

## **I. Passive Voice.**

1. Scientists were offered to determine the composition of the new substance obtained.
2. These materials are not found in their natural form.
3. Absorption is sometimes initiated at a temperature as low as 70°.
4. Many shops are equipped with automatic machinery.
5. The reaction was accompanied by violent evolution of heat.
6. The results were affected by the presence of impurities.
7. The rates and molecular weights are affected by lowering the temperatures.
8. This reaction is succeeded by other ones.
9. The point of equilibrium however is greatly influenced by the temperature.
10. This newly developed method was followed by a number of others.
11. The molecules of even a good insulator are acted upon by an electric field.
12. Some important conclusions were arrived at by the experimentator.
13. Difficulties are often met with in solving the systems of automatic control.
14. The operation of a small size quick activity electronic computer was looked at with great interest.
15. The function of a system is influenced by variations in its intake of energy.
16. The decision to extend automatic control systems to various areas will be followed by economic considerations.
17. The electric motor may be relied upon for it is of the latest design.
18. The insulation was affected by water vapours.
19. A is unaffected by B.
20. This paper was followed shortly by another by the same author.
21. The  $\pi$ - $\pi$ -electrons often referred to as unsaturation electrons.
22. This critical temperature is actually influenced by pH and a series of other factors.

### **New words:**

absorb v – поглощать

machinery n – оборудование

violent a – сильный, бурный

rate n – скорость

succeed v – следовать, сопровождать

offer v – предлагать

insulate v – изолировать

arrive at a conclusion – сделать вывод, заключение

rely upon – доверять, полагаться на ...

insulation n – изоляция

vapour n – пар

refer to as – называться

unsaturation electrons – ненасыщенные электроны

## II. Continuous Tenses.

1. The reaction was running smoothly.
2. They are developing a new technique.
3. This procedure is finding increasing use.
4. Research is being carried on.
5. We all are striving for better results.
6. The spherical joint is becoming more and more useful in the construction of glass equipment.
7. While the reaction is proceeding, changes are taking place in the reaction mixture.
8. The method previously mentioned is being widely used.
9. It is sometimes necessary to stop the stirrer of the thermostat while the measurements are being made.
10. At any instant in a polymerization process polymers of all different degrees of polymerization are being formed.
11. The chemical and physical properties of these molecules are being studied.
12. Ceramic composites are being used and tested by several companies.
13. Trial material is being fabricated for mechanical testing.
14. The functional simulator is now being used to verify telerobotic operations.
15. Although the method is receiving marked attention its possibilities and limitations have not yet been sufficiently explored.
16. Programme officials will not be looking for the cheapest ejection seat but the lightest.

### New words:

smooth a – ровный, гладкий

strive for – стремиться к чему-либо

joint a – соединение

reaction mixture – реакционная смесь

stirrer n – мешалка

trial a – пробный, опытный

verify v – проверять, контролировать

ejection seat – катапультируемое кресло

## III. Perfect Tenses.

1. No satisfactory explanation of this observation has yet been offered.
2. A thorough discussion of the various results obtained has been published.
3. These compounds have been little investigated.
4. The output of this factory has greatly increased as against that of 1983.
5. Thus far, the effects of vehicle motion have been ignored.
6. So far as the author knows, few attempts have been made to modify the structure.

- 7.This has made it possible to study radioactive species.
- 8.No general solution to this problem has been found yet.
- 9.Many authors have questioned the validity of this statement.
- 10.This fact combined with many others has provided valuable information on the point in question.
- 11.They have been studying this problem for 30 years.
- 12.The South African industry has been running at a uranium oxide output of about 5,000tons a year for the last few years.
- 13.Evidence for the association of these two phenomena has been accumulated for a long time.
- 14.It has recently been shown that the conductivity depends on the presence of oxygen.
- 15.Each aircraft company has been building fighters for years.
- 16.WADYPS research has been carried out at the University of Nottingham since 1992.
- 17.When the reaction had been finished the temperature fell.
- 18.The temperature had been raised by 20° before the explosion occurred.
- 19.These properties made him suggest they had prepared a new compound.
- 20.They presented rather detailed account of the work done.
- 21.They will have been through with their experiments by the end of the year.
- 22.Before the Exhibition closes up to 90,000 people will have attended it.
- 23.Fully integrated systems have been delivered to the U.S. Army and are currently in use on rotary aircraft. Fully integrated systems are being prepared for international delivery. So, parallel activity has been under way.

#### **New words:**

offer v – предлагать  
investigate v – исследовать  
compound n – смесь, соединение  
attempt n – попытка  
species n (pl без измен.) – образец  
validity n – обоснованность  
point n – вопрос  
uranium oxide – окись урана  
evidence n – доказательство  
fighter n – истребитель  
account n – отчет  
attend v – посещать  
currently adv – в настоящее время

#### **IV. Инфинитив в функции определения.**

- 1.The expenses to be paid by the customer include the overheads.
- 2.The problem of utilizing such variables is always the first to decide.

