

ARCHITECTURAL DESIGN
OF THE TOWN
OF NIGOLAVAN

1949

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" ARCHITECTURAL DESIGN OF THE TOWN OF NIGOLAVAN "

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Introduction

For the last 28 years Armenians all over the world have worked toiled and died for a right to get together once more over their native land. Due to the turn of events their desire has not yet been satisfied.

It is hence with great relief that we find now such friendly states as Syria and Lebanon to help us in our national task. The example of Anjar (in the Beka'a plain) is not forgotten and we look towards having a modern city in the near future in the nearby region (Chtaura).

Last summer the death of one of our greatest living writers in Chtaura caused great sorrow. This led to a fervent movement for the creation of a permanent Armenian community in Chtaura. After months of strife and discussion, the majority of the Armenian landowners agreed to baptise the city "NIGOLAVAN". This was further advanced by holding the meeting of the Near East Armenian Writers in Chtaura last summer. There it was officially baptised as such. Hence the rush for buying land began.

It is my purpose, in this paper to design a hygienic, economical and aesthetically proper community in Negolavan for this group of people who have been wandering for a quarter of a century outside of their native land.

This group of people, it must be remembered, are a group of hard boiled people who cannot be made to forget their past culture, their past customs and their past religion. They look towards seeing those things again in Nigolavan.

In this paper, you will find my attempt at merging together two great factors in the design of communities: Regional Planning and

Architecture.

Regional Planning cannot be the right solution without the architectural design of the community itself going hand-in-hand with it. On the other hand architecture alone will produce such uproarious eccentricities as some of the dilapidated cities built during the first parts of the last decade.

DATA.- The site of the city is at the junction of two superhighways in the plain of the Beka'a namely, the Beirut-Damascus route and the Chtaura Zahleh route.

The land is flat and good for agriculture for a distance of 20 kms. all around. There is enough water to supply a community of 50,000 people and future installations can provide for more.

The wind is from the South-South West mostly. In the afternoons the winds drive an unpleasant volume of dust into the village (something like a sirrocco). Future provisions will have to take care of that.

Snow falls up to a depth of 30 cms., during severe winters, for a period of one month. Rains are frequent and the water table rises up to one meter from the surface. The soil being of rather heavy (deep to clayey loam) character makes artificial drainage necessary.

Historical Development of the Community

Order of Construction:

1. Farmers' Cooperative and Factory
2. High Rent Commercial Apartments
3. School
4. Low Rent Commercial Apartments
5. Public Museum or Pantheon

Chtaura is an agricultural "modern" center. By "modern" I don't mean measured with American or European Standards but by standards applying to Lebanon and the neighboring regions. Its a place where farmers do get together once a year and have an exhibit or "fair", discuss new methods and see new processes. Its a place where the government is constructing and planning to construct Agricultural Centers and where there is an already existing agricultural-metereological center, a few kms, away, at KSARA. Forty kms. away, in the same region, Mr, Ketanneh is cultivating a large section of agriculturally worthless soil with the most modern methods of cultivation and irrigation.

Seeing this fast progress, my proposition is to build a cooperative community of farmers in that region. Soil in the region where I plan to locate is suitable for kitchen gardening.

It has been found in recent experiments in Jewish colonies in Palestine that agriculture alone does not pay the expense of such modernisation and unless accompanied by industry is a losing project.

In short, it will start by a community of 20-22 farms having each lands of 5000sq.m. approximately and a small farmhouse, composed of 2 bed-rooms, and a bath on the second floor, and a living room, dining room, kitchen and a toilet or pantry with a barn attached to it on the ground floor. The barn is rather for poultry or sheep and goats

growing and the storing of food for the animals. Each farm will grow up to three kinds of vegetables. An area of 3 denims will be kept for the growing of feed for the animals, and poultry, and is to be used cooperatively by the whole community. The factory is to be run by the community, for the community and from the community as much as is possible. During the autumn months extra help may be needed, but otherwise will be run by the farmers themselves.

The success of this model settlement will affect a lot the success of later planning, and growth of the whole community.

From the start all street layouts will be fixed and street building will start with the Farmers Cooperative. These farms will be on the outskirts of the community and their function will be similar to the green belts in residential communities. They will not be allowed to expand towards the center of the community, but provision has been made for expansion away from the center and future residential quarters.

Continuing in the order of time--more people settle. Agricultural industry becomes a success--more people settle--now mostly people working in factories and commercial corporations. Due to the thriving summer resort business these people with a little financial help will start building commercial apartments fit as summer resorts and at the same time livable quarters for their landlords during the winter months. The communities strategic position will produce a thriving drive-in industry. Hence the need comes for 2-3 story apartments. Land has become expensive enough to make these projects financially suitable. These apartments are a great asset to a settlement's beauty and importance. These buildings will be built with modern standards of

living and will be surrounded by neat and well kept gardens. They will not be near the main arteries of traffic in the community, and primordially away from the noisy quarters. They will have organized transport systems and special parking stops.

The purpose here is to provide noiseless, hygienically sound and livable quarters for people who can afford them. Of course gardens are a must for must for such buildings which are going to house families with a number of children.

They will be composed of units of 3 bed-rooms, living room, study, dining room, kitchen and toilet. Maid service will not be provided for because, its hoped that by then maids will be too expensive to be had by such families. Storing space will be adequately provided by built-in closets, and small stores above the bath and the toilet. Balconies surrounding the building are needed to give its occupants an outdoor living space with plenty of sunshine and air.

At this time the need for school becomes prevalent. It should start with a kindergarden for people spending their time there during the summer. The need for a permanent school will come soon after when the permanent residents fell the need themselves and find themselves capable of running a school economically. This building will have to serve as a community center for a long time and provision has been made for that.

As time goes on land becomes more and more valuable and housing gets to be farther and farther away from the commercial core of the city. It becomes a financially profitable business to built a multi-story apartment, at low-rent, near the commercial core of the town for white collar workers and other types of families in which all the members work in the city and hence cannot afford wasting three times a day all the transportation time, and money that they would otherwise have too. They also don't need all the other advantages of big units.

Units will be composed of 1 or 2 bed-rooms, bath, foyer, and kitchenette with small balconies for each unit. The foyer will be used as a living-dining room as most such families have two meals a day at home. These presumptions are from similar projects in America and Europe. These buildings will have huge open spaces all round them to provide for healthy quarters for their occupants.

During this time the need of a public museum becomes apparent. May be I have set its date too far back, for Armenians are people who care first for their community and then for their private interests. They are specially interested in affairs regarding their past culture and its extinction. In matters of racial and national survival private matters are put aside without question.

This building should be a symbol of the life of the whole community, showing to foreigners its importance and its glorious past.

INTRODUCTION TO A FEW CONCLUSIONS

The first point to be noted is that the land in the garden city is not parceled out into individual ownership: it must be held by the common authority under which it is developed: such increments as may arise through the growth of the garden city must be reserved for the community so that the temptation to increase the density in order to raise land values will be eliminated.

The second important characteristic is controlled growth and limited population. The outward limit of urban development is set by proposal to surround every garden city by a permanent reserve of open country: to be used either for agriculture or recreation. This agricultural belt is not merely to serve as a green wall against the encroachment of other communities it is to provide opportunity for local production of food, with a good market close at hand.

The third notion that is to be introduced as an important attribute of the garden city, no less important than its human scale, is that of functional balance. In its regional relations, there is to be a balance between town and country; in its internal development, there is to be a balance between home, industry, and market, between political, social, and recreational functions. By providing in my scheme for a balanced environment, with a full equipment of social services, I offset the disadvantages of one-sided schemes of decentralization.

1. "The problems of bettering life and its environment are not separate ones, as political and other mechanically educated minds constantly think, and as religious ones have also too much come to believe. Nor is it, as politicians especially think--now with mistaken

hope, or again with unnecessary discouragement a matter of moving great numbers and masses before anything can be done. It is not a matter of area and wealth. It is at bottom an experimental problem, that of starting a re-adaptation." These words of Geddes have been verified during the last twenty years. In the housing of families and the building of communities a re-adaptation has started; and against the very grain of capitalist finance, over active protest and passive sabotage and dull indifference, the housing movement has continued to grow. The symbol of this new adaptation is a common architectural form, and new types of communal layout.

In the transformation of the environment, architecture has a peculiar part to play. This arises not merely because buildings constitute such a large part of man's daily surroundings; but because architecture reflects and focuses such a wide variety of social facts: the character and resources of the natural environment, the state of the industrial arts and the empirical tradition and experimental knowledge that go into their application, the processes of social organization and association, and the beliefs and world-outlooks of a whole society. In an age of social disintegration and unrelated specialism, like the passing one, architecture loses most of its essential character: in an age of synthesis and construction, it steps forward once more as the essential commanding art.

And precisely because architectural form crystallizes, becomes visible, is subject to the test of constant use, it endows with special significance the impulses and ideas that shape it: it externalizes the living beliefs, and in doing so, reveals latent relationships.

The architect confronts human needs and desires with facts of site, materials, space, costs: in turn, he molds the environment closer to the human dream. And in a social sense, architecture is more advanced

than any purely mechanical technique because good building has always embodied, as an essential element in both design and operation, the understanding and expression of organic human purposes. But "living" in architecture means in adequate relation to life. I do not mean an imitation in stone or metal of the external appearance of organic form: houses with mushroom roofs or rooms shaped like the corolla of a flower. In short: a physical environment that responded sensitively to the vital and personal needs of the occupants. Let us then attempt to seek further the social basis of modern form, and to establish even more definitively its underlying principles.

2. Form and Economy.

Perhaps the main guiding principle of modern architecture is economy: economy of material, economy of means, economy of expression. And the reason why economy occupies the very center of our thought is that it is a sign of orderly understanding and perfect control.

Let us begin with the most elementary statement of economy: modern means of construction. Under past systems of architecture the actual strength and mass of a structure was determined by empiric practice: if a tower fell down, its foundations were too feeble or its top too heavy: a bad guess. Not merely is there a considerable range of difference between the strength of various natural materials; but there existed no reliable means for working out the tensile and compression strengths of various types of members: indeed in some of their temples the Greeks, eager to reinforce their stones, carved channels for iron rods that actually weakened the structure. During the last half century the creation of new manufactured building materials, like steel and reinforced concrete, with determinable strengths, determinable coefficients of expansion, radically altered the problem

of building: it decreased the need for large solid members that built up into great sculptural masses.

