

*At the heart of everything is the question,  
not the answer.*

John Archibald Wheeler  
(1911–2008)

## **ПРЕДИСЛОВИЕ**

Хрестоматия разработана в соответствии с положениями действующей Программы по английскому языку для неязыковых специальностей вузов и может использоваться в качестве приложения к учебному пособию «Современное строительство» (М.: МГСУ, 2010, 2011), а также автономно для аудиторной и самостоятельной работы.

Хрестоматия повторяет разделы названного пособия и представляет собой сборник оригинальных профессионально-ориентированных текстов, объединенных общей темой (в каждом разделе от 10 до 17 текстов). Подбор, структуризация, оформление текстов и размещение иллюстраций определены требованиями компетентностного подхода к обучению студентов технических вузов профессиональной коммуникации на английском языке: они информативны и лексически, грамматически, синтаксически и терминологически соответствуют современному английскому языку строительной сферы.

Каждый текст сопровождается упражнениями, развивающими навыки всех видов чтения, перевода (устного и письменного) и говорения на английском языке. Тексты или фрагменты текстов для аудирования преподаватель может выбрать из хрестоматии или других источников сам. Дальнейшую разработку получили упражнения, обучающие структурированию материала (определение главной идеи, поиск деталей для доказательной базы, резюмирование и аннотация).

Раздел “Information-to-Assist” состоит из трех частей: 1) “The List of Symbols and Abbreviations” приводит список сокращений, которые встречаются в текстах хрестоматии; 2) “The Metric System” посвящена метрической системе; 3) “Know-how” содержит перечень методов и техник работы с текстами, что позволяет грамотно рабо-

тать с любым объемом информации в части ее поиска, усвоения, структурирования и выполнения заданий.

Подробный англо-русский словарь с транскрипцией окажет реальную помощь в работе с текстами пособия.

Хрестоматия также содержит приложения (Geographical Names; Great Scientists and Distinguished People) с транскрипцией и Книгу для преподавателя (автор Е. В. Бессонова), где предлагается крайне интересная и полезная работа с иллюстративным материалом пособия.

Авторы надеются, что хрестоматия окажется хорошим подспорьем в работе для студентов и преподавателей, и выражают благодарность С.А. Кулиш за предоставленный материал, профессору С.Г. Дубровской, консультантам и рецензентам за помощь при подготовке пособия к изданию.

# Раздел I

## URBAN (TOWN) PLANNING

### TEXT I.1

1. Прочитайте текст и выполните задания.

#### Development Plan

Development plan provides a long-term strategy for development. It thinks about the lasting impact of development on communities and landscape and contains a strategy which seeks to manage the development of land and buildings in a way which fits with the purposes of the area and with the wider principles of sustainability.

The strategy is achieved through detailed policies which set out how specific proposals for the development will be treated.

Every development plan is prepared in the context of National Planning Policy. The Plan also allocates land for development.

A development plan is not a blue-sky strategy document which gathers dust on the shelf. It is used every day

- by development control officers who apply the policies to determine whether or not planning permission should be granted;
- by planning applicants and by the community who can read the Plan to assess in advance how the NPA\* will react to a proposal for development.

Development plans usually establish the principle of what use is proposed for a piece of land before a planning application for the detailed development is received.

When a development plan is in place, it is much more difficult to challenge the need for any development of land at the planning application stage. Those who wish to make representations to a planning application will usually only have an influence on the finer details of **how** land is developed, rather than the principle of **whether** it is developed.

(1240 П.3Н.)

2. Подберите правильные варианты.

#### *Development plan*

- establishes the principle of what use is proposed for a piece of land.
- is a blue-sky strategy document.

\* NPA – National Planning Association.

- thinks about the lasting impact of development on communities and landscape.
- fits with the purposes of the area and with the wider principles of sustainability.
- allocates land for development.
- is a building plan for constructing a house.
- is prepared in the context of National Planning Association.