- 3.They have found a new type of tape possible to work with.
- 4.This process is the one to be associated with reaction in alkaline solution.
- 5.The method to be described in the next section is very effective.
- 6.The result to be expected is important for our investigation.
- 7.The method of detection to be described on page 100 is based on the latest data.
- 8.They are the first to have suggested the currently accepted reaction mechanism.
- 9.Klason was the first chemist to develop a theory of the formation of lignin.
- 10.Experiments have shown that the amount of work to be used for producing a given amount of heat is the same under all conditions.
- 11.The problem to be solved requires some experiments.
- 12.The amount of energy to be consumed by the motor is equal to that put into the motor.
- 13.The building of a good road causes a great deal of preliminary work to be done.
- 14.With these reactions there are also opposing factors to be considered.
- 15.It is of importance to know the basic principles to be observed in the design and use of optical equipment.
16. A method to design an optimal trajectory is presented.
- 17.The combined filter to be examined is appropriate for some base stations.
- 18.Sojourner is the name given to the first robotic roving vehicle to be sent to Mars.

#### **New words:**

expenses – расходы

customer n – заказчик

overheads – накладные расходы

alkaline n – щёлочь


currently adv – в настоящее время

accept v – принимать

consume v – потреблять, расходовать

appropriate a – подходящий

#### **V. Сочетание to be + инфинитив (составное сказуемое).**

- 1.The object is to provide low pressure.
- 2.Since the conversion to electricity the main aim of railways was to widen the railway network.
- 3.The main purpose is to design equipment and establish methods of operation.
- 4.An alternative method is to use atomic hydrogen.
- 5.The object of his research was to find a new method.
- 6.The general scheme of such a method will be to take an aminoacid. 
- 7.Another problem was to get new data on the point in question.
- 8.The procedure had been to allow the ultraviolet light source to heat the solution.
- 9.The purpose of the present work was to investigate the electron exchange.

10. Our aim is to change the status quo in a peaceful evolutionary way.
11. Another way of handling this problem is to use the proposed receiver.
12. The focus of this paper is to show what results can be obtained.
13. The primary function of Sojourner is to demonstrate that small rovers can actually operate on Mars.
14. The intent of this section is to give you a broad overview of the Mars Pathfinder mission and the microrover experiment.
15. A primary objective was to demonstrate systems required for putting a payload safely on the Martian surface.

**New words:**

object n – цель  
 purpose n – цель  
 alternative a – другой  
 atomic a – атомарный  
 point n – вопрос, пункт  
 status quo (лат) – существующее положение  
 handle v – (зд.) решить  
 obtain v – получать, достигать  
 intent n – цель  
 payload n – полезный груз

**VI. Сочетание to be + инфинитив (эквивалент must).**

1. We were to find starting components to carry out a new experiment.
2. This method is to be reported in more detail.
3. This compound is rarely to be found free in nature.
4. This fact is to be pointed out in our paper.
5. A chapter is devoted to the concept of productivity that we are to use in this study.
6. Now he is to study this phenomenon.
7. We were to take special steps to reduce the weight of the mechanical part.
8. Similar agencies are to be set up in other countries.
9. The LUNAR – A mother spacecraft is to release three modules.
10. In the future the diesel locomotive is to become the leading type of motive power on our railways.

**New words:**

point out v – указывать  
 devote v – посвящать  
 release v – освобождать; сбрасывать

**VII. Сочетание to have + инфинитив (эквивалент must).**

- 1.He had to stop his experiments.
- 2.The rate of gas flow does not have to be large
- 3.We have had to decide which course of reaction to chose.
- 4.I had to show him my unfinished work.
- 5.We had to reduce the resistance to 100 ohms.
- 6.Both types of reaction have to be taken into account.
- 7.We shall have to neglect this fact
- 8.It has to be admitted that the conclusion is not logical enough.
- 9.As to the heat of the reaction it had to be carefully controlled.
- 10.Several requirements have to be satisfied to make such a set operate efficiently.
- 11.He found that the temperature had to be raised to 150° to insure a satisfactory result.
- 12.The apparatus must be so constructed that parts, which may have to be interchanged, can be easily reached.
- 13.Robots on the Moon and Mars will have to be more autonomous.
- 14.In addition to weak signals, the uncertainties of weather had to be faced.
- 15.In order to make a satellite a whole number of highly involved scientific and engineering problems had to be solved.
- 16.With optical disks you don't have to worry about data loss.
- 17.You also have to know what you are going to do with that system.

**New word:**

neglect v – игнорировать, не принимать во внимание

admit v – признавать

conclusion n – вывод

satisfy v – удовлетворять (требованиям)

uncertainty n - изменчивость

involved – сложный

worry v - беспокоиться

**VIII. Сложное дополнение.**

- 1.I found him to be a very clever man.
- 2.We know the pressure to decrease as altitude increases.
- 3.We consider the circuit to be too strong for our purpose.
- 4.We expect the increase in the average capacity and load per wagon to expand further.
- 5.Modern discoveries allow science and engineering to be developed rapidly.
- 6.We know gravity to act on every particle of a body.
- 7.These features allow this series of computers to be used effectively in all types of system applications.
- 8.We proved this suggestion to be wrong.
- 9.We expect most bodies to expand when heated.