The entire functional development architecture is a response to the demand: "More light". This development has thrown the structural emphasis from the supporting wall or column to the interior skeleton, from the enclosing mass to the bounding surface from architectural form as the sculpture of solids to architectural form as the definition and articulation of voids. The wall, no longer a protective shell, has become a skin. Other organic changes within buildings have necessarily followed this development: a specialization of parts, a finer articulation of the various members, a system of maintaining a standard interior temperature and for renovating the air, which may be compared, roughly, with the action of heart and lungs in the body--while similarly the organization of the functions of digestion (light, air water coal, gas, electricity) and that of excretion (inorganic and organic waste) has modified the nature of practically every structure.

In order to make collective production and distribution possible on a scale that will embrace a whole society economy must be a regulating principle in all design: for it is only by saving on the means and instrumentalities of life that a community can command the necessary abundance at the higher levels of art, science education, and expression.

There is, however an additional esthetic basis for economy in modern architecture. It lies in the fact that we live in a far more complicated world than that of the primitive craftsman and peasant: even the most limited person today in our urban communities is played upon by forces and stimuli so numerous so insistent so diverting that he can achieve internal peace only by stripping to the essentials the visual environment. We demand that our modern environment become more

legible, and above all, more calm. The clean surface, the frank revelation of function, the plain lettering of a sign these are the conditions that redefine our sense of beauty in urban structures. Carried out imaginatively the principle of economy becomes a positive pleasure in building.

3. The Role of Hygiene

Hygiene and sanitation were not unknown in other civilizations: what community could have survived the ordeal of close permanent quarters without a certain respect for their laws? But in our new biotechnic economy hygiene occupies a commanding place: not merely does it mean public defenses against disease: it means taking positive steps to make the whole environment favorable to health, animal joy and length of days.

These things, at all events, are plain: air must stir, sunlight must penetrate dirt must be eliminated, waste must be removed. From the furnishing of the room to the layout of the neighborhood these requirements must be reflected in every detail. The closed court, the symbol of medieval protection is not a modern form: the glass window that cannot be thrown wide to the sun is not a modern form, even though it be hung in a steel frame and opened automatically: floor coverings and window coverings that cannot be freely washed and sunned are not hygienically recommended. To achieve sunlight air and health, in close urban quarters is usually beyond the skill of any individual architect: it involves a considerable knowledge of physiography climatology and astronomy ordinarily not within the conventional province of the architect or the municipal engineer: good form is a collective product and requires collective collaboration in its production. No continuing cleanliness is possible in a city

that harbors, industries whose smoke and chemical discharges have not been eliminated. Merely in order to provide daily sunbaths for growing infants, it is imperative to move the black industries outside a town and erect a permanent barrier of green open space between them and the rest of the community.

Hygiene demands finally, that the quality of air, even when freed from fumes and smoke must be improved by the simplest means of renovation: open spaces filled with verdure and shrubbery, which not merely tend to equalize the temperature and freshen the air, but which provide the necessary relaxation for body and mind. Gardens are for delight and delight by itself is an important factor in the maintenance of health. The dull and the dejected are more susceptible to infection than those who are in town.

From the standpoint of hygiene parks and gardens are not luxuries for the fortunate minority: they are essential if the city is to become a permanent habitat for man. The city that adequately commands the resources of modern civilization is not the city of stretched wharves and ships bringing goods from the ends of the earth: it is not the city of skyscraping towers that darkens and congest the streets: it is not the city of the widest concrete roadways, the longest double-decked automobile drives, and the most overcrowded subways-- it is the city in which every quarter is ribboned with gardens and parks. Our whole conception of a well-balanced environment has been altered by this cult of the body.

But special provision for the play of children must be made in each housing quarter, and in each neighborhood, if it is to fulfill its function as a biotechnic environment: a provision in which relatively few cities have as yet caught up with needs, and in which many otherwise well-meaning efforts at better housing have likewise

fallen short. The mark of the biotechnic period will be the number of playgrounds, swimming pools and beaches a city can afford. Such recreation and exercise was the privilege of the aristocratic minority in Athens: today these opportunities are open to every well-administered community: promising that physical dilation and pride which will increase the joy, the confidence and the self-respect of the participants. Youth takes sport seriously and achieves discipline; maturity takes sport playfully and achieves youth.

5. Domestic Needs

The reduction of the household to a biological unit has been one of the most consequential steps in the whole process of urbanization. It is closely tied to two conditions which distinguish a biotechnic culture from cultures in which the nurture of life was an incidental by-product of existence. The first of these is the growing care of the child: an appreciation of childhood as a valuable phase of life in itself, not as an ordeal that is hastily to be passed through in order to attain the more blissful state of adult responsibility and autonomy.

These facts have an important bearing upon the place of the dwelling in the urban economy, and upon the internal design of the structure itself. For one thing, the child is no less entitled to space than the adult: he must have shelves and cupboards for his toys, room for play and movement, a place for quiet retreat and study, other than his bed. No housing standard is adequate only cubicles or dressing rooms for the child, or forces him into the constant company of adults. The dwelling must be so arranged, so spaced, that the routine of physical care and the overseeing of activities shall demand the least wasteful sacrifice on the part of the mother: architects, even the best of them, still have much to learn in the proper arrangement of kitchen, living room, playroom, and garden.

6. The Death of the Monument

The human impulse to create everlasting monuments springs perhaps out of the desire of the living to perpetuate themselves: to overcome the flux and evanescence of all living forms. To achieve this in terms of biology only one means is possible: organic reproduction.

So long as men were wholly oriented toward death and the timeless, the monument had a meaning: no sacrifice was too great to produce it. For us today, beholding the world with eyes awakened by a Goethe, a Darwin a profound change has come about in our biological conception of death and immortality: a change that robs monumentalism of its main meaning. A theoretical immortality may exist for lower forms of life, like the amoeba: it is absent in the higher organisms. Continuity for us exists, not in the individual soul as such, but in the germ plasm and the social heritage through which we are united to all mankind and to all nature. Renewal comes through the sacrifice of the parent to the child, of the having-lived to the living and the yet-to-live.

Instead of being oriented, then, toward death and fixity, we are oriented to the cycle of life, with its never-ending process of birth and growth and renewal and death: a process we can neither halt nor limit by ideological fixations or cunning inventions. The very stones of the ancient tombs are no longer for us true symbols of eternity: we know their secret processes and detect their faltering character: we see their civilizations, too, through the perspective of time, perspectives that reveal the feebleness of their boasted power and the frailty of their monuments.

The notion of a modern monument is veritably a contradiction in

terms: if it is a monument it is not modern, and if it is modern, it cannot be a monument. What will make the hospital or the air beacon a good memorial is the fact that it has been well designed for the succor of those who are ill, or for the guidance of men piloting airplanes: not the fact that it has taken form out of a metaphysical belief in fixity and immortality and the positive celebration of death. The gulf between these world views is immense. He who lives sincerely in one world cannot honestly encompass the other.

7. Renewal

Today, our distrust of the monument cannot end with the purely symbolic structures of religion and government; for the machines and utilities that have helped foster the dense occupancy of cities often take on a monumental character. Every proposal to elaborate the physical shell of the community should be critically examined, and social alternatives to the mechanical means proposed should be canvassed, or the possibility, of simpler and lighter mechanical equipment-decentralized.

When one stresses the factor of renewability one does not overlook the fact that effective design involves the discovery of architectural constants that do not have to be renewed from generation to generation: to discover and establish these constants is one of the main tasks of the modern planner. Renewability in architecture does not mean designing buildings that must collapse in fifteen years; still less does it mean making pre-fabricated houses whose superficial shape will undergo as many foolish style-changes as the motor car, merely in order to quicken the pace of obsolescence and keep the industry profitably occupied. Renewability means the design of buildings in such materials, and by such technical methods, that they may be easily made over, section by section, structure by structure, even neighborhood by neighborhood.

8. The Mission of the Museum

All this is another way of saying that the city itself, as a living environment must not be condemned to serve the specialized purposes of the museum. If the city is to escape being a confused rubbish heap, the function of preservation and storage must be taken over by the museum. The very meaning of the museum of art and social history is that it is able to detach to memorials of life the culture that originally supported them. By confining the function of preservation to the museum, we thus release space in the rest of the city for the fresh uses of the living.

The museum gives us a means of coping with the past, of having significant intercourse with other periods and other modes of life, without confining our own activities to the molds created by the past. Here at last is a genuine means of escaping the monument. What cannot be kept in existence in material form, we may now measure, photograph in still and moving pictures, record in sound, and summarize in books and papers. We may--and should--do all these things while the life is still present, so that we shall have filed away for future reference, not merely a fragment of the original shell, but a working knowledge of the physiology of the building or work of art.

Not unfortunately it is in a sense by our misinterpretations of the past that the past lives again: true understanding would leave the past precisely where it originally was: it is by its "otherness" that the past enriches the present with hints, suggestions, meanings, that had no existence in its own day. For a work of art is not a monument: if it has a life at all it exists as a contemporary fact: a fact of esthetics, a fact of religion a fact of philosophy.

9. Man the Individual.

Another significant social change has come about during the last three centuries: but it has only been partly seen, and its expression in architecture has not been fully appraised. This is the transference of interest from caste to personality: the lifting of the naive moral mask, and its replacement by a more complex tissue of individuality. The death of the monument has its counterpart in the disappearance of the uniform.

The naked man, the individuated man, divorced from his background of caste, taken on his merits rose up from the hitherto stratified mass; his character, his conditions, his feelings were no longer conditioned by his economic class: a shiftless farmer, brought up in this new social environment, became a great military leader.

10. Individuation and Socialization

What we have been discussing, in this new conception of architectural form, is in fact the concrete example of sociality and individuality: both modes are undergoing radical changes.

Both individuation and socialization must be respected in the design of cities and their separate structures. Unfortunately, working under the false mythology of individualism, our modern capitalist societies have in the past assigned values to "individual effort" in precisely those departments where standardized practices and socialized controls are necessary.

