in the learning process. If we do not teach a student with disabilities to self-regulate their learning step by step, they will always depend on others in their learning, which will also affect self-esteem and motivation. Teachers- do not properly take care of the development of writing skills of students with limited opportunities. Subject teachers find it difficult to name goals and strategies to be achieved with such students There is a shortage of teaching strategies for students with disabilities.

Recommendations:

Training of subject teachers in the direction of inclusive education is necessary;

• It is important to help students improve self-esteem, motivation, achieve active involvement in the educational process;

• It would be desirable to teach the student a positive assessment of himself, self-efficacy and management of his own learning e.BC. With the inclusion of self-regulation strategies, which are becoming increasingly popular among researchers of foreign educational systems and practice, they prove their positive impact on the development of writing skills of children with learning disabilities.

It is advisable to review the individual curriculum and develop authentic strategies and assignments.

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THE SPECIFICS OF THE SOCIO-ECONOMIC DEVELOPMENT OF THE REGIONS OF THE ARCTIC ZONE OF THE RUSSIAN FEDERATION

Abstract: *In the article, the authors analyze the specifics of the socio-economic development of the Arctic zone of the Russian Federation for the possible predictable allowable time for a person to stay in the cold for nine regions of the Russian Arctic. At the same time, taking into account the possible risks of cooling and a lack of heat in the body, it is recommended to recommend comfortable operating modes for the performer, which is especially relevant now, during the period of intensive development of all nine regions of the Russian Federation.*

Key words: *Karelia, Nenets Autonomous Okrug, Chukotka Autonomous Okrug, Krasnoyarsk Territory, Republic of Sakha, Yakutia, Arkhangelsk Region, Murmansk Region, Komi Republic, Vorkuta, priorities, hypothermia, comfort, product range, migration.*

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Introduction

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The Arctic is the subject of international agreements implemented by the following organizations:

Arctic Council(Arctic council) - a key high-level body, established at the initiative of Canada in 1996, on the day of the signing of the Ottawa Declaration. The Arctic Council coordinates international cooperation, regularly holds meetings at the level of foreign ministers of the council member

countries:

- **core business**international advisory body are research and analytics (much attention is paid to data on the state of the environment of the Arctic), on the basis of which it initiates international treaties;
- **goals of the Arctic Council**: providing the necessary conditions for cooperation, coordination and interaction between the Arctic states with the participation of indigenous communities and other inhabitants of the Arctic on common issues, in particular, issues of sustainable development and environmental protection.

Working groups of the Arctic Council:

- **Arctic Pollution Working Group**(ACAP) acts as a support mechanism to promote action by countries to reduce emissions and other releases of pollutants into the environment;
- **working group for the implementation of the Arctic Monitoring and Assessment Program**(AMAP) monitors the Arctic environment, ecosystems and populations, and provides scientific advice to support governments in combating pollution and the adverse effects of climate change;
- **Working Group on the Conservation of Arctic Flora and Fauna**(CAFF) is engaged in the conservation of Arctic biodiversity, striving to ensure the sustainability of the biological resources of the Arctic;
- **working group on prevention, readiness for liquidation of emergency situations**(EPPR) is dedicated to protecting the Arctic environment from the threat and impact of accidental releases of pollutants and radionuclides;
- **Working Group on the Protection of the Arctic Marine Environment**(PAME) is the focal point for all Arctic Council activities related to the protection and sustainable use of the Arctic marine environment;
- **working group on sustainable development**(SDWG) is dedicated to promoting sustainable development in the Arctic and improving the living conditions of Arctic communities in general.

Figure 1. Arctic territories of the Russian Federation.

The Council may establish task and expert groups for the implementation of specific areas. In the period 2018 - 2022 activities carried out:

- the Arctic Maritime Cooperation Group (TFAMC);
- Arctic Telecommunications Infrastructure Group (TFTIA);
- Arctic Science Cooperation Task Force (SCTF);
- an expert group promoting the implementation of the Framework for Action on Accelerated Reductions in Black Carbon and Methane Emissions.

Arctic countries, namely:

➢ **Permanent members of the Arctic Council:**Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, USA.

➢ **Permanent Participants of the Arctic Council**- organizations representing the indigenous peoples of the Arctic: Aleut International Association, Arctic Athabaskan Council, International Gwich'in Council, Inuit Circumpolar Council, Association of

Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation and the Saami Council. A feature of Canada is the right of indigenous peoples to self-government, which includes the right to create governments of "First Nations". This rule has been transferred to the international level.

➢ **Arctic Council Observers**: France, Germany, the Netherlands, Poland, Spain, Great Britain, China, Italy, Japan, Korea, Singapore, India, as well as a number of international organizations.

Observer countries are interested in various types of economic activities carried out in the Arctic. Singapore, which has research organizations specializing in the Arctic, is hosting a forum on the development of the region, where issues of navigation along the Northern Sea Route are discussed. The Chinese concept of the transport system "New Silk Road" considers the Arctic route, that is, the possible use of the Northern Sea Route. In this connection, China is showing interest in the development of infrastructure in Russia (ports, railways). The China Polar Research Institute operates five polar research stations and two icebreaking research vessels. Since the beginning of the 21st century, the extraction of useful resources has been a subject of strong interest for many countries. The Arctic Council adopts agreements

- **Denmark**(including Greenland and the Faroe Islands) - maritime areas north of the southern boundary of the Greenland exclusive economic zone and the Faroe Islands fishing zone;
- **Finland**- sea areas north of 63°30' north latitude;
- **Iceland**- maritime areas north of the southern border of the Icelandic exclusive economic zone;
- **Norway**- sea areas north of the Arctic Circle;
- **Sweden**- sea areas north of 63°30' north latitude;
- **Russia**- sea areas north of the coastline of the White Sea, the Barents Sea, the Kara Sea, the Laptev Sea, the East Siberian Sea, the Chukchi Sea and in the mouths of rivers flowing into these seas - from the baselines for measuring the width of the territorial sea;
- **USA**- sea areas on the high seas from the original coastline from the border between the United States and Canada in the Beaufort Sea and along the north side of the Alaska mainland to the Aleutian Islands beyond 24 nautical miles south of the Aleutian Islands and in the Bering Sea east of the boundaries of the exclusive economic US zones.
- **Canada**- sea areas north of 60° north latitude;

European Arctic

Arctic issues are considered at the sites of the United Nations (UN) and the European Council, as well as the Northern Forum, which is an international organization uniting the Arctic regions and municipalities. In 2019, the Governor of the Nenets Autonomous Okrug was the Chairman of the Northern Forum, which involves the development of cultural interaction and the improvement of the quality of life in the North.

Legislated borders of the Arctic

Russia is the only country where the border of the Arctic is fixed by law - by decree of the President of the Russian Federation, the Arctic zone of the Russian Federation (AZRF) is allocated. The latest version of the Arctic borders is enshrined in Decree No. 220 dated May 13, 2019. Climatically, the Arctic may be located south of the modern Arctic zone, the Republic of Sakha (Yakutia) has long defended the need to include the second line of Arctic uluses in the Russian Arctic. The development strategy of the Russian Arctic suggests that it will become a special zone of economic activity that provides benefits for companies (Figure 2).

Figure 2. The Arctic zone (purple sector), the zone of the Far North (turquoise) and equivalent regions of the Russian Federation (blue)

The concept of "Far North" has existed since the 30s of the last century, since the 40s the concept of "Regions of the Far North and equivalent areas" has appeared. In Russia, there is also a category of territories called "Regions of the Far North and equivalent areas with a limited period for the delivery of goods." It is more economically advantageous to deliver goods to hard-to-reach areas by water, but in the case of only small and shallow rivers, the delivery time can be as little as two weeks. In these territories, prices are regulated, fines are provided for exceeding their threshold value by an entrepreneur, and priority importation of medicines is carried out.

Main part

The climate of the Arctic is considered harsh and cold, but as a result of the appearance of cyclones, the temperature can rise sharply to positive values.The average temperatures of the coldest winter month - January - range from -2 ... -4 °C in the southern part of the Arctic region to -25 ° C in the northBarents Sea, westGreenland Sea, in the seas Baffin And Chukotka and from −32…−36 °C; in the Siberian region, in the north of the Canadian and in the adjacent part of the Arctic basin up to -45 ... -50 °C in the central partGreenland. The minimum temperatures in these areas sometimes drop to -55...-60 °C, only in the Arctic basin they do not fall below -45...-50 °C. When breaking deepcyclonesthe temperature sometimes rises to -2 ... -10 °C. Average July temperatures in the Arctic Basin are 0…−1 °C

The ice cover of sea areas is about 11 million km² in winter and about 8 million km² in summer. The air here is colder than the water. The air temperature in the Siberian basin is minus 50°C, in the Chukchi Sea the air temperature is minus 36°C. During the polar night, the air temperature constantly drops, because neither light nor heat enters. When the polar day comes, large amounts of heat and light are absorbed by snow and ice. The areas adjacent to the waters of the Atlantic and Pacific Oceans are warmer and have more precipitation, while the climate of the interior is colder and drier.

In winter, the actions of cyclones from the Atlantic Ocean intensify in the Arctic. At this time, high air temperatures, strong winds, maximum rainfall and cloudiness. There are anticyclones in the Siberian part of the Arctic. The winds here are negligible, very low temperatures, little precipitation. The temperature in the Arctic basin in summer is 0-5°C, very humid (up to 98%), frequent fogs, precipitation in the form of sleet and rain, moderate winds.

The climate of the Arctic has changed significantly over the past 600 years. During this period of time, at least three or four warmings occurred, quite commensurate both in scale and duration with the famous “warming of the Arctic” in the first half of the 20th century.

According to research, the temperature in the Arctic is rising twice as fast as in the rest of the world. This can lead to the extinction of many plant and animal species in the region. Also, warming threatens the existenceindigenous peoples of the arctic.

Arctic ice is of great importance for the Earth's climate system.ice capreflects the sun's rays and thus prevents the planet from overheating. In addition, Arctic ice plays an important role inwater circulation systems in the oceans.

The total mass of Arctic ice, compared with the level of the 1980s, has decreased by 70%. In September 202, according tohydrometeorological center, the area of the ice cap reached its minimum for the entire observation period, amounting to 3346.2 thousand km.

It should be taken into account that even before the start of satellite observations (1979), very short ice periods were also observed. According to American scientists who have studied climate change in all areas of the Arctic, in recent years the area of ice cover has been rapidly decreasing. As of February 20, 2022, this figure was 14.54 million km². Many experts suggest that in the 21st century, most of the Arctic waters will be completely ice-free in the summer, and this will open up new prospects for maritime transport.

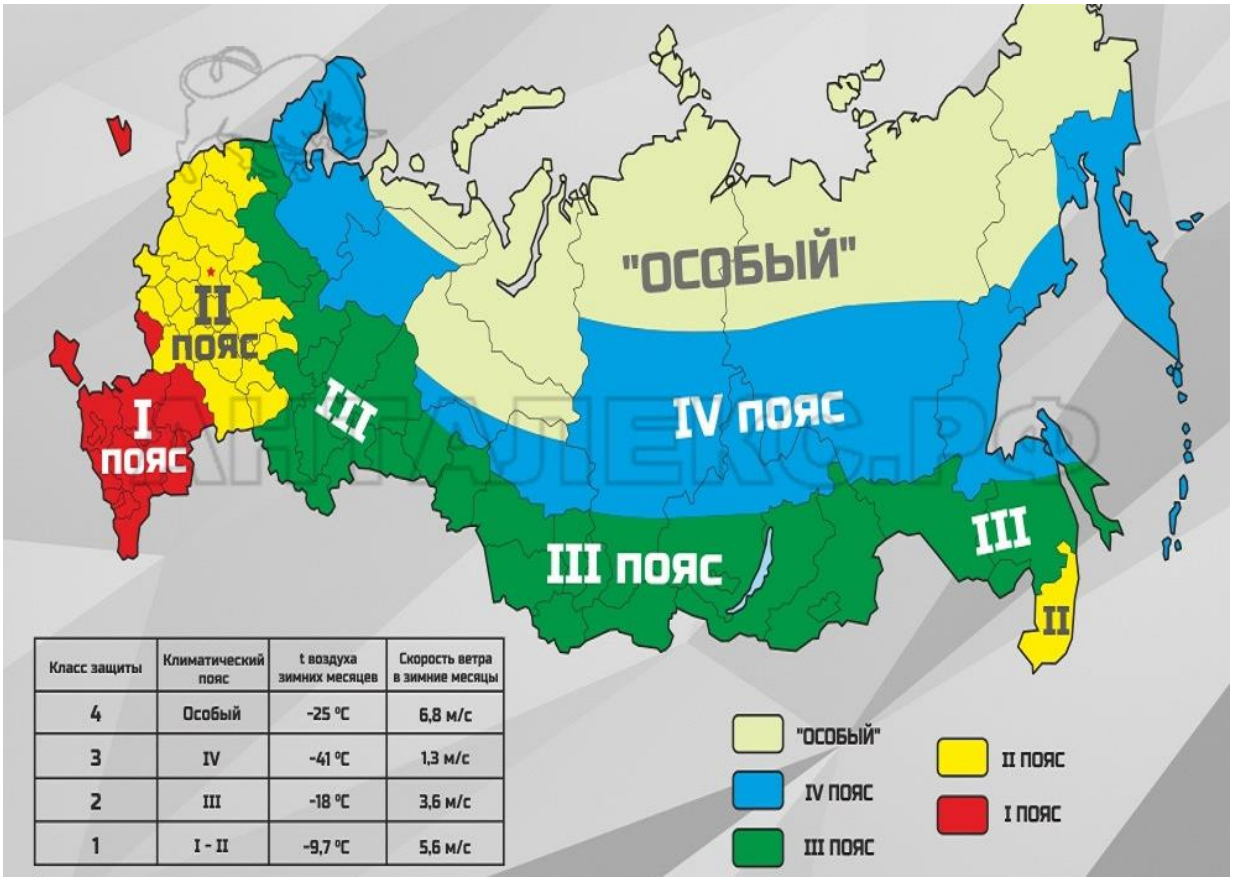
Table 1. Indicators of meteorological conditions in the regions of the Arctic zone

	cold season	The lowest recorded t	warm season	Average annual t
Republic of Karelia	-9.0 °C to -13.0 °C	-54.0 °C	from + 14.0 °C to + 17.0 °C	from 0 °C in the north to 3 °C in the south
Murmansk region	- 9 -10 °C	-45 °C on the White Sea coast and -51 °C in the central regions	+9°C to +11°C	-8 °C
Arkhangelsk region	-11-14 ºC	-45.2°C	+10-+12 °C	+0.8 °C
Nenets Autonomous Okrug	-17-20 ºC	-47.6 °C	+5-+7 °C	from -1 °C in the southwest to -9 °C in the northeast

Yamalo-Nenets Autonomous Okrug	−9 °C to −20 °C	-59 °C	from +6 °C in the north to +13 °C	−10 °C
Krasnoyarsk Territory	-16.0 °C	-52.8 °C	+18.7 °C	+2 °C
Republic of Sakha (Yakutia)	-36.3°C	-50 °C	20.0 °C	-7.5°C
Chukotka Autonomous Okrug	-16 to -40 °C	−61 °C	+5 to +13 °C	-4.1°C
Republic of Komi	-15 to -22° C	-55 °C	11 to 17 °C	-1 °C
The average air temperature in the winter months in various regions of the Arctic Ocean ranges from + 3 to - 40 ° C, in summer - from 0 to + 10 °C.				

Table 2. Indicators of meteorological conditions in various climatic regions (belts) of Russia (for the XI-III months of the year)

Climatic region (belt)	Air temperature, ^{0}C			Wind speed, m/s			Relative humidity, %	Representative cities
	Average for XI-III months	min	max	Average for XI-III months	Most Likely	Probability, %		
IA ("special")	-27.1	-57	-3	6.8	2	69.4	75	Norilsk, Tiksi, Dikson
I B (IV)	-41	-68	0	1.3	0-1	62.8	79	Yakutsk, Oymyakon, Vernoyarsk, Turukhansk, Urengoy, Nadym, Salekhard, Magadan, Olekminsk
II(III)	-17.9	-48	4	3.6	0-5	80	78	Novosibirsk, Omsk, Tomsk, Syktyvkar, Chelyabinsk, Chita, Tyumen, Surgut, Tobolsk, Irkutsk, Khabarovsk, Perm, Orenburg
III(II)	-eleven	-35	8	5.6	4-8	70	84	Arkhangelsk, St. Petersburg, Moscow, Saratov, Murmansk, Nizhny Novgorod, Tver, Smolensk, Tambov, Kazan, Volgograd, Samara
IV(I)	-0.9	-25	20	5.6	4-8	70	80	Stavropol, Krasnodar, Novorossiysk, Rostov-on-Don, Sochi, Astrakhan



Класс защиты	Климатический пояс	t воздуха зимних месяцев	Скорость ветра в зимние месяцы
4	Особый	-25 °С	6,8 м/с
3	IV	-41 °С	1,3 м/с
2	III	-18 °С	3,6 м/с
1	I - II	-9,7 °С	5,6 м/с

Figure 3. Scheme of location of climatic zones.

Figure 4. Scheme of location of climatic zones.

Figure 5. Layout of the Arctic regions of all interested countries.

The best part is that a temperature of 36.6 °C is considered normal. Of course, the facts formulated below will not become a discovery for knowledgeable people, while others will be interested in learning something new for themselves about the temperature of the human body, namely:

* the temperature of a person during the day changes by 0.5-1 degrees, unless of course the person is healthy and does not artificially increase the temperature of his body;

*human temperature is different in different places of its measurement. For example, the normal body temperature under the arm is 36.5 °C, when

measured orally (in the mouth), a temperature of 37 °C is considered normal. With rectal (anus) measurement of human body temperature, 37.5 ° C is the norm;

* The maximum allowable human body temperature is considered to be 42 °C. Upon reaching it, the metabolism in the brain tissues is disrupted and its cells begin to die;

* doctors consider the minimum temperature of a human body to be 25 °C. At this time, irreversible consequences occur in the human body. Although even at a temperature of 27 °C, a person almost always falls into a coma, a person's cardiac activity and breathing are disturbed. But the temperature of 32 °C causes only chills, and practically no danger.

With his consciousness and inner conviction, a person is able to raise the temperature of his body. There are cases when the opposite effect was achieved. Consider evaporation as a factor of heat transfer from the surface of the human body. Clothing and evaporation from the surface of the body. When water evaporates from the surface of the body, 0.58 Kcal of heat is consumed for every 1 g of evaporating water. Even if a person does not sweat, water continues to evaporate imperceptibly from the surface of the skin and lungs at a rate of about 600-700 ml / day, causing a constant heat transfer at a rate of 16-19 Kcal / h. This imperceptible evaporation from the surface of the skin and lungs cannot perform the function of thermoregulation, because. is the result of constant diffusion of water molecules through the skin and the surface of the lungs. The intensity of perspiration is regulated, and heat loss through evaporation during sweating can serve as a means of this thermoregulation (Figure 6).

Figure 6. Mechanisms of heat transfer from the surface of the human body.

Evaporation is a necessary heat transfer mechanism. As soon as the skin temperature becomes higher than the ambient temperature, heat transfer can be carried out by the processes of heat radiation and heat conduction. However, as soon as the ambient temperature becomes higher than the temperature of the skin, instead of heat transfer, the body begins to receive heat through the same mechanisms. Under such conditions, the only way to release the body from excess heat is evaporation. Anything that prevents adequate evaporation when the ambient temperature rises above body temperature can cause the temperature of the deep parts of the body to rise. This possibility exists in cases of congenital absence of sweat glands.

Sweating. Mechanism of sweat secretion

Sweating and its regulation by the autonomic nervous system. Irritation of the preoptic zone of the anterior hypothalamus by electrical stimulation or heating leads to sweating. Nerve impulses from this area, causing sweating, are transmitted along the pathways of the autonomic nervous system to the spinal cord, and then along the sympathetic outputs to the skin in all areas of the body.

It is appropriate to recall that the sweat glands are innervated by cholinergic nerve fibers (fibers at the ends of which acetylcholine is released), which are part of the sympathetic nerves along with adrenergic fibers. The sweat glands can be stimulated in some cases by circulating adrenaline and norepinephrine, despite the fact that the glands themselves lack adrenergic innervation. This plays an important role during physical work, when both hormones are secreted by the adrenal medulla, and the body needs to get rid of excess heat produced by actively working muscles.

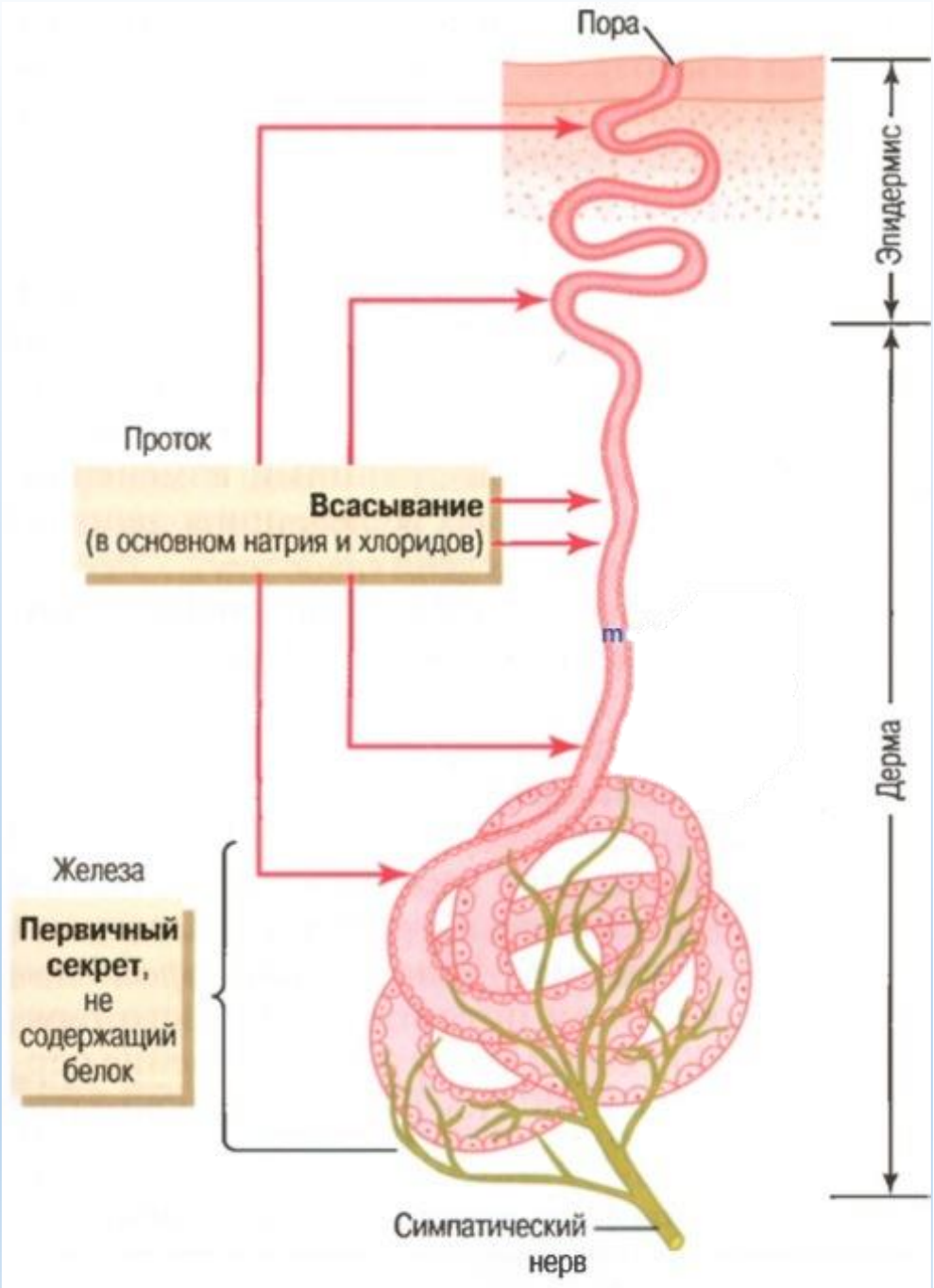


Figure 7. Mechanism of sweat secretion

Sweat gland innervated by sympathetic cholinergic nerves. Primary protein-free secretion is formed in the glandular part, most of the electrolytes are reabsorbed into the ducts, the secretion is diluted, becoming a dilute aqueous liquid.