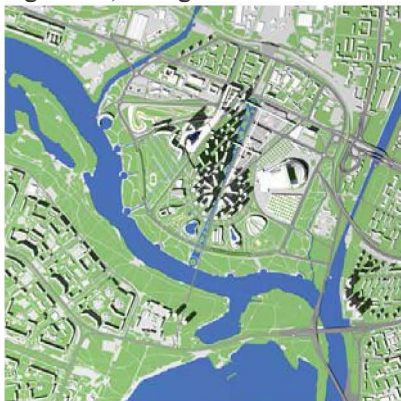
3. Составьте аннотацию к тексту.

## TEXT 1.2

1. Прочитайте текст и выполните задания.

### The Nature of Planning

Practitioners point out that town planning involves deciding between opposing interests: personal gain versus public benefit, short-term profit versus long-term gain, efficiency versus cheapness, to name but a few. It entails compromise among different groups and interests. Above all, it necessitates the balancing of individual and community concerns, costs, and rights. It is essentially a political process as distinct from a technical or legal one, though it embraces elements of all these aspects.



Pic. 1. Town planning conception for the 21<sup>st</sup> century

Currently, one of the most difficult planning issues is concerned with reconciling the growth in traffic with traditional ideas about town centres and urban growth. So far, the main focus has been on controlling the number of out-of-town shopping centres, and directing development back to town centres and brownfield\* sites.

Conflicts that arise here include the irrepressible demand for car ownership and use, the traditional view that road space is free of

\* **Brownfield land** is land in a town or city where houses or factories have been built in the past, but which is not being used at the present time.

congestion, the desire of town centre businesses to avoid the risk of losing their custom because of parking restrictions, the financial difficulties facing public transport, and so on.

Any one of these issues on its own would be difficult enough; all of them together constitute a planning witches' brew. And, as often happens, ends and means become intertwined in a hopelessly confusing way...

Grand phrases about rational planning "to coordinate land uses" crumble against the stark reality of the real world. The concept of comprehensive planning (Pic. 1) in theory may be contrasted with the narrowly focused planning which takes place in practice. And the debating point here is: how far the planning process should ally itself to market forces (or socio-economic trends).

(1540 П.3Н.)

2. *Расположите предложения согласно логике изложения.*

- The most difficult planning problem is reconciling traffic, town centres and urban growth.
- "Best practices" of planning in theory may be contrasted with narrowly fixed planning in reality.
- Any one of these issues on its own is difficult enough.
- The question here is: how far the planning process is related to market.
- In practice, town planning is a compromise between different groups and interests.

3. *Расскажите своими словами о «природе» городского планирования.*

## TEXT I.3

1. *Прочитайте текст и выполните задания.*

### Urban Structure Models

Urban structure is a land use arrangement of public and private space. Such models, in terms of sustainability, explain where and why people or business activities tend to exist or spread out within urban spatial structures.

- *Zonal model* put forward by a sociologist E. Burgess in 1924 for Chicago was to clarify distribution of social groups within urban setting. According to the model a city grows outward from a central point in a series of rings. An inner ring — a business center — is

surrounded by a second ring which is called a zone of transition with industry housing. A third ring known as independent workers' home is occupied by working class. A fourth ring — a zone of better residence — is a place where middle class dwells. An outer ring — a commuter's zone — is for people living in residential suburbs\* and taking a daily commute for work in a city.

- *Sectoral model* offered by an economist H. Hoyt in 1939 explains why a city expands in sectors, not in rings. Some urban parts are more attractive than others, hence they prosper, increase forming sectors.
- *Grid model* refers to a plan when streets run at right angles to each other.
- *Multiple nuclei model* developed by geographers C. Harris and E. Ullman in 1945 considers more than one center around which social and industrial activities orbit. Some activities attract particular nodes while others do not, e.g. a campus is a center with bookshops, libraries, sport facilities, canteens, cafés, etc., while an airport is a complex of runways and buildings for takeoff and landing, hangars, warehouses, and maintenance of civil aircraft, with facilities for passengers.
- *Irregular model* is a transition from village to city due to poor planning or illegal housing development.

(1470 п.3н.)