Indeed, individuation cannot enter in a cultural sense until a good part of our activities are reduced to a mechanized or socialized routine: only by multiplying the functions of the spinal cord, making them automatic can the higher functions of the brain be released. Under an equally mythological sort of socialization, whether undertaken in the interest of a ruling financial class or the power state, the reverse of this tendency has been practiced. The state attempts to

impose uniformity and "socialization" in matters of education intellectual culture, and political judgement where, within the common pattern of the civilization (which "enforces" itself) a wide span of individuations should be encouraged.

Every community must attempt in its structure to reconcile stability and adaptation, standardization and flexibility, socialization and individuation. None of these qualities is a terminal point or objective: they are directions of movement and change. God planning is an attempt to keep the whole environment in a state of dynamic equilibrium, in which freedom does not mean empty chaos, and in which discipline does not mean an even more vacuous death.

11. From a Money-Economy to Life-Economy

In the economy that developed during the last five hundred years, there was only one criterion of effort: profit. Without doubt the prime obstacle to urban decentralization is that a unit that consists of workers, the middle class and rich groups that exist in a big city, is unable to support even the elementary civic equipment, or roads, sewers, fire department, police service, and schools.

Under the biotechnic economy, these conditions are reversed. Instead of wages and income directing market demand, vital demand determines the level of income and directs production into socially useful channels. First we must erect a standard of living. In terms of housing, the minimum standards are set by objective criteria of air, water, sunlight, heat, privacy and so forth and further modified by those social provisions which tradition and current investigation prove to be necessary for the nurture of children and the education of responsible citizens. At any given period, in any given region, these standards should set a minimum level for wages: industries that cannot meet such a level must be looked upon as economically inefficient and socially defective: to be abolished or taken over by the community.

Where such standards have been set to a greater or less degree in publicly aided housing one of two things must happen: either incomes in industry will rise to the necessary level, or the state will tax the larger incomes and make the re-apportionment directly in the form subsidies to the housing: money lent at low interest rates, subsidies to rents to make up the difference between the cost of the house and the worker's ability to pay, or outright grants.

In the past economy, production for sale and profit dominated: the surplus over current need went back apart from minimum expenditures for private display and public services into further mechanical production. In a biotechnic economy, on the other hand, consumption and service must take precedence. But consumption itself, under a biotechnic economy, is not consumption anyhow, in any quantities toward any purposes. Capitalism had no need to inquire into the quality or end of consumption. Under a biotechnic economy consumption is directed toward the conservation and enhancement of life: a matter where qualitative standards are imperative.

In putting a vital standard first, we thereby make the dwelling house, the school, and the city the concrete, all-engrossing end of industrial and agricultural production. The aim is not more goods for more people to buy, but more opportunities for them to live: hence only such increases in goods as are instrumental to "the best life possible." Under such an economic order, communal choices become more important than individual choices and more and more of the activities of the citizen's life are released from constraint.

12. Modern Housing by Communities

As I have already pointed out, the dwelling house occupies a peculiarly central place in the biotechnic economy. About ninety per cent of the structures in any urban community are houses; so, from the standpoint of practice, an adequate insight into the task of housing

today is essential to the development of cities. The socialized provision of housing, in integrated neighborhood units, is the economic foundation for the biotechnic city.

Add to these primarily physiological requirements the provision of space for social intercourse and play and study, and the definition of the modern dwelling is complete. Certain functions, domestic in origin, require more ample space or special facilities: these should be taken out of the house even further than they are today: childbirth and infectious illness, weddings and funerals, need their communal buildings.

Now, in order to provide for the essential biological functions of the dwelling house, we must ruthlessly cut down on many conventional requirements.

13. The School as Community Nucleus

What are the new dominants in the opening biotechnic economy? They are not far to seek: the dwelling house and the school, with all their specialized communal aids, constitute the essential nucleus of the new community. And as the new region is the city at large--a statement that is not to be taken as mere metaphor--we shall find in every well-organized and well-developed region the corresponding institutions, no longer serving a class, a minority group, but acting as organs of the whole community.

A neighborhood should be an area within the scope and interest of a preadolescent child: such that daily life can have unity and significance for him, as a representation of the larger social whole: and accordingly a special effort should be made in the design of neighborhoods to incorporate in them those light industries which directly subserve neighborhood life. There should be a compact, orderly industrial zone containing not only a garage and filling station, but likewise a laundry and a bakery: perhaps even a cooperative store.

The cultivation of the senses, by visual explorations of the environment, the intensification and communal refinement of feelings in the group activities of sport, in the theater, where the spectator and actor may interchange parts, in the civic festival and religious ritual, above all in the relations of friends, lovers mates--this is the essential business of life, and all other business is trivial except as a preparation to these experiences. The active routine and the orderly duties of workshop factory, farm and office are likewise essential contributions to this education: but so far from educations being ordered merely to prepare the pupil for assuming the economic responsibilities of maturity, it is no less important to order industry so that it will contribute to the maturing educational needs of its members. The real question at every step is not simply what one does, but what one makes of it.

With the growth of specialized machine industry, the educational opportunities of the extra-school environment, in the confused dead cities that this regime has produced, have become more limited. What happens in the economic world happens also in the play-world: the listener to the radio, the spectator at the motion picture, tends to be passive and machine-conditioned. In order to prevent this condition from becoming worse, the humanizing and rationalizing elements in human conduct must be more fully incorporated in the organization of both school and city; while the automatic and compulsive procession, already as pronounced in the factory and the bureau as on the military drill ground, must be reduced and narrowed. This means, among other things, the introduction of small units, scaled to direct actively, and participation, in every phase of organization.

We need, in every part of the city, units in which intelligent and co-operative behavior can take the place of mass regulations, mass decisions, mass actions, imposed by ever remoter leaders and adminis-

trators. Small groups: small classes: small communities: institutions framed to the human scale, are essential to purposive behavior in modern society. Very stupidly we have overlooked the way in which large units limit opportunity all along the line: not merely by physical friction of space, or the burden of a vast mechanical and administrative overhead, but also by diminishing opportunities, for people with special capacities.

From the drill school to the organic school: from the child school to the child-adult school: from a dead environment to a living environment: from closed issues and mechanical memorization to open inquiry and co-operative discipline as a normal process of living: that is one series of steps.

A great distance as yet separates the new from the old: no community has as yet fully traversed it: for it is not merely a matter of a new programme a new kind of building, a new attitude on the part of student and teacher and parent: it is a matter of re-harmonizing the practical and the educational needs of the community through a drastic re-building of the entire structure. If the new school is the essential social nucleus, which bears the social heiritage, the surrounding cell itself, its shape, its size, its structure, its special components are no less essential to the process of development.

The institutions that are accessory, as it were, to the school are the public library and reading room, studies, and laboratories, and public dance-halls and small theaters.

Here again, what distinguishes the biotechnic community is not the introduction of any essentially new institutions so much as their adequate organization and incorporation as an elemental indispensable part of the whole.

A biotechnic economy demands that those interests and activities that directly subserve life shall come first: and that those which are instrumental to life, the extraction of raw materials, the preparation and processing of foods, the transformation of raw materials into all their thousand useful forms, shall be put second. The quantity, the direction, and the flow of the latter are to be determined, not by the standards of the market, but by the higher needs of man, as confirmed from year to year, from generation to generation by the desires of the many and the wisdom of the competent.

"Recreation, education, welfare, and health are the most rapidly growing urban public services." +

+ L. Mumford - "Technics and Civilization" - p. 138

Ch. III

Requirements of the Project

A.- Housing

1. 3-story double apartments
2. Multiple story apartments
3. Farmhouses

B.- School

C.- Factory

D.- Pantheon

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A.- Housing

Criteria on the Design of Apartments

1. Topography

- a.- adjustment of building
- b.- adjustment of circulation
- c.- preservation of natural features

2. Orientation

- a.- sunlight
- b.- prevailing winds
- c.- views and outlooks
- d.- relation of buildings to each other, with respect to noise reflection and privacy within units

3. Population Density

4. Circulation

- a.- external- project entrances in relation to mass transportation, public highways and streets, and neighborhood facilities.
- b.- internal- project roads and walks in relation to building entrances (public and service), control, vehicular access

(mail delivery, fire and police department, public parking and Garages, and deliveries- fuel, moving vans, store deliveries, removal of ashes, trash, garbage.)

5. Landscaping

- a.- relation to buildings
- b.- relation to site
- c.- preservation of natural features
- d.- maintenance

6. Facilities

- a.- gardens
- b.- play spaces
- c.- car parking
- d.- community buildings
- e.- commercial buildings