As shown in Figure 7, the sweat gland is a tube that consists of two parts:

(1) deep subdermal volute;

(2) a duct that runs outward through the dermis and epidermis of the skin.

Exactly as it happens in many other glands, the secreting part of the sweat gland produces a liquid, which is called the primary secretion, or precursor secretion; the concentration of the components of this secret may change during its passage through the duct.

The precursor secretion is a product of the active secretion of epithelial cells located in the spiral part of the sweat gland. Cholinergic sympathetic nerve fibers terminate at or near glandular cells, causing the onset of secretion.

The composition of the primary secret is similar to the composition of plasma, only it does not include proteins (the concentration of sodium ions is about 142 Meq / l, chloride ions - about 104 Meq / l). During the passage of the precursor secretion through the duct, its composition changes due to the reabsorption of a large amount of sodium and chlorine ions. Quantitatively, the reabsorption of these ions depends on the intensity of sweating.

With mild stimulation of the sweat glands, the precursor secretion passes slowly through the duct. Because of this, almost all sodium and chloride ions have time to be reabsorbed, and the concentration of each of them decreases to 5 meq/l. A decrease in the osmotic pressure in the primary secretion leads to water reabsorption, accompanied by a concentration of other components of the solution, therefore, at low sweating rates, components such as urea, lactic acid and potassium ions are in solution at a very high concentration. On the contrary, with strong stimulation of the sweat glands by the sympathetic nervous system, a large amount of secretion precursor is formed, and the duct can reabsorb only a little more than half of the sodium chloride; the concentration of sodium and chlorine ions in this case (in non-acclimatized people) becomes maximum - 50-60 Meq / l, which is almost half of their concentration in plasma.

Consider the mechanism of sweating during acclimatization. Heat dissipation during shortness of breath.

Mechanism of sweat formation during heat acclimatization. The role of aldosterone. A healthy, unacclimatized person rarely produces more than 1 liter/hour of sweat, but when a person is exposed to heat for 1-6 weeks, he begins to sweat profusely, often increasing sweating to 2-3 liters/hour. The evaporation of this amount of sweat can increase heat output by more than 10 times compared to the basal level of heat output. The increase in the efficiency of the sweating mechanism is explained by internal changes in the activity of the sweat glands, leading to an increase in sweating. With acclimatization, a further decrease in the concentration of sodium chloride in sweat is associated, which makes it possible to consistently improve the safety of salts in the body. Most of the effects of acclimatization are associated with an increase in the production of aldosterone by the adrenal cortex, which is the result of a slight decrease in the concentration of sodium chloride in the extracellular fluid and plasma. Unacclimatized people with profuse sweating often lose from 15 to 30 g of salts daily during the first few days. After 4-6 weeks of acclimatization, salt loss is reduced to 3-5 g / day.

Features of heat transfer through shortness of breath. Many animals do not have the ability to transfer heat from the surface of the body for two reasons:

(1) the surface of the skin is covered with hair;

(2) animals do not have sweat glands, which does not allow heat transfer by evaporation from the surface of the skin.

A substitute for this mechanism may be the dyspnea-mediated mechanism used by most animals for the purpose of heat loss.

The mechanism of forced breathing (shortness of breath) is triggered by the hypothalamic thermoregulatory center. This means that when the blood is too hot, the hypothalamus initiates a nerve signal to lower the temperature. One of these signals is associated with the appearance of shortness of breath. Shortness of breath is regulated by a special center - the center of shortness of breath, associated with the pneumotoxic respiratory center, localized in the brain. The appearance of shortness of breath in the animal against the background of a rapid alternation of inhalation and exhalation, when large amounts of new portions of air come from outside and come into contact with the surface of the airways, cools the blood. In the mucous membranes of the airways, the blood is also cooled as a result of the evaporation of water from the surface of the mucous membrane and, most importantly, the evaporation of saliva from the surface of the tongue. Dyspnea does not increase alveolar ventilation more than is necessary for adequate regulation of blood gases due to the fact that breathing in this case becomes superficial, so most of the air entering the alveoli is dead space air rather than atmospheric air. Body temperature regulation. The role of the hypothalamus.

Figure 8 shows what happens to the temperature of the "core" of the body of a naked person after several hours of exposure to dry air when the air temperature changes from -1 to 72°C.

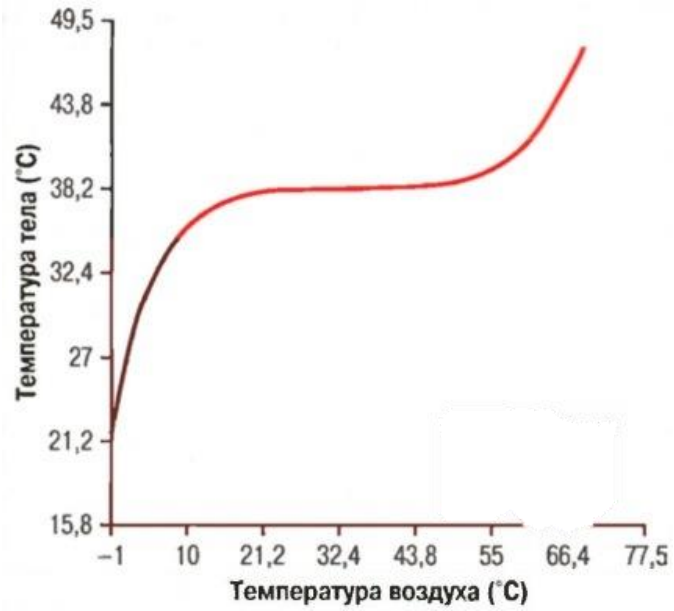


Figure 8. Influence of high and low air temperature on the temperature of the "core" of the body recorded for several hours.

The internal temperature remains stable despite significant changes in air temperature. The exact temperature values presented in the form of a curve depend on the movement, air humidity and even the surrounding nature. In general, a naked person in dry air, whose temperature varies from 13 to 55°C, is able to maintain a normal body temperature between 32.5 and 38.2°C. Body temperature is regulated by a feedback mechanism mediated by the nervous system and controlled by a thermoregulatory center located in the hypothalamus. In order for the feedback mechanism to function, there must be ways to detect temperature deviations from normal values when it becomes too high or too low.

Thermoregulation by the hypothalamus. thermoreceptors

The role of the preoptic region of the anterior hypothalamus in recording body temperature deviations from stable values. Experiments have been performed in which a tiny region of the brain of animals was heated or cooled using a thermode. This small, sewing-needle-like device is heated using electric current or hot water. You can cool the device with cold water. The main area of the brain, heating or cooling of which leads to the activation of thermoregulation mechanisms, is the preoptic area and nuclei of the anterior hypothalamus. Thus, using a thermode, it was found that the preoptic area of the anterior hypothalamus contains a large number of heat and cold sensitive neurons. Presumably, these neurons act as thermosensors that control body temperature. They increase the frequency of discharges by 2-10 times in response to an increase in body temperature by 10°C. Cooling-sensitive neurons, on the other hand, increase their firing rate as the temperature decreases. When the pre-optical area is heated, the entire surface of the skin of the body begins to become covered with sweat against the background of a pronounced dilatation of skin vessels. This immediate reaction provides heat transfer, allowing the body temperature to return to normal values. In addition, excess heat production is blocked.

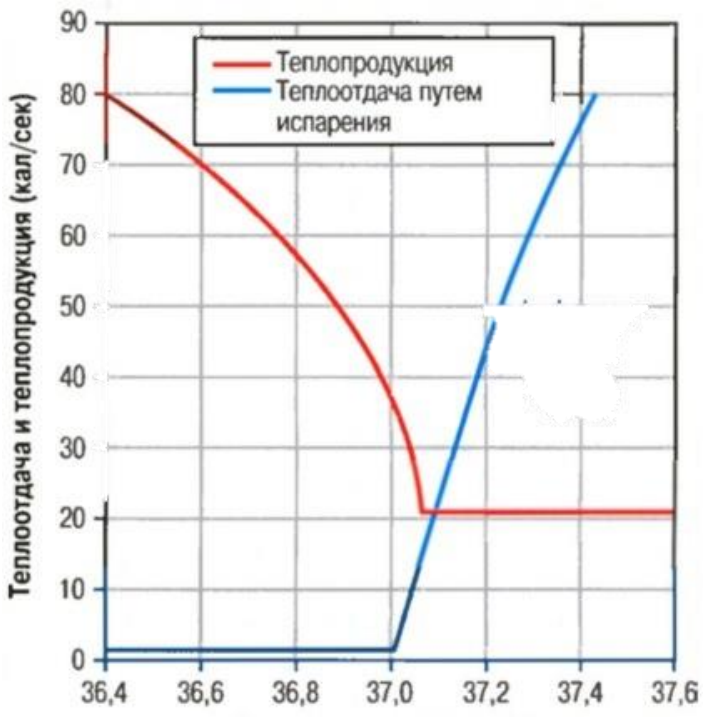


Figure 9. Effect of hypothalamus temperature on body heat loss by evaporation and on heat production, mainly due to muscle tremors.

An extremely high level of critical temperature, at which heat transfer begins to increase, and heat production reaches a minimum stable level. Tracking temperature values through skin and deep tissue receptors. The signals generated by thermoreceptors in the hypothalamus have a powerful influence on the regulation of body temperature, but receptors in other areas complement their influence on the process of thermoregulation. This is especially true for temperature receptors in the skin and some specific deep tissues of the body. Recall that the skin is equipped with both types of receptors: both cold and heat. In some areas of the body, there are significantly more cold receptors than heat receptors - in fact, 10 times, so the tracking of temperature changes by peripheral receptors is associated mainly with the detection of cold and cool, than with the detection of warm. If the skin on the entire surface of the body begins to cool, this immediately involves the reflex mechanisms aimed at warming in response, by:

* provide powerful stimulation of muscle tremors with a resulting increase in heat production;
* inhibition of sweating, if it is still carried out;
* ensuring vasoconstriction, which reduces heat transfer from the skin surface.

Deep thermoreceptors are found mainly in the spinal cord, abdominal organs, and around large veins in the upper abdomen and chest. The functions of deep receptors differ from the functions of skin receptors, since they are affected by the temperature of the "core" of the body, and not by the temperature of the skin, although, like skin thermoreceptors, they respond more to a decrease than to an increase in temperature. It is possible that the activity of both skin receptors and deep tissue receptors is aimed at preventing the development of hypothermia, i.e. decrease in body temperature. The posterior hypothalamus integrates central and peripheral temperature sensory signals. Signals from peripheral thermoreceptors are involved in the control of body temperature through the hypothalamus. area of the hypothalamus, to which signals from peripheral thermoreceptors are addressed, is localized bilaterally in the posterior sections, approximately at the level of the mammillary bodies. Temperature signals entering the preoptic zone of the anterior hypothalamus are then transmitted to the posterior regions. Here, in the region of the posterior hypothalamus, signals from the preoptic region and signals from thermoreceptors from all areas of the body converge, then they are summed up and integrated to control heat production and heat loss of the body together.

Neuronal mechanisms of temperature regulation. muscle tremor

Neuronal effector mechanisms of increase and decrease in body temperature. If the hypothalamic thermoregulatory centers detect that the body temperature is too high or too low, they organize reactions aimed at raising or lowering the body temperature. The reader is familiar with these

reactions from his own experience. The most characteristic of these are the three main mechanisms aimed at lowering body temperature when it becomes too high, namely:

* vasodilation of the skin. In almost all areas of the body, the vessels of the skin are intensively dilated. This reaction is due to inhibition of the sympathetic centers of the posterior hypothalamus, which cause vasoconstriction. Complete vasodilation can increase the rate of heat loss from the skin surface by more than 8 times;

*sweating, An increase in body temperature causes sweating, as illustrated by the blue curve in the figure below, which shows a sharp increase in the rate of heat loss due to sweating when the temperature of the "core" of the body rises above the critical level of 37 ° C. An additional increase in body temperature by 1 ° C causes sweating sufficient to reduce the effectiveness of the level of basal heat production by 10 times,

*Decrease in heat production. There is a sharp inhibition of heat production mechanisms, such as muscle tremors or chemical heat production.

Mechanisms for increasing heat production when it gets too cold

If it gets too cold, the system that controls body temperature organizes exactly the opposite reactions, namely:

* Widespread vasospasm of the skin. This reaction is caused by stimulation of the sympathetic centers of the posterior hypothalamus;

*saw erection. Pilo erection is a reaction of the muscles on the head (the hair "gets up"). It occurs due to sympathetic stimulation of the muscles attached to the hair follicles and causing them to contract. As a result, the hair really rises. This is not significant for humans, but in animals such an elevated position of the hair allows you to increase the thickness of the insulating layer of air next to the skin, which significantly reduces heat transfer from the skin surface to the environment;

* increase in heat production (thermogenesis). Heat production by metabolic systems increases with muscle tremors, excitation of the sympathetic nervous system, which affects heat production, and an increase in thyroxine secretion.

These methods of stimulating heat production require additional explanation. Stimulation of muscle trembling by the hypothalamus. The region of the hypothalamus, localized in the dorsomedial regions of the posterior hypothalamus, close to the wall of the third ventricle, is called the primary motor center of muscular trembling. This area is normally inhibited by signals from the thermoregulatory center located in the preoptic region of the anterior hypothalamus, but is excited by signals from cold receptors in the skin and spinal cord. Therefore, as shown in connection with the sharply increased heat production (see the red curve in Figure 9), this center is activated when the body temperature drops a fraction of a degree below the critical level. This is the reason for the transmission of signals that cause muscle tremors. Signals are conducted along bilateral descending pathways of the spinal cord,

These non-rhythmic signals cannot cause actual muscle contractions, but they increase the tone of skeletal muscles throughout the body and increase the activity of neurons in the anterior horn of the spinal cord. When the tone rises, reaching a certain critical level, muscle tremors begin. Perhaps this is the result of increased oscillation of the intrafusal fibers of the muscle spindles responsible for the stretch reflex, as discussed in a separate article on the site (please use the search form above). During maximum muscle tremors, the production of heat by the body increases 4-5 times relative to the norm.

Heat production. Mechanisms for increasing heat production

An increase in heat production by the mechanism of chemical heat production, caused by the excitation of the sympathetic nervous system. As stated in a separate article on the site (please use the search form above), increased sympathetic stimulation or circulation of norepinephrine and epinephrine in the blood can cause an immediate increase in the rate of metabolism in cells. This effect is called chemical thermogenesis. It is a consequence of the ability of norepinephrine and adrenaline to cause uncoupling of oxidative phosphorylation reactions. This means that when a large amount of nutrients are oxidized, the released energy is released as heat rather than being stored in the form of ATP.

As shown in animal experiments, the intensity of chemical heat production is directly proportional to the amount of brown fat in animal tissues. This type of adipose tissue contains a large number of special mitochondria, in which oxidative phosphorylation reactions are uncoupled (please use the search form above). These cells have powerful sympathetic innervation.

Acclimatization significantly affects the intensity of chemical heat generation. In some animals, such as rats, exposed to cold exposure for several weeks, an increase in heat production by 100-500% was found in response to the action of cold. At the same time, in non-acclimatized animals, heat production against the background of cold exposure increased by only 1/3. An increase in heat production leads to a corresponding increase in food intake.

In adults who have practically no brown fat, the intensity of heat production due to chemical heat production rarely increases by more than 10-15%, however, in infants with a small amount of brown fat in the interscapular region, due to chemical

thermogenesis, heat production can increase by 100%, which may be an important mechanism for maintaining body temperature in newborns. An increase in thyroxine release as a cause of a long-term increase in heat production.

Cooling of the preoptic zone leads to an increase in the production of the hypothalamic neurosecretory hormone thyrotropin-releasing hormone (TRH). The portal veins of the hypothalamus carry this hormone to the anterior pituitary gland, where it stimulates the production of thyroid-stimulating hormone. Thyroid-stimulating hormone, in turn, stimulates an increase in the release of thyroxine by the thyroid gland (please use the search form above). An increase in the concentration of thyroxin leads to an increase in the intensity of cell metabolism, which is another mechanism of chemical heat production. An increase in the intensity of metabolism does not occur immediately and requires several weeks of cold exposure, which is necessary for hypertrophy of the thyroid gland and the achievement of a new level of thyroxine secretion. Placing animals in very cold conditions for up to several weeks can cause an increase in the size of the thyroid gland by 20-40%. However, people rarely allow themselves to be exposed to such low temperatures as animals are exposed to, so so far we do not have a quantitative assessment of the contribution of the thyroid mechanism to human adaptation to low temperatures. Separate studies have shown that the military, stationed for several months in the Arctic regions, the intensity of metabolism increases. Some Eskimos have an abnormally high basal metabolic rate. Perhaps the stimulating effect of cold may explain the higher incidence of thyroid goiter in people living in cold climates compared to people living in warm climates.

The concept of "set value" in the regulation of body temperature. On the example of the figure below, it is clear that in the case of a critical temperature of the "core" of the body close to 37.1°C, there are fundamental changes in both the intensity of heat production and the intensity of heat transfer. At temperatures above this level, the rate of heat transfer becomes higher than the rate of heat production, as a result, the body temperature decreases and approaches the level of 37.1 ° C. At temperatures below this level, the rate of heat production becomes higher than the rate of heat transfer, so the body temperature rises and again approaches the level of 37.1 ° C. This critical temperature level is called the "setpoint" of the thermoregulatory mechanism. Thus, all mechanisms of thermoregulation are constantly striving to return the body temperature to this value.

The efficiency of the thermoregulation system. Once again, we will discuss the issue related to the concept of "efficiency" in relation to the regulatory system. The efficiency factor is a way to assess the effectiveness of the functioning of the control system. In the case of thermoregulation, this is extremely important to limit changes in the temperature of the "core" of the body with significant fluctuations in ambient temperature during the day and even hour. The efficiency of the thermoregulation system is equal to the ratio of the change in ambient temperature to the change in the temperature of the "core" of the body minus 1. Experiments have shown that the temperature of the human body changes by approximately 1 ° for every 25-30 ° change in the temperature of the external environment, therefore, the efficiency of the system thermoregulation is on average 27 (28/1, 0 - 1.0 = 27), being extremely high for a biological regulatory system.

Figure 10 shows the effect of different skin temperatures on the "set point" value in relation to perspiration.

Figure 10. Influence of changes in the internal temperature of the head on the intensity of heat transfer by evaporation.

The temperature of the skin determines the "set point" at which perspiration begins. It can be seen that the "set point" values increase as the skin temperature decreases. In Figure 6, the human hypothalamic “setpoint” rises from 36.7°C when skin temperature is above 33°C to 37.4°C when skin temperature drops to 29°C. Therefore, if the skin temperature was high, sweating began at a lower hypothalamic temperature than at a lower skin temperature. This mutual influence is understandable, because perspiration is inhibited at low skin temperature, otherwise the combined effects of low skin temperature and perspiration could cause the body to lose too much heat.

Figure 11. Influence of changes in the internal temperature of the head on the intensity of heat production.

The temperature of the skin determines the value of the "set point" at which the muscle tremors begin. When the skin becomes cold, it causes the hypothalamic center of thermoregulation to shift its "set point" toward the shiver threshold, even though the temperature of the hypothalamus itself remains normal. At the same time, low skin temperature can cause a decrease in the temperature of the “core” of the body, unless heat production increases. Thus, the low skin temperature “anticipates” a drop in the core body temperature and prevents it.

Local skin temperature reflexes. Fever and pyrogens

Behavioral mechanisms of body temperature regulation. In addition to the subconscious mechanisms of thermoregulation, the body has another, more powerful mechanism. This is the behavioral control of thermoregulation, which can be explained as follows: if the core temperature of the body becomes too high, signals from the thermoregulatory systems of the brain make a person feel that he is overheating; on the contrary, if it becomes cold, signals from some deep-seated receptors form a feeling of cold.

In this regard, a person will take any actions that correct external conditions, aimed at restoring comfort, for example, go to a heated room or put on warm clothes. This mechanism is certainly more powerful in thermoregulation than most physiologists have realized in the past. Indeed, this mechanism is an effective way to prevent the failure of the thermoregulation system in conditions of severe cold. Local skin temperature reflexes. If you place a limb under a switched on lamp and hold it there for a while, you can observe local vasodilation and slight sweating. Conversely, immersion of the limb in cold water causes local vasoconstriction and local cessation of sweating. These local reactions are caused by local effects of temperature directly on the blood vessels, as well as local reflexes from skin receptors mediated by the spinal cord and the irritated area of the skin. Excitation, having passed from the place of origin in the region of skin receptors, is conducted through the spinal cord and returns to the same region of the skin and sweat glands.

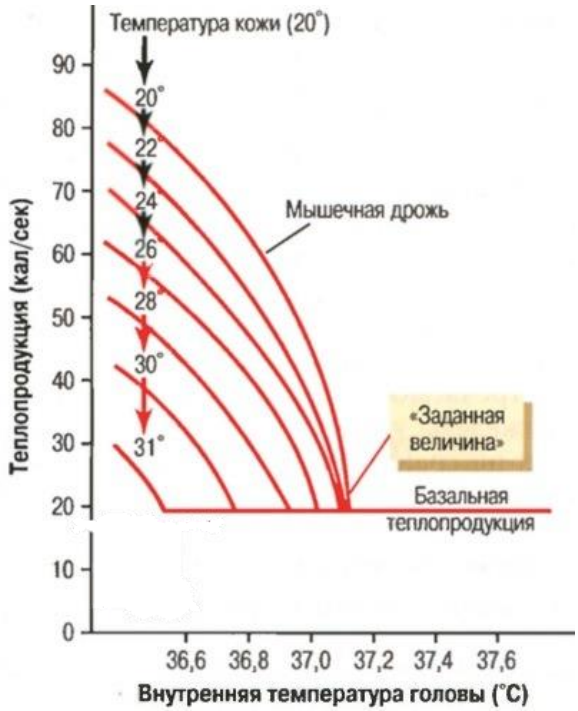


Figure 12. The influence of changes in the internal temperature of the head on the intensity of heat production.