10. We know heat to pass from a hotter body to a colder one.
11. We know an alternating current to be continually changing.
12. They found out that chemical effect to occur when an electric current flowed through a liquid.
13. We heard that device to have been described in some early literature.
14. We saw concrete piers be prefabricated on shore.
15. We know the apparatus used for converting electrical energy from one voltage to another to be called a transformer.
16. We know the induction a. c. motors to be preferred to series a. c. motors.
17. They wanted the experimental data to be presented in detail.
18. DeBoer reported the density of the substance to be 2.5.
19. These authors claimed to have obtained pure products.
20. With this provision the system can be expected to give a good stability.
21. More recent work has shown the assumption to be incorrect.
22. We proved this suggestion to be wrong.
23. This causes the components to be separated.
24. He made this reaction run at reduced pressure.

**New words:**

altitude n – высота

average a – средний

concrete pier – бетонный столб

prefer v – предпочитать

provision n – условие

assumption n – предположение

suggestion n - предложение

**IX. Инфинитив в функции подлежащего или обстоятельства цели.**

1. To prove any statement is a very difficult task.
2. To prove any statement it is necessary to make experiments.
3. To prove charging by induction is not difficult at all.
4. To prove charging by induction one has to make a number of experiments.
5. To generate an electric current due to magnetic effect was Faraday's object.
6. To generate an electric current by means of a magnetohydrodynamic generator one should study the physical properties of the plasma.
7. To carry out our experiment it is necessary to take two coils of different turns of wire.
8. To carry out our experiment is not difficult at all if we take two coils of different turns of wire.
9. To work I must have all the necessary equipment.
10. To make the car go faster we press down on the accelerator.
11. To heat a body heat must be supplied to it.

12. To explain why the formulas given here are correct would require much time.
13. To measure temperature it is necessary to choose some kind of temperature scale.
14. To convert heat directly into electric energy is still a problem that should be solved.
15. To produce angular acceleration a torque must be applied to **the** body.
16. To summarize the findings of this tremendous work would require many pages.
17. To obtain a single compound involves its separation from the others.
18. To loosen the entire assembly for adjustment calls for loosening screws only at three points.
19. To improve these data some corrections must be made.
20. To react in the cold this compound must be carefully purified.
21. To accelerate the reactions they employed a catalyst.
22. To provide as much cooling surface as possible was quite necessary.
23. To prevent the glowing wire from being destroyed is the main problem in constructing an incandescent lamp.
24. To build good roads is one of the most important tasks facing our country.
25. To treat a rash on the arm is to treat only a symptom of a deeper problem.

### **New words:**

statement n – утверждение

coil n – катушка

angular a – угловой

torque n – момент вращения

summarize v – делать заключение

compound n – смесь, соединение

loosen v – ослаблять

assembly n – установка

call for v – требовать

screw n – винт

catalyst n – катализатор

glow v – (зд.) накаливать

incandescent lamp – лампа накаливания

rash n- сыпь

### **X. Сложное подлежащее с глаголами в страдательном залоге.**

1. All bodies are known to possess weight.
2. The new invention was expected to produce great changes in industry.
3. The air is known to act on the bird with an equal and opposite force.
4. They were expected to answer all the questions asked.
5. The rate at which a body falls is found to depend on the value of G.
7. An object is found to be hot if its temperature is higher than that of our body.



8. Under certain conditions heat is expected to produce a change of state without any change of temperature.
9. For a long time the atom was thought to be invisible.
10. Some liquids are found to conduct an electric current.
11. The new power plant is reported to have gone into operation.
12. This machine is believed to be the best for converting heat into work.
13. The data have been admitted to be incorrect.
14. This technique is believed to become a norm.
15. These compounds are argued to be very stable.
16. This theory was held to be of great importance.
17. These reactions were concluded to be similar.
18. The reaction was feared to take a different course.
19. The yield of by-products was determined to be 25%.
20. In Morocco alone, these deposits are estimated to contain 3,000,000 tons of uranium.
21. From their data the polarization is calculated to be 8.90.
22. The formation of the trimethylene oxide may be assumed to rise from a simultaneous shift of electrons.
23. Human requirements for riboflavin are stated to be between 2 – 3 mg per day.
24. This equation is readily seen to be of the same form as Eq. (14).
25. These reactions were not thought to proceed very violently.
26. These reactions were concluded to be similar in their behaviour.
27. The magnitude of this angle was estimated to be 30°.
28. The system has been found to perform quite adequately.
29. Discussion of this work has not been considered to be within the scope of this chapter.
30. After the substances had been found to involve impurities another procedure was used.
31. The channel parameters are assumed to be fixed and known.
32. A rough idea of what is thought to be taking place is given by the formula below.
33. The experimental errors for the phase –velocity measurements are estimated to be 5% over the entire frequency range.
34. The atmosphere has been proved to extend hundred kilometers above the Earth.
35. In this case the hierarchical method is shown to be almost the same as ordinary linear analysis.
36. The precise information about these characteristics is considered to be necessary for the application in either the recognition or the synthesis of speech sounds.
37. Of the many motors in use no one can be said to possess any great advantage over the others.
38. Up to the middle of the 18<sup>th</sup> century the measurement of temperature and that of the quantity of heat were considered to be one and the same thing.
39. We know heat to be a form of energy, but there was a time when it was supposed to be a kind of substance which was believed to flow from a hotter body to a colder one.