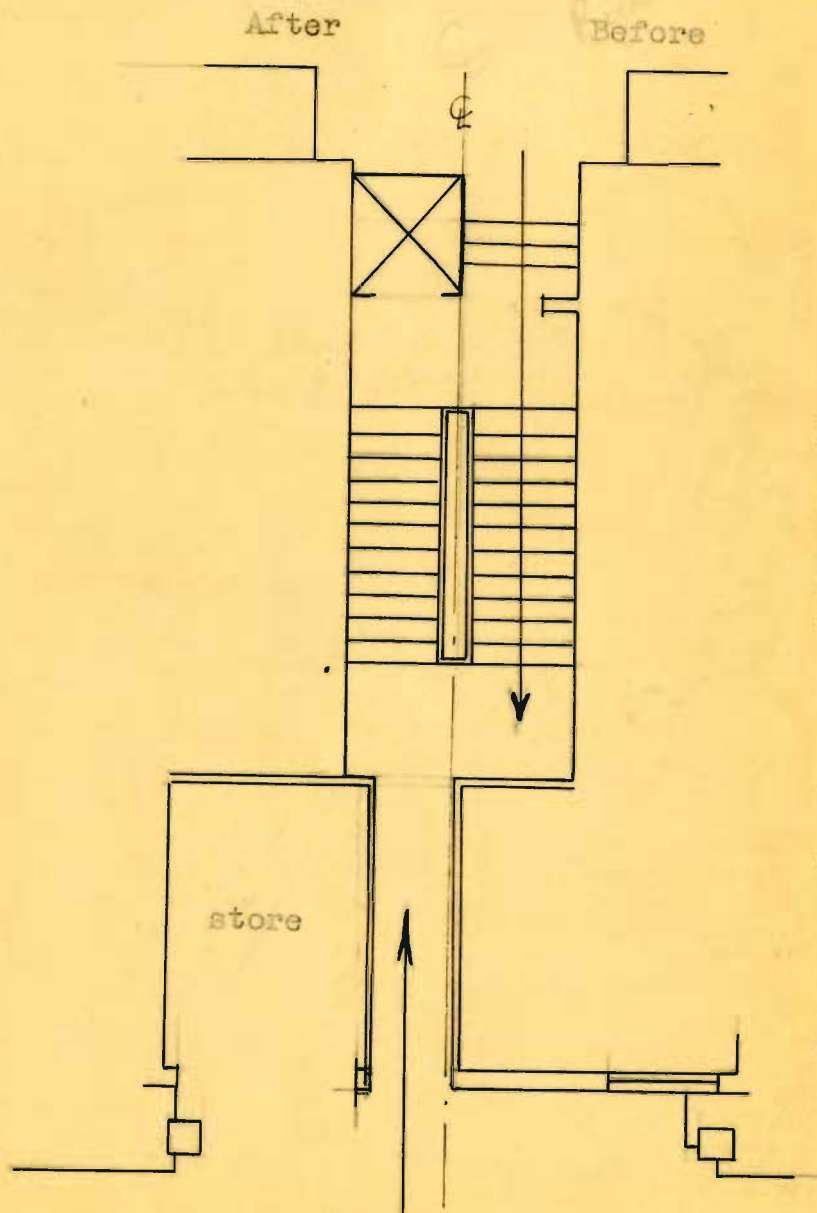
1. 3-story apartments

	Area /unit ^{m2}	Area ^{m2}
bed rooms	14.4	42
1 living room	25	25
1 dining room	20	20
1 study	15.0	15
1 kitchen and toiled	15	15
1 western bath	5	5
verandas	38	38
	Total	<hr style="width: 100px; margin: 0 auto;"/> 150 m ²

The main problem has not been considered, but many modern facilities are provided for the housewife.

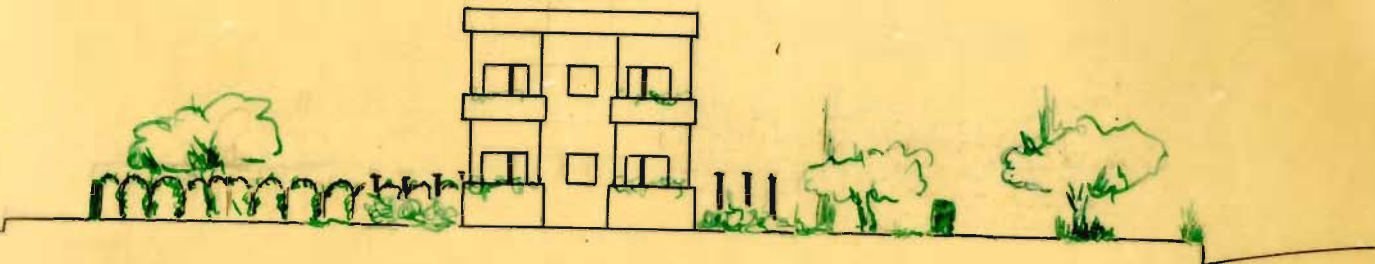
Orientation towards giving the most sunlight and air to the bedrooms and living room has been studied. Verands all around the building provide out-door living for its inhabitants. Kitchens are so located

DOUBLE APARTMENT



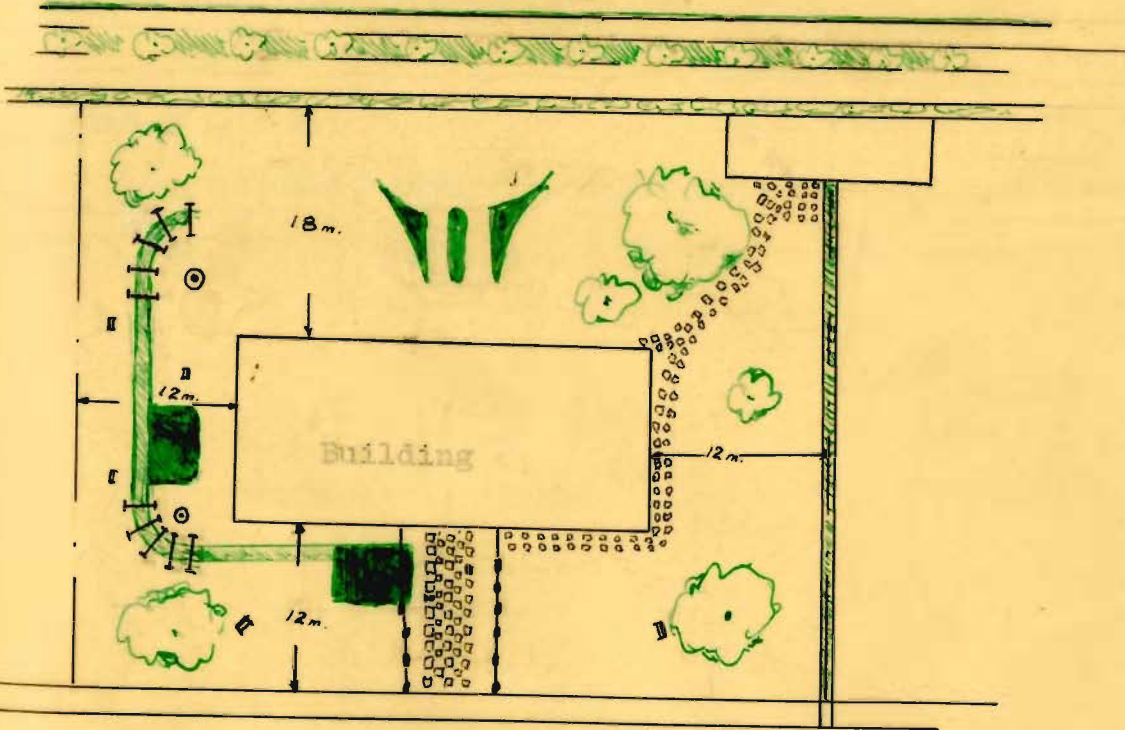
Plan for the future installation of an elevator.

DOUBLE APARTMENT



Section

Superhighway



Street

Location & Landscaping plan

to prevent the smoke and smell emanating from that room to fill the rest of the house by proper orientation with regard to the prevailing wind. Cross-ventilation is also provided. Gardens provide us with trees and shade further equipment, specially for child recreation, is not economical

Provision has been made for inserting inside the building with an elevator a minimum of cost and repair. (See drawing)

Proportion of corridor space to required rooms:- 9%

Proportion of public corridors to total area :- 5%

Proportion of built area to area of lot :-20%

These lots were placed along the superhighways, among beautiful and tall trees. Landscaping will be provided and its cost will be more than balanced by the impression it gives, to the traffickers along both super-highways, of the community.

Garages will be built at a corner of the lot away from the street to prevent them from becoming grocery shops. A nice pathway between adjacent lots will serve both lots and provide one diversion from the main street. (See drawing)

2. Multi-story apartment

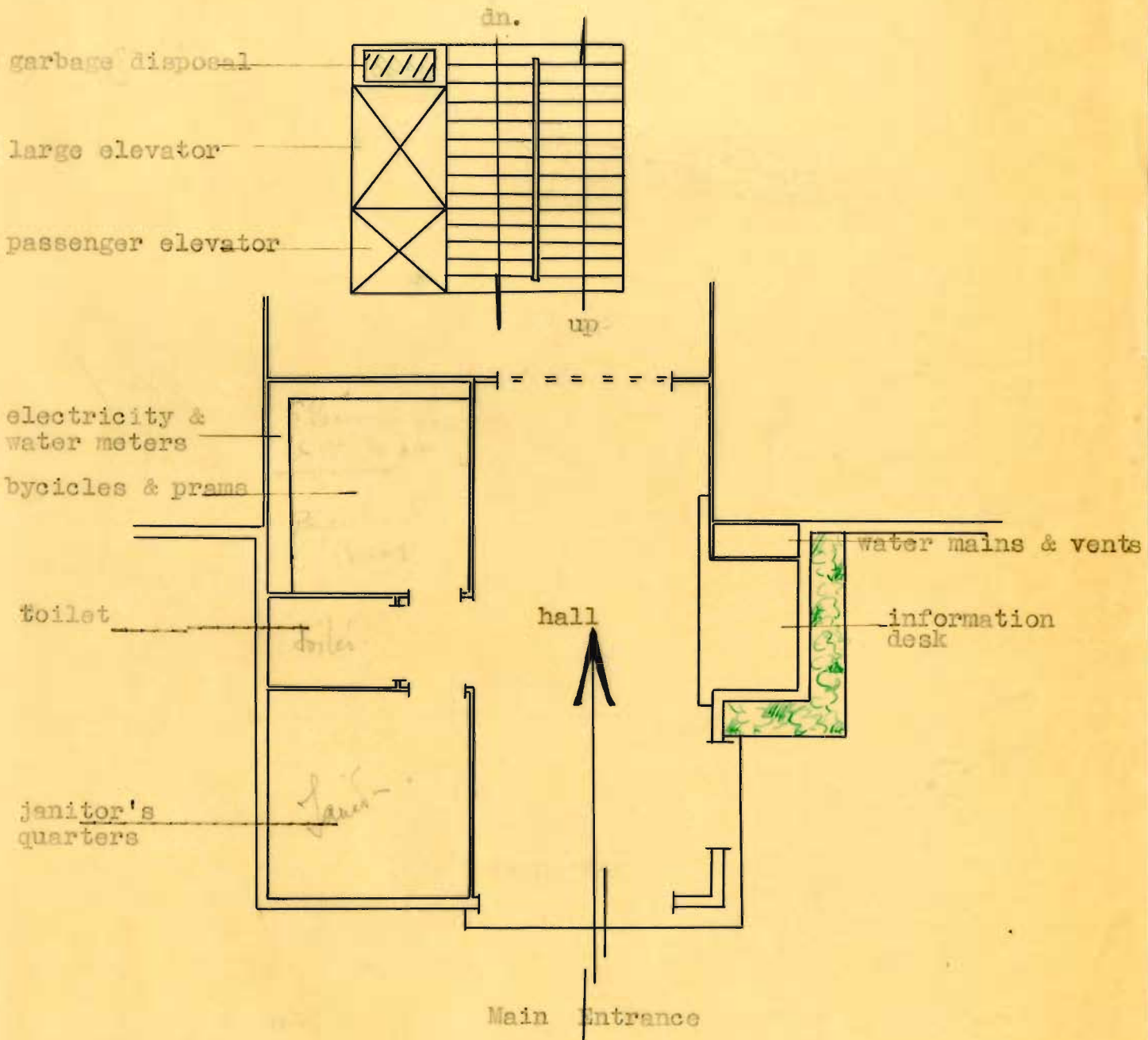
	Area /unit ^{m2}	Area I ^{m2}	Area II ^{m2}
1 and 2 bed rooms	15	15	30
1 foyer	18	18	26
1 kitchenette	6	6	7.5
1 western bath	5	5	5

These units are provided for batchelors, newly married couples and other people who spend most of their time outside their homes.