Skin temperature determines the “setpoint” at which muscle tremors begin. The regulation of core body temperature deteriorates when the spinal cord is transected. After transection of the spinal cord in the neck, above the exits of the sympathetic nervous system from the spinal cord, the regulation of body temperature is extremely weakened, because. The hypothalamus can no longer control skin temperature, blood flow, or sweating anywhere in the body, despite the preservation of local temperature reflexes mediated by the skin, spinal cord, and abdominal receptors. These reflexes are too weak compared to the hypothalamic regulation of body temperature. In people under such conditions, body temperature can

be regulated by sensations of cold or heat in the head area and supplemented by behavioral control.

Thermoregulation disorders. Fever. Fever refers to an increase in body temperature above the usual normal level. This condition can be caused by disorders in the brain itself or by the effect of toxic substances on the thermoregulatory center. Some causes of fever (as well as subnormal body temperature) are shown in Figure 13.

Figure 13. Body temperature under different conditions.

These include infectious diseases, brain tumors, and environmental conditions that can result in heat stroke. Restoration of hypothalamic control of thermoregulation in case of febrile illnesses. Influence of pyrogens. Many proteins, their degradation products, and various other substances, especially lipopolysaccharide toxins released by epithelial cell membranes, can cause an increase in the hypothalamus "set point". Substances that cause this effect are called pyrogens. Pyrogens secreted by toxic bacteria or released by degenerating body tissues cause fever during illness. If the "set value" of the hypothalamic center of thermoregulation is higher than normal, all mechanisms of temperature increase are involved, including heat conservation and an increase in heat production.

Figure 14. Influence of changes in the "setpoint" of the hypothalamic thermostat.

An attack of fever. Heatstroke

Crisis, or "attack" of fever. If the factor that caused the high temperature is removed, the hypothalamic thermostat "setpoint" returns to a lower level, possibly even to normal, as shown in Figure 15.

Figure 15. Influence of changes in the "setpoint" of the hypothalamic thermostat.

In this case, the body temperature still remains at 40°C, but the hypothalamus attempts to bring it back to 37.5°C. This situation is analogous to excessive heating of the preoptic region of the anterior hypothalamus, which was accompanied by intense sweating and sudden warming of the skin. These sudden changes in the febrile state are called a crisis, or a more appropriate term for the situation - an attack of fever. In times before antibiotics, the advent of a crisis was always anticipated with excitement, because his arrival gave reason to the doctor to say that the temperature would soon begin to decrease. Heatstroke. The upper limit of air temperature that a person can withstand depends mainly on the saturation of the air with water vapor, i.e. whether it is wet or dry.

High temperatures are extremely dangerous for tissues, especially the brain, which explains many of these symptoms. A very high temperature, even for a few minutes, can lead to death. Because of this, many physicians recommend immediately starting treatment in case of heat stroke by placing the patient in a pool of cold water. Due to the fact that such a measure can cause muscle tremors, accompanied by significant heat production, there are other recommendations that boil down to rubbing or splashing the skin with cold water, which seems to be a more promising means for quickly lowering core body temperature.

The damaging effects of high temperature. Pathological changes found in people who died from hyperpyrexia are manifested by local hemorrhages and degenerative changes in the cells of parenchymal organs, found everywhere, but especially pronounced in the brain. Once destroyed, neurons never regenerate. Damage to the liver, kidneys, and other organs can be severe enough to cause functional failure of one or more organs, sometimes leading to death a few days after heatstroke.

Acclimatization to the heat. Acclimatizing people to the heat can be extremely important. Examples would be soldiers serving in tropical regions, or miners working in the gold mines of South Africa at a depth of 3.2 km, where the temperature is equal to body temperature and the saturation of the air with water vapor approaches 100%. A person who is exposed to heat daily for several hours on the background of heavy physical work should acquire resistance to heat and humidity within 1-3 weeks. The most important physiological changes observed in connection with the process of acclimatization include an almost doubling of the rate of maximum sweating, an increase in plasma volume, a decrease in salt loss in sweat and urine to almost no salt in the secretions.

In order for the enterprise to function successfully, employees must feel comfortable in the performance of their professional duties. To protect the worker from external negative factors, overalls are traditionally used, which must meet a number of requirements. Particular attention should be paid to protecting people from low temperatures in winter.

Therefore, when choosing clothes, you should take into account the climatic zone in which it will be used. There are five of them in our country: I, II, III, IV and special.

Let's look at each belt in more detail:

Special (regions of the Far North). This area is characterized by the coldest and most severe

climate. It included all regions of the Far North.

People here have to work at temperatures up to -25 °C and wind speeds of 6.8 m/s.

IV climatic zone (arctic zone). The temperature here can even reach -60 ° C, but

the wind is weaker than in the previous belt - 1.3 m/s. Previously, these regions were considered unsuitable for life and work. Working in them is now very difficult and dangerous to health.

III climatic zone. It includes settlements with a sharp and temperate continental climate. In winter, the temperature reaches -18 °C, and the wind speed is 3.6 m/s on average. This season is marked by an abundance of snow.

II climatic zone. The average winter air temperature is -9°C, and the wind speed is slightly higher - 5.6 m/s. The regions belonging to this belt are considered favorable for outdoor work, although the weather in them can be unstable.

I climatic zone. Occupies a relatively small area. It includes an area with a subtropical climate, in which snow almost never falls. In winter, the air temperature is rarely below -10 °C, and the wind speed is 5.6 m/s. Living and working here is very comfortable.

The colder the region, the faster the overall wear, footwear and other personal protective equipment for workers in various industries will wear out.

What to look for when choosing clothes

Overalls must comply with the parameters of a particular climatic zone. The time allowed for a person to stay in the cold depends on the characteristics of the work performed by him and the energy costs associated with them. For insulated overalls, GOST R 12.4.236-2011 standards have been developed, according to which it is divided into four protection classes. The set that is issued to employees is also determined by the industry of the enterprise and job responsibilities. The following elements remain unchanged:

insulated jacket, trousers or overalls; winter shoes;

hat with fur or warm lining; insulated gloves or mittens.

Other personal protective equipment depends on the nature of the work. For example, for welders, insulated balaclavas may be additionally required. How to issue overalls depending on climatic zones.

As already mentioned, the choice of kit is largely determined by the climatic zone. The higher the class of protection against cold, the more severe the working conditions for which it is intended.

The heat-shielding properties of class IV clothing are the highest.

climaticzone	Protection class	Total thermal resistance*, sq. mx °C/W	
		Shoulderproduct (jacket)	Belt product (trousers, semi-overalls)
I and II	1	0.51	0.50
III	2	0.64	0.57
IV	3	0.83	0.80
special zone	4	0.77	0.69

chinhood area;
wristlets;
insulated belt.

Overalls of classes I and II are usually made without a vest, hood lining, thermal underwear, inner strap. The recommended replacement intervals for the kits are shown in the table:

climate zone	Service life (years)
I	3
II	2.5
III	2
IV and special	1.5

Vanguard Company. Professional equipment" offers to purchase overalls for all types of activities in any climatic zones. For work in conditions of low air temperatures, there are specially designed clothing. Special tailoring rules apply to these winter clothes, as well as standards for fabrics and insulation. All of them are regulated in GOST.

As required, all special clothingdivided into 4 protection classes, which take into account air temperature, humidity and wind speed, depending on the main climatic zones in Russia. When developing the regulations, the starting point was a two-hour stay of a person in the cold while maintaining health and working capacity. The table shows the main parameters.

Protection class	Climatic zone (region)	Air temperature in winter, ° C	Wind speed in winter, m/s
4	"Special" (IA)	-25	6.8
3	IV (1B)	-41	1.3
2	III(II)	-18	3.6
1	II-I (III-IV)	-9.7	5.6

Note that the 4th or "special" class is clothing for the regions of the Far North. It also has very stringent requirements.

In addition to taking into account temperature and other conditions, much attention is paid to tailoring and materials. First of all, winter clothing for working in cold conditions should be as convenient and comfortable as possible, with a large number of internal and patch pockets.

Also, clothing of all classes must havebe:

knitted cuffs on the sleeves;

collars and hoods;

insulatedwind protection strips.

There are, of course, nuances. So, for clothes of the first and second classes, the presence of a hood and collar without insulation is allowed. While in grades 3 and 4, insulation on hoods is required.

In terms of materials, the winter specialclothing for work in conditions with sub-zero temperatures should be made of "breathable" fabrics. Therefore, mixed compositions, for example, such as cotton + polyester, are most widely used. The fibers of the first material impart vapor permeability to the garment. In addition, the cotton in the composition prevents the rustling and hardening of the fabric at critically low temperatures. And polyester, in turn, adds strength and durability to the material. As a result, such a mixed composition of the fabric gives durability to overalls, providing excellent thermal insulation and, at the same time, removing excess moisture from the body.

As a heater, modern artificial materials are also used, for example, holofiber, polyester. They have proven themselves well, because they do not attach to clothes

additional volume, do not make it heavier, while,excellent protection against low temperatures.

These are general requirements. However, there are also special recommendations for the overalls of workers whose activities involve special conditions.

So, for example, if you are supposed to work at nighttime, the clothing must be equipped with reflective elements. And for the clothes of rescuers, a special fabric is selected, which, in addition to protection from moisture, wind and cold, must also have fire-resistant properties.

In any case, when buying workwear for private use, for example, fishing, hunting, or traveling, it is necessary to take into account all the conditions in which you plan to be. And already in accordance with them to select clothes of one class or another.

When there is a need for the speed of implementation of large-scale projects? The frontier arises when for a long time a large amount of resources could not be put into economic circulation due to certain barriers: too far, expensive transportation, no development infrastructure. The Prudhoe Bay field came into full operation when an oil pipeline was built in Alaska, a similar situation with the oil fields of Western Siberia and the Kolyma gold. Almost all major Arctic projects have been associated with overcoming barriers, primarily infrastructural ones. Small projects do not justify the construction of infrastructure when the project is developed gradually - it has a very long payback period. The Karachayevo - Salekhard road has been under construction since 2003, during which time the Trans-Siberian Railway from Chelyabinsk to Irkutsk was built. The project is stalling because the "cream" from the development of gas fields in the Nadym region has already been removed. The road had good chances in the 60s, when a decision was made to restore the Salekhard - Igarka road, which was not implemented, which led to significant losses of funds.

Explosive involvement in economic turnover creates a rare case when the raw materials industry brings increasing returns - the more invested, the greater the return per invested unit of funds. Note that this effect is short-lived, since further resource extraction is carried out in increasingly depleted or difficult areas, therefore, extraction costs increase, returns decrease. Huge investments in new resource projects (railroads, sea route development) are justified in the presence of a large infrastructure project.

The development of new resource regions goes through several phases, which fit the emergence of frontier people, superorganizations and other phenomena associated with the development of the Arctic, namely:

- **zero phase**- rumors, tests and barriers: assumptions and information about potentially rich resources that are inaccessible for one reason or another (remoteness, imperfection of technologies, etc.). M.K. At the end of the 19th century, Sidorov was the first to try to deliver graphite along the Northern Sea Route, J. Lid organized the first trading operations at a time when freight rates were still very expensive. Alaska was supposed to have gold back in the days when it was the territory of Russia, but the gold rush began only after a considerable time;
- **first phase**- information (demonstration) breakthrough: there is a pioneer (F. Salmanov), who proves the possibility of obtaining energy in a new space. This phenomenon is also explained from the

point of view of the bifurcation theory: when the trajectory breaks down, a random factor plays a significant role, which justifies the enormous role of the individual in history. The economic effect, as a rule, is still small, the information effect is powerful, but the barrier has not yet been broken (project stage);

- **second phase**- demolition of the barrier: a revolution in infrastructure, ideology, technology; large (venture) investments, most often state ones; institutional and organizational building; powerful ideological support (advertisement of the project - a demonstration of Igarka to foreign journalists as a demonstration of the achievements of the Soviet government in the development of the Far North, the legitimation of large investments). Sprinters stage, city foundations;
- **third phase**- peak production: ossification of institutions and organizations; the greatest economic return, while reducing enthusiasm. The stage of stayers and the emergence of superorganizations;

3.1. peak production: development of a proven resource;

3.2. blast effect.

- **fourth phase**- flooding of the frontier:

4.1. ghost towns or shift towns;

4.2. transition from the frontier to the "normal" economy: economist L. Husky notes that after the stage of peak production it is possible to reach such a level of the local economy, when a city appears on the site of the frontier city, which can independently maintain its existence by providing services to the surrounding territories, (for example, the city of Surgut).

At the peak of production, when the infrastructure has been built and a large organization has been created in which a rigid hierarchy has been established, there are no more pioneers, managers and specialists - engineers - work. People who are frontier in spirit manifest themselves in the zero and first phases of the cycle, where they can fulfill themselves in the best possible way. Geologist I.L. Zhulanova described the Dalstroi paradox, noting that as a result of the work of the most freedom-loving people in the country - geologists - a powerful administrative-repressive structure was created.

Conclusion

Cooling microclimate (low air temperature) is a combination of physical factors (air temperature, air humidity, radiation temperature, wind speed) that cause a person to cool and require appropriate measures to reduce his heat loss. Those who work outdoors during the winter and transition periods of the year (builders, drivers, railway workers, trade workers, lumberjacks, workers in the oil and gas industry, etc.) are at the greatest risk of cooling.

The cause of a person's cooling may be a discrepancy between the heat-shielding ability of clothing for working conditions (microclimate parameters, the severity of work, the length of stay in the cold), as well as individual adverse human reactions to cold caused by various reasons.

In the course of evolutionary development, a person did not choose a stable adaptation to cold due to biological capabilities and the main way of protection is “behavioral” thermoregulation, aimed at reducing heat transfer to the environment (clothing, housing), generating additional heat in the body (physical activity), reducing time stay in the cold (regulation of periods of work in the cold and rest in a room with a comfortable microclimate).

Depending on the situation, a person can be subjected to both general and predominantly local cooling. The hands, feet, face, upper respiratory tract are exposed to the most frequent cooling. Cooling of the face and respiratory organs causes contraction of arterial vessels in the extremities, coronary arteries of the heart, resulting in an increase in blood pressure.

Feet and hands can be subjected to significant cooling due to the low efficiency of their insulation and the use of shoes and gloves (mittens) with insufficient thermal insulation performance. As a result of cooling, the sensitivity of muscle receptors decreases, as a result of this, coordination of movements worsens, which can lead to an increase in accidents, especially when working in the cold with hand tools. Changes in motor reactions and coordination of movements, the inability to focus on the performance of work operations arise as a result of the development of inhibitory processes in the cerebral cortex. It is known that injuries significantly increase among those working in open areas during the cold season.

When working in a cooling microclimate, respiratory diseases can occur, cardiovascular pathology can develop, peptic ulcer disease can worsen. Even with short-term exposure to cold, the body undergoes a restructuring of regulatory and homeostatic systems, and the immune status worsens.

Chronic cooling, both general and local, in the course of work causes "cold cold" neurovasculitis, angiotrophoneses. With local cooling, changes in kidney function are observed.

The influence of cooling can be aggravated by the simultaneous influence of other factors, in particular, local muscle load, vibration. With their combined action, vasospasm increases, the number of cases of vibration disease increases and the time of its development is reduced.

Of great importance are the thermophysical parameters of the materials of clothing, footwear, and mittens. If, for example, in accordance with working conditions, an employee must wear rubber shoes that are air and moisture resistant, then there will be an accumulation of moisture in the “inner shoes” (insoles, socks, insulation), which will lead to a significant decrease in its thermal insulation and

subsequent cooling, which is the risk of developing pathology.

In order to protect against excessive heat losses, workers should first of all be provided with a set of heat-protective clothing. It is imperative to protect all areas of the human body, including the head, feet, insufficient insulation of which can significantly increase the heat loss of a person, shorten the period of his stay in a cooling environment, including due to pain, and be the cause of the development of pathologies.

A set of heat-protective clothing as a whole and its individual components (in particular, headgear, mittens, shoes) must meet the requirements for adequate protection against increased heat loss. Requirements for thermal insulation of a set of clothing in relation to different climatic zones are presented in GOST R SSBT 12.4.235-2007 “Special clothing for protection against low temperatures. Technical requirements” and in MR 2.2.8.2127-06 “Hygienic requirements for thermal insulation of a set of personal protective equipment against cold in various climatic regions and methods for its assessment” [. However, it should be understood that clothing that meets these requirements will protect a person from cooling only in the following cases, namely:

- the air temperature corresponds to the average value of the winter months;
- wind speed does not exceed its most probable value for a given climatic zone;
- a person performs work of moderate severity (energy consumption is about 234 W);
- the employee is continuously in the cooling environment for no more than two hours.

With regard to other conditions, proper thermal insulation of the clothing set as a whole and its individual components (shoes, mittens, headgear) can be calculated taking into account the time spent in the cooling medium in accordance with the Methodological recommendations of the Ministry of Health of the Russian Federation No. 11-0 / 279-09 dated October 25 2021 "Methodological recommendations for calculating the thermal insulation of a set of personal protective equipment for workers from cooling and the time of permissible stay in the cold." Compliance with the thermal insulation of shoes, mittens and hats by the conditions of their use is determined in accordance with the developed methods presented in chapters 13 and 14, as well as in the Guidelines MUK 4.3.1901-22, approved. 03.03.22 "Methodology for determining the thermal insulation of personal protective equipment for the head, feet, hands for compliance with hygienic requirements."

In order to avoid hypothermia of the body in the cold, a work and rest regime must be observed (MR 2.2.7.2129-22), which regulates the time of continuous stay in the cold at different air temperatures, wind speeds and the duration of rest in conditions of thermal comfort in order to normalize the thermal state of workers. Compliance with the regime prevents excessive cooling of the body, a decrease in efficiency and reduces unproductive time spent on heating, since with less cooling, a faster normalization of the thermal state of the body occurs. These recommendations can be used, for example, when planning the scope of work carried out in a cold environment. It should be noted that at an air temperature of -40 ° C and below, respiratory protection is necessary. The worker should also warm up, who has had an overheating of the body, due, for example, to performing hard work, in which there is increased sweating. In this case, resting in cold conditions (more than 5 minutes) can lead to colds.

Outerwear, and when cooling the feet, and shoes should be removed. This will speed up both the process of normalization of the thermal state of a person, and will reduce the rate of his cooling in the subsequent period of stay in the cold. For faster normalization of the temperature of the surface of the feet and hands, it is advisable to use special heated means, while the temperature of their surface in contact with the surface of the feet and hands should be within 36 - 40 ° C. It is advisable to dry or replace “inner shoes”, socks, mittens during the rest period, because, even in cold conditions, the feet emit sweat, the amount of which is sufficient to significantly reduce the thermal insulation of shoes and subsequently cool the feet.

Drying a set of clothes after the end of the work shift is one of the important measures in maintaining its thermal insulation, preventing cooling and its adverse effects.

Contamination of clothing also leads to a significant loss of its heat-shielding ability. Of course, a more “gentle” way of cleaning it is chemical, but if synthetic materials such as Artika, Thinsulate ™, Sintepon, Hollofibe are used as a heater, then washing is also possible. Such clothes do not lose their heat-shielding ability even after five washes.

However, due to the fact that cold is a risk of developing pathology, even with appropriate warming of a person (cooling the face, respiratory organs), medical supervision should be provided for workers.

Cold exposure is especially dangerous for people suffering from:

- cardiovascular diseases (hypertension, ischemic disease);
- peripheral vascular disease;
- bronchial asthma (cold can provoke an asthmatic attack);
- respiratory diseases;

Cold exposure is dangerous for people with:

- physical fatigue;
- history of local cold lesions;
- thyroid disease and other endocrine diseases;
- as well as for people who consume alcohol, antidepressants, tranquilizers, sedatives, anti-obesity

drugs, hypoglycemic, antithyroid drugs and ganglionic blockers.

Medical control from the standpoint of preventing pathology caused by exposure to cold is necessary in all cases where there is a risk of cold injuries:

- the air temperature and the level of energy consumption are lower than the average values at which the permissible thermal state of workers wearing clothes with thermal insulation provided for by GOST R SSBT 12.4.236-2007 is ensured;
- wetting clothes (shoes, gloves) with sweat or external moisture, leading to a decrease in its thermal insulation, general and / or local cooling;
- performance of work not related to physical activity, which serves general and local cooling;
- the estimated time spent in the cold is less than the planned one, for example, due to the impossibility of changing the tasks and working conditions, i.e. when you can expect the formation of a deficiency of heat in the body above the permissible level.

If the thermal insulation of the clothing used is higher than required to maintain the thermal state of a person at an acceptable level and there is no risk of local cold injuries, then medical control is not necessary.

When purchasing workwear, footwear, you should make sure that its thermal insulation and breathability meet the hygienic requirements for the climatic region (zone) in which it is intended to be used. In addition, it is important that the design of clothing provides the necessary protection for all areas of the body. Attention should be focused on protecting the lumbar region, especially when performing work related to inclinations. As mentioned above, with local cooling of the lumbar region, in addition to exacerbation of sciatica, there may be a change in kidney function as a result of vasospasm, leading to ischemia, contributing to a persistent change in their tissues.

At air temperatures below -10 °C, especially combined with wind, cold damage to the face may occur (numbness, whitening of the skin area, pain, itching, tingling). To avoid this, workers should be warned about this possibility and the need for mutual supervision. The worker should also be informed of the measures to be taken in this case, for example, stop working in the cold and go into a heated room; put your hand on the affected area. In no case, do not rub this area with snow.

Thus, the employer must know:

- what is cold and how does it affect the decrease in working capacity, labor productivity, attentiveness, etc., as well as the state of health (exacerbation of chronic diseases, the development of various types of pathology);
- what are the contraindications to work in the cold;
- how to protect a person from general and/or local cooling;
- how to organize work in the cold;
- in what cases should medical supervision be provided for those working outdoors in the cold;
- what are the rules for working in the cold (inform the worker).

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Issue Article

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ON THE SIGNIFICANCE OF THE MARKET TO BE AN INTERMEDIATE BETWEEN MANUFACTURERS AND CONSUMERS, FORMING THE PRODUCTION OF DEMANDED PRODUCTS

Abstract: *in the article, the authors, analyzing the role of the market as an intermediary between the producer and the consumer, forming the production of products that, being in demand and in demand, provide the manufacturer himself with sustainable TEP and a stable financial position, and the consumer - the opportunity to satisfy their preferences, taking into account their desires. In this regard, the authors justifiably believe that the market is the subject of the development of efficient production of products, which should always be in demand and competitive.*

Key words: *quality, efficiency, demand, competitiveness, market, profit, demand, buyer, manufacturer, financial stability, sustainable TEP, priority, assortment, assortment policy, demand, sales, paradigm, economic policy.*

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Introduction

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Planning in the economy grew into a problem during the Industrial Revolution, when production became massive. Over time, the urgency of the problem of planning - scale, form, value steadily increased, and the discussion became more complicated and aggravated. The practice of using planning proved to be controversial, which created

even more tension in the struggle of opinions. The paper reflects the author's belief that the conflict of interests around the significance of planning in the organization of production, to a certain extent, is associated with the crisis of economic thinking itself. The dominance of one-sidedness and the absolutization of quantitative methods inevitably lead researchers into empiricism and utilitarianism, to an unreasonable degree of simplification required by the method of mathematical calculations. Opinion displaces knowledge, subjectivity, objectivity of the approach. The planning format should correspond to the uniqueness of the social status of the economy. Its goal is to create favorable conditions for human development, therefore, planning must perceive a person as the main capital, the goal of the movement, and not only and not so much as its factor. Planning is futile to make it dependent on market exposure. The market needs to be planned as part of total planning.