2. **Ответьте на вопросы.**

- ✓ What is the urban structure?
- ✓ What do the models of urban structure reveal?
- ✓ How does a zonal model show a city growth?
- ✓ How does a city expand according to a sectoral model?
- ✓ What does a grid model of a city look like?
- ✓ What is the main feature of the multiple nuclei model?
- ✓ Why does irregular model of a city occur?

3. **Пользуясь вопросами упр. 2, расскажите о моделях строительства городов.**

## TEXT 1.4

1. **Прочитайте текст и выполните задания.**

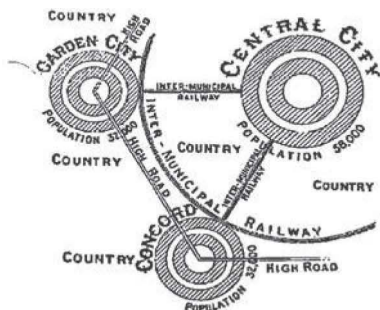
\* *Suburb* is an outlying district of a city, especially a residential one.

## Smart Growth

The idea of creating compact cities and communities appeared in the early 1970s. A new concept of urban planning and transportation arose as planners acknowledge the essential role that transportation plays in the shaping of communities and insist that transportation and land-use decisions be made in tandem.

When communities satisfy their needs for goods and services nearby, self-sufficient local economies develop, retaining wealth and saving energy to a degree that can dwarf other sustainability efforts.

The term “Smart Growth” to denote the concept is particularly used in North America. In Europe the term “Compact City” has often been used to describe similar theory. It must be added that Smart Growth and related concepts are not brand new (Pic. 2) but fundamental development practices that have been employed for centuries.



Pic. 2. A planning model (1902)

### *Principles of Smart Growth:*

- Create a range of housing opportunities and choices.
- Create walkable neighbourhoods.
- Encourage community and stakeholder collaboration.
- Foster distinctive, attractive places with a strong sense of place.
- Make development decisions predictable, fair, and cost-effective.
- Mix land uses.
- Preserve open space, farmland, natural beauty, and critical environmental areas.
- Provide a variety of transportation choices.
- Strengthen development and direct it toward existing communities.
- Take advantage of compact building design.

To cut a long story short, Smart Growth is the development that serves communities, the economy, public health, and the environment.

(1360 П.3Н.)

### 2. ● *проверните неправильные утверждения.*

- The term “smart growth” denotes modern practice of trees and vegetation planting.

- Compact city is a small city for a few thousand residents.
- Land-use decisions should be made before transportation planning.
- “Smart growth” and “compact city” are fundamental development practices in Europe.
- Mixed land use cannot be cost-effective.
- Cars ownership and use must be forbidden in modern cities.
- To preserve public health and environment urban development should be cut down.

3. *Расскажите о градостроительной концепции “smart growth”.*

## TEXT I.5

1. *Прочитайте текст и выполните задания.*

### Professional Principles of Architects

The American Institute of Architects has formulated the following basic principles for guidance of architects:

Advice and counsel constitute the service of the profession. Given in verbal, written, or graphic form, they are normally rendered in order that buildings with their equipment and the areas about them, in addition to being well-suited to their purposes, well-planned for health, safety, and efficient operation and economical maintenance, and soundly constructed of materials and by methods most appropriate and economical for their particular uses, shall have a beauty and distinction that lift them above the commonplace.

It is the purpose of the profession of architecture to render such services from the beginning to the completion of a project.

(680 п.зн.)

2. *Переведите средний абзац текста.*

3. *Перескажите текст по цепочке.*

## TEXT I.6

1. *Прочитайте текст и выполните задания.*

### Land Market

Land markets exist in formal and informal forms operating in rural areas (with main interest in agricultural land or forestry) and in urban areas



(with predominant industrial, commercial and residential interests). They are based on the sale of freehold, long-term leasehold (the sales market) or on shorter-term leases (the rental market).

Land markets also take a form of mortgage markets involving the transfer of certain rights in legal estate in security for a financial loan with the provision that all rights will cease when the loan is paid off by a certain date. The mortgage can be either in a form of a written agreement or a deposit with the lender of the title deeds of the borrower's land.