Here too, orientation has been a primordial factor in the design of the plots themselves to suit the buildings. All round aeration and sunlight are provided. These buildings are grouped in such a way as to provide the maximum of play area, in the form of gardens and otherwise, without hampering the hygienic and aesthetic requirements of the buildings. By play areas I don't mean places for children to play, particularly, although I have provide a special garden for children to play under the supervision of a nurse. (See drawing) but a place where adults can pass their hours after work in the sun reading, working at their different hobbies, or otherwise. Verandas too, are of great importance here.

The plan of the building was chosen after certain calculation in its favour. Several alternatives were worked out as shown below and the final result was the plan as drawn.

Dwelling units per floor	8	10	8	9	10	12
Rooms per floor	29	39	32	38	41	10
Gross area per floor, sq.ft.	5628	7966	6613	8142	8576	8560
Rental area per floor	5070	7054	5980	7509	7856	7500
Ratio of public	90%	89%	89%	92%	92%	89%
Hall area per room	8.2	144,4	8.0	8.1	9.4	9



Entrance Details

MULTIPLE - STORY APARTMENT

MULTI → STORY APARTMENT

Sketch of Recreational facilities for children



Stair area per room	6.1	5.3	8.2	4.9	3.9	5
Elevator, etc. area per room	5.0	3.7	3.8	3.4	4.3	4
Total public area per room	19.3	23.4	20.0	16.4	17.6	18
Perimeter per room linear ft.	14.4	15.9	15.5	4.8	13.3	11

These apartments being 9 stories high and compared (8500 sq.ft.) The 3 buildings will cover only 18% of the total site area. Being widely spaced they will stand clear of each others shadows most of the day.

Buildings entrances are prominently located, easy to find, not tucked away in a corner where those entering the buildings must pass an apartment window. Entrance halls lead directly to elevators, and protected spaces are provided for prams and bicycles. (See drawing)

Square public halls simplify the visitors search for an apartment. Around the hall apartment entrances are uniformly spread-not bunched in tight groups and distances between elevators and apartments is made to be short. Incinerators are centerly located.

Internal apartment arrangement permits entry to any room without passing through any other room. Thus privacy of the foyer (used sometimes as guest bed-room) is assured. The dining space may double as childrens' work and play space, further insuring the privacy of the other rooms.

Due to the lay-out of the apartments, adjoining apartments bed-rooms look away from each other. Moreover, all apartments receive direct sunlight at some period of each day. Bed-rooms are remote from the noises of the living room and kitchen. All public facilities are located at the center of the building in a core which also carries

electric mains. Branch wiring is facilitated by short and equal runs to uniformly located out-lets in each apartment.

Economies of repetitive construction operations will result from the fact that all wings of all buildings are of only two types.

Its to be built of reinforced concrete and standards steel sections, with cement bloc partitions throughout. Windows and doors will be of iron, without any exterior shutters. Exterior surfaces will be stuccoed after being plastered while interiors will be colour washed. Floors will be reinforced concrete slabs with terrazzo tiles and plastered with special acoustic cement. Public areas (halls, corridors and stairs) will be terrazzo cast in-situ.

3. Farmhouses

	Area /unit ^{m2}	Area ^{m2}
2 bed rooms	15	30
1 western bath	6	6
1 living room	20	20
1 dining room	15	15
1 kitchen	10	10
1 toilet	6	6
1 barn or carport	25	25

Total 112

Area of ground occupied by building = 100 sq.m.

Area of floor space in building = 170 sq.m.

These units should not truly be called by the above name, because when we speak of farms we have in mind cultivated areas of 12-15 acres with a building to house all the activities thereupon required. The criteria in this case being different, a different solution has been adopted. Each of these farm areas, being from 1-2 acres, will be devoted wholly or in combination to "Kitchen gardening", poultry growing or diary farming. Each farm will not be a duplicate model of the original plan and changes will be made according to area, orientation, function etc.,.

The buildings will be made of the 1½ story type. Ground floors having the living room, dining room, kitchen, toilet or store, and a barn to take care of farming requirements, while the upper ½ story shares the bed rooms and a Western bath. Care has been taken to make the size of the barn variable, according to individual needs. A nice veranda besides the bed rooms provides most of the roof of the barn, as well as a sunny spot where the housewife can spend her mornings as soon as her daily chores are over.

Orientation has been the only factor in the location of the buildings, as the area of the land is too large to be of any factor. It must be reminded that no farmhouses will be allowed on the lot boundaries facing the street. A minimum setback of 25 meters will be fixed. Double set back lines will be encouraged. Location has been studied as to nearness to irrigation system of the land and nearness to the public utilities provided by the community. These economical factors are of primordial value in the location of the building.

It must be remembered that this type of building is very economical as a type of chalet for the summer season to be used by their Beirut owners. The barn in this case can be converted very nicely to a carport, and the building can house comfortably a family of 4 persons.

Breakfasts can be had outside (near the dining room and kitchen) and outdoor living is provided to a maximum of economy. This type of building is to be encouraged highly and small areas of 900 sq.m. are provided for this type of building.

Proportion of area of units to area of corridors = 98%

Perimeter per room towards the exterior = 10 m.

These results show its value as a modern building, containing many of the assets of expensive villas.

B.- School

This school being designed to accommodate a large number of students (300) it was thought wise to design it as a community center at the same time. Care has also been taken for future expansion of the school.

This building starting as a village school must be designed for open air education and care has been taken to make it the pride of the community. It has been designed to take care of three main individual elements, primary, secondary, and seminars-each requiring isolation from the other units.

Primary education has taken one wing of the building, away from all other classes and activities, because the type of students here is different, the health requirements are different, and the type of education is different. Each class unit will accommodate 30 students with a toilet and a store having access to it. (see drawing). Each class will have accordion type of exterior wall on one side to provide for outdoor classes. (see drawing). For outdoor classes too, each unit will be separated from other units by the use of nice and well kept hedges.

Secondary education (6 classes-240 students) will occupy the ground floor of the other wing of the building. Rooms will open to an exterior corridor with subdued light. Rooms are made to occupy 40 students. (see drawing) Health requirements are met by 2 toilet rooms in the midst of the classrooms with access from the exterior corridor. Acoustic requirements give us the shape of the ceiling and 1 wall of each class. The slabs and T-beams construction, as used throughout, will be covered, in the classrooms by the acoustic plaster, (see drawing) with furring.