Main part

The dynamics of the market development in the last decades of the last century and at the beginning of the third millennium invariably shows the growing interest of consumer demand in the quality of goods. With all the economic, social and political costs, humanity is getting richer, and wealth is distributed unevenly. Finances, as before, are concentrated in certain regions, however, just like the premieres of modern production. Analysts predict the course for the quality of goods confidently and everywhere. The consumer has realized the need to pay for the advantage of quality services and products. The line is behind the manufacturer, who must close the mind "greed" and "mortal sin" in order to burn greed. The most prominent economists unambiguously declare that the improvement in the quality of goods is not causally connected with an increase in prices. Positive changes in the quality of goods require qualitative changes in engineering, technology, organization and management of production. Production must improve, which does not mean becoming more costly.

As long as the authorities and manufacturers will portray market relations, the mass consumer will have to pay, as the costs will fall on his shoulders. Exclusive buyers are protected from the vicissitudes of the Russian market by a truly free choice. They purchase goods directly from reputable manufacturers. Officials are ready to do anything to be among the exclusive buyers. Firms are likely of the same opinion and are willing to pay officials for the freedom of their own actions. The situation cannot be called otherwise than creeping state anarchism. Something early state began to degenerate.

In the last quarter of a century, the term "problem", pushing its "competitor" - "task" to the periphery - has firmly established itself in the verbal leaders of all discussions, regardless of their scale. The "problem" has become a kind of "brand", indicating a high professional stake in the discussion. In such a rapid ascent of the "authority" of the problem, one can easily find political roots. The current, obviously inflated status of the problem is an ideological move that provides a certain political line. Where a foreigner says: "problems", ours will definitely find them. If they don't find it, they'll invent it. Defects of qualification can be hidden behind a problem, problems lead politicians away from real cases, which they are unable to solve. In addition, hiding behind a problem, you add weight and mystery to the situation.

There is indeed an element of mystery in the politics of "problem". In the interpretation of the term, domestic classics: V.I. Dahl, R. Brockhaus and I. Efron point to this. Emphasizing the natural relationship between the “problem” and the “task”, they note the peculiarity of the problem, which manifests itself in its unusualness as a task: the task has a way of solving it in existence, the problem is also solved as a task, but so far there is no way to solve it. It exists conditionally, potentially. The interpretation of the problem by reducing the concept to a more general concept of "task" contains a hint for those who are aimed not at discussion, but at the solution. The solution to the problem should be sought by considering the problem as a complex task, composed of several coexisting in a complex or sequentially related tasks. What is important here is that a "problem" is not something inaccessible to ordinary thinking, it is the sum of tasks. Dealing with a problem is the same as deciphering this sum of solution problems, then simpler, already known problems combined in a problem. The problem should be presented as a technical problem. The solution of a technical problem is carried out in two ways: empirical or theoretical. All five of the simplest technical devices were created before Archimedes, even the “Archimedes screw”, however, all of them were the product of an experimental search based on trial and error, so their use and modernization, integration presented considerable difficulties. The merit of Archimedes was that the great ancient thinker developed the theory of these mechanisms, thereby helping to solve practical problems of various scales.

Philosophy is not a set of master keys to understanding quality, however, like quality, it is not Aladdin's cave. The understanding of quality historically changes following the change in the state of real quality, and the real quality in the world of human life is far from being the quality of natural things.

Man learns from nature, imitates what he sees in it. If the "finds" of nature, formed over hundreds of millions of years of natural selection and inheritance of the signs that have appeared, help a person solve his problems, he borrows them, altering them for himself.

The "first shoes" and "first clothes" created by man were not much different from the protection of

the limbs and body of animals. The shoe sole is suggested by the protective layer of the skin of animals that lived next to humans, the heel is a stylized copy of the structure of hooves. Our ancestors either did not wear clothes or made them from ready-made skins.

When characterizing the quality of a product of activity, it is advisable to rely not so much on its natural nature, but on the specificity of the existence of the product - its spatio-temporal functions and design. The portfolio is purchased out of season, so the buyer is guided, first of all, by sustainable fashion trends, preferences of his own taste and high-quality, natural properties of the item. He is ready to exchange "good" money for a fairly expensive product.

To find the optimal proportion of the ratio of quality to quantity - to measure quality, two requirements must be taken into account:

firstly, try to comprehensively define quality, remembering that quality is a set of essential features of a product built in a certain way;

secondly, relying on the decoding of quality, in the most serious way to single out the levels of quality being - the degree of quality of the product.

Classical political economy is the doctrine of the production of goods, the contradictions of production and the nature of the goods, the alienation of the producer in the goods and the overcoming of the opposites that arise. Despite significant disagreements, the classics of labor economic theory were unanimous on the main point: the wealth of a nation grows through productive labor.

Market speculation already in the nineteenth century. actively intervened in economic life. Naturally, the classics knew a lot about the market. K. Marx, the interest in which, more precisely, in K. Marx's analysis of cyclic crises, has surpassed all expectations today, even experienced certain difficulties, moving from the logic of the development of production to studying the fate of the product on the market.

The market, modern to K. Marx and J. Mill, already demonstrated a certain independence of being, but was not yet able to compete with production for a master's position in the economy. He acquired this ability by the middle of the twentieth century.

One question remained: where to get the initial capital, which would ensure high consumer demand and launch the economic mechanism? The United States profited from the Second World War, Western Europe used cheap labor and its property in numerous colonies. With Japan and South Korea, the Americans defended themselves against us and a resurgent China. The economic mechanism seemed to work. It is controlled by transnational corporations. Today there are about 3,400 of them. Of these, more than 400 are interstate, 7.5 times more non-governmental, and the number of the latter is increasing. Between 300 and 600 companies control the global market.

Quality should characterize a non-isolated phenomenon. The relation of the phenomenon to the environment of existence, conditions of expression, and other phenomena is manifested in quality.

The situation changes with the advent of consciousness. All the main areas of activity of consciousness: cognitive, communicative, regulatory - are manifested in the format of reflection of objects, and the reflection is fundamentally different than all known in nature. Strictly speaking, consciousness reflects, in the most general sense, reproduces. In a concrete sense, it reconstructs objects, because it is not capable of reflecting an object in a physical representation. The expression “we look with our eyes, but we see with our mind” quite correctly reveals the essence of the “reflection” of an object in the forms of thinking. If the image is still somehow comparable with the subject, then the ideas are very far from subject specificity. At the same time, one thing remains: to recognize the qualitative relationship of the object and the reconstruction of the object by consciousness, similar in essence, but not in the form of being.

An object for consciousness acquires a specific mode of existence - it becomes an object. An object is a product of interaction between an object and consciousness.

Together with the object, the quality of the object appears, which may or may not coincide with the objective quality of the object, in the case when the subject enters into systemic relations with the object, forming a system of the “subject-object” type.

Specifically, such a system manifests itself in the form of production, the product produced, and relations in production. “The quality of processes, organization, life is a motivator of a higher level compared to, for example, profit”,

The correct definition of quality, consistency and systematic quality management gives the manufacturer a decisive advantage in the competition for the consumer. It would seem that everything is simple, but simplicity is equally ingenious and deceptive. The general plan for solving the problem determines the vector of movement, sets the factorial priorities of the activity - nothing more.

The modern Russian market satisfies the tastes of the consumer only from the outside, in fact, our market rather woke up, provoked the taste of the buyer with its diversity. The real choice of the mass buyer, for whom this market is designed, is still small.

Objectively high-quality, high-tech products are, as before, inaccessible to a Russian with average capabilities. He admires them, as if they were models, or gets annoyed, realizing that all this is not for him. Chinese consumer goods have lost their appeal. Türkiye and Eastern European producers are forced to adapt to WTO requirements. The product they offer increases in price, but not in quality. The price is also

helped by the disproportionately increasing costs of carriers.

In the new market conditions that have awakened the taste of the consumer, it is important to try to take control of it. We are not talking about changing the economic strategy based on quality management. We draw attention to the component of this strategy. In the West, a version is gaining strength, the essence of which is that the economy is becoming "smart", the stage of systemic quality management is moving into a new stage - the quality of education. If this is the case, then attention to educating the taste of the consumer fits perfectly into the strategy of economic policy.

The revival of the domestic light industry will also force the market situation to change, the market will be forced to respond, because its interests are determined by the dynamics of consumer demand.

Then it will be easier to breathe for many: producers, consumers - will feel the national taste and intermediaries.

Work with the buyer should be built systematically in the format of a target program. Its main sections, presumably, will be, along with the improvement of production and assortment, educational and interactive communications with a potential buyer.

Tightly engaged in educating the taste of the consumer, manufacturers themselves will be forced to improve their skills. No wonder they say that the best way to educate yourself is to try to teach others. It can be argued that the manufacturer has considerable reserves of improvement in all areas of activity. The first steps must be taken towards the consumer. You can not trust the consumer to the “concerns” of the intermediary and it is unreasonable to leave the consumer alone with himself - he should be taken as associates, accomplices and seriously prepared for the perception of the product.

Fashion and quality are like symphonic music. They are polyphonic. As you need to prepare the ear for the perception of a complex piece of music, so does the mind - for the evaluation of the product. Shoes, clothes - this is not a simple product. They accumulate the high professional status of the manufacturer, his skill, and the experience of generations. The buyer must be connected to the joint process not at the final moment “money is a commodity”, but somewhere in the technological process.

The market must have imported products. The crucian dozes if there is no pike. The market is synonymous with competition. Competition is vital, but competition is always politics, and not only economic.

The state has no right to be free from the market:

firstly, the state is called upon to ensure national security and express the interests of its people in everything that is done on the territory of the country;

secondly, the constitution of the Russian Federation says: "The Russian Federation is a welfare state." And the Russian government in the 1990s. she was not afraid of the market, she built the market just like that, because she herself was a part of this market. The authorities created the market for themselves, knowing about the fragility of their own and the market.

The consumer is ripe for a serious relationship with the manufacturer. Word for the last. Manufacturers must be the first to take steps towards a smart economy and lead consumers. It is not always clear what is an "innovative solution", "intellectual capital"? This is in our thoughts - a new policy of the manufacturer in relations with the consumer, aimed at achieving mutual trust. The consumer must trust the producer, the producer - the sustainable choice of the consumer, whom he brought up.

The formation of a civilized market is one of the main tasks of the action plan for the development of light industry for 2018–2025. Despite the well-known positive dynamics, the situation cannot be reversed. In the market for domestic goods remains below 25%. More than 50% are counterfeit and contraband products. More than half of the sold garments, fur, outerwear and footwear are concentrated in the clothing markets.

The image of the goods, its quality, as before, builds the clothing market. The clothing market is associated with gross violations, substitution of products in stores. The lion's share of the 1.5 trillion is "circling" in the clothing market. rubles. The market is "roofed" by the authorities.

It will not be possible to overcome the hypertrophy of the market overnight, and how long the process of strengthening the status of the official domestic manufacturer in the market depends on a number of factors: political will, which ensures the consistency and vigor of the struggle (here one can transfer the American practice of suppressing mafia structures without discussion); the size of investments - the state traditionally shifts them to extra-budgetary organizations; development of the raw material base - back in 2016, the Ministry of Agriculture ordered to reflect in the departmental program urgent measures to combat the subcutaneous gadfly, prevent and improve cattle from hypodermatosis for 2018–2025, but how all this is happening in our country is known: sheep breeding is in a protracted crisis, hunting has declined sharply, cell fur cultivation has been reduced to a minimum and continues to fall; stimulation of expert production remains on stamped paper; development of innovative activity and training of qualified personnel. Innovative activity in our time is due to investments in R&D - they are scanty. In such a difficult situation, an extraordinary solution can help, and it is, however, it was bypassed in state circulars.

A counterfeit and a contraband product, which is most often the same thing, has always been on the market and in stock. The difference is that in Soviet times, the amount of illegal product depended on the severity of state control over illegal activities, and such rigidity did not irritate the West. Nobody tried to interfere with us, on the contrary, they showed understanding. In 2010, as well as all the last 20 years, illegal immigrants in the clothing market openly establish their own rules. The preventive measures are so democratic that they can be neglected without prejudice to business.

The reason for the flourishing of illegal relations in the legal market is not the existence of criminal groups - they are consumers of counterfeit goods. And the current market will not allow domestic producers to develop. They will not share their buyer voluntarily, and you cannot take the power of the buyer, he must be recruited, interested in domestic products. And here many questions arise:

Firstly, it is useless to enter a corrupt market with competitive products. They will set their own price there, they need to launder money received in other areas of business, also illegal, but more profitable. The enterprise is interested in working capital, i.e. in order to sell the product faster at a profitable, but not inflated price. State intervention is required;

secondly, "tastes are not disputed, but tastes are brought up." By changing the position of their products on the market with the help of the competent authorities or by cooperating and opening their own sales market, domestic manufacturers have the opportunity to separate part of the buyer from the masses of the market and make this part of their own, with a good prospect, without deceiving the consumer, to significantly increase the ranks of fans of Russian goods.

Specialists need to go to school, universities, technical schools, colleges, colleges, organize meetings with interesting people, demonstrate products, production, open joint creative circles, hold competitions, quizzes, debates. We need to open production. Some time will have to be patient, apparently, the diversion of funds will cause a slight decrease in economic indicators. Everyone knows that in order to jump further or higher, you need to retreat.

It is surprising that there is no section in the program for the development of the industry aimed at forming its own sector of consumers. The program is tailored according to the patterns of the Soviet era, without taking into account modern realities, with the exception of an indication of the need to actively involve private investment in the process, which is very difficult to implement in the current economic situation. The shadow economy is based on counterfeit goods, "gray" manufacturers prefer to invest in customs to import smuggled goods. The most realistic is the formation of the stability of consumer interest in the products produced by tuning the tastes of the buyer to it.

Orientation in long-term plans for the export of products, in principle, is the right task. The target setting, pushing the national boundaries of the market, contributes to the involvement of reserves, primarily intellectual ones. The authorities are trying to repeat the Japanese way of reviving industrial production.

Significantly lagging behind the United States and Western Europe technologically in the mid-1950s, Japan in the 1990s. pushed the Europeans out of the world market, going through four stages of production growth in 40 years. The revival began with copying world models, in which the United States and Canada helped the Japanese, up to providing access to nuclear technology. Then there was a stage of independent development of products identical to world models in quality. In the mid 1970s. independent developments were already, in essence, at the level of the best goods, the Japanese learned how to make products of better quality. By the 1990s Japanese goods have become world brands, they have become equal both in the USA and in Western Europe.

Japanese progress is quite specific, it is unlikely that this will be repeated anywhere on the scale of the “Japanese miracle”. Japan was ideally in the right place at the right time, helped by world politics. Now it is not the Europeans, not the United States, who are organizing the highest favored nation treatment for anyone, not even Israel. However, this scheme, at least in part, needs to be adopted, in particular, by manufacturers of consumer goods.

In Russia, there are good traditions, exclusive technologies that attract custom-made consumers who strive for originality and economy. For example, craftsmen from one of the regions of the Central Region brought products made from nettle fiber, which have a proven healing effect, to the 2021 folk craft fair in Novosibirsk. In the manufacture of linen, cedar fibers were used. In Western Europe, a cooling cycle has begun, snow, which was exotic for the inhabitants, is entering everyday life. Russia has the richest experience in making ecological clothing and footwear for snowy winters, it is enough to give them a design familiar to Europeans in order to interest a Western buyer, or maybe keep something modern, Russian. In a normal European market, the main thing is to make a mark, then gain a foothold, including the creation of joint ventures.

At the same time, one should not follow in the footsteps of the Japanese. In Russia, everyone will have enough of their buyer. The interests of the domestic consumer should be a priority. We all hope, not without reason, that a better time is ahead of us. Accordingly, changes in consumer ability will affect the status of the producer.

The revival of interest in domestic goods will add optimism to domestic producers. It is only important that confidence does not grow into self-

confidence. The recommendation of the classic of modern economic theory E. Deming, known as the “chain reaction of E. Deming”, will help to avoid a fatal illness.

E. Deming initially tried to implement his approach to creating a quality economy in the United States, but failed. The reformer himself explained the reason for the failure as follows: "My initiatives were welcomed by engineers, heads of individual departments, but they were ignored by top management, who did not want to think and act in a new way."

E. Deming relied on the triumph of professional thinking, its natural desire for something new, coinciding with the progressive movement. Developing the intellectual approach of his predecessor W. Shewhart, E. Deming connected four creative acts of thinking with a logical knot: observation, development of actions, implementation and analysis.

The listed operations, which made up the "Deming cycle", unite the commonality of the status of the individual, her innovative interest in the matter. In fact, half a century before the first work on the innovation economy, an American specialist made a presentation of the very concept of "innovation" as applied to the management of economic activity.

The basis of the content of this concept is formed by four consecutive actions: professionally built observation of situations, its monitoring is the beginning of the path of innovation, a very crucial moment of scientific knowledge is the description of the object; development of measures for improvement - a positive change in the situation, the main thing here is the organization of the process in a new way, so that a motive appears that stimulates the performer; the next step is implementation and the final act is analysis, the purpose of which is to evaluate the results of implementation and gain experience to start the next round of the spiral of creativity.

Inviting E. Deming to Japan in 1950, the initiators of industrial restructuring tried to prepare well for the reform. They even made adjustments to the curriculum of technical universities. The course "How to Use Experimental Data" was introduced for all students of the Industrial Department of the University of Tokyo.

In the new time it is necessary to go with new ideas and, moreover, with programs, but there is always continuity in the process. Wise E. Deming foresaw what is always relevant - a reminder to management of all ranks about "difficulties and false starts."

A serious miscalculation of the methodological training of domestic specialists-managers, engineers in universities should have long been recognized as its one-sidedness. Our professional education is traditionally focused on progress and innovation.

We clearly underestimate the warnings of experienced, recognized professionals about the impossibility of knowing everything and the need to be prepared for the most difficult circumstances of the case. The well-known Russian doctor puzzled journalists and specialists a lot with his answer to the standard question: “What should a good doctor be like? He said: "A good doctor differs from a bad one in that he knows well how not to treat."

Professional training involves a thorough, in-demand analysis of mistakes, miscalculations, shortcomings, in a word, negativity in all its manifestations. A specialist is not insured against shortcomings either with a red diploma, or experience, or systematic study. We are not talking about the elimination of negative consequences, but about their "quality" side and frequency. It is possible and necessary to fight against this, it is in this direction that the lessons of E. Deming are especially significant.

The most dangerous is the desire to follow the beaten path. This path eventually leads to a dead end. You don't need to learn to do like everyone else. To learn is to develop independence.

The theory of quality management in our universities is taught outside the “production-consumption” system, the course was conveniently reduced to the history of the problem and the quality management system, separating it into the field of production. The consumer, the process of exploitation, was located outside the main subject, presenting it as an infrastructure, without thinking about the fact that production is not self-sufficient, it is conditioned by consumption by other production, but, ultimately, any production is brought to consumption. The very word “production” is just the beginning of the phrases: “production of services”, “production of a product”. The first can be read as "relationship production".

If production is “production of relations (services)”, then why do we talk about the quality of production in isolation from the subject of relations, which is opposed to the producer of a product or service? That, the other, the subject is the customer of services, products, so the quality of production is of no less interest to him than the manufacturer.

The advantage of the manufacturer over the consumer is in professionalism, therefore, it is necessary to disseminate one's professional knowledge, involve the customer in the circle of professional interests, problems; seriously and for a long time to engage in his education, taking him away from the "brainwash" in market advertising.

For two decades now, the youth consciousness has been under the pressure of “glamorous” fashion, which reigns supreme in everything: in television shows, youth programs, serials, weather forecasts, programs designed for home life, in the speeches of VIPs, “stars”, officials and deputies. One gets the

impression that it would be shameful, obscene to live otherwise.

By the way, in the countries that we have to catch up, life is not carried out in the style of "a la glamour." Popular in the USSR and in the Western world, Soviet international journalist, historian V. Zorin recalled the details of an exclusive reception hosted by the mayor of New York, billionaire G. Rockefeller. The mayor rarely met with journalists at work. For our compatriots, an exception was made for political reasons - to support the course towards easing tensions in relations between world leaders.

“Having learned about the consent of G. Rockefeller,” said V. Zorin, “we were more confused than happy. It seemed uncomfortable for us to go to the richest man in the United States in our suits and purchased shoes. Our American colleagues did not advise us to fuss, they recommended that we focus on the content side of the dialogue. But we thought otherwise, we were afraid to look unworthy, so we decided to rent costumes from fashion designers for a day. They came to the meeting in advance, were received by the mayor at the appointed time.

Again, we entered the office with a feeling that our equipment was appropriate for the circumstances. We experienced the real inconvenience when the mayor came out to greet us in a simple work suit and ordinary shoes. And smiled at our sight.

Where are the anti-advertising perversions? Educational institutions, instead of turning into centers of aesthetic, business, everyday education, themselves contribute to misinformation of the mass consumer.

Universities, according to their status, should actively cooperate with production and, together with production, carry out systematic, widespread work to educate the consumer's consciousness. Without such creative activity, the future of the domestic clothing and footwear manufacturer looks like the real Russian automobile industry - we will become an annex of Europe, we will lose the creative component, we will lose traditions and national characteristics.

One should strive to sheathe not the whole world, like the Chinese, but one's own, Russian, consumer. He is still able to appreciate the dignity of fellow countrymen, but he must not be left to the mercy of fate.

E. Deming paid special attention to the socio-psychological support of the organization of production. Our current specialists are looking for the keys to success only in technology and statistics.

E. Deming's concepts of "difficulties" and "false starts" are loaded psychologically. The talented economist E. Deming was tempted in the areas adjacent to economic activity - psychological and social. He presented production management in a broad, complex context. Most of today's managers are one-dimensional. Hence the constant failures in management. To the "difficulties" E. Deming attributed:

– expectation of results from work in the field of quality improvement in the shortest possible time, which is typical for highly specialized training - a surrogate for professionalism. Quality is the state of the essence of the process, product, management. The essence differs from the phenomenon precisely in stability. Quality is not a quantity that can be reduced, and sometimes increased. Quality loses and finds itself in the process. It takes time and, of course, equivalent tasks for training specialists;

– the opinion that mechanization, automation and computerization will help to make a breakthrough in the field of product quality. This opinion is again a defect in the training of a specialist, the limitations of professional culture. The quality of the product, and in a general sense - “boots are clothes for the feet”, and in a particular sense - the quality of shoes as a combination of certain properties of boots, is a matter of human creativity. Boots are not harvested on a tree - in the workshop, boots are sewn by specialists according to models developed by related specialists from leather, which was selected by other specialists. Only at the beginning of the production chain of a product are we able to detect the presence of a natural phenomenon of nature - the skin of an animal. Technology in any form (outdated, modern, future) was, is and will forever remain a means of labor, created by a person and launched (or not launched) by him into production. Technique allows you to make products of a certain quality, gives stability to the quality of the product - and that's it! We repeat: the quality of a product is created by a specialist, it is a product of his activity. Technology does not create quality. This is where E. Deming's warning follows: do not expect a breakthrough in the field of quality from a technician.