Land sales markets influence the industry investment and the agriculture efficiency.

In urban areas rental markets do create a lot of opportunities for people to migrate to where work is currently available, while in countryside they allow agricultural land to be used much more efficiently by farmers who rent land they cannot afford to buy. On the other hand, it is the land which they are able to use productively.

As such, land market of the time has become part and parcel of modern development.

(1010 п.3н.)

2. *Ответьте на вопросы.*

- ✓ Where and in what forms do land markets exist?
- ✓ What is land market based on?
- ✓ How does mortgage work?
- ✓ What is the main gain of land markets?
- ✓ In what way do rental markets influence migration?

3. *Передайте краткое содержание текста.*

## TEXT 1.7

1. *Прочитайте текст и выполните задания.*

### Traffic Engineering

Traffic engineering is essential for the urban planning. However, traffic engineers find themselves in an awkward position trying to move the irresistible force of traffic through the obstacle of congestion. And they are repair persons rather than builders, and devisers rather than planners.

The list of available solutions is quite long: “stop-and-go” signs at street intersections, slow-down warnings and speed limits, parking limits and prohibitions, “safety islands”, white and yellow division lines on pavements

to channel moving vehicles, one-way streets, etc. But none of them can radically solve traffic problems.

Traffic engineers' duty is to maintain data on people and vehicles movement; they measure the service of commercial centers by registered automobiles parked there, sidewalks capacity for pedestrians, and the effectiveness of streets and highways.

Traffic engineers carry on a heroic struggle to cope with the certain traffic tangles they confront. Until the urban street system is designed for vehicles that traverse it, the devices will remain essential ingredients of a city circulation. It is a choice between two traffic troubles: no control and complete chaos or negative control to avoid paralysis.

(1060 п.зн.)

2. По фрагментам найдите и переведите предложения.

- Перечень приемлемых решений достаточно обширен...
- ...они измеряют пропускную способность коммерческих центров...
- ...чтобы совладать с транспортными путаницами...

3. Основываясь на тексте, докажите, что профессия инженера-транспортника необходима.

## TEXT 1.8

1. Прочитайте текст и выполните задания.

### Parking Facility Design

Parking design is unique for several reasons, since the parking designer should possess an exceptional ability to scrutinize and visualize necessary solutions in three dimensions (3D) maximizing functional efficiency.

Parking design also requires the competence to perform technical analyses in terms of geometric relationships and necessitates perfect knowledge of appropriate structural systems, expertise in the cost-effective layout, an in-depth understanding and predicting the behaviour and vulnerability of structure types due to exposure to all weather conditions and would-be seismic forces.

Parking design deals with creating a clean-looking interior by carefully located drains, pipes, lights and signs in relation to each other, and to

structural members as well. Other important issues include comprehension of parking control systems, revenue control techniques, and traffic flow capacities of entry/exit regulated by different equipment types.

IPD (International Parking Design) have developed parking standards for various types of users (shoppers, employees and others) in “levels of convenience”. This methodology has been adopted and recommended in cities zoning codes, construction techniques and parking equipment technology being obligatory.

(1120 п.зн.)

2. *Выделите главную мысль каждого абзаца текста.*

3. *Из полученных предложений составьте краткий пересказ текста, используя необходимые связки (because, because of, so that, thus, for, therefore, as, since, etc).*

## TEXT 1.9

1. *Прочитайте текст и выполните задания.*

### Heat Island

The term “heat island” refers to urban air and surface temperatures that are significantly higher than in nearby rural areas. Many cities and suburbs have air temperatures that are 1 to 10°C warmer than the surrounding natural land cover.

The reason the city is warmer than the country comes down to a difference between the energy gains and losses of each area. There are a number of factors that contribute to the relative warmth of cities:

- The buildings, streets and sidewalks absorb the majority of solar energy input due to less vegetation.
- Runoff is greater in cities; thus, evaporative cooling is less.
- Waste heat from city buildings, cars, pavements and industry eventually makes its way into the atmosphere.
- The thermal properties of building materials add heat to the air by conduction.
- The “canyon” structure that tall buildings create enhances the warming as they provide multiple surfaces for the reflection and absorption of sunlight and block wind.