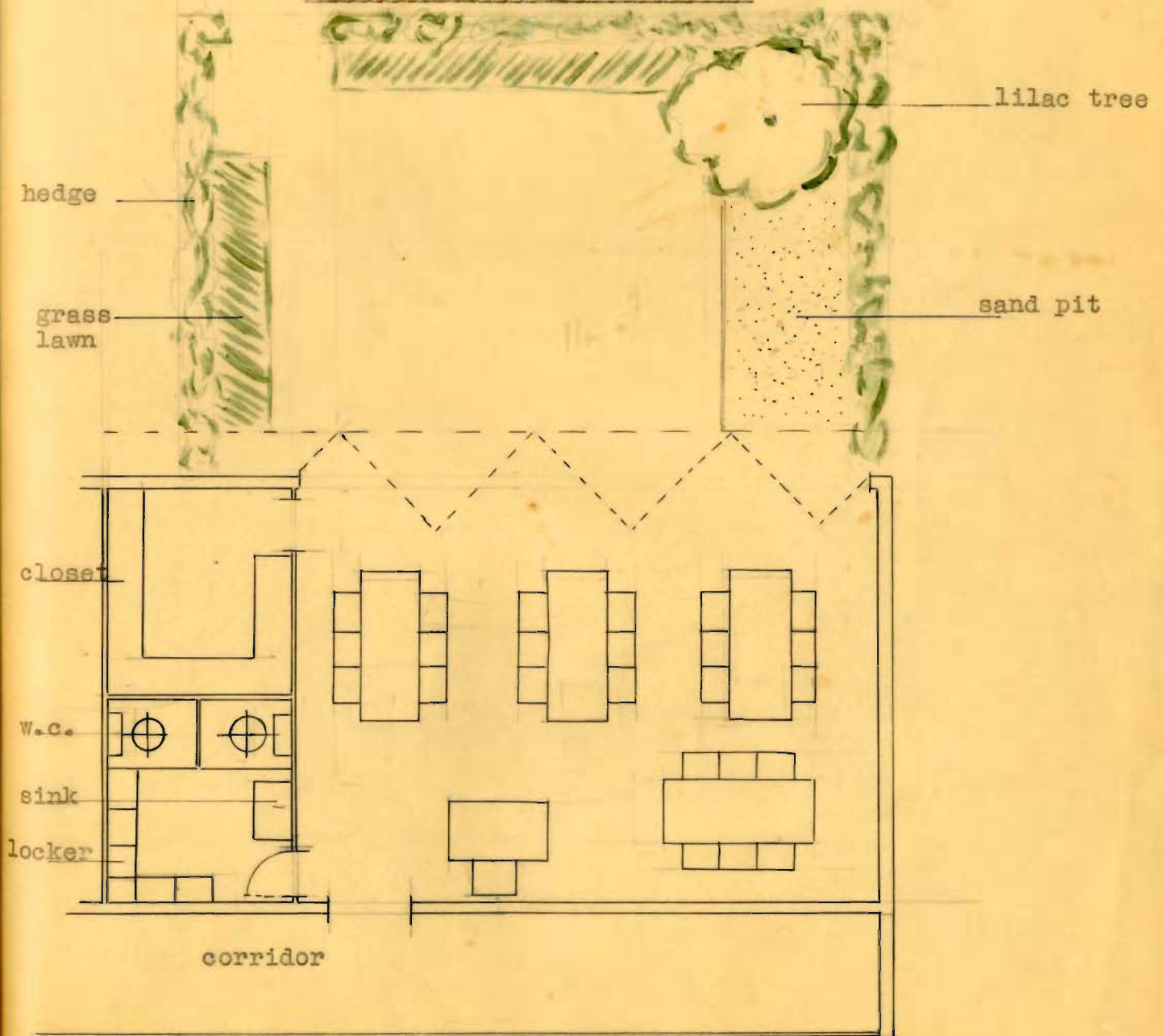
ARMENIAN SCHOOL

Scale. 1:100

Front Perspective

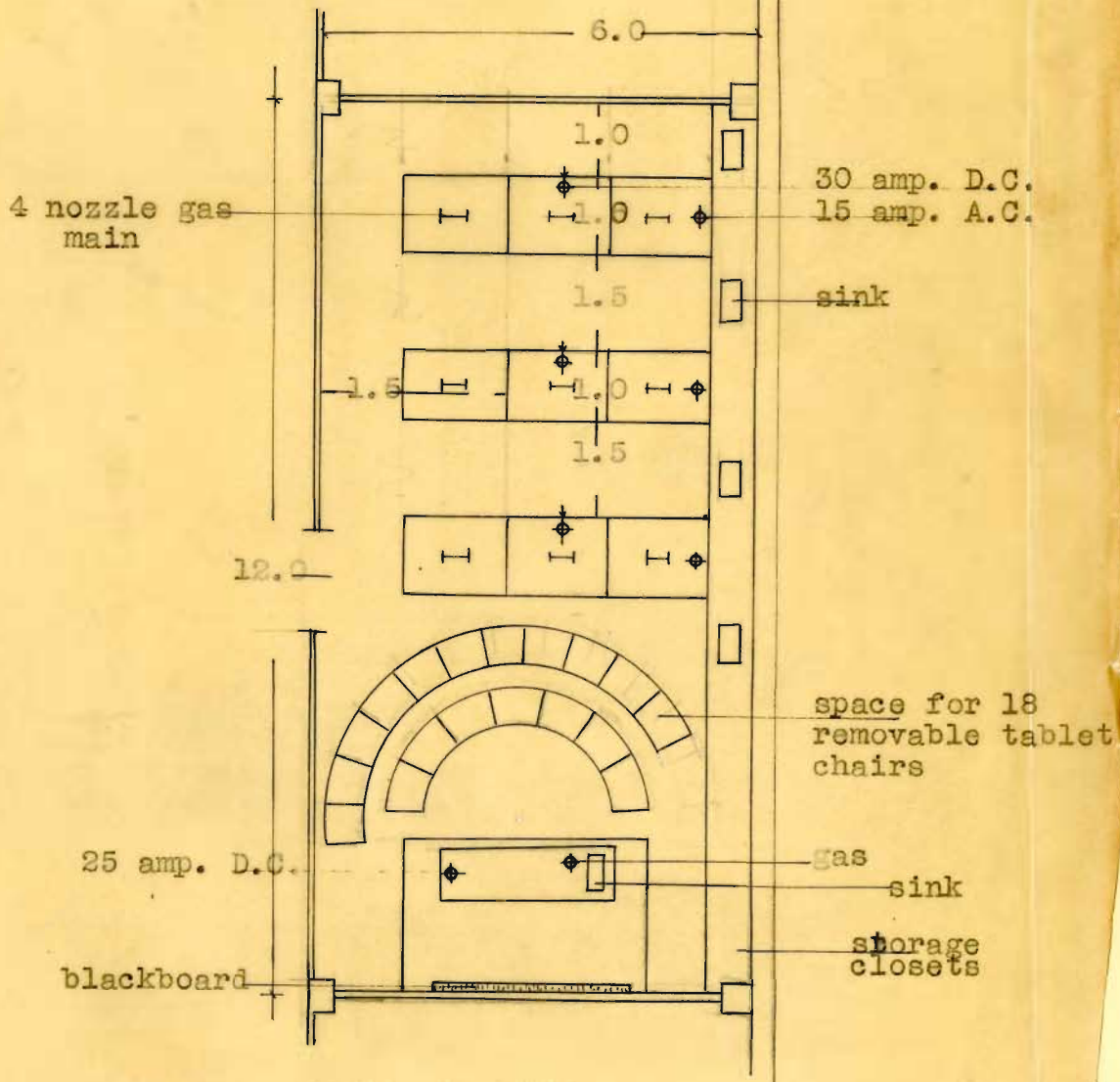


Plan of a Kindergarden Class

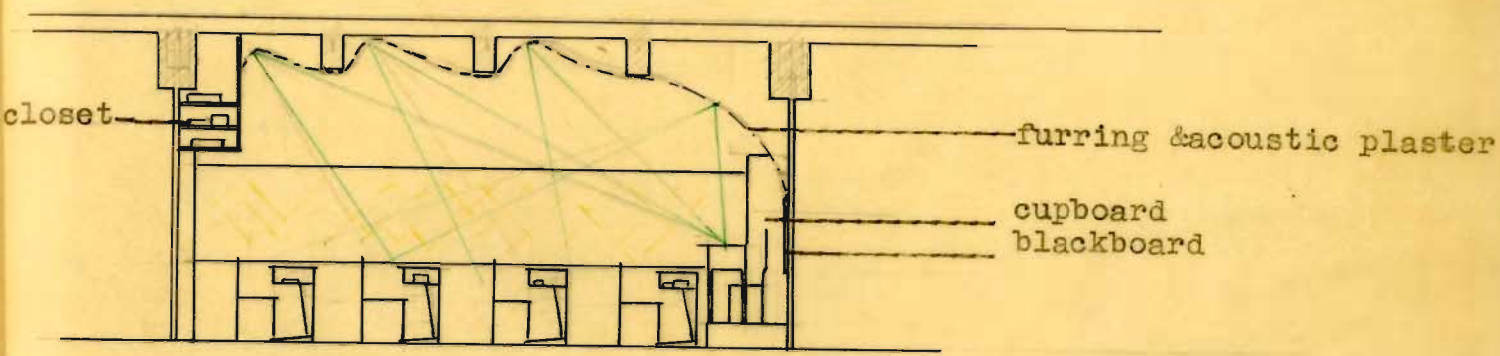


ARMENIAN SCHOOL

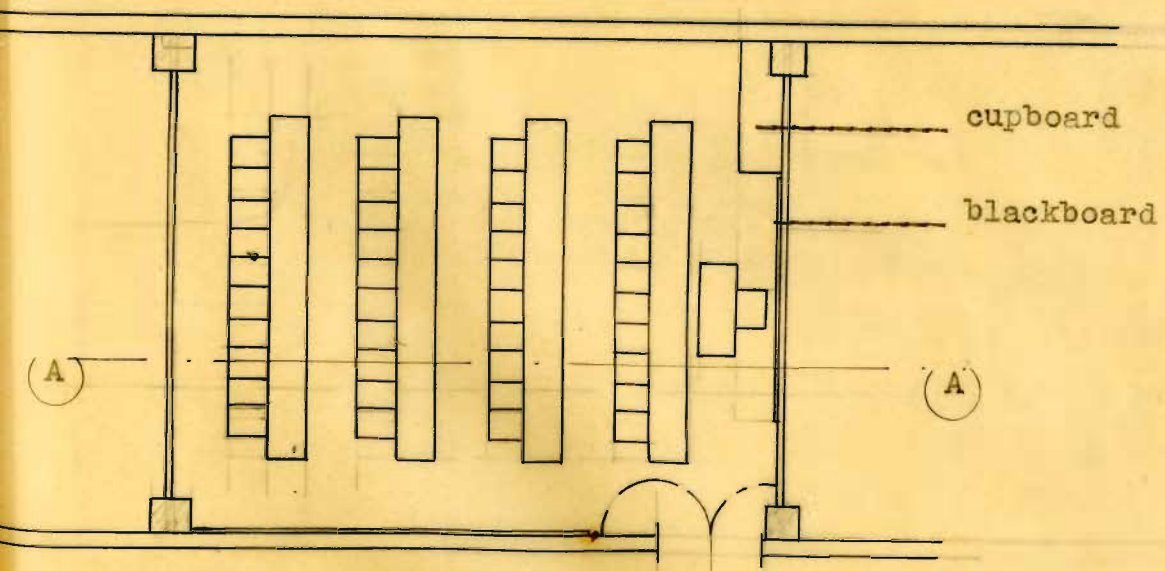
Plan of a Physics & Chemistry Lab.