In dialectical logic, there are some wise and simple rules that reflect the actual order of things, namely:

firstly, you need to carefully study what was and how it was, so as not to step on the old rake again;

secondly, to thoroughly, comprehensively understand the essence of the matter, its infrastructure and relations, including the analysis of macroeconomic dynamics;

thirdly, the starting point should be the practical expression of the intention, but it is important to interpret the very concept of “practical significance” not in a narrowly pragmatic way;

fourthly, and finally, the last thing: truth is always concrete and unambiguous.

Quality management began more than a century ago with primitive actions and attention to detail. G. Ford Jr., A. Sloan, F. Taylor and A. Foyle - different people were united by a common attitude to the details of production. They, like everyone else, naturally

recognized them, however, unlike everyone else, they did not treat them with disdain. Spontaneously, they understood that the essential is not born on its own, it is born in the non-essential, the big grows out of the small, the necessary arises at the crossroads of the accidental. Quality cannot be carved out of quantity, but in order to obtain the desired quality, the required quantity is needed. Quantity makes up a measure - "qualitative quantity".

In the presence of "qualitative quantity", i.e. measures, we can already do the appropriate quality. The Bible states, “In the beginning was the word, and that word was with God, and that word was God.” In the theory of quality, the beginning seems different: “In the beginning, quantity is required: funds, specialists, ideas, etc.” Therefore, the campaign for quality began with Ford with economy, with Taylor and Foyle - with the level of organization. And the main problem already at that time, perhaps not yet so obvious, was the “scissors” in terms of quality and quantity.

Let us clarify: the economic effect does not manifest itself in an abstract, pure quantity, although it is potentially included in it, but in a realized quantity similar to demand.

Taken abstractly, demand is more of a psychological category and less of an economic one. In the economic aspect, demand acquires the value of a factor when it is provided either by the purchasing power or by the settlement power that allows obtaining credit.

The manufacturer is obliged to strive not to create quality. Its goal is production efficiency. The quality of everything for everything is a means of achieving efficiency, a lure, a nozzle in the understanding of a fisherman. You can get a modern quality product and go bankrupt, because you will not be able to sell the product at a profit. The market will not accept it.

Quality in an economic application is a concept that is correlated with efficiency and does not coincide with it, as many people think. Quality management, including the development of technical standards, regulation with their help, involves modeling the filtering of ideas, plans through the "gateway" of quality goods to the market. It will open or slightly open the market for innovations to the full extent of access to mass demand.

K. Ishikawa came up with a "circle of quality" and proposed "cause-effect" diagrams. The idea of the Japanese specialist is extremely simple: it is necessary to involve the entire staff of the enterprise in quality management. The totality of participation is the key to the quality of production. The concept of K. Ishikawa was embodied in the history of Toyota. B.S. Aleshin argued that "it was at this phase of quality assurance that quality management in its modern sense took shape."

K. Ishikawa, thanks to the involvement in the process of creating high-quality products of all those employed in production, managed to remove "the contradiction between improving the quality and increasing the efficiency of production in its former forms." In almost all countries with a high average income of the population, the consumer began to receive high quality goods and services at an affordable price, bringing a number of European countries, Canada, the USA, and some Arab states closer to the "consumer society". The “miracle” born in Japan, like all previous miracles of the economy, turned out to be short-lived, which once again confirmed the position of skeptics: “Miracles do not happen! There are ups and downs."

Every “miracle” is a success acquired by a specific historical situation and flourishing within the boundaries of its time. The features of historical time contribute to the birth of "miracles", they also determine the miraculous limits.

Let us turn again to B.S. Alyoshin: “The concept of standardized quality, according to which a quality product is understood as a product, the requirements for which are defined and fixed in the standards by the manufacturer, and the consumer has the right to either buy the proposed product or reject it, has led to an aggravation of the contradiction between quality and efficiency in a new form, with an error in determining the needs of consumers when products that are suitable, from the point of view of manufacturers, enter the market, the costs are extremely high.

The quality of activity is the final criterion of its individual, collective and national status. It is in quality that the energy of creation is accumulated. The quality of activity shows how much we penetrated into the essence of things, learned how to manage things, change their properties, form, forcing them to serve a person without significant damage to nature. Quality allows you to see the person himself from new angles, to pay tribute to his talent, will, and professionalism.

The dynamics of the market development in the last decades of the last century and at the beginning of the third millennium invariably shows the growing interest of consumer demand in the quality of goods. With all the economic, social and political costs, humanity is getting richer and wealth is distributed unevenly. Finance, as before, is concentrated in certain regions, however, in the same way as the premieres of modern production. Analysts predict the course for the quality of goods confidently and everywhere. The consumer has realized the need to pay for the advantage of quality services and products. It is the turn of the manufacturer, who must overcome "greed" and "mortal sin" in order to destroy greed. The most prominent economists unambiguously declare that the improvement in the quality of goods is not connected causally with an increase in prices. Positive changes in the quality of goods require qualitative changes in engineering, technology, organization and

management of production. Production must improve, but not become more costly. TThus, the criteria for the priority of goods has the right to life and is more significant for both the manufacturer and the buyer to ensure sustainable demand for products manufactured in the regions of the Southern Federal District and the North Caucasus Federal District, and this is the most important and sought-after wish for finding your consumer. An analysis of the results of a survey of respondents on the impact of the "Priority of goods" criterion confirmed the importance of rehabilitating this criterion in marketing activities to create a sustainable demand not only for light industry products, but also for all consumer goods.

Conclusion

Having agreed that today manufacturers do not produce what they can, but mainly what is especially profitable, because in the market needs are not determined by buyers. The market is ruled by the seller in all persons and as an organizer - the owner of the market. And, of course, the owner of the market, in turn, is well aware of the importance of cooperation with the manufacturer for his well-being. Such a vicious circle provokes the situation that the concept of "quality" has become a bargaining chip, dependent on the understanding and taste of the seller, who, unfortunately, does not have such criteria, he simply does not own them. In this regard, the status of "Product Priority" is a litmus test for the consumer, if the manufacturer again turns to face him through an alliance with the designer, making artsy products, that is, original, trendy and modern,

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ON THE IMPORTANCE OF EFFECTIVE PRODUCTION QUALITY MANAGEMENT FOR THE MANUFACTURE OF DEMANDED PRODUCTS

Abstract: *In the article, the authors analyzed the state of the market in the regions of the Southern Federal District and the North Caucasus Federal District, confirmed the presence of a significant shortage of shoes, which justifies the expediency of forming enterprises and consumers in these regions. At the same time, we were able to form the entire product range that would satisfy the needs of consumers in these regions, with the rationale that it will be in demand and competitive through the formation of innovative technological processes using a quality management system to ensure quality management, forming its advantages over other manufacturers and ensuring the realization of consumer preferences. In addition, by forming preferences among consumers in these regions, business leaders significantly improve the socio-economic situation in these regions.*

Key words: *enterprises, consumers, regions, assortment, assortment policy, competence, preference, production management, product quality, demand, competitiveness, stable financial position, stable TEP, demand, profit, innovation, quality, means.*

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Introduction

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The dynamics of the market development in the last decades of the last century and at the beginning of the third millennium invariably shows the growing interest of consumer demand in the quality of goods. With all the economic, social and political costs, humanity is getting richer, and wealth is distributed unevenly. Finances, as before, are concentrated in certain regions, however, just like the premieres of modern production. Analysts predict the course for the quality of goods confidently and everywhere. The consumer has realized the need to pay for the advantage of quality services and products. The line is behind the manufacturer, who must close the mind "greed" and "mortal sin" in order to burn greed. The most prominent economists unambiguously declare that the improvement in the quality of goods is not connected causally with an increase in prices.

The prospects for the development of shoe enterprises in the Southern Federal District and the North Caucasus Federal District considered in the monograph are based on real, achievable goals, assuming that federal, regional and municipal branches of government, together with manufacturers and trading firms, on the basis of a careful weighing of their capabilities, are able to bring the shoe industry out of a critical state.

The analysis of the effectiveness of flexible technological processes and their relationship with various forms of organization of production in the conditions of modern market relations has been carried out. The requirements for competitive production, which must be implemented, are defined, namely:

- reduction of production preparation time;
- shortening the life cycle of products;
- increasing the scientific and technical level of production, the implementation of which is possible precisely on the basis of flexible technological processes for the production of shoes.

The structure of the assortment of shoes of manufacturing companies in the region by types, materials, season of wear, price levels was studied in order to analyze the market situation. Identified those types of shoes that are in high demand. Their aesthetic and constructive characteristics are formed.

Elements of an expert system for the operational management of a multi-assortment issue have been developed. The calculation of the optimal structure of the range of shoes produced and the total cost of production of the entire range of models are made.

The analysis was carried out and the influence of the forms of organization of production and manufacturing technology on the cost of footwear was determined using the example of the technological process of manufacturing children's, men's and women's shoes, taking into account the shift program. Theoretical dependencies are obtained to assess the influence of the factor "organization of production" on individual costing items in general and other technical and economic indicators.

Recommendations are given on varying the specific weight of the costs of costing items for the manufacture of a large assortment of output to predict the cost and sales volumes of products, taking into account the demand for shoes in each region of the Southern Federal District and the North Caucasus Federal District.

Functional and simulation models of business processes for the production of leather goods have been developed, a formal description of the organization of the current technological process and initial data for evaluating the effectiveness of technological processes for the manufacture of various types of footwear, taking into account the existing demand for it, have been obtained. A technique for multi-criteria evaluation of the effectiveness of innovative technological processes for the production of leather goods based on the application of the target programming methodology has been developed.

Software has been developed for the formation of the technological process of assembling shoes and determining the cost of producing an assortment of shoes. A computer simulation model has been implemented that describes the dynamics of the shoe assembly process. The proposed methodology and the software implemented on this basis make it possible to reduce the duration of technological preparation of production and increase, thanks to the rationalization of the technological process, the specific consumer effect, which today, and even more so tomorrow, is the main determining factor.

The complex indicators of the effectiveness of innovativetechnological processes for the manufacture of shoes. Taking into account the production program, promising options for technology and equipment were formed, the most effective one was selected, the possibilities for streamlining the flow were identified, which made it possible to eliminate bottlenecks, minimize equipment downtime, which is one of the conditions for designing flexible technological processes, but the production of shoes with a demanded price niche.

The economic effect of the results of scientific research is determined, which are estimated in terms of increasing labor productivity, the level of mechanization of production, lowering the indicators of work in progress and production costs. An accessible tool for shoe production technologists to improve the design of technological processes is proposed, which allows the enterprise to form a competitive assortment and predict the maximum income from the production of shoes for the regions of the Southern Federal District and the North Caucasus Federal District.

The authors support the idea of creating TOPs in the Southern Federal District and the North Caucasus Federal District, which would deal with the entire cycle of ensuring the production of footwear from accessories to finished footwear and related products. This will improve quality control, reduce costs, increase profits, vary the price niche, providing domestic products with competitiveness and sustainable demand, and social protection for residents of the regions of the Southern Federal District and the North Caucasus Federal District.

Despite the fact that the demand situation for shoes in the 2022 market has deteriorated sharply due to the global economic crisis, shoe manufacturers and trading companies have every reason to be cautiously optimistic, but not pessimistic. And there are the following reasons for this:

- all manufacturers of domestic footwear see an opportunity not only to remain on the market, but also to expand their share by reducing the cost of the range, reducing their own costs, increasing the number of retail outlets, including by expanding the geography of their location in the regions of the Southern Federal District and the North Caucasus Federal District and beyond outside of it;

- implementation of structural reorganizations of its sales market. This applies not only to the ratio of imports and the production of domestic footwear, but also to a decrease in the commodity balances of past periods;

- and most importantly, there is not only a visual revival in the production of components, but also in the sector of Russian manufacturers themselves, there is also an increase in shoe production against the backdrop of business activity of both manufacturers and trading companies trying to find a common language, points of convergence in order to increase the brand on domestic products.

But at the same time, key problems must be solved:

- Firstly, there must be an effective fight against illegal imports, because and today over 40% of our market is occupied by counterfeit products;

- secondly, it is necessary to implement several large investment projects, modernize shoe enterprises using the most modern technologies, which will significantly improve the quality of shoes and thereby gradually regain the lost authority of domestic goods, both in the eyes of our consumers and abroad. The implementation of all these measures is reflected in the draft strategy for the light industry for the period up to 2025.

When developing the Strategy, the national interests of Russia were taken into account (improving the level and quality of life of the population, the health of the nation, the strategic and economic security of the state), proposals from the constituent entities of the Russian Federation, public organizations and associations on the necessary measures to support the industry in the priorities of its development.

The Strategy is based on the transition of light industry to an innovative development model. Particular attention is paid to the issues of protecting the domestic market from shadow trade, technical re-equipment and modernization of production, import substitution and export. Today, the light industry of the Russian Federation is the most important diversified and innovation-priority sector of the economy.

The contribution of light industry to the industrial production of Russia today is about 1% (in 1991 this figure was 11.9% and corresponded to the level of developed countries such as the USA, Germany and Italy, and which for many years have kept this figure at the level 8-12%), in the volume of exports - 1.3% Currently, 14 thousand large and small enterprises located in 72 regions of the country operate in the light industry. About 70% of enterprises are city-forming. The average number of industrial and production personnel employed in the industry is 462.8 thousand people, 75% of which are women. The scientific support of the industry is carried out by 15 research and design institutes, many of whose developments correspond to and even exceed the world level.

The main territories for the location of enterprises that determine the industrial and economic policy of the industry are the Central (55 enterprises), Volga (30), Southern (12) and North Caucasian (5) federal districts, which have the largest share in the total volume of manufactured products and are the most socially important. The results of the industry for 2022 showed that it is able to increase production volumes in sub-sectors directly oriented to the market during the crisis. It should be noted that in the context of the crisis, the range of goods supplied to Russia is sharply narrowed. This gives the domestic light industry strategic opportunities to occupy the vacant niches and strengthen its position in the market.

In 2022, the turnover of retail trade in light industry products amounted to 2.26 trillion. rub., its share in the retail trade turnover of the country is 14.9%, and in the retail trade turnover of non-food products - 26.8%.

In terms of consumption, light industry products are second only to food products, far ahead of the consumer electronics markets, cars and other goods. Taking into account macroeconomic indicators and development trends, the market for light industry goods by 2035 may amount to more than 3.3 trillion rubles.

The existing preferences and problems being solved to some extent at the federal and regional levels are still insufficient to eliminate the influence of negative factors on the development of the industry and turn it into a competitive and self-developing sector of the economy, and for domestic producers to

strengthen their positions in the domestic market and compete on equal terms in world market not only with manufacturers in China, Turkey, India and a number of other developing countries, but also with the EU countries and the USA.

The situation in the industry was further exacerbated by the global financial crisis. In a crisis, even those enterprises that have achieved positive results in innovative development in recent years, paying significant attention to the modernization of production, are already forced and will be forced in the coming years to reduce production volumes and abandon long-term investments. This is due to the difficulties that have arisen associated with attracting bank loans (the share of borrowed funds in working capital in recent years has reached 40%), on the one hand, an increase in the volume of official imports, counterfeit and contraband products, a drop in demand and a slowdown in the sale of many types of consumer and industrial goods. -technical purpose, reduction of workers and specialists - on the other.

The current situation can be changed only by developing and implementing anti-crisis measures and measures aimed at boosting the light industry economy, giving it new impetus in innovative, social and regional development, in increasing competitiveness and production efficiency at a new technical and technological level. Today, the industry provides only a quarter of the effective demand of the population with its products, and the country's mobilization needs are only 17–36%, which contradicts the law on state security, according to which the share of domestic products in the volume of strategic products should be at least 51%. Therefore, today the light industry faces new challenges and tasks, the solution of which requires new approaches not only for the short term, but also for the long term.

The goals and objectives of the Strategy are consistent with the state policy in the field of innovative and socio-economic development of Russia in the medium and long term. The implementation of the Strategy will enable Russia's light industry to become an industrially developed industry that will provide jobs for many thousands of people, improve the well-being of workers, and strengthen the strategic and economic security of the country. The main result of the Strategy is the transition of light industry to a qualitatively new model of innovative, economic and social development, which is based on a new technological and scientific base, new methods of production management, the relationship between science, production and business. This is to ensure effective matching of production volumes.

Based on the conducted research, we have identified the following results:

- the concept of assortment policy was formulated to ensure the sustainable operation of shoe enterprises in the regions of the Southern Federal District and the North Caucasus Federal District in a competitive environment of unstable demand;

- the optimal structure of the assortment of footwear was determined based on taking into account the profitability ratio and the cost of producing specific models using the linear programming method for its competitiveness and demand in markets with unstable demand;

- set out a multi-criteria evaluation of efficiency when choosing innovative technological processes for the production of shoes using simulation models;

- an algorithm for the economic evaluation of innovative technological processes for the production of competitive and popular footwear in markets with unstable demand is given;

- modern innovative technological processes based on progressive technologies, implemented through the use of universal and multifunctional technological equipment, are indicated;

- the software for the formation of the technological process of assembling shoes and determining the specific reduced costs, which is the sum of current costs (cost) and capital investments, measured using the standard efficiency factor, taking into account the production program, is presented;

- the main directions of the formation and development of a strategy for increasing the competitiveness and demand for footwear manufactured by enterprises in the regions of the Southern Federal District and the North Caucasus Federal District on the basis of innovative technological processes for markets with unstable demand were determined;

- an expert system for managing a large assortment of footwear at enterprises is shown, allowing them to determine the total number of footwear produced in the market of prevailing prices and demand; an assessment of the costs for the release of the assortment was made on the basis of taking into account the profitability ratio and the costs of producing specific models, taking into account their demand in the sales markets;

- the calculation of a complex indicator of the effectiveness of innovative technological processes for the production of shoes is proposed;

- the structure of the technological process for the production of the entire range of footwear was formed, taking into account the demand of consumers in the regions of the Southern Federal District and the North Caucasus Federal District;

- analyzed a software product that allows you to create a technological process for the production of shoes and determine the costs of its manufacture, taking into account the production program for the newly formed shoe industries in the regions of the Southern Federal District and the North Caucasus Federal District in order to meet the existing demand for shoes.

Economic efficiency from the introduction of innovative technological processes at the enterprise for the production of shoes will amount to 2068637.6 thousand rubles. in year.

Thus, the heads of enterprises have a weighty argument for the municipal and regional branches of government about the advisability of forming such a cluster within the regions of the Southern Federal District and the North Caucasus Federal District, in order to implement the developments of the authors, ensure their way out of the crisis, significantly improve their socio-economic situation by creating new workers. places, including through the creation of new production facilities for the manufacture of domestic components, filling municipal and regional formations with budgetary funds, which are so necessary to provide residents of these regions with decent living conditions.

All interstate unions must be considered solely in the national interests, otherwise you will lose. An economic agreement is an international condition that you can really try to use for your own promotion, both at the level of a company and an industry. However, it should be understood that if you fail to benefit from the terms of the contract, you will receive it from your competitors, who turned out to be smarter. A compromise option is not excluded, when the profit is mutual and temporarily divided in proportion to participation. The main thing to know is that an agreement in any form leaves competitors competitors, it gives competition a civilized look, limiting arbitrary actions. Production speaks for the leaders of the PRC. In 2022, the Chinese sewed about 14 billion pairs of shoes - 2 pairs for every inhabitant of the Earth. Chinese leaders, therefore, in meetings, when signing protocols, are laconic. Ours has a harder time - in the absence of similar indicators, they are expected to give assurances of friendship and mutual assistance. Good, neighborly, mutually beneficial relations are the only real reality of the progressive movement. Everything else is virtual reality. Light industry enterprises in such a situation are somewhat easier to act:

The state is obliged to make a change in the decline in the prestige of professions related to the light industry, to create an attraction for those who decide to devote themselves to this interesting business. The owners are looking for reserves to raise wages, to make it clear to large retail chains the importance of acquiring and distributing goods made in Russia, of course, taking into account their proper quality;

- to place first of all orders for production from those "who have already got on their feet and know how to sew." They have proven their worth;
- assist companies in obtaining European certification of materials, otherwise foreign firms will not be interested in them, and the goods produced by us will not get to the West;
- actively support companies with collective stands at international exhibitions;
- provide such enterprises with subsidies on loans for the purchase of raw materials and materials. The share of these loans in total lending should be from 50 to 85%;
- exempt modern imported equipment from import duties and VAT. The equipment used in sewing shops is 90% imported;
- implement preferential leasing.

Basically, this is due to structural imbalances in the light industry - a mismatch at the moment in the scale and capabilities of the industry to qualitatively satisfy the growing demand for products, stop the critical drop in the share of domestic goods in the domestic market and prevent the threat of loss of national security of the country.

The reasons for the first group of problems - the technical and technological backwardness of light industry from foreign countries are:

– low potential of equipment installed in the industry, most of which is morally and physically obsolete. The share of equipment in the machine park of the industry (according to Rosstat) operated up to 5 years was only 1.2% at the beginning of 2023, 6-10 years already 39.6%, 11-20 years more than 45.4%, and more than 20 years - 13.8%.

Worn-out and obsolete equipment is not only unable to produce a modern range of high-quality products, but also creates unsatisfactory working conditions, leading to increased industrial injuries. As a result of this factor, the specific labor intensity of production in the industry is 3-5 times higher than abroad;

- lack of modern technological repartitions and automated production management systems;
- lower, in comparison with the world's accepted standards, the pace of technological renewal. The equipment renewal ratio at Russian enterprises is 1–2% per year and is carried out at the expense of credit and own funds, at foreign firms this figure is 16–19%, which is largely due to investment support from their states interested in the development of light industry. The low level of equipment renewal leads to a reduction in production capacity (due to a significant excess of the withdrawal of obsolete and physically worn out equipment over the commissioning of new equipment).

As a result of the impact of these causes, there ishigh dependence of textile enterprises on the quality of raw materials, dyes and textile auxiliaries (TVA) and, as a result,high production costs due to the high cost of raw materials, dyes, fuel and accessories (a large share of which are imported from abroad), and high energy costs, the prices of which are growing

unreasonably at an ultra-fast pace; and weak competitiveness in the domestic and European markets of Russian goods in comparison with imported ones, both in terms of quality, design and price, and in terms of assortment, which is the main obstacle to the successful competition of domestic producers with foreign ones.

The second group of problems is the low level of innovation and investment activity.