Heat islands directly influence the health of urban residents. Summertime heat islands increase energy demand for air conditioning, raising power plant emissions of pollutants. Higher temperatures also accelerate the chemical reaction that produces ground-level ozone, or smog. This also threatens public health and the environment.

The heat island effect can be slightly counteracted by implementation of green roofs and using reflective materials to build houses, pavements, and roads. Planting trees and vegetation in the city and in open spaces can improve air quality and increase the overall albedo of the city.

(1350 л.3н.)

2. **Ответьте на вопросы.**

- ✓ What is a “heat island”?
- ✓ What are the factors contributing to the warmth of cities?
- ✓ How do heat islands impact people and environment?
- ✓ What is “smog”?
- ✓ How can heat island effect be lessened?

3. **Кратко перескажите текст.**

## TEXT I.10

1. **Прочитайте текст и выполните задания.**

### The Great Wall

Walls played very significant role in Chinese culture as an essential part of any village or town. Even the houses and temples within towns and villages were walled, and houses also had no windows overlooking the street, thus bestowing the feeling of wandering around a huge maze.

The name for “city” in Chinese means “a wall”, and over these enclosed areas the God of walls and mounts presides, whose duties were and still are to protect the welfare of inhabitants. Thus, an immense task to construct a wall (Pic. 3) to run throughout the country must not have seemed a certain absurdity.

However, to perceive the Great wall as a single architectural structure seems to be a real mistake. It would be also erroneous to assume that it was built during one dynasty — the wall construction spanned various dynasties and each dynasty has contributed to the design.

The role the Great Wall played in Chinese economy was extremely important. Throughout epochs settlements were built along the border.



Pic. 3. The Great Wall

Troops were instructed in details to save wasteland, settle down and plant crops, and create roads, bridges, watch towers, canals, wells, and aqueducts. All these undertakings increased the trade and cultural exchange of China with remote territories.

Numerous generations left behind an inexhaustible trail of historical proofs — unique artifacts and objects, such as inscribed tablets, household articles, and written inheritance — which have become valuable archeological evidence in the study of defense institutions of the Great Wall and everyday life of the people who lived, worked and died along it.

(1380 п.зн.)

*2. Выделите главный смысл каждого абзаца текста.*

*3. Из полученных предложений составьте краткий пересказ, используя необходимые связи.*

## Раздел II

# **BUILDINGS AND THEIR FUNCTIONS**

### TEXT II.1

1. Прочитайте текст и выполните задания.

#### **The World of Houses**

A house is a building that provides shelter, comfort, and protection. It is one of man's three important necessities. Before man knew how to build shelters, he lived in trees. But due to increasing discoveries and inventions, the way of living has remarkably changed...

Let's look at houses from the point of view of their locality and uniqueness.

In Switzerland houses have long steep roofs because there is a lot of snow there which can naturally enough slide off these roofs.

Around the Mediterranean Sea houses are painted white because the summers there are very hot and white colouring reflects the sun and makes houses cool inside.

As big cities suffer from land shortage and portions of land for construction are rather expensive, buildings are built with multiple floors, so that lots of inhabitants can live in them.

In Asia people build houses on stilts because there is a lot of rain there and thanks to stilts houses are above the water and don't flood.

It is very cold in the Arctic and snow is very deep. The Inuit people build houses, which are called *igloos*, from blocks of snow. These houses really keep warm!

In the Sahara Desert nomads keep goats. Thanks to it, people can live in tents made from woven goat hair. The sides can be rolled up to let cool breezes in and out.

In South America and Asia, some people live in adobe huts made of sun-dried mud bricks. The roofs are made of grass and the huts are very cool at hot weather.

In Brunei, the Sultan lives in the world's largest palace. It has 1788 rooms.

In crowded Hong Kong, some people live in wooden houseboats in the harbour.