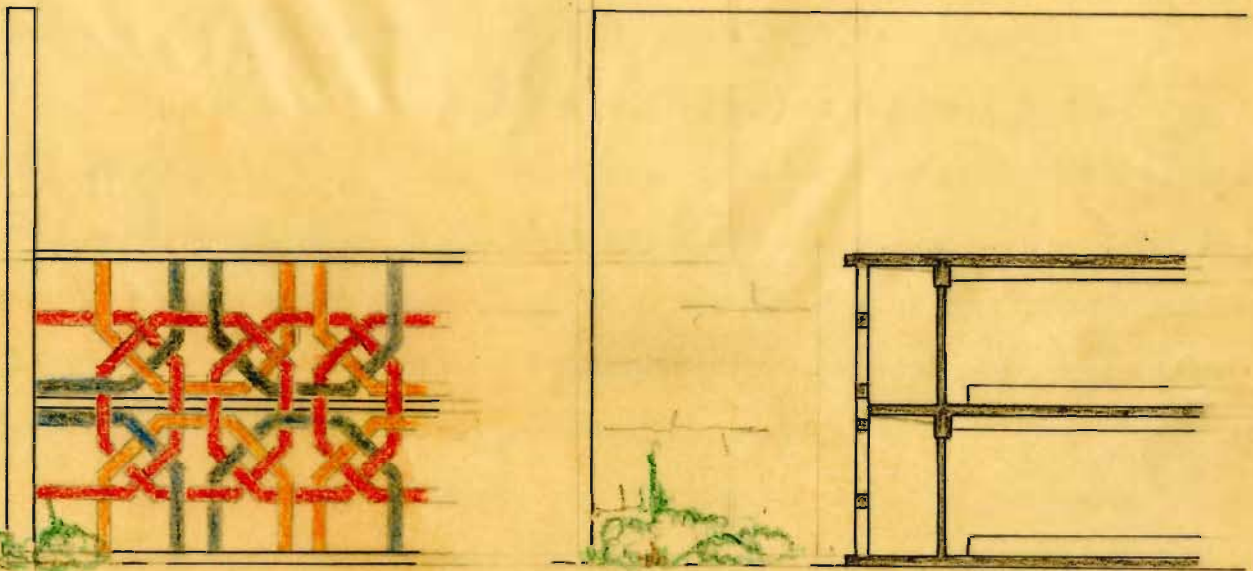
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Section A - A



Plan of a Classroom



ARMENIAN SCHOOL

Facade & Section Details.

A teacher's lounge, a library and a students' lounge complete the requirements of the school.

The architecture of the school is modern but an Armenian motif is employed wholly on the facade blending itself nicely with the main auditorium. (see drawing) This reinforced concrete balustrade going all over the height of two stories provides subdued light to the exterior corridor. The columns of the auditorium will be reinforced concrete dressed with pink marble while the main exterior wall of the auditorium will be dressed with travertine.

Laboratories and dormitories with the seminars will occupy the second floor of the main wing. These dormitories are for the few students (space is allowed for 20 students) that may come to get their education in Armenian. They may otherwise be transformed into laboratories or seminars. Arrangement of laboratories are shown to accommodate 20 students at a time (see drawing).

The partition between the two seminars being removable, produces at time of need an adequate lecture room capable of seating 90 people.

Athletic requirements are met by an indoor gymnasium with removable bleachers accommodating two basketball courts or one official court with space to seat 500 people. (training) An outdoor for soccer, basketball, tennis, volleyball games as well as (field) a 400 meter track all around and a reinforced concrete stadium complete the sports requirements of the school and community. (see plate)

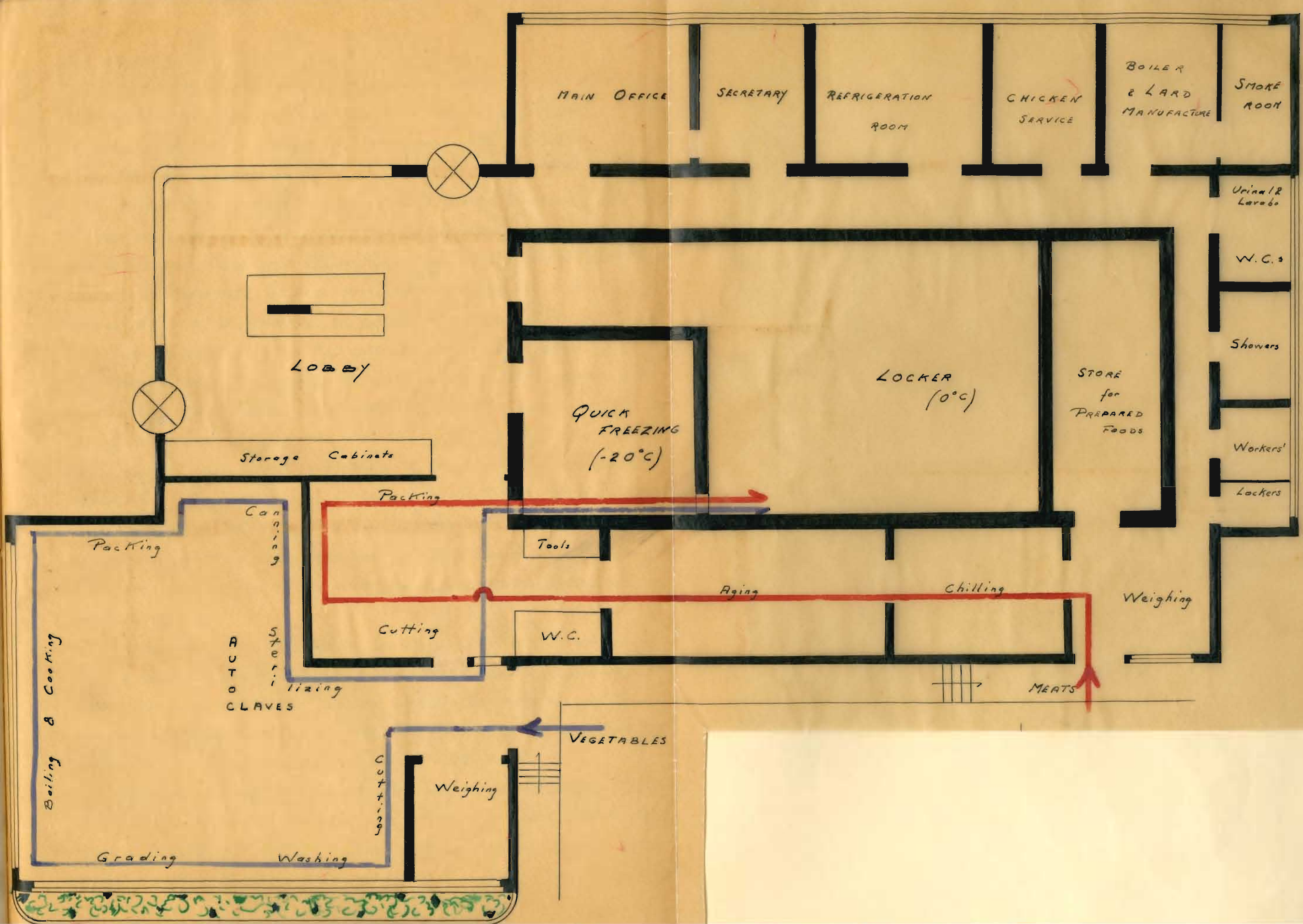
The need of a dining room and space to provide for kitchen requirements has been met, because I feel that students lose a lot of time at noon going home and coming back. School supervision of the food and the rest period following the meals usually provide

healthier students in the long run.

Quarters for a doctor and a few beds for sick students have been provided near the kindergarden because I think that the doctor should examine those pupils twice per week, as they are most susceptible to microscopic infections.

The social life of the community should be sponsored mostly by such schools. Hence forward the need and accomodation of meeting rooms. Such a school, I presume, should have a lot of theatrical activity and provisions have been taken to provide a stage as well as storage space thereon required. In such cases the auditorium may accomodate 1100 people. A clerestory provides additional light for the auditorium and an cantilevred slab provides us an economic lobby. The roof is to be supported by steel trusses resting on reinforced concrete columns with a layer of cellotex hanging from the trusses.

Offices for the director, teachers and administration have been provided. Janitor's quarters are at a strategic position, to control incoming and outgoing students. Provisions have been taken to store bicycles near the staircase room under the direct supervision of the janitor. On the second floor a boarding teacher's quarters are located controlling the traffic of incoming and outgoing boarders.



C.- Factory

In the design of the factory the criteria for space has been an important factor. The capacity has been fixed at present to a volume of goods as can be produced by 50 farmhouses, but provisions have been taken for future expansion.

It is not the subject matter of this thesis to discuss the thermodynamic requirements of each unit comprising the factory, although it can be mentioned here that all refrigerating apparatus of voluminous character (condensers, filters etc.,) are to be on the roof and the refrigerating of the rooms is to be done by coils laid in the floor.

Design has been fixed for uninterrupted flow of goods along two main directions in the process of their manufacture-vegetables and meats, along conveyors or other mechanical devices such as moving hooks along the ceiling of the room. See drawing.

In the lobby, space is provided to accommodate 60 prospective buyers at a time with enough refrigerated goods' lockers to accommodate what they can buy at a time. A central desk with a cashier and a salesman can control this crowd best by their strategic position. For structural reasons the column there is a prerequisite in the design of the slab.

Provisions have been taken, for the welfare of its workers, to provide hygienic quarters for the health requirements of its employees. Access from any part of the factory to any other part was required from the beginning, and although it required a lot of extra space the proportion of corridor area to floor area (5.7%) is low.

Parking of cars and quick loading and unloading of cars has been made possible by having the cars park behind a raised platform. Each truck will park at a different place according to the type of goods it is to load or unload. There is enough elevated platform space to

take care of 8 cars at a time and future expansion can increase this to 16 cars at a time. Parking space for 100 cars will be provided near the building for the use of consumers and employees. This figure is too high for present needs but such parking spaces usually entail a lot of expenses when future needs require its expansion.

All offices required are set far from the noise of the loading and unloading trucks. They are also near to the main lobby for convenience in the daily routine work of the factory.

Units	Area /unit ^{m2}	Area ^{m2}
1 locker	90	90
1 lobby	85	85
2 weighing rooms	12	24
1 chilling room (meats)	15	15
1 ageing room "	30	30
1 processing room "	30	30
1 " room (vegetables)	104	104
1 quick freeze room	25	8
1 smoke room	8	15
1 lard room	15	12
1 chicken room	12	20
1 refrigerating room	20	20
1 main office	20	20
1 secretary's room	12	12
1 W.C.'s, showers and lockers	25	25
1 store for prepared goods	24	24
1 tools	5	5
		<hr/> 499

Total area of factory = 700 m²

D. Pantheon.

The principle object in designing such a building is to enhance Armenian Architecture of the 11th century in ideas symbolizing modern church architecture. (Criteria of modern church architecture were taken from an article on a book by R. Shwarz+). With such an aim I have tried to divide it into 3 main parts; one, the beginning, two, the path, and three the conclusion.