The low level of assimilation in industry of the positive results of scientific developments and innovations (less than 1 percent of enterprises) - this negatively affects technological modernization, expanding the range of products (both civil and strategic) and quality, the ability to give it new functional and consumer properties, using modern technologies, including nanotechnologies.

Without taking effective measures to improve the current situation in the industry, its condition can reach a critical level.The task of increasing competitiveness is especially urgent for shoe enterprises, which, due to external factors (increased competition due to globalization, the global financial crisis) and internal (inefficient management), have lost their competitive positions in the domestic and foreign markets. In response to negative processes in the external environment, the processes of regionalization and the creation of various network structures are intensifying, one of which is the union of commodity producers and the state.

Reliability and universality are signs of the quality of knowledge. Reliability allows you to minimize risks, universality relieves stress from the search for new solutions to the problem - "they don't look for good from good." You have to pay for quality. The fee is generally considered to be financially dependent, but this does not always appear directly. In the history of civilization, there are two outstanding achievements at the level of revolutions that clearly have not received equivalent evaluation, namely:

– discovery of the price of knowledge, comparable to the price of things for a person, “knowledge is power”;

It is unlikely that anyone from those who were initiated into the state of the domestic light industry expected different results. The transition to independent regulation of technical characteristics is really possible within the boundaries of objective quality parameters only if there are two conditions:

– development of modern production technologies;

– the established high professional culture, the system-forming factor of which is the personal responsibility of performers at all levels.

The manufacturer is currently not interested in producing a quality product, the costs are high, the cost of products will increase, the real price will be significantly increased by the intermediary and the seller. As a result, the market for such a product will not “digest” and the manufacturer will be struck by the deadly disease No. 1 according to E. Deming. On a limited scale, obviously scanty for Russia, quality things are guaranteed to be made, manufactured, but this practice has nothing to do with the situation in production, it is exclusive.

“Quality” is a philosophical category that, together with “quantity”, forms a dialectical pair, that is, they are interdependent. In one of our publications, we identified three fundamental features of "quality":

- "quality" is a system of defining properties of a phenomenon;
- in the definition of "quality" quantity is always implied in one of its manifestations - wholeness, intensity;
- reflecting the subject diversity of the world, the quality reproduces in itself the objectivity of the difference of phenomena, it is structured.

"Quality management" is a concept of political economy, it allows for the variability of development, but within the limits of the objectivity of quality characteristics. Manipulation of quality is a definition of quality attributes free from actual characteristics in general, - theoretical and particular, - practical scales. In economic theory, until the 1950s, there was no specific procedure for estimating quality costs. The "traditional approach to determining the "optimal" cost of quality" dominated. 100% compliance of the product with the specifications was considered unattainable, so the price of quality was put into the after-purchase perspective. It was believed that the cost of the consumer for the operation of the goods is inversely proportional to the quality of the goods. They decrease as the quality of the goods, tending to zero. The concept of “optimum quality level” has appeared. It corresponded to the minimum cost of quality for the supplier and the consumer. The total costs were defined as the sum of the costs of the producer and the consumer.

It is not enough to be able to produce a quality product. It should be in demand by the mass buyer, and such an alignment is already a socio-economic policy. Everyone wants to have quality products and always. Only - this is an abstract desire. It exists like a dream, a fairy tale. Only as abstract desires acquire the status of concreteness of real possibilities will favorable conditions arise for the priority of “good taste”, and the buyer will look for a quality product, and not look with envy into the basket of a rich but obvious minority. There are also Higgs fields in the producer-buyer relationship. In nature, passing through them, particles are endowed with mass and turn from energy particles into "real" particles. In the goods market, the product passes through the fields of sellers of various ranks and acquires an unrealistic price, which is advertised as genuine, corresponding to the quality. Until the domestic market is brought to a normal market state, which will have to wait a very long time, there will be no interest in the production

of a quality product. It is quite acceptable to believe that among Russian manufacturers there are many honest entrepreneurs who have a sincere desire to feed, clothe and put on their fellow citizens in the best possible way. Who will let them do it. The market rejects them as "violators of the convention." Legislators will pass laws in accordance with the procedure and cost of lobbying - it exists legally; officials will make their comments through recommendations, instructions, etc. there will be no interest in the production of a quality product. It is quite acceptable to believe that among Russian manufacturers there are many honest entrepreneurs who have a sincere desire to feed, clothe and put on their fellow citizens in the best possible way. Who will let them do it. The market rejects them as "violators of the convention." Legislators will pass laws in accordance with the procedure and cost of lobbying - it exists legally; officials will make their comments through recommendations, instructions, etc. there will be no interest in the production of a quality product. It is quite acceptable to believe that among Russian manufacturers there are many honest entrepreneurs who have a sincere desire to feed, clothe and put on their fellow citizens in the best possible way. Who will let them do it. The market rejects them as "violators of the convention." Legislators will pass laws in accordance with the procedure and cost of lobbying - it exists legally; officials will make their comments through recommendations, instructions, etc. Legislators will pass laws in accordance with the procedure and cost of lobbying - it exists legally; officials will make their comments through recommendations, instructions, etc. Legislators will pass laws in accordance with the procedure and cost of lobbying - it exists legally; officials will make their comments through recommendations, instructions, etc.

Of course, there is a certain niche in our market, it is used by the most respectable part of the middle class. The niche is insignificant due to the skinny social stratum and its instability in the context of the volatility of economic development. Nevertheless, this sector exists, and under its requests, manufacturers of quality products, for example, sausages at 1,500 rubles per kilogram, shoes for 5,000 or more, suits from 15,000, also exist. But what does this market exclusivity have to do with the characterization of our economy as a whole? Unless, it serves as an exception to the rule, which only confirms them. The problem of the status of a manufacturer of quality goods - a national scale and the potential of individual, relatively prosperous countries, relates to it like the fate of passengers escaping in a boat after what a storm did to their big ship.

The main reasons for the absence of a civilized consumer goods market are:

- poor development of market infrastructure, interregional and intersectoral commodity distribution network and commercial relations with countries near and far abroad;
- imperfection of legislation in the field of production, export and import of Russian products. Given the complex and multifaceted nature of the problems of this group, cardinal measures are needed to solve them, including state support, as is done in foreign countries. For example, the recognition by the governments of China, Turkey and some other countries of light industry as a strategic industry allowed them to quickly turn outdated industries into modern ones and promote the powerful development of raw materials, chemical and machine-building complexes in these countries.

To reduce counterfeit products, the government of the Russian Federation has provided for an increase in liability from January 1, 2022 for false chipping of fur and light industry products in order to protect the consumer from products that are not of good quality and do not comply with regulatory documents, government leaders, together with manufacturers, hope that these measures have been introduced significantly reduce counterfeit products and allow consumers to buy high-quality products. It is possible to change the current situation and revive the light industry, and this was confirmed by the experts - respondents, showing unanimity, according to the main criteria for assessing the competitiveness of light industry enterprises, the list of which, approved at the end of the meeting, is given below:

It is possible to change the current situation only by developing and implementinganti-crisis measures aimed at enhancing innovation activity, increasing the efficiency of production at a new technical and technological level and creating favorable conditions that ensure a stable growth over the years in the production of competitive goods. It is encouraging that all expert respondents are unanimous in assessing the role of assortment policy and the need to use effective innovative technological solutions to guarantee manufacturers the manufacture of such products that would be in demand by consumers in the regions of the Southern Federal District and the North Caucasus Federal District and would provide them with effective technical and economic performance indicators. their activities, and products - its demand not only in the domestic, but most importantly, in foreign markets. The fact was again confirmed that there is every reason to trust the results of a priori ranking, and the software developed by the authors for assessing the competence of survey participants - a long life. This use of software is especially justified in assessing the competence of expert respondents invited by customs committees to work in customs commissions.

I would like to warn the customs committees about the haste in making decisions about the competence of experts if they do not have an objective testimonial received from highly qualified specialists. All this presupposes a correct attitude not only to one's duties, but also to the invited specialists, creating a trusting atmosphere and interest in obtaining positive results of the examination. If we sum up the effectiveness of the software for assessing the competence of the respondents participating in the survey, then the researcher has a tool for selecting those respondents whose opinion has a high degree of confidence, confirmed by the value of the concordance coefficient (W), which tends to unity.

The external environment of the enterprise, the state of interaction with which is determined mainly by the quality of its management, can be represented as two areas, namely:

The first area is the general external environment of the enterprise. This external environment reflects the state of society, its economy, natural environment and is not directly related to a specific enterprise. The general external environment is more or less the same for the vast majority of businesses;

the second area is the so-called direct business environment of the enterprise. This environment is formed by such subjects of the environment that are directly related to or directly affect the activities of this particular enterprise. At the same time, it is important to emphasize that the enterprise, in turn, can directly influence them.

Let's keep in mind: a task is a goal in specific conditions. A task (task) is a prescribed job, a series of jobs, or a piece of work that must be completed in a predetermined manner within a predetermined time frame. Tasks are assigned to the position, not to the employee. Views on management developed as social relations developed, production technology improved, new means of communication and information processing appeared. However, management thought has always marked the milestones from which broad transformations into management practice took place. Undoubtedly, one of the most prominent theorists of our time in the field of a systematic view of management should be considered Peter Drucker. The center of P. Drucker's ideas about management is a systematized doctrine of management as a professional activity and a manager as a profession. This made it possible to organize the study of management in educational institutions and open the training of managers.

One of Drucker's most famous theoretical propositions is his concept of management by objectives. P. Drucker's idea that management should begin with the development of goals and then move on to the formation of functions, a system of interaction and a process, radically turned the logic of management upside down.

Among the "synthetic" doctrines of management, situational theories occupy a prominent place. Situational theories provide guidance on how to manage in specific situations. At the same time, a step-by-step algorithm for solving problems is recommended, namely:

Firstly, it is necessary to carefully analyze the specific situation, highlighting what requirements the situation imposes on the enterprise and what is characteristic of the situation;

Secondly, an appropriate management approach should be chosen;

Thirdly, management must create the potential in the enterprise and the necessary flexibility in order to be able to move to a new management style appropriate to the situation;

fourthly, management must make appropriate changes to adjust to the situation.

Many tend to focus on trying to avoid the unwanted instead of thinking about what they want and getting what they want. They develop an “aggressive-defensive”, “denying” character instead of an “affirming” one. The "denying person" experiences, in the end, the scenario that he would like to avoid, because it is he who is strategically consolidated and implemented. You can call such a system of "avoidance" prudence, realism, prudence, and so on. It manifests itself most effectively when achieving internal goals, but when it comes to conscious goals “…? ..”, it often leads to blunders that are incomprehensible at first glance. Therefore, the first principle of a correctly formulated result is: "I express my goal in affirmative terms." By changing your thoughts, you begin to behave differently and achieve different results.

What occupies our thoughts the most (consciously or unconsciously) is usually reflected in behavior and becomes a reality.

What you see, hear and feel in your imagination gives you an idea of real events in the future.

Manage what you can manage and don't worry about the rest.

Everything around us, which was created by man, originally arose in someone's thoughts. Achieving a goal means reaching your goal. Evaluate

the overall set of changes associated with the achievement of the intended result.

A person is not his behavior. People create their own experiences.

The meaning of communication is in the reaction of the interlocutor.

Experiences have their own structure.

We see not with our eyes, but with our brains.

Behind every action are good intentions.

By consciously changing submodalities, you change your experiences.

Mind and body are complementary systems.

Everyone chooses the best of what is available to him.

Everyone works flawlessly in their own way.

There are no failures, there is only experience.

Resistance is a reaction to forced communication and a likely sign of a failed connection.

Learning is life. We cannot stop learning.

There is no problem that does not have a solution.

If something is within the power of one, it is within the power of everyone.

Choice is better than no choice.

Changes can be immediate.

The system is controlled by the one who shows the greatest flexibility.

Everyone has everything they need to make change and succeed.

Nobody can not react.

Whatever you think you are, you are actually more than that.

I am responsible for my thoughts and, therefore, for the results I achieve.

The content of any event depends on the framework in which we perceive it.

Perhaps we have begun to understand that if we want to change something, then we must begin the change with ourselves. And in order to change ourselves effectively, we must first change our perception. The principles of NLP involve taking into account all four dimensions. This means that we must regularly and consistently develop them in the most reasonable and balanced way. Spending time on self-renewal requires us to be proactive.

As can be seen, each of the theories has something special, distinctive, which made it possible for it to receive wide recognition from theorists and practitioners and make a significant contribution to the development of knowledge about motivation. However, despite the fundamental differences, all four of the above theories have something in common that allows us to establish certain parallels between them. A characteristic feature of all four theories is that they study needs and provide a classification of needs that allows drawing some conclusions about the mechanism of human motivation. Comparing the classifications of all four theories, it can be noted that the groups of needs identified in different theories quite definitely correspond to each other (Table 1).

Table 1. Characteristics of human motivation and actions formulated in their concepts by Maslow, Alderfer, McClelland and Herzberg

theories	Need groups				
Theory Maslow	The need for self-expression	The need for recognition and self-affirmation	The need for belonging and belonging	The Need for Security	Physiological Needs
Theory Alderfer	The need for growth		The need for communication		Need for Existence
Theory McClelland	Need for Achievement		The need for domination		The Need for Participation
Theory Herzberg	Motivating factors			health factors	

For example, the need for achievement in McClelland's theory is consonant with the need for self-expression in Maslow's pyramid, the need for growth in Alderfer's theory - a group of needs included in the set of motivating factors, Herzberg's theory. The same correspondence can be established for other groups of needs. Table 2 gives a certain conditional correspondence between the groups of needs of a person's motivation for action, identified in these four concepts.

Table 2. Contents of the Three Leadership Styles

The nature of style	Authoritarian style	Democratic style	Passive style
	Concentration of all power and responsibility in the hands of the leader	Delegation of powers with retention of key positions by the leader	Removal of responsibility by the leader and renunciation of power in favor of the group/organization
	Prerogative in setting ends and choosing means	Decision making is divided into levels based on participation	Providing the possibility of self-management in the desired mode for the group
	Communication flows predominantly from above	Communication is active in two directions	Communication is mainly built on a "horizontal" basis
Strengths	Attention to urgency and order, the ability to predict the result	Strengthening personal commitment to work through participation in management	Allows you to start a business the way it is seen and without the intervention of a leader
Weak sides	There is a tendency to curb individual initiative	Democratic style takes a lot of time	The group may lose speed and direction without leadership intervention.

Increased attention to relationships in the structure and everything that corresponds to the needs and desires of employees, has an effect when:

• assignments are routine and unattractive to employees;

• employees are predisposed and ready to participate in management;

• workers have to learn something themselves;

• employees feel that their participation in decision-making affects the level of performance;

• there are no significant differences in status between the leader and workers.

Secondly, it was noted that the effectiveness of leadership also depends on a number of other factors (Figure 1):

• organizational culture;

• technology used;

• expectations from the use of a particular leadership style;

• moral satisfaction from working with a leader of a certain style.

The difference between these two extreme leadership styles is based on the leader's assumptions about the sources of his power and human nature. The Democrat believes that power is given to him by the followers he leads, and that people are fundamentally capable of self-management and creative work under the right motivation. The autocrat believes that power comes from his position in the group/organization and that people are intrinsically lazy and difficult to rely on. In the first case, there is an opportunity to participate in management, in the second case, the leader himself determines the goals, means and policies. According to the authors of the model, there are five more intermediate leadership styles between these two extremes.

The subsequent development of this model has encountered difficulties in taking into account all possible interactions between the leader, followers and the situation in establishing causal relationships in leadership relationships. Thus, the development of internationalization processes in business and a sharp increase in the number of participants in these processes broke the traditional ideas about management and made the transition to leadership relationships even more difficult.

Fiedler's situational leadership model. Fred Fiedler is rightly considered the founder of the theory of situational leadership. His model, which he began working on in the mid-1960s, predicts the effectiveness of a leader-led work group. The model uses three situational variables that make it possible to determine the degree of favorable or controllable situation for a particular leadership style.

To measure and define leadership style, Fiedler proposed using the least preferred worker (LPR) characteristic scale he developed. In accordance with this scale, the respondents, marking the points for each of the scale items, must describe a hypothetical person with whom they could work the least successfully.

The variable under consideration reflects the level of formal power the leader receives on the basis of his position in the organization, in particular, the sufficiency of formal power in order to adequately reward or punish subordinates, promote them or fire them.

Figure 1 shows a schematic diagram of how leadership style interacts with situational variables.

The magnitude of the NPR over time, about its weak susceptibility to change. The model also does not propose to search for effectiveness for a leader in two directions at once: relationships and work.

However, despite these remarks, the model is widely used in solving problems of leadership in organizations.

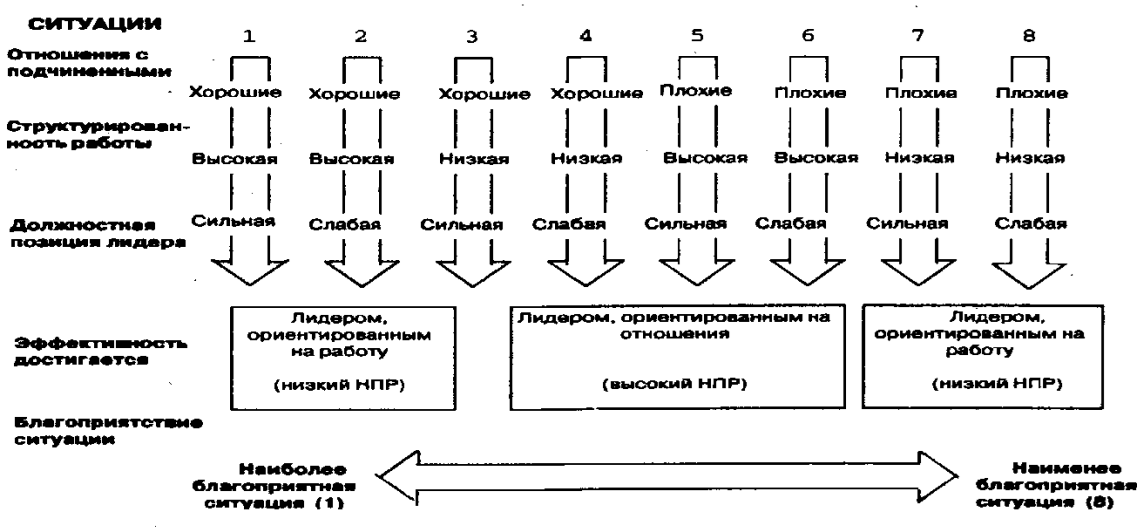

Figure 1 Fiedler's Situational Leadership Model Continuum

The model under consideration is used in the following main areas. The model allows you to select a leader in accordance with the current situation in the organization or group. The model also suggests a way to change the situation if it is impossible for some reason to change the leader. In the end, the leader himself can do something to change the situation in his favor. Such measures are discussed below:

1. Spend more (or less) of your informal time interacting with subordinates (lunch, sports, etc.)
2. Pick the right people
3. Find mentors for those you are not sure about
4. Raise the morale of subordinates by achieving tangible results

Changing the level of structured work

In case you want to have a less structured job:

1. Ask for a difficult and unusual task
2. Transfer part of the work decisions to subordinates

In case you want to have a more structured work:

1. Obtain instructions from above
2. Divide the work into smaller and more structured parts or steps

Changing the level of positional authority in the organization

Upward:

1. Use all available power to show subordinates who is who.
2. Ensure followers receive information only through you downwards:
1. Encourage subordinates to participate in management.
2. Delegate some power to deputies and assistants

The model gives grounds for asserting that a leader, despite the fact that it is very difficult, can be taught how to become an effective leader. This is much more difficult than changing the situation the leader is in. However, according to Fiedler, through training and experience, it is still possible to improve the leader's ability to use power and influence in the most favored environment. This means that a training program can be beneficial for a relationship-oriented leader. But, at the same time, it can be detrimental to a work-oriented leader.

Hersey and Blanchard's situational leadership model. This model, as well as other concepts of situational leadership, does not imply the search for one single right way to achieve effective leadership. Instead, she emphasizes the situational nature of leadership effectiveness. One of the key factors of situationality, the model calls the maturity of followers, which is determined by the degree to which people have the ability and desire to perform the task set by the leader. Maturity has two components. The first component - professional - is knowledge, skills, experience, abilities in general. The high level of this component means that the follower does not need directives and instructions. The second component - psychological maturity - corresponds to the desire to perform work, or the motivation of the employee himself. The high level of this component among followers does not require the leader to make great efforts to inspire the first to work, since they are already internally motivated. The authors of the model identified four stages of follower maturity, namely:

people are unable and unwilling to work. They are either incompetent or unsure of themselves;

people are not able, but willing to work. They have motivation, but no skills and abilities;

people are capable but unwilling to work. They are not attracted to what the leader has to offer;

people are able and willing to do what the leader suggests to them.

Depending on the degree of maturity of the followers, the leader must adjust his actions related to establishing relationships with subordinates and structuring the work itself. Thus, the model is based on the leader's definition of appropriate levels for relationship behavior (follower support) and work-related behavior (directiveness) appropriate to the situation.

Behavior in the area of relationships is associated with the need for the leader to listen more to subordinates, support them, inspire them and involve them in management.

Work-related behavior requires the leader to educate followers about what and how they should do in order to accomplish their task. Behavior-oriented leaders structure, control, and closely monitor how subordinates work. The combination of these two types of leadership behavior made it possible to single out four main leadership styles within the framework of this model, each of which is most consistent with a certain degree of maturity of followers: pointing, persuading, participating, delegating (Figure 2).

Pointing style (S1) is best in case of low maturity of followers. The leader is forced to exercise high directiveness and close supervision of workers, thus helping people who are unable and unwilling to take responsibility for work, eliminate the uncertainty that the work will be completed.

The persuasive style (S2) is best for use in moderately immature followers, providing equal guidance and support to those who are unable but willing to work. A leader who uses this style helps them by explaining and instills in them confidence in the ability to complete the task.

The participating style (S3) is best at moderately high follower maturity. Capable of the job but unwilling to do it, subordinates need the partnership of a leader to be more motivated to get the job done. By giving such people the opportunity to participate in decision-making at their level, the leader uses this style to make followers want to complete the task.

The delegating style (S4) is best for leading highly mature followers. The style is characterized by a slight directive and support of workers. This allows followers who are able and willing to work to take maximum responsibility for completing the task. This leadership style contributes to the development of a creative approach to work.

Figure 3 shows the above named components of the model. The model clearly demonstrates that the leader reacts to the maturation of followers by reducing the level of his behavior. Thus, in the S1 quadrant, followers need clear and specific directives from the leader. Added to this in the S2 quadrant is the leader's active support for the independence and initiative of the followers. High directiveness in this situation compensates for the still insufficient ability of followers to perform the work at the required level. Active support prepares followers to accept or, as the authors of the model put it, "buy" the leader's decisions. In the S3 quadrant, followers are already capable and often willing to take on some of the leadership responsibility. That's why, the leader should in this situation pay more attention to motivating followers. This is facilitated by the use of a supportive, non-directive and participatory style of management. And, finally, in the S4 quadrant, both types of leader behavior are minimized due to the increasing delegation of his powers to followers. This becomes possible because followers are able to solve work problems to a large extent on their own and show a high desire to take on some of the leadership responsibility. The lower left point of quadrant S4 figuratively means a situation of self-government. This becomes possible because followers are able to solve work problems to a large extent on their own and show a high desire to take on some of the leadership responsibility.