**New words:**

rate n – скорость  
condition n – условие  
admit v – признавать  
argue v – (зд.) утверждать  
hold (held, held) –(зд.) утверждать  
conclude v – делать вывод  
fear v – опасаться  
yield n – выход , результат  
deposit n – месторождение, залежь  
estimate v – оценивать  
assume v – допускать, предполагать  
shift n – смещение  
proceed v – протекать  
behaviour n – поведение  
scope n – рамки, пределы  
precise a – точный

**XI. Сложное подлежащее с глаголами to seem, to appear, to happen, to prove.**

- 1.This modification of the method seems to be of great value.
- 2.This substance was proved to be extremely stable.
- 3.Tomas appears to have been the first to focus attention on this type of reaction.
- 4.Reactions of this type seem to occur only with certain compounds.
- 5.In any case, current theories either empirical or electronic, do not appear to account for this result.
- 6.Though some substances seem to be very insoluble, water does dissolve most things to some extent.
- 7.The problem seems to be rather difficult.
- 8.The internal energy appears to be associated with the configuration of the particles of which the atom is composed.
- 9.Some liquids prove to be good conductors of electricity.
- 10.Two rubbed substances happened to show similar properties.
- 11.Resistance and conductance appear to be closely related.
- 12.Glass seems to conduct so little current that it is hardly measurable
- 13.The machine designed proves to be a very efficient one.
- 14.The laser beam seems to have almost unlimited industrial possibilities.
- 15.Lomonosov and Franklin happened to make their experiments in the field of atmospheric electricity at about the same time.
- 16.He doesn't seem to know the subject thoroughly.
- 17.Bohr's theory of atomic structure turned out to be extremely fruitful in the explanation of various properties of atoms and molecules.

18. The product has been proved to affect the overall yield.
19. This fact may be proved to be of great importance.
20. Both systems have actually proved to be complex.
21. The only errors may be assumed to be clock related.
22. It appears to be the only possible route to manned exploration of the solar system.
23. The galaxies seem to be moving very slowly relative to one another – no more than 500km/sec.
24. The mechanism of this reaction does not seem to have been investigated.
25. The Earth happened to form within a very narrow orbital zone about the Sun where life could develop.

### **New words:**

compound n – смесь, соединение

account for v – объяснять

insoluble a – нерастворимый

dissolve v – растворять

rub v – натирать

fruitful a – плодотворный

yield n – выход, результат

assume v – предполагать, допускать

route n – путь

exploration n – исследование

## **XII. Сложное подлежащее с to be sure, to be certain, to be likely, to be unlikely.**

1. Such materials are likely to occur in some other places as well.
2. This fact is unlikely to take place.
3. The temperature in this case is sure to rise by 20°.
4. This reaction is not likely to take place
5. This investigation is likely to produce good results.
6. The above reactions are certain to proceed smoothly.
7. The activity coefficient is unlikely to rise.
8. This compound is not sure to contain admixture.
9. This discovery is certain to lead to important results.
10. The explosion is unlikely to take place at 300°.
11. They are not certain to obtain good results.
12. Ceramic composites are sure to be widely used.
13. The similarity of the six compound listed is unlikely to be a coincidence.
14. Our experiments indicate that the rearrangement is unlikely but not impossible.
15. Digital-to-analog converters are sure to be crucial building blocks for telecommunication applications.

**New words:**

proceed v – протекать  
smooth a – спокойный  
compound n – смесь, соединение  
admixture n – примесь  
explosion n – взрыв  
coincidence n – совпадение  
rearrangement n – перегруппировка  
crucial a – решающий

**XIII. Герундий и его функции.**

1. Boiling continued for as long as 80 hours.
2. Balancing is done by adjusting the position of the rods.
3. My favourite occupation is reading books.
4. The product tended to turn white on drying.
5. After having been discussed the report was published.
6. Samples observed remain liquid on cooling.
7. They succeeded in raising the accuracy of their measurements by means of introducing another variable.
8. Besides being very involved this procedure is very costly.
9. He is against carrying out a set of experiments.
10. In addition to carrying out installation work, the specialists are also to give assistance in starting the atomic reactors.
11. In the next chapter the actual procedure for reducing the errors as far as possible is discussed.
12. The governments of the East had to pass new laws to prohibit commercial ventures from copying software.
13. This section discusses making vibration measurements in aircraft.
14. Making good measurements is the important step in good vibration analysis.
15. A vibratory system must include a means for storing potential energy, a means for storing kinetic energy and a means by which energy is gradually lost.
16. Each different way of displaying the resulting data signal is called an Analysis Mode.
17. Metals cannot be dissolved without being changed into new substances.
18. The reaction is far from being completed.
19. A discussion on solving this problem was under way.
20. These compounds have the advantage of being cheap.
21. There was a strong objection to carrying on this costly investigation.
22. There are unmistakable proofs of Pauling's having been wrong.
23. That prevents you from having more than one bus attached to the same memory system.