The start lies at the entrance to the building as in all other churches. Fortunately there exists several churches of that epoch in Armenian Architecture something very similar to a portico, although the columns are short and the arcades semi-circular. The path gives the direction to the building it is the direction of all hopes, it is contrasted by the black and white lines provided by sunlight penetrating through the narrow and tall and high triangular niches. (Armenians never use stained glass and these niches are of pure Armenian style - see drawing).

The large span of the building (20m.) is broken by a double colonnade 5 m. center to center on each side. At the foot of these columns will stand statues of famous Armenian leaders in all fields of life on the side aisles will also stand minor figures in Armenian history. These statues will stand on stone column pedestals with an Armenian eagle eculptured in haut - relief. (see drawing)

The end is achieved by the simple flame. It is surrounded by a dome and all around it in a semi-circle are the statues of great Armenians. At the secondary apses minor figures will stand in similar fashion. On both sides of these apses are staircases leading to the basement were the remains of famous men will be kept. The flame represents the struggle for freedom.

In the architectural design of the building four important points were carefully studied .-

1. In Armenian architecture of the past very little mention is made of public museums and in comparaisn to churches, palaces and government buildings cannot be mentioned. It was a task to provide a palatial and grandiose facade for the building from all the church documents at hand. This was accomplished as can be seen in the facade, by the series of niches, broken roofs and arches. This produces a certain element of magnanimity on the onlooker and certaily leaves its effect on the visitor.

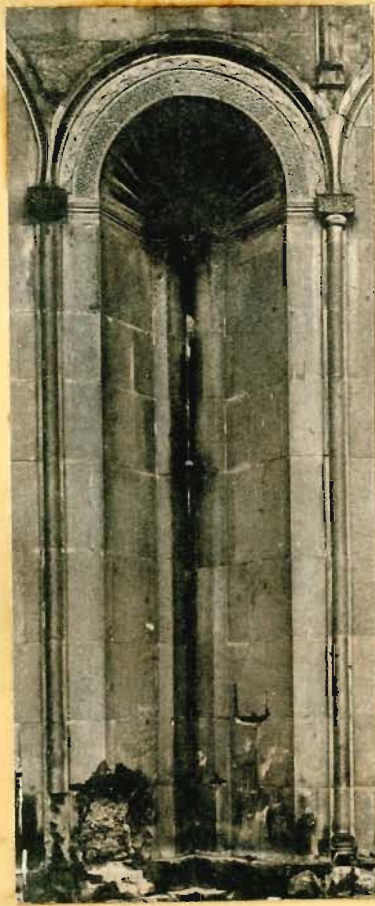
2. The entrance, a series of arches as you go in is of pure Armenian style although many architects in the world would define it as Byzantine. A lot of careful study had to be made to distinguish what was of Armenian origin with what was a Byzantine copy. Byzantine architecture specially at its start was careful copy of Armenian architecture. Even in the Renaissance period Armenian architecture was used a lot by the Romans (Leonardo Da Vinci did so in his original plan of Saint Paul's cathedral) as their model for greater projects. The similarity is so great that although the Armenian churches were built 300 years before their Renaissance prototypes, they look exactly the same.

The dome and turret had to be designed specially for their acoustic properties. The exterior of the turret was made as a series of narrow and tall triangular niches with haut-relief columns and arcades. The repetition of style is found a lot in Armenian churches and it produces a nice harmony in the sturcture. The secondary apses will be surrounded by a series of columns and arches forming with the main apse a union with the turret.

PANTHEON



Detail of pedestal for statues of eminent persons

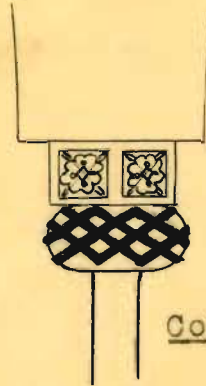


Column Details on Dome

PANTHEON

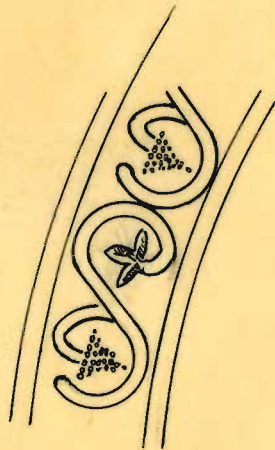


Corniche Details



Column Details at apses

Detail of motif on
false arcades above
the narthex on main
facade.



Light effects will be applied in order to focus one's attention, upon entering the building, to the lying - in - state, at the center of the building just below the turret.

Here as in Le Corbusier's theory a module of one : one : 1.42 has been applied as regulating line. In this connection, this is the only building in which any module is applied. The module is applied only in plan because it could'nt evidently be super imposed on such openings nor on such facades.

4. The main motif of the columns and arcades is of an Armenian architectural style of the 11th century, the cathedral of Ani. (See drawing) This motif was chosen because the cathedral symbolises one of the greatest bastions of freedom at its time and remain so for a long time until it was ruined by Turk and Seljuk envasions. The column crowns are of another church style - the Zvartnotz church. This motif was chosen because the plan of the church it symbolises is very similar to my plan.

The exterior will be of dressed stone. The dressings will be different in each place. The interior columns are to be of reinforced concrete faced with stone. No concrete is to appear on the exterior. The interior will be plastered and painted. The floor slabs will be covered with pink marble and the basement floor will be one piece terrazzo cast in place. The steps will be of marble but the balustrade will be of stone with the handrail of marble and the landing of terrazzo. There will be one step to reach the building from the main garden just outside. Landscaping will be studied for the whole lot in view of its being treated as a park. (see plate) Parking will be provided for 80 cars.

The basement will not only serve as a place for the remains of public figures but as an museum of ancient records, curios, and as a library for Armenian historical, precious and ancient books.

+ THE "SEVEN ARCHETYPES" OF RUDOLF SCHWARZ

The drawings on this and succeeding pages are not to be construed as "projects" but as images of ideas; and a little study will reveal the depth of their content. Cutting across current shallow cliches, they are taken from a little known volume by Rudolf Schwarz, published in German and entitled Von Bau der Kirche ("On the Building of the Church"). The volume itself has a German cast, metaphysical and allegorical, but the language of the drawings is clear and universal.

Little known outside his native country, Schwarz has built very few churches, none since Hitler's accession in 1943; yet there are those who do not hesitate to assign him the very highest rank among living architects of churches. A devout Catholic, Schwarz thinks of the church as being simultaneously an instrument of worship, a symbolic representation of the deepest relationships, and a sacred participation in "creating the mystical body of the Lord".

The seven archetypes, or groups, into which he divides church plans, represent not only a historical development but a religious progression.

The first "childhood" plan, puts the altar at the center ("the rising earth"); on it the chalice and platter (the chalice the "innermost container"); the candle ("living light radiating from the center"); space ("a sacred fullness"); the congregation in circles ("strongest form of the community"); walls and roof are the outermost container, a "firmament". The people, directing their glances toward Christ at the center, become a "dark star of beseechment and prayer" answered by a "radiant star of light". Or, transforming the image, the plan becomes "the image of the Lord and His mystical body as a wheel or rose".

In the next phase the dome is transformed into a fountain strengthened by light concentrated upon the altar but capable of being reversed for greatest strength at the circumference so that the space may be "recreated" by light.

Into this closed germinal scheme, however, there inturdes a "sacred cleft" - awareness that the world is insufficient, struck to its core by "heaven, the coming kingdom".

How to represent this coming realm, which no "man has seen", without fatal error and distortion, is a problem beyond solution but one, says Schwarz, that must be met as best possible.

His discussion explores devices such as vanishing perspectives, or an intruding white wall ("white, the clore that negates all individual colors, yet unites them all"), or clear glass opening on emptiness or pictures of saints, or light from above ("the open chalice"). The broken ring and the open chalice are his second and third plan types.

Once the ring is broken, there follows the "sacred pilgrimage-for awakened men who stand in Time and are sent out into history, and know that they have a home and yet must follow a 'path'" - and a church must be found to declare this transition "between the day of of the germinating seed and the coming kingdom".

This idea of the "sacred way", prefigured in Egyptian pagan temples with their sense of progression, was beautifully suggested says Schwarz, in the Gothic nave. His own image for it is a vault in which the idea of "light along the way" is declared is successive bands continuous from horizon to horizon.

Yet with all its wealth or insight and association, declares the author, Gothic church architecture is nevertheless bound to an epoch, and its basic form no longer answers to us. Its arches do not declare, however beautifully they attempt, "reaching to heaven"; and its linear perspectives merely return upon themselves when infinitely projected.

Beyond this "fourth type" of "the sacred way", there is a fifth series of essays based on the journey completed in an "arrival". This fifth group is conceived in terms of "the dark chalice". The diagrams representing it are among Schwarz's most beautiful, as for example, 8. Here the vault as well as the plan is parabolic, rising to its full height above a large red rose over the large portal. (The parabola is intrinsically open"). Above the altar, on the curving back wall, is proposed a painted image of Christ with open arms. And yet the ultimate significance of "the dark chalice" is a configuration of death.

So, at another cast, a sixth group is added to the allegory- this time, beyond death, the "dome of light". This is a transformation of the very first plan, the rounded central dome, but bright not dark -a dome to be built of light, suffused with light, soaked in light so that every point, including communicants, becomes "a star". This was prefigured, says Schwarz, in the Baroque, which began just where Gothic ended, arriving at a burst of light at the end of the Gothic pilgrimage. Historically this "bright star" succeeded where least expected, in the Church of the Fourteen Saints at Neresheim, in which "the heaven within answers to the heaven round about, and what remains of the earth in the surrounding walls is clad in white the color of the bride".

So the allegory culminates in a seventh archetype, the "dome of all times", uniting in itself the main components evolved out of all the rest-the "dark star" of the germination seed, the successive arches of "the way" through the day and history and the "bright star" of the final culmination .

So brief a review does grave injustice to a deep and poetic book

escaping as it does from small controversies of the day, with the rare gift for humility and for viewing time "sub specie aeternitatis".

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