This model corresponds to many recognized managerial and behavioral concepts (Figure 3). So, for example, in the management grid of Blake and Mouton, the styles of the leader are in the following accordance with the model under consideration:

9.1=S1; 9.9=S2; 1.9=S3; 1.1=S4. However, unlike the managerial grid, Hersey and Blanchard's model of situational leadership does not claim that there is only one correct style for all situations. Another difference of the model is that it shifts the emphasis in the description of styles from the position of the leader in relation to workers and work to the leadership behavior itself.

It is noted that managers show great interest in this model due to its relative simplicity and flexibility in choosing the required style in accordance with the degree of maturity of the followers. However, the model raises a number of questions. In particular, it does not explain what to do if the maturity of the followers is very different. It is also not clear whether it is enough to have only one situational factor of the maturity of followers to completely determine the nature of the situation, or whether all leaders can change style in a timely manner depending on the situation.

House and Mitchell's path-to-goal leadership model. The considered model of situational leadership was developed in the 70s. At its core, it is based on the motivational theory of expectation. The premise is that employees are satisfied and productive when there is a strong link between their efforts and performance, and between performance and rewards.

Hence the model got its name. There is a direct relationship between the level of leadership effectiveness and the level of motivational strength of the expectations that followers have. The ideal option is when the reward is fully consistent with the result.

The model states that an effective leader is one who helps subordinates to follow the path leading to the desired goal. At the same time, various options for the leader's behavior are offered depending on the situation (Figure 3).

Theory Y		Theory X		Theory "X" and Theory "Y" Douglas McGregor
High Level Needs		Lower Level Needs		Maslow's Hierarchy of Needs
Motivators	"Hygienic" factors			Herzberg's two-factor model of motivation
The need to achieve	Need for power	The need for socialization		McClelland achievement motivational concept
4	3	4	1	Control systems 1, 2, 3 and 4 R. Likert
Win Win	Lose Win	Win Lose	Non-winning Non-winning	Conflict Resolution Styles
Personal basis of power		Official basis of power		Fundamentals of power in an organization
Self management	Regulation	Own management		Types of managerial interaction Vihamsky
Need for change		Need for stability		The evolutionary needs of the organization
"Freeze"	Changes	"Defrost"		Phases of organizational changes by K. Levin
Change is stronger than resistance	balance of power	Resistance is stronger		Forces of change and resistance

Figure 3. Corresponding styles of situational leadership and other managerial and behavioral concepts

Directive leadership - a high level of structuring work, explaining to subordinates what and how to do, as well as what is expected of them and when (table 3).

Supportive leadership - paying close attention to the needs of employees and their well-being, developing a friendly working climate and treating subordinates as equals.

Achievement-Oriented Leadership - Setting challenging but compelling goals, placing great emphasis on quality in everything, and having confidence in the ability and ability of subordinates to achieve a high level of performance.

Participatory leadership - advice with subordinates and attention to their suggestions and comments in the course of decision-making, attracting subordinates to participate in management. Unlike Fiedler's concept, this model assumes that leaders can change their behavior and exhibit one or all of these styles. According to the model, the effective combination of leadership styles depends on the situation.

Table 3. Howea and Mitchell's Path-to-Goal Situational Leadership Model

	SITUATIONAL FACTORS	FOLLOWER BEHAVIOR
• Directive •Supportive •Achievement oriented •Participating	Characteristics of followers • Belief in the predestination of outcomes (internal or external) • Tendency to obey • Capabilities Organizational factors • Content and structure of the work • The system of formal power • Group culture	job satisfaction • I work well - I get paid well Motivation • If I make an effort, there will be results • These results will be rewarded accordingly

To analyze the situation in the model, two types of situational factors are proposed: the characteristics of the followers and the factors of the organizational environment. The following parameters are used to describe the characteristics of followers and to choose one or another leadership style. Belief in the predestination of what comes from the actions of the individual. There are two types of subordinate behavior:

• people are internally sure that the reward received was determined by their efforts;

• people believe that the amount of remuneration received was controlled by external forces.

The former prefer a participatory leadership style, while the latter are more satisfied with a directive style.

Tendency to obey. This parameter is associated with the individual's desire to be led, to internally agree with the influence of others. Those who are inherent in this prefer a more directive style. Others seek to be more actively involved in governance.

Capabilities. The ability and experience of followers determines how well they can work with an achievement-oriented leader or a leader who engages them in management.

The model highlights the following factors of the organizational environment that influence the choice of the appropriate leadership style:

• content and structure of the work;

• formal system of authority in the organization;

• group dynamics and norms.

These three factors can influence the effectiveness of the chosen leadership style in various ways. Thus, a highly structured task does not require the leader to be extremely directive in management. At the same time, in an organization with a rigid hierarchy of power, a directive leader is more effective than a leader who seeks to involve subordinates in management. The leader's concern for the needs of subordinates will look somewhat artificial in a group with a high degree of cohesion. In general, as shown in Table 4, within a particular leadership style, there is an interaction between the characteristics of followers and organizational factors that influence the perception of motivation by followers. In turn, the perception of the situation by followers and the level of motivation of followers determine their job satisfaction,

The practical application of the model by managers orients them to use different styles depending on the situation. At the same time, it should be remembered that it is not the results of the work of a subordinate that should influence the choice of a particular style by the manager, but, on the contrary, the chosen style should contribute to an increase in the level of work performance.

The Stinson-Johnson Situational Leadership Model. This model assumes that the relationship between the behavior (style) of the leader and the structure of the work/task is more complex than it is represented in the path-goal model. The model states that although the leader's interest in relationships is more important when followers perform highly structured work, the level of interest in work should be determined by the leader depending on both the characteristics of the followers and the nature of the work itself performed by them (Table 4) .

Table 4. Examples of application of the path-to-goal situational leadership model

Situation	Leader Style	Impact on the subordinate	Result
Ambitious mission	Directive style	Provides direction and clarity in action	More effort put in

Insufficient remuneration	Directive style	Clarifies the path to reward or increases reward	More effort put in
Tiresome and uninteresting work	Supportive style	Increases interest in work	More effort put in
Lack of confidence	Supportive style	Facilitates role understanding and reinforces reward expectation	More effort put in
Lack of opportunity to stand out	Achievement driven style	Provides tense and challenging targets	More effort put in
Task or goal not defined	Participating Style	The goals and parameters of work are clarified	More effort put in

According to the model, a leader's high interest in work is effective in the following two situations:

• The work is highly structured and followers have a strong need for achievement and independence. At the same time, they have more knowledge and experience than they need to do the job;

• the work is not structured and followers do not feel the need for achievement and independence. In addition, their knowledge and experience is below the required level.

Low interest in work is effective for a leader in the following two situations:

• the work is highly structured and followers do not feel the need for achievement and independence if they have sufficient knowledge and experience to perform this work;

• The work is not structured and followers have a strong need for achievement and independence given that they have more knowledge and experience to do the job. Figure 4 shows the leader's behavior in various combinations of work structure and followers' abilities.

Follower Opportunities	Structured work	
	Low	High
High	Low interest in relationships and Low interest in work	High interest in work and High interest in "relationships"
Low	High interest in work and Low interest in relationships	High interest in relationships and Low interest in work

Figure 4. Stinson-Johnson model (choice of leadership style depending on the situation).

The model convinces its users that the characteristics of the followers (their need for achievement and independence and their level of knowledge and experience) are critical when a leader chooses an effective style.

Vroom-Yetton-Iago situational decision-making model. One of the most modern in explaining situational leadership is the model proposed by Victor Vroom and Philip Yetton, which was later significantly supplemented with the participation of Arthur Iago. Similar to the "path-goal" model, this model proposes to determine an effective leadership style depending on the situation. It is also assumed that the same leader may use different styles. The main difference of the model is its focus on only one aspect of leadership behavior - the involvement of subordinates in decision-making. Accordingly, the leader is encouraged to focus on the problem to be solved and on the situation in which the problem arose. It is also understood that a number of social processes can influence the level of participation of subordinates in solving problems.

The main idea of the model is that the degree or level of involvement of subordinates in decision-making depends on the characteristics of the situation. According to the model, there is no single correct way of making a decision that is suitable for all situations. After analyzing and evaluating each aspect of the problem, the leader determines which style, in terms of the participation of subordinates in decision-making, is best for him to use.

In the model under consideration, the effectiveness of a decision (Reff) is determined on the basis of an equation showing that it depends on the quality of the decision (Pkach) and the level of obligations assumed by subordinates to implement the decision (Robyaz), as well as on the degree of urgency of the decision (Ptime). The premise of the model is the notion that the time allotted for decision by the situation, along with the other two, is a critical factor. The situation in which the time limit does not play a

role determines this indicator at the zero level: Reff = Rkach + Robyaz - Rtime.

The full criterion basis of the "overall efficiency of the solution" (Oeff) assumes that the factors of "cost" and "development" are taken into account in it: Oeff = Reff – Cost + Development.

In the above formula, "cost" refers to the time lost due to a decision that could otherwise have been more useful. The "development" indicator reflects the gain that is obtained outside the limits of a single decision.

The latest developed version of the model proposes the use of a decision tree to determine the leadership style that is most appropriate for the current situation. When using the model, the manager seems to follow the branches of this tree from left to right. In doing this, he encounters ten problematic situations. Evaluation of situations is done by him on eight aspects of the problem with a choice of answers for each of them: high / high or low / low. These answers lead the manager, in the end, to a specific problem situation and the decision-making style recommended for it (Figure 5).

To make decisions in the model, depending on the situation and the degree of involvement of subordinates, it is proposed to use five styles:

autocratic I;

autocratic II;

advisory I;

advisory II;

group, or joint II.

Each of these styles in relation to group leadership means the following, namely:

* the head makes the decision himself, using the information available to him at the given time;

* the leader receives the necessary information from his subordinates and then makes a decision himself. Employees are involved only at the stage of information gathering. The leader makes the decision and makes it;

* the leader, on an individual basis, shares his thoughts on the problem with the attitudes of his subordinates towards it in order to obtain ideas and suggestions from them, without gathering them into a group. He then makes his own decision, which may or may not be based on input from subordinates;

* the leader shares his thoughts on the problem with subordinates, bringing them together. During the meeting, he collects their ideas and suggestions. It then makes a decision that may or may not reflect their contribution;

* the leader shares his thoughts on the problem with his subordinates, gathering them into a group. They develop and evaluate alternatives with him and try to reach a consensus on a solution. The role played by the leader is more like that of chairing the meeting, coordinating the discussion, focusing on the issue, and doing everything to ensure that the most important aspects of the issue are considered. The leader does not try to influence the group so that it accepts his decision, and is ready to accept and implement any decision that has received the support of the entire group. In an early version of the model, there was style I. However, later it was excluded, since it differed little from style P.

One of the distinguishing features of the model is that, in general, it places more emphasis on the study of the situation than on the study of the personality of the leader. Indeed, it may make more sense to speak of an autocratic and participatory situation than of an autocratic leader or a participatory leader.

Aspects of the problem

TM	method requirements	What is the level of requirements for the decision-making method?
joint venture	Structured problem	What is the level of structure of the problem?
THAT	Liability Requirements	What is the level of commitment of subordinates in the proposed decision?
IL	Leader Awareness	To what extent does the leader have the necessary information to make a decision?
VP	Probability of submission	What is the likelihood that subordinates will be expected to commit themselves to the implementation of a sole decision?
OC	Common goals	To what extent do subordinates agree that solving this problem is in the interests of the entire group or organization?
VC	Probability of conflict	To what extent is there a likelihood of conflict between subordinates if this decision is made?
IP	Awareness of subordinates	To what extent do subordinates have the necessary information to make a decision?

Figure 5 Decision-making style

Comparative analysis of situational models of leadership. Models of situational leadership, focusing on the impact of external factors, complement each other in understanding the phenomenon of leadership. An attempt is made to identify different leadership styles and justify the effectiveness of their application using situational variables. They have significant differences in the set of considered leadership styles, in the set of situational factors and ways of finding a connection between them. Leadership effectiveness is defined in different ways. These are the level of work performance, employee satisfaction, decision efficiency and overall efficiency (Table 5).

Table 5. Comparison of situational leadership models

Variables	Situational Leadership Models			
	Fidler	Hersey and Blanchard	House and Mitchell	Vroom – Yetton – Iago
situational factors	• Relationship "leader-follower" • Structured work • Power position of the leader in the organization	Degree of maturity of followers: • maturity in work • psychological maturity	•Characteristics of followers • Organizational factors	• Solution quality •Commitments followers by decision •Time • Price • Development
What does the leader think about followers	Followers prefer leadership styles depending on how the work is structured, what kind of relationship the leader has with them, and his/her power position in the organization.	Followers may be at different stages of maturity, and this will determine the leader's focus on relationships and work, which corresponds to a change in his style.	Followers have different needs that must be met within the appropriate leadership style.	In certain situations, followers are willing to participate in decision making
Leadership styles	• Leader with high CPD (relationship oriented) • Leader with low CPD (work oriented)	• Pointing style • Persuasive style •Participating Style • Delegating style	•Directory style • Supportive style •Achievement oriented style •Participating Style	• Autocratic I • Autocratic II • Consulting I • Consulting II • Group II

According to experts, the Vroom-Iago model is more suitable for choosing the appropriate style of group leadership in practice. Fiedler, Hersey and Blanchard, House and Mitchell models are more useful for improving individual performance levels.

The need to develop new approaches to the study of leadership was due to the fact that traditional and situational approaches made a one-sided emphasis either on the traits and behavior of the leader, or on the situation in which he chose the style he needed.

New in Leadership Theories:

Table 6.

What is he doing Effective Leader	Seeks to tailor work or relationships, or both, to fit her individual style. Efficiency means success in this direction	As followers mature, the leader moves from one style to another. Efficiency reflects the match of situation and style	Using the appropriate motivational style and technique, the leader “clears” the path for followers to the highest efficiency.	Identifies critical situational factors and adapts his leadership style to them. The style should best suit both the situation and the followers.

Recent concepts of leadership attempt to connect these two well-studied aspects together, i.e., to conduct a situational analysis of effective leadership as a set of leadership traits and their manifestation in behavior. The following concepts can be recognized as such:

– The concept of attributive leadership (a causal approach to the study of leadership);

– The concept of charismatic leadership;

– The concept of transformative leadership or leadership for change.

The concept of attributive leadership. This concept is based on attribution theory, which explains the causal relationship between what happened and what people believe caused it to happen. The attributive approach to leadership proceeds from the fact that the leader's conclusions, as well as the behavior of followers, are conditioned by the leader's reaction to the behavior of the latter. By observing the work of subordinates, the leader receives information about how it is being performed. Depending on this, he draws his own conclusions about the behavior of each of the employees and chooses the style of his behavior in such a way as to adequately respond to the behavior of the subordinate.

The approach under consideration assumes that knowledge of the causes that created the situation enhances leadership understanding and the ability to predict people's reactions to the situation. The concepts and models developed on this basis attempt to answer the question of why people behave the way they do. At the same time, it is taken into account that in most cases the leader does not have the opportunity to directly observe the work of the subordinate. The leader's determination of the reasons for the behavior of a subordinate is based on three components: personality, work itself, organizational environment or circumstances. In the search for reasons, the leader tries to obtain three different characteristics of the subordinate's behavior: degree of difference, consistency, and degree of uniqueness. The first has to do with the manager's desire to understand the relationship between behavior and work from the point the extent to which this behavior can be attributed to the distinctive features of the task. Secondly, the leader is interested in how consistent the subordinate is in the manifestation of this behavior or how often such behavior is manifested in him. And finally, the leader takes into account how other subordinates behave in the same way. That is, whether the given behavior is unique, characteristic of one subordinate, or observed in many.

The process of determining the causes of what happened by the leader described above is influenced by attributive regulators or interferences that distort his perception and cause the leader to be inconsistent in his behavior. The more the behavior of a subordinate is seen by the leader as the result of his personal characteristics (internal causes), the more the leader places responsibility for the results on the subordinate. In this case, individual personality traits of the subordinate become attributive interference. The model of attributive leadership depicted in Figure 6 has significant differences from the previously considered traditional models, which are overly descriptive and, most importantly, do not answer the question why.

There are two important links in the model. The first link reflects the leader's desire to identify the causes of poor performance. This search is governed by three types of information about the behavior of the subordinate: distinctive features, consistency and degree of uniqueness. The second link reflects the leader's response behavior, which is a consequence of what, in the leader's opinion, is the cause of poor performance. The relationship between the reasons for the results of the work established by the leader and his subsequent behavior is determined by who, in the opinion of the leader, should be responsible for what happened. If the leader believes that the reasons are internal, then the responsibility, in his opinion, should be borne by the subordinate and appropriate measures are taken against him.

The following results of studies on this model are of great practical interest (indicating the subjective nature of the assessment) (Figure 6):

• subordinates tend to see the reasons for their poor performance outside, and leaders - in subordinates;

• managers who tend to give preference to internal causes when explaining the poor performance of subordinates usually show great punctuality and direct their influence directly to subordinates;

• poor performance of the subordinate in the past, according to all three types of information, is likely to lead to the identification of internal causes by the manager;

• the severity of the current situation leads the manager, most likely to identify internal causes and to a high degree of punctuality in response;

• Evasion (with an explanation) of the subordinate from responsibility or his apology for what happened makes the leader less severe and punctual in response;

• A consistent level of performance shifts the manager's attention from reasons related to the abilities of the subordinate to reasons related to the amount of effort involved.

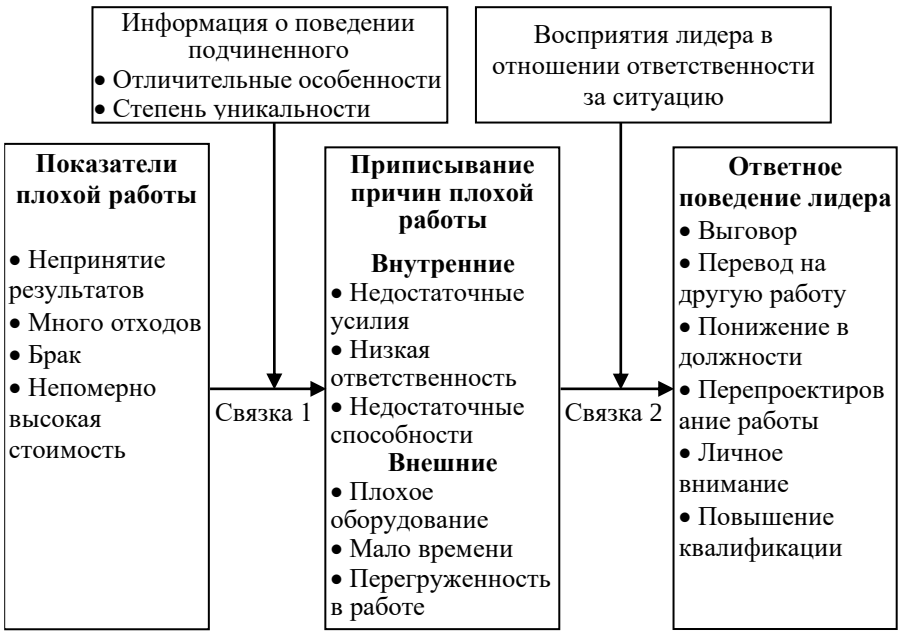

Figure 7. Attributive leadership model.

Subsequent studies have shown that within the framework of this model, most likely, it is not the influence of the leader on the behavior of the subordinate, but the interaction between the leader and the subordinate, i.e. the subordinate, by his reaction to the actions of the leader, influences the subsequent behavior of the latter.

At the same time, depending on the effectiveness of leadership, the spiral of the "leader-followers" relationship can spin up (relationships give a greater effect) or down (relationships give a lesser effect). The latter may ultimately lead to a break in relations between the participants - the dismissal of an employee or the departure of a manager.

Studying the views of subordinates on the actions of the leader,The researchers were faced with the fact that these views reflect the subordinate's already established clear idea of what an effective leader is and how he should act in a certain situation. This phenomenon is called stereotypical leadership. The stereotype of a leader grows in people's minds as a set of specific as well as more general characteristics of a leader.

It is noted that in addition to institutional ones (the image of a leader for a certain type of organization), there are national leadership stereotypes. For example, Eastern and Asian cultures, due to their large "power distance", attribute the following qualities to the leader as necessary: directiveness, high structured tasks, and widespread use of manipulation tactics. Greater emphasis on the participation of subordinates in management is inherent in leaders in the small countries of Western Europe and Scandinavia, where national culture orients people to a small "power distance". The group approach to work is considered typical of leaders in the Mediterranean and Southeast Asian countries, whose national cultures support the spirit of true rather than imposed collectivism.

Paradoxically, there are two opposite positions in the formation of the leader's image. One denies any influence of the leader on organizational efficiency at all, and the other leads to leadership charisma and an attempt by followers to ascribe almost magical, and in some cases even divine qualities to the leader.

Charismais a form of influence on others through personal attraction, causing support and recognition of leadership, which provides the owner of charisma with power over followers. As a source of leadership power, charisma refers to the power of example, associated with the leader's ability to influence subordinates by virtue of their personal qualities and leadership style. Charisma gives the leader the advantage to more effectively influence his subordinates. Many believe that gaining charisma is associated with the leader's ability to find his admirers and admirers and even change their composition depending on the situation. Others define charisma as a set of specific leadership qualities. The latter formed the basis of the concept of charismatic leadership discussed below, which, in fact, continuation of the concept of attributive leadership and based on a combination of qualities and behavior of a leader. A charismatic leader is one who, by virtue of his personal qualities, is able to have a profound impact on his followers. Leaders of this type have a high need for power, have a strong need for action, and are convinced of the moral rightness of what they believe.

The need for power motivates them to become leaders. Their belief in their rightness reinforces this need. The desire in such a person to be active conveys to people the feeling that he is capable of being a leader. These qualities develop such traits of charismatic behavior as role modeling, image building, simplification of goals (focus on simple and dramatic goals), emphasis on high expectations,

Studies show that charisma has a negative side associated with the usurpation of personal power or a leader's complete focus on himself, and a positive one associated with an emphasis on shared power and a tendency to delegate part of it to followers (Table 9). This helps to explain the difference between leaders like Hitler, Lenin, Stalin and the likes of Sakharov, Martin Luther King and the like. In general, a charismatic leader is credited with having self-confidence, high sensitivity to the external environment, a vision of solving a problem outside the status quo, the ability to reduce this vision to a level that is understandable to followers and encourages them to act; extraordinary behavior in realizing their vision.