24. On connecting the upper ends of the metals with a metal wire, we made the current flow through the wire.

**New words:**

rod n – стержень

tend v – стремиться

dry v – сушить

sample n – образец

succeed v – иметь успех, суметь

involved a – сложный

prohibit from v – запрещать

venture n – сделка, авантюра

dissolve v – растворять

proof n – доказательство

prevent from v – препятствовать, мешать

**XIV. Герундиальный оборот.**

1. They depended on the laboratories supplying them with starting compounds.

2. We have already referred to the reaction having resulted in a new yield.

3. There are unmistakable proofs of Pauling's having been wrong.

4. There is no hope of our getting positive results in the future.

5. Oxidation led to the reaction taking another course.

6. This have given rise to the molecular changing its configuration.

7. This is due to the reaction running at a low temperature.

8. The second theory was given preference due to its being based on more recent data.

9. This have taken place as a result of the molecular having changed its conformation.

10. We insisted on the cases being taken away.

11. No evidence has been found for any of these compounds maintaining their configuration.

**New words:**

refer to v – указывать, ссылаться

yield n – выход, результат

proof n – доказательство

prefer v – предпочитать

evidence n – доказательство

case n – (зд.) ящик

compound n – смесь, соединение

maintain v – сохранять

## **XV. Причастие в функции обстоятельства.**

1. Multiplying the average speed by the time we find the distance traveled.
2. Having divided the distance by the time required to cover it we obtain the average speed of the car.
3. Comparing the results of the experiments the scientists used a new measuring instrument.
4. Having measured the potential difference they compared the results obtained.
5. Insulated, the wire may be used as a conductor.
6. When coated with some conducting material the object becomes a conductor.
7. Being cooled in air, the metal becomes hardened.
8. Having been adjusted by the operator the device continued to work.
9. If needed, a lowpass filtering is also applied.
10. The system shows very good performance when controlling the levels of a double tank system.
11. Therefore, the process of control system design should also include a step 0, involving the design of the process equipment itself.
12. Being widely applied in industry automatic control gave an insight into the major lines of future development.
13. Installed, the wire may be used as a conductor.
14. Having spent several days trying to assemble the machine, his efforts came to nothing.
15. While explaining the results of the experiment he wrote a great number of formulae.
16. If desired, the film may be deposited in discrete elements by placing suitable mask over the substrate.
17. Having extracted the acid, they continued experimenting.
18. When purchasing a transformer, the following considerations are to be examined.
19. Given ferrite-core material, very good transformers can be made.
20. When being pure, water is a colorless liquid.
21. When heated, thermoplastics soften.
22. Once sprayed, the fibers must be handled very carefully.
23. Once started, supercurrents of electricity flow through superconductors forever without loss in strength.

### **New words:**

multiply v – умножать

average a – средний

compare v – сравнивать

insulate v – изолировать

harden v – затвердевать

adjust v – регулировать

lowpass filter – фильтр пропускания нижних частот

tank n – бак

insight n – понимание

assemble v – собирать, монтировать  
deposit v – наносить  
substrate n – подложка  
extract v – извлекать  
purchase v – покупать  
soften v размягчаться  
spray v – распылять, разбрызгивать

## **XVI. Независимый причастный оборот.**

1. The temperature being 10°, water boiled quickly.
2. A new technique having been worked out, the results rose.
3. The work finished, we went home.
4. The experiment having been carried out, we started a new investigation.
5. Two samples were used, the former having low catalytic activity, the latter high activity.
6. Current passing through a coil of wire, magnetic poles are produced at each end of the coil and the latter acts like a magnet.
7. Computers can be subdivided into two classes, analog and digital, the basic distinction being the way in which numbers are presented inside the machine for calculating.
8. Many scientists have tried to cool some gas to absolute zero, their attempts coming to nothing.
9. Two objects having the same temperature, the average energy of their molecule motion is the same.
10. The atoms form combinations known as molecules, a molecule being defined as the smallest part of a substance.
11. The term “speed” means the rate of motion, the term “velocity” meaning the speed in a definite direction.
12. The road conditions being unchanged, the automobile can travel at a constant speed.
13. The Earth revolves around the Sun, the Sun moving relative to the stars.
14. The molecules always collide and change direction of speed of the molecular motion greatly depending on temperature.
15. The north pole of a magnet being moved closer to a coil, the induced current causes a field opposing the motion.
16. There are many good conductors of electricity, silver and copper being the best of all.
17. An electric current passing through a conductor, we generally detect its various effects.
18. The resistance being very high, the current in the circuit was low.
19. A gas cooling down, the average speed of its molecules decreases.
20. Different molecules have different speeds, the average speed of all molecules remaining the same as long as the temperature is constant.

21. The occurrence of metals in the earth's crust is unequal, some of them being plentiful, the other existing only in small quantities.
22. Infra-red rays being invisible to us, photographic films and plates are made to-day which are sensitive to them.
23. The evaporation increases with the temperature, other things being equal.
24. In the course of our investigation we have synthesized a great number of substances, some data being listed in table 3.
25. Two objects being at the same temperature, the average energy of motion of their molecules is the same.
26. With the experiment having been carried out, we started a new one.
27. This group being inert to most reagents, it is impossible to hydrolize it.
28. The agenda of the conference exhausted, the delegates began leaving for their homes.
29. With the isomerization preceding the reaction, the results were very low.

**New words:**

sample n – образец  
coil of wire – катушка индуктивности  
attempt n – попытка  
collide v – сталкиваться  
crust n – кора  
evaporation n испарение –  
exhaust v – исчерпать  
precede v – предшествовать

**XVII. Условные предложения.**

1. The volume of gas will be proportional to its absolute temperature provided its pressure remains constant.
2. If you studied the physics of semiconductors, you would know the properties of the p-n junctions.
3. If the transformer had operated in abnormal conditions the unit would have been damaged.
4. If I were an electrician, I should know how to reduce the resistance of the computer.
5. Had he used this formula, he wouldn't have made this mistake.
6. It may be best to program the onboard computer to initiate the process providing certain parameters are exceeded.
7. If the reference is not stable, the digital-to-analog converter output will change when reference changes.
8. If the host adapter fails, the entire disk subsystem is unusable.
9. If something goes wrong during launch, there may not be time to operate the ejection seats manually.



10. Had they read instructions, they wouldn't have broken the device.
11. The work would have been done long ago providing they had been prepared for it properly.
12. If the North Star ceased to exist, the Earth would continue to receive light from it for about half a century.
13. Were there no loss energy by friction, the motion would continue indefinitely once it had been started.
14. Providing there were no forces acting on a body, that body would be in equilibrium.
15. Were you to start early tomorrow morning you would (could/might) be at your destination by evening.
16. It would be necessary to resort to a prior separation of the two elements provided one had only cathodic waves to work with.
17. If it were possible to measure such tension between two different phases in contact, all our problems might be solved.
18. If a way could be found to avoid segmentation, overall speech recognition system performance might improve.
19. If Mars were a planet as large as Earth, it, too, could be technically active.
20. Mars might be habitable, if it were only as big as Earth.
21. Providing the radiation were produced by galaxies, it would now be concentrated in certain parts of the sky.
22. If the Telstar satellite had been built using the state-of-art of science a decade ago, it would have been a very different satellite.
23. Had you followed the procedure described, the experiment would have been a success.
24. I would be very glad to take part in the conference, if I were invited.

**New words:**

damage v – повреждать  
exceed v – превышать  
reference n – обращение, сообщение  
fail v – выходить из строя  
cease v – прекращать  
destination n – место назначения  
resort to v – (зд.) использовать  
avoid v – избегать  
habitable a – обитаемый  
state-of-art – достижения  
success n – успех

## **XVIII. Сослагательное наклонение.**

1. Without the brakes it would be impossible to stop a moving car in case of emergency.
2. The module should develop tracks or state vectors of interesting objects.
3. An even more interesting question would be to compare average behaviour of these algorithms.
4. The most efficient way to do all this would be to monitor the spacecraft and all its components with the human eye.
5. It is impossible that he should give his considerations on this question.
6. He demanded that his machine should be carefully examined.
7. I wish you explained me the scheme of this device.
8. He spent some extra hours in the laboratory in order that the scheme should be ready in time.
9. I wish the project were appreciated by everybody.
10. We should not be able to demonstrate the flow of water in a pipe unless we installed a pump somewhere in the pipe-line.
11. Make exact calculations lest you should fail with your experiment.
12. In such furnaces they would be able to have at the end of the day a lump of iron as much as ten pounds.
13. He demanded that they should do it.
14. He proposed that a new procedure be developed for the purification of standards.
15. It would be an error to say that carbon alone brings about the difference between steel and cast iron.
16. The bee is an insect. This means that its body looks as it were cut out through in two pieces. The word "insect" means "cut into".
17. The iron-maker would call such substances as sulphur and phosphorus impurities in the iron ore. They would not be desired for various reasons.
18. It is essential that no other substances could be present.
19. The compound might decompose immediately into two molecules.
20. The engineer ordered that the work (should) be done.
21. It is not necessary that this (should) be done similarly.
22. In 1933 Schmidt recommended that norleucine be added to the list of accepted amino acids.
23. It is most important that we should have clear understanding of the discussed problem.
24. It is intended that the reaction should be carried out in vacuum.
25. It is required that the ratio of secondary to primary particles should be as great as possible.
26. This compound could then have another composition.
27. It is important that all precautions (should) be taken to avoid any leakage of oxygen.
28. The limiting current would probably have a very large temperature coefficient.
29. Viscosity would be expected to increase with the intermolecular forces.
30. They took measures lest the temperature should fall.
31. According to Brian Millar the ejection seat could be activated in a number of ways.

32. Planck and Einstein have shown that when light reacts with matter it does so as if it were composed of discrete particles known as corpuscles or photons.

**New words:**

brakes n – тормоза

emergency n – авария

average a – средний, обычный, нормальный

behaviour n – поведение, свойство

considerations n – соображения

appropriate v – признавать, ценить

exact a – точный

fail v – терпеть неудачу

furnace n – печь

lump n – болванка

purify v – очищать

standard n – образец

cast iron – чугун

bee n – пчела

ore n – руда

intend v – намереваться

ratio n – отношение

compound n – смесь, соединение

precaution n – предосторожность

leakage n – утечка

viscosity n – вязкость

ejection seat – катапультируемое кресло

**XIX. Модальные глаголы should и would.**

1. At first step a new organization representing both states and airlines should be set up.

2. The principle that something should be done is now accepted by government ministers.

3. He would test the devices before putting them into service.

4. Should the community “deepen” the integration of its 12 members?

5. The gyrocompass would therefore remain on the meridian.

6. One should know that the electric cell is a device for converting chemical energy into electrical one.

7. It would occur on heading of 318.3° or 221.7°. In the first instance the compass would point west of north, in the second the error would be eastward.

8. At that stage they used to work without catalysts.

9. One should take this catalyst, not the old one.

10. It should be noted that a motionless body can be in equilibrium.

11. We took measures to maintain the temperature at the same level but it wouldn't.
12. Under such conditions the temperature would remain at the same level.
13. But the estimated spectrum has a peak at about 4.6 kHz where there should not be any peak.
14. This should provide enhanced customer support.
15. According to Miller the entire ejection sequence would take no longer than half an hour.
16. This makes the read operation longer than would otherwise be necessary, thereby reducing the efficiency of the operation.
17. Copper would conduct electricity owing to its suitable characteristics.
18. They tried hard to set the engine in motion, but it wouldn't start.
19. This compound would decompose into two molecules of ethylene.

### **New words:**

accept v – принимать

cell n – элемент

heading n – направление, курс

enhance v – увеличивать

customer n – потребитель

copper n – медь

### **XX. Конструкция It is ... that.**

1. It is among the naturally occurring minerals that we find the most beautiful examples of crystals.
2. It is he who was to balance the resultant of the other two forces.
3. It is an increase in temperature that increases the speed of molecules.
4. It was Rutherford who first proposed a general theory of radioactive transformation.
5. It is an accelerator that accelerates elementary particles of matter and imparts to them enormous energy.
6. It was not until 1960 that their suggestion has been substantiated.
7. It is to electrolytic dissolution that the majority of changes in organic compounds may be assigned.
8. It was only in 1781 that Emerson invented the process of direct fusion of metals to produce a copper-zinc alloy called brass.
9. It is the gravitation that makes the satellites move round the Earth.
10. It is in the area of equation solution that computers are invaluable.
11. It was not, however, until World War II that the speed advantages of electronics were exploited.
12. It is due to the radio that we receive most of the information the satellites are collecting in space.

13. It was not, however, until the 16<sup>th</sup> century that the blast furnace process was finally adopted in Sweden.
14. It is these ions which actually transport the current.
15. It is this kind of investigation and presentation of data that can be invaluable in pointing the direction for future development of the whole industry.
16. It is hydrogen, one of the elements composing water, that attracts the attention of scientists in the whole world.
17. It was from the detection of otherwise unexplained lines in the solar spectrum that helium was discovered.
18. It was not until 1962 that chemists succeeded in obtaining this compound.
19. It is not the sound of the voice that travels over the wire when we talk over a telephone.

**New words:**

dissolution n – диссоциация

fusion n. – синтез

exploit v – использовать

blast furnace – доменная печь

succeed v – иметь успех, суметь

**XXI. Придаточное предложение в роли подлежащего.**

1. What were needed were ways to increase the size of the signal collecting area.
2. That composite components would not have to be cooled with excess air offers a great advantage.
3. What appears likely is that selection of the most appropriate algorithm may have to occur during the work process.
4. What is needed is technology that allows autonomous operation.
5. What happens to the dust is pretty clear from theoretical studies.
6. What they had realized was the necessity of an extra testing.
7. What you wouldn't see at first launch is a second set of solar panels.
8. That advanced thermoplastics are not easy to deal with is the first barrier to processability.
9. What John W. Verbicky has done is reinvent the advanced polymer molecule.
10. That the Big Bang theory is wrong has been recognized by only a few astronomers.
11. Whether or not this synthesis will take place is not known yet.
12. That these compounds are cheap is a great advantage.
13. That steel does not expand on solidification is a well-known fact.

**New words:**

advantage n – преимущество

dust n – пыль

Big Bang – Большой Взрыв (космический)  
synthesis n – синтез  
solidification n – затвердевание

## **XXII.оборот “for + существительное (местоимение) + инфинитив”**

- 1.It is not difficult for a signalman to work at a junction completely controlled by the new electronic system.
- 2.Means must be provided for a system to inject the fuel into the cylinders for ignition.
- 3.It is necessary for all generators to be economically and efficiently serviced at a central depot.
- 4.The tendency is for the load factor to increase due to double-shift operation in some mines.
- 5.It is easy for the dispatcher to give a signal.
- 6.It is necessary for the cam-shaft to rotate at a speed equal to half the speed of the crankshaft.
- 7.It was almost impossible for some machines to withstand such atmospheres.
- 8.One cannot consider the use of higher voltages for transmission in small collieries to be necessary.
- 9.It is impossible for a single force to produce the same effect as a couple.
- 10.It was almost impossible for the drill to break.
- 11.For automatic system to be successful, it must tune a transmitter at least as accurately as can be done manually.
- 12.The problem is far too involved for one to be able to solve it.
- 13.Everything was ready for the research to begin.
- 14.A clock that is too slow makes the system wait longer than necessary for data to be converted.
- 15.Buffer units provide a channel for information to pass between the microprocessor and the external devices.
- 16.Originally, Windows was intended to make it easier for people to use PC.

### **New words:**

junction n – пересечение дорог  
inject v – впрыскивать  
mine n – шахта  
cam-shaft n – кулачковый вал  
crankshaft n – коленчатый вал  
colliery n – угольная шахта  
couple n – пара  
drill n – сверло  
tune v – настраивать  
involved a – (зд.) сложный

### **XXIII. One.**

1. One can reasonably suggest that this is the case.
2. The problem is far too involved for one to be able to solve it.
3. In any event one should bear in mind that the information obtained may be misleading as to the course of the reaction.
4. One sometimes has to work with solutions containing as much as 90% of an organic solvent.
5. This method allows one to obtain information on separate components.
6. To solve this problem one needs new methods.
7. It is necessary to resort to a prior separation of the two elements if one has only cathodic waves to work with.
8. One would expect zinc oxide to have the largest volume.
9. Studying biological systems one tries to solve difficult classification tasks.
10. One cannot consider the use of higher voltages for transmission in small colliers to be necessary.
11. One should know that the weight of an oxygen atom is 16 times as that of a hydrogen atom.
12. The analysis presented here extends and improves the one presented by other authors.
13. In order to separate this factor from the other ones we observe spectral difference patterns.
14. This substance reacts 100 times as fast as the other one.

#### **New words:**

involved a – сложный

bear in mind – иметь в виду

mislead v – вводить в заблуждение

as to – относительно

resort to v – прибегнуть к

volume n – объем

colliery n – угольная шахта

### **XXIV. Оборот there + be.**

1. There are several ways of handling this difficulty.
2. There are a few papers dealing with this subject.
3. There is no new evidence available as to these reactions.
4. There has been a renewed interest in this compound in recent years.
5. As far as this theory is concerned there are different views.
6. There are unmistakable proofs of Pauling's having been wrong.
7. There can be little doubt that the sequence shown is correct.

8. There was a strong objection to carrying on this costly investigation.
9. There is a number of manufacturing processes for producing ceramic components.
10. There have been many attempts to prepare this compound.
11. If this sample is heated there will be a strong ferromagnetism.
12. There is much to be said in favour of using an inert atmosphere at all stages of work.
13. There remains the problem for the future of correlating the accurate measurements.
14. There is no hope of our getting positive results.
15. There took place an unexpected drop in the demand for this product.
16. However, there were no logical reasons for these events.
17. There is also no reason to think there is any such thing as dark matter.

### **New words:**

handle v – (зд.) преодолевать  
 evidence n – доказательство  
 compound n – смесь, соединение  
 concern v – касаться, иметь отношение  
 proof n – доказательство  
 sequence n – последовательность  
 objection n – возражение  
 attempt n – попытка  
 sample n – образец  
 in favour of – в пользу  
 correlate v – согласовывать  
 drop n – падение  
 demand for – спрос на  
 matter n – вещества, материя

### **XXV. Конструкция The more ..., the more.**

1. The more we study, the more we know.
2. The greater the potential difference, the larger is the quantity of electricity.
3. The faster an object moves, the greater is air resistance.
4. Since the barometer measures the pressure of the atmosphere, the greater the elevation, the lower the barometer reading.
5. The greater the conductivity of a substance, the less is its resistance.
6. The higher the temperature of a piece of charcoal, the faster it will burn.
7. The greater the e.m.f., the greater is the pressure on the electrons moving through the conductor.
8. The more surface of the material being burnt presents to the air, the more rapidly burning takes place.
9. The larger the diameter of the wire, the smaller is the resistance, the more current will flow through it.



10. The shorter the booster burn time, the harder it is to catch the missile in its boost phase.
11. But the more carbon, the lighter weight of the product will be.
12. The higher the energy of the bombarding electrons, the greater the number of secondary electrons to be emitted.
13. The heavier a floating body, the greater the weight of liquid it will displace.
14. Whatever the nature of metal, the slower the rate of cooling, the larger will be the size of the crystals.
15. The higher the purity of titanium, the easier it is to fabricate, but the lower is its strength.
16. The difficulty is that the larger the object, the more time it takes to grow.
17. The more is known about the system model, the better these parameters may be adjusted.
18. The more complicated a computer gets, the more likely it is that it will be good at some things and not as good at others.

**New words:**

charcoal n – древесный уголь

e.m.f. – electromotive force

emit v – излучать

booster n – стартовый двигатель, ракетный ускоритель

rate n – скорость

adjust v – регулировать

**XXVI. Сочетание rather than.**

1. It is very important to treat this phenomenon from a thermodynamical point of view rather than from a statistical one.
2. The prediction was based on molecular asymmetry rather than atomic one.
3. We obtained monomolecular rather than bimolecular compounds.
4. Elemental analysis favours structure I rather than II.
5. The diffusion is radical rather than linear.
6. In many tables the factor of safety rather than allowable stresses is given.
7. The most efficient way to use tapes is to transfer information to or from them in large blocks rather than by individual words.
8. Digital memory unit for analog computers uses a magnetic tape transport that moves the tape in small discrete steps rather than continuously.
9. In this presentation one should follow a logical rather than historical order.
10. Rather than accelerate the reaction this compound brought about the rapture of the chain.

**New words:**

point of view – точка зрения

compound n – смесь, соединение

favour v – (зд.) указывать

diffusion n – распространение, рассеивание

rapture n – разрыв

**XXVII. Некоторые предлоги, союзы, наречия, а также only/the only, in terms of, both and, whether, no + существительное