The world's tallest block of flats is Lake Point Tower in Chicago. The tower houses 70 floors with 879 apartments.

(1430 п.зн.)

2. По фрагментам найдите и переведите предложения.

- ...предоставляющее жилье, уют и защиту.
- ...потому что там много снега...
- ...белый цвет отражает солнце...
- ...строятся многоэтажные здания, чтобы...
- ...строят дома на ходулях, потому что...
- Инуиты строят дома ... из снежных блоков.
- ...в палатках из валяной козьей шерсти.
- ...в глинобитных хижинах, построенных из обожженных на солнце кирпичей.
- ...в самом большом дворце в мире.
- ...некоторые люди живут в плавучих деревянных домах...
- Самое высокое жилое здание в мире...

3. Создайте резюме, используя упр. 2.

## ТЕКСТ II.2

1. Прочитайте текст и выполните задания.

### Green Building

“Green building” (or sustainable building) denotes a structure and way of its use that is environmentally conscious and resource-efficient through the building’s life-cycle. This practice complements the classical building design concerns of economy, utility, durability, and comfort.

The common objective of green construction is to reduce the overall impact of the built environment on human health and the natural environment by:

- efficiently using energy, water, and other resources;
- protecting occupant health and improving employee productivity;
- reducing waste, pollution, and environmental degradation.

Green buildings cost less to operate and have excellent energy performance. The concept often emphasizes taking advantage of renewable resources and is to ensure that our actions and decisions today do not inhibit the opportunities of future generations.



Pic. 4. A green building designed by M. Kaufmann

The practices employed in green building are constantly evolving and may differ regionally, but fundamentals are: Siting and Structure Design Efficiency, Energy Efficiency, Water Efficiency, Materials Efficiency, Indoor Environmental Quality Enhancement, Operations and Maintenance Optimization, and Waste and Toxics Reduction. The essence of green building is an optimization of one or more of these principles.

Aesthetically, green architecture is the philosophy of designing a building (Pic. 4) that is in harmony with the natural features and resources surrounding the site. There are key steps in designing sustainable buildings: specify “green” building materials from local sources, reduce loads, optimize systems, and generate on-site renewable energy.

(1460 л.3Н.)

2. **●** *Ответьте на вопросы.*

- ✓ What does the notion “green building” denote?
- ✓ What does this building practice combine?
- ✓ What is the common aim of green construction?
- ✓ How can this goal be achieved?
- ✓ What are the advantages of green buildings?
- ✓ What are the fundamental practices in green building?
- ✓ There are some key steps in designing green buildings, aren't they? What are they?

3. *Составьте аннотацию к тексту.*



## TEXT II.3

1. Прочитайте текст и выполните задания.

### Natural Building

A similar concept to Green building is Natural building, which is usually on a smaller scale, tends to use natural materials that are available locally, and relies more on human labour than technology.

The basis of natural building is the reduction of environmental impact of buildings and other supporting systems without sacrificing comfort, health or aesthetics.

Sustainable design practices help integrate the building into its environment with closest attention to electricity production, water catchment, passive heating and cooling, and alternative waste treatment. Ways of achieving sustainability through natural building concentrates on durability and the use of minimally processed, plentiful or renewable resources, as well as those that produce healthy living environments and maintain indoor air quality.

Natural building technologies are on the whole adaptable to many regions. Most of them rely on a few basic materials: earth, wood, and straw, as well as reused or recycled materials. Depending on the climate, these materials can be combined in any number of ways to make a natural home.

Some materials are avoided in Natural building due to their negative environmental or health impacts. These include unsustainably harvested wood, toxic wood-preservatives, Portland cement-based mixes, some paints, and plastics containing harmful plasticizers.

(1180 п.зн.)

2. По фрагментам найдите и переведите предложения.

- Сходным с Зелёным строительством является Натуральное строительство...
- ...это уменьшение воздействия окружающей среды на здание...
- Способы достижения устойчивости при натуральном строительстве...
- ...используют ограниченное число основных строительных материалов...
- Некоторые материалы не используются в натуральном строительстве...

Конец ознакомительного фрагмента.  
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