Models of charismatic leadership differ in the number of stages in the development of charisma itself and relationships with followers. It is believed that it is first necessary to develop sensitivity to discovering a problem that could be attacked with criticism, then it is necessary to develop a vision of idealized ways to solve this problem. Something new must be included in the vision, something that has not been proposed before and that seems to be able to immediately advance the solution of the problem. The next step is related to the leader's ability to convey the meaning of his vision through interpersonal communication (publications, speech, gestures, postures, etc.) to followers in such a way that it makes a strong impression on them and stimulates action. Further, in order to rally followers around him, it is important for a leader to develop a relationship of trust with them, showing such qualities as knowledge of the matter, the ability to achieve success, taking risks and committing extraordinary actions or deeds. At the final stage, the leader must demonstrate the ability to realize his vision through the delegation of authority to followers. This can be done by giving followers strenuous and meaningful tasks, involving them in management, weakening bureaucratic fetters, and rewarding them for compliance results (Table 7).

Table 7. Ethics and charisma

Unethical charismatic leader	Ethical charismatic leader
Uses power only for personal interests	Uses power for the benefit of others
Promotes only his own personal vision	Builds his vision in accordance with the needs and aspirations of followers
Suppresses criticism	Accepts criticism and learns from it
Demands unquestioning implementation of their decisions	Encourages followers to be creative about the cause and their views
Communicates in only one direction: from yourself down	Encourages open and two-way communication
Insensitive to the wants and needs of followers	Teaches, develops and supports followers, shares his glory with others
Relies on convenient external moral standards to serve its own interests	Relies on internal moral standards to serve organizational and societal interests

A study of the practice of business organizations has shown that in a normal situation, charismatic leadership is not always required to achieve high business results. More often it comes to those cases when followers strongly ideologize their desires and ways of fulfilling them.

This largely explains the more frequent presence of charisma among leaders who manifest themselves in politics, religion, and military operations. For business, the importance of charismatic leadership increases as the need for radical changes in the organization due to the criticality of the situation. However, under these circumstances, another concept of leadership emerges: the concept of a transformative or reformer leader. The concept of transformative or reform leadership has much in common with charismatic leadership, but is interpreted in a significantly different way. A reformer leader motivates followers by raising their level of awareness of the importance and value of the goal, giving them the opportunity to combine their personal interests with a common goal, creating an atmosphere of trust and persuading followers of the need for self-development.

A reformer leader is a reformer, not a savior. He shows creativity, not magic. Behind him are realities, not myths. He leads followers from result to result, not from promise to promise. It focuses people on work, not on dividends, its goal is not to change the world, but to change in the world through development.

The model of transformative or reformatory leadership assumes that the leader and followers have certain behaviors that, according to the developers of the model, are suitable for creative problem solving in a crisis situation (Figure 8).

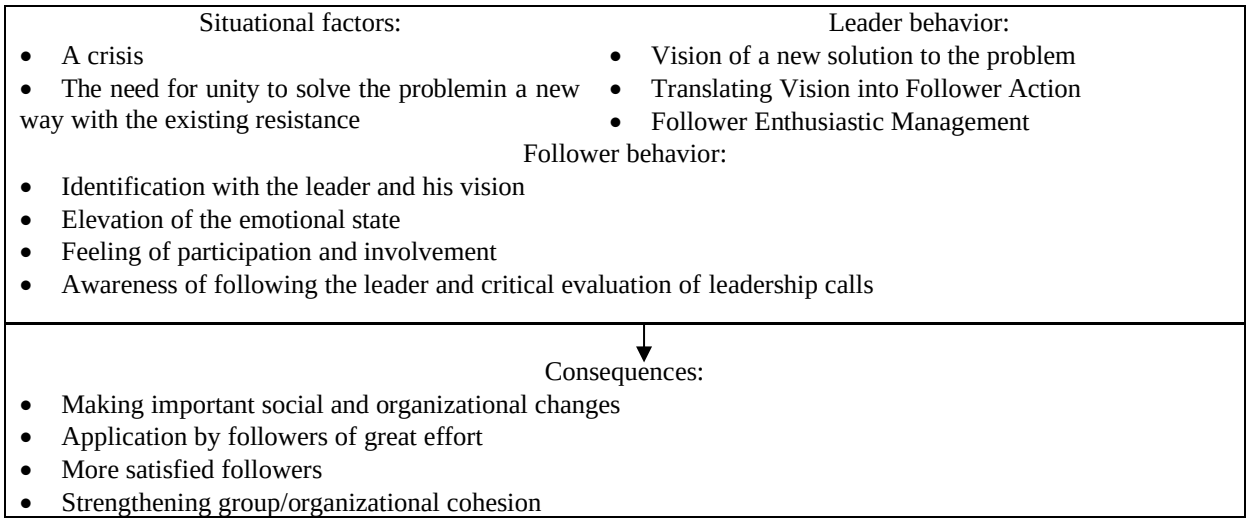

Figure 8. Model of transformative or reform leadership

The model has a number of distinctive points, namely:

firstly, it is recognized as necessary for the leader to influence followers by involving them in management, to be part of the group/organization himself, and not "to stand above it", to enthusiastically support joint efforts. Followers are required not to blindly follow the leader, but to critically assess the opportunities provided and take a conscious approach to their actions, reduce the influence of emotions and increase the importance of rationality in behavior;

secondly, since the atmosphere of trust develops a strong interdependence between the leader and followers, there is a serious danger that the leader will surround himself with conciliators, or, conversely, the leader will follow the lead of subordinates. These two traditional approaches are not suitable for a transformer leader.

Thus, new concepts have tried to combine the advantages and achievements of both traditional and situational approaches. They focus on the leader's ability to create a new vision for solving a problem and use their charisma to inspire and enthrall followers to take action to achieve the goal.

Conclusion

In actual practice, all these areas of good governance are usually used in combination, as they are very closely related to each other and complement each other very well. Moreover, it is in combination with each other that these individual areas can effectively manifest themselves, and it is precisely the individual well-established combinations of these areas that are used as specific forms of effective management. The most obvious example of this is the quality circles widely used in the management of Japanese firms.

A person performs certain actions in accordance with the pressure on him of a combination of internal and external forces in relation to him. The totality of these forces, called motivation, evokes far from the same reaction in people. Therefore, it is impossible to unambiguously describe the process of motivation. At the same time, on the basis of empirical research, several concepts have been developed that describe the factors influencing motivation and the content of the motivation process.

So-called content theories of motivation focus on how different groups of needs affect human behavior. The widely accepted concepts of this group are Maslow's hierarchy of needs theory, Alderfer's ERG theory, Herzberg's two-factor theory, and Mack's acquired needs theory. Clelland. Despite the fundamental differences between these concepts, they nevertheless have something in common at their core, which reflects a certain commonality in the motivation of a person to act.

The process of motivation is revealed in theories that try to explain why people are willing to perform certain actions, spending more or less effort. The theory of expectation, the theory of goal setting, the theory of equality and effective production management, explaining how people should be influenced in order to encourage them to work effectively, give managers the key to building an effective system of motivating people. The problem of ensuring the quality of activities is not just universally relevant, it is strategic. The dilemma in relation to quality is reasonable only within the limits of the opposition of the ratio of actions "immediate" and

"indirect". The saying "it's all about him" owes its origin to quality. It is possible to “forget” about the problem of quality solely because any fruitful and luminous activity is ultimately aimed at for quality improvement. Quality is either "on the mind" or "implied". From the correlation in the dynamics of these projections, quality problems in creative thinking are built into an appropriate schedule that reflects the relevance and profitability of activities aimed at developing production. The dynamics of the market development in the last decades of the last century and at the beginning of the third millennium invariably shows the growing interest of consumer demand in the quality of goods. With all the economic, social and political costs, humanity is getting richer, and wealth is distributed unevenly. Finances, as before, are concentrated in certain regions, however, just like the premieres of modern production. Analysts predict the course for the quality of goods confidently and everywhere. The new economy is called temporarily "prudent". Current principle: “the strongest, the fittest survive”, will replace the “social production partnership” - the manager and the manufacturer will become members of the same team. Mass production will give way to an organization corresponding to the implementation of the principle - "the manufacturer makes exactly what the consumer needs."

The philosophy of quality will also change.

1. An assortment policy has been developed for the formation of competitive men's, women's and children's shoes, taking into account factors affecting consumer demand: compliance with the main fashion trends, economic, social and climatic features of the regions of the Southern Federal District and the North Caucasus Federal District, the production of which using modern innovative technological processes, as well as for meet the demand of the elite consumer, using manual labor create the basis for meeting the demand for shoes for the buyer of these regions.

2. Innovative technological processes have been developed for the production of men's, women's and children's shoes using modern technological equipment with advanced nanotechnologies, which form the basis for reducing the cost of footwear and providing it with an increase in competitiveness with the products of leading foreign companies, with the possibility of a wide range of footwear production not only by types, but also by methods of fastening, which guarantees its demand in full.

3. Layouts of technological equipment are proposed, on the basis of which it is possible to form a technological process for the production of men's and children's, as well as women's shoes with optimal power from the production area and the form of production organization.

4. Software has been developed for calculating cash receipts from the operating activities of shoe enterprises based on assessing the degree of implementation and dynamics of production and sales of products, determining the influence of factors on the change in the value of these indicators, identifying on-farm reserves and developing measures for their development, which are aimed at accelerating product turnover and reduce losses, which guarantees enterprises a stable TEP and prevents them from bankruptcy.

5. Software has been developed for the formation of the technological process of assembling shoes and determining the cost of producing an assortment of shoes. A computer simulation model has been implemented that describes the dynamics of the shoe assembly process. The proposed methodology and the software implemented on this basis make it possible to reduce the duration of technological preparation for production and increase, due to the rationalization of the technological process, the specific consumer effect of footwear.

6. Comprehensive indicators of the effectiveness of innovative technological processes for the manufacture of shoes are calculated. Taking into account the production program, promising options for technology and equipment have been formed, the most effective one has been selected; the possibilities of streamlining the flow were identified, allowing to eliminate bottlenecks, to minimize equipment downtime, which is one of the conditions for designing innovative technological processes. The reliability of the calculations carried out to assess the effectiveness of technological processes using targeted programming methods for various technological and organizational solutions is confirmed by calculations of economic efficiency indicators: cost, profit and profitability, etc.

7. The proposed method allows to reduce the duration of technological preparation of production and reduce the time of expert work while maintaining the required depth and validity of engineering conclusions. The economic effect of the research is expressed in the intellectualization of the work of a technologist with a reduction in the time spent on developing an assortment of manufactured shoes and evaluating the effectiveness of technological processes in comparison with a typical economic calculation of the total cost of manufacturing shoes.

8. The analysis of the influence of the forms of organization of production and manufacturing technology on the cost of footwear was carried out using the example of the technological process of manufacturing children's, women's and men's shoes, taking into account the shift program. Theoretical dependencies are obtained to assess the influence of the factor "organization of production" on individual costing items in general and other technical and economic indicators in order to prevent enterprises from bankruptcy.

9. An effective solution has been developed to manage the competitiveness of shoe industry

enterprises formed in ASEZs, through the use of an innovative technological process for the entire assortment of the shoe cluster, equipped with universal, highly efficient and multifunctional equipment, as part of ASEZs.

10. Recommendations have been developed on providing regulatory documentation for the formation of quality and confirmation of the conformity of footwear within the framework of the Customs Union, which will make it possible to prepare certificates of conformity and declarations of conformity of the Customs Union for the entire product range.

11. Substantiated proposals for the creation of a testing laboratory within the cluster, in which it is supposed to test footwear to verify its compliance with the quality and safety indicators established in regulatory documents.

12. The role and main tasks of the metrological service are formulated, its organizational structure is developed.

13. Measures have been developed for testing and assessing the quality and safety of manufactured shoes.

We must be prepared for the coming events.

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Issue Article

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ANALYSIS OF COMMENTARIES (SHARḤ), MARGINS (ḤĀSHIYAT), AND GLOSSES (TAʿLĪQ) ON “SHARḤ AL-MAQĀṢID”

Abstract: *The paper highlights the structure, commentaries, margins, and glosses of the work “Sharḥ al-Maqāṣid”, which is considered an important source on the sciences of Kalām written in Samarkand in 786/1384 by one of the most well-known scholars of ḥanafī-māturīdī teaching Saʿd al-Dīn al-Taftāzānī (722-792/1322-1390).*

Key words: *ḥanafī, māturīdī, kalām, logic, manuscript, sharḥ, commentary, ḥāshiyat, margin, taʿlīq, gloss.*

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Introduction

Due attention to science and creation of favorable conditions for scholars was the main factor in the occurrence of the “Second Eastern Renaissance” in the Timurid period. As a result, during this period, many scientists in various fields of science emerged. In particular, Al-ʾAllāma Saʿd al-Dīn al-Taftāzānī (722-792/1322-1390) is considered one of the most famous encyclopedic thinkers of this period. The full name of the thinker is Masʿūd ibn al-Qāḍī Fakhr al-Dīn ʿUmar ibn al-Mawlā al-ʿAẓīm Burhān al-Dīn ʿAbd Allāh ibn al-Imām al-Rabbānī Shams al-Ḥaqq Shams al-Dīn al-Qārī al-Samarqandī al-Harawī al-Taftāzānī al-Khurāsānī al-Ḥanafī (722-792/1322-1390), he was born in an educated family in the village of *al-Taftāzān*, near the city of *al-Nasā*, Khorasan. He is not only known in the Islamic world by names such as *“al-Sheikh Saʿd al-Dīn”, “Saʿd al-Imām al-ʾAllāma al-Faqīh al-Adīb al-Ḥanafī”* (the blessed Imām of the scholars of ḥanafī jurisprudence), *“ʿĀlim al-Sharq”* (scholar of the East), *“Ḥabr al-ummah, shams al-aʾimmah”* (scholar of the Ummah, the sun of the Imams), *“al-ʾAllāma al-thānī”* (“second scholar”), but he is also considered as a scholar who made a great contribution to world science with his works on concrete and humanitarian sciences such as geometry, literature. Saʿd al-Dīn al-Taftāzānī wrote more than fifty works in the fields of knowledge such as *nahw (“grammar of Arabic language”), sarf (“syntaxis of Arabic language”), balāghat (“eloquence”), uṣūl al-fiqh (“Principles of Islamic law”)*, and *furūʿ al-fiqh* (*ḥanafī, shāfiʿī,* and *mālikī*) *(“Islamic substantive law”), manṭīq (“logic”), ʿaqīdah (“creed”), ḥadīth (sayings, activities, and approvals of Muhammad PBUH), tafsīr (“exegesis”),* and other sciences. The Teknonym of the scholar is *“Abū Saʿīd”* [4:190; 5: 241; 4: 734; 20: 471].

From the point of view of source studies, the fact that a large number of manuscripts of a certain work has been preserved in different regions, on the one hand, indicates that it was widely used, and on the other hand, it means that the work has become important in its direction. These factors are also present in Saʿd al-Dīn al-Taftāzānī’s legacy on the science of *al-kalām*. After all, at the root of them is the effect of the scholar’s scientific potential. Therefore, according to these principles, it is appropriate to study them.

Scholar’s six works are related to the science of al-kalām, and they are not only important sources for the teachings of *Māturīdī* but also a scientific basis for refutations of erroneous sects. In particular, they can be classified into two – *“matn” (“text”)* and *“sharḥ” (“commentary”)* according to the style of writing. Selectively, his books *“Sharḥ al-ʿAqāʾid al-Nasafīyah”* and *“Sharḥ al-Maqāṣid”* were written in

commentary style, and *"Maqāṣid al-ṭālibīn fī ʿilm uṣūl al-dīn"* and *"Ghāyat tahdhīb al-kalām fī taḥrīr al-manṭīq wa-al-kalām"* were written in text style. However, during this research, the thinker's works *"Risālah fī Taḥqīq al-Imān"* and *"Risālah fī al-kalām"* were not found.

Saʿd al-Dīn al-Taftāzānī's greatest work on theology is *"Sharḥ al-Maqāṣid"*, which was completed in Samarkand in 786/1384. It is a scholar's commentary on his work called *"Maqāṣid al-ṭālibīn fī ʿilm uṣūl al-dīn"* [4: 192]. It has been published several times.

In this commentary, structurally, the order of the original text, that is, in *"Maqāṣid al-ṭālibīn fī ʿilm uṣūl al-dīn"*, has been preserved. Only, in it, doctrinal issues are proven with evidence. In addition, the opinions of the wrong sects on ideological issues were analyzed and refuted on a scientific basis. In particular, the doctrinal issues in the work are divided into six chapters called *"Maqṣad" ("purpose")* based on a certain logical sequence. They are called by topics such as *"al-mabādiʾ" ("principles")*, *"al-umūr al-ʿāmmah" ("general issues")*, *"al-aʿrāḍ" ("accidence")*, *"al-aʿyān" ("substance")*, *"al-ilāhīyah" ("theology")* and *"al-samʿīyah"* [20].

Despite the large size of *"Sharḥ al-Maqāṣid"*, it is considered one of the most widely read encyclopedic books among scholars. This is evidenced by the fact that scholars paid attention to the work in different periods and wrote commentaries *(sharḥ)*, margins *(ḥāshiyat)*, and glosses *(taʿlīq)* on it. Some of them covered a certain part of the work and some covered the whole work. Also, some of them have been published to this day, and another of them have not yet been published, although there are manuscript copies, and the authors of some are known, but the works themselves have not yet been found. At this point, the authors and their works identified during this research were classified according to these three characteristics:

Published:

1. *Ashraf al-Maqāṣid fī Sharḥ al-Maqāṣid.* This commentary is devoted to the entire work, the author of which is Abū al-ʿAbbās Aḥmad ibn Muḥammad ibn Muḥammad ibn Yaʿqūb al-Maknāsī (d. 1128/1716). It was completed in 1120/1708 and published in Cairo in 1935 in two volumes.

2. *Al-Ghazālīyat fī al-samʿīyāt: sharḥ wa taʿlīq ʿalā Kitāb Sharḥ al-Maqāṣid*. Its author is Muḥammad Ḥusayn Mūsā Muḥammad al-Ghazālī [12].

Available as a manuscript:

3. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid*. Its author is Shams al-Dīn Aḥmad ibn Mūsā al-Khayālī (d. 860/1456), who was considered one of the famous Ḥanafī scholars [16; 17; 18].

4. *"Taʿlīqat ʿalā mabādī min Sharḥ al-Maqāṣid"*. It is a gloss that has been preserved and its author is Shams al-Dīn Aḥmad ibn Mūsā al-Khayālī (d. 860/1456) [16; 17; 18].

5. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid*. Its author is Ilyās ibn Ibrāhīm al-Sinābī al-Brūsawī al-Ḥanafī (d. 891/1486), known as "Khājī Zada" [13: 217]. A manuscript of the work is kept in the Suleymaniye Library in Turkey [6].

6. *Ḥāshiyah ʿalā al-ilāhīyāt wa-al-samʿīyāt min Sharḥ al-Maqāṣid*. The author of this commentary is Mālik Aḥmad ibn ʿAbd al-Mālik Bīr Muḥammad al-Fārūqī (d. 1067/1657), who is also considered one of the Ḥanafī scholars. It is a commentary written on the chapters *"al-Ilāhīyāt"* and *"al-Samʿīyāt"* of *"Sharḥ al-Maqāṣid"* [9].

7. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid.* Its author is Abū ʿAbd Allāh Walī al-Dīn ibn Muṣṭafā ibn ʿAlī al-Qusṭanṭīnī (d. 1151/1738), known as "Jār Allāh al-Rūmī al-Ḥanafī" [14: 118-119]. A manuscript of the work is kept in the Suleymaniye Library in Turkey [2].

8. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid li al-Saʿd.* Its author is Muṣliḥ al-Dīn Muṣṭafā ibn Ḥusām al-Dīn al-Ḥasan al-Qasṭallānī (d. 901/1495), known as *"al-Kastālī"*. A manuscript of the work is kept in the Suleymaniye Library in Turkey [11].

9. *Ḥāshiyah alo Sharḥ al-Maqāṣid.* This ḥāshiyah was written by Shams al-Dīn Mullā Aḥmad ibn Sulaimān (d. 940/1533). A manuscript of it copied in 1155/1742, is kept in the "Hazrat Pir Muḥammad Shāh" library in Kujarot under number 514.

10. *Sharḥ Maqāṣid al-Maqāṣid.* This commentary was completed by Shams al-Dīn Abū ʿAbd Allāh Muḥammad ibn Muḥammad al-Dilajī al-ʿUthmānī al-Ḥanafī (860-947/1456-1540) in 917/1511 [15: 1780-1781]. A special feature of this work is that it shortened some parts of *"Sharḥ al-Maqāṣid"*.

11. *Ḥāshiyah ʿalā al-umūr al-ʿāmmah min al-Maqāṣid.* The author of this ḥāshiyah is Shams al-Dīn Aḥmad ibn Sulaimān ibn Kamāl Pāshā (873-940/1468-1534), who is one of the famous Ḥanafī scholars. A manuscript of it is kept in the Mahmudiya library under number 6597.

Works not yet found:

12. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid.* The author of this ḥāshiyah is Khiḍir Shāh ibn ʿAbd al-Laṭīf al-Muntashawī al-Rūmī al-Ḥanafī (d. 853/1450) [15: 1781; 7: 430].

13. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid.* This ḥāshiyah was written by Wajīh al-Dīn ibn Nāṣir ʿAlawī al-Gujarātī al-Hindī (911-998/1505-1590) [1: 237].

14. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid.* This ḥāshiyah was written by the famous Ḥanafī scholar Al-Mulla Nūr al-Dīn Abū al-Ḥasan ʿAlī ibn Sulṭān Muḥammad al-Qārī al-Harawī al-Makkī (d. 1014/1606) [10: 56].

15. *Mukhtaṣar Sharḥ al-Maqāṣid.* This summary was written by Muḥammad ibn Muḥammad al-Amāsī al-Rūmī al-Ḥanafī (d. 1187/1773) [8: 627-628].

16. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid.* This ḥāshiyah was written by Ḥisām al-Dīn Muṣṭafā ibn Ḥisām al-Dīn Ḥusain ibn Muḥammad ibn al-Ḥisām al-Brūsawī al-Rūmī al-Ḥanafī (d. 1035/1626), known as "Ḥisām Zada".

17. *Ḥāshiyah ʿalā Sharḥ al-Maqāṣid.* This ḥāshiyah was written by Nūr al-Dīn Aḥmad ibn Muḥammad Ṣāliḥ Aḥmadabadī al-Gujarātī al-Hindī (d. 1155/1742) [1: 237].

In conclusion, it should be said that Saʿd al-Dīn al-Taftāzānī is the most famous Ḥanafī-māturīdī scholar of the Timurid period, who wrote valuable works on almost all fields of science. The main period of his scientific activity coincided with Transoxiana *(Mā Warāʾ al-Nahr)* region, and he wrote down most of his works in the cities of this region, especially in Samarkand. After all, his written legacy of the science of *al-kalām* is being used effectively in the education system to this day. In particular, the scholar's work *"Sharḥ al-Maqāṣid"* is one of the important encyclopedic sources on the science of *al-kalām*. This is supported by these sixteen commentaries, margins, and glosses written on this work by Ḥanafī and Shāfiʿī scholars. Accordingly, this source is important not only in the comparative study of the teachings of Māturīdīya and Ashʿarīya but also in the critical study of the views of various erroneous sects of the past and providing scientific refutations to modern groups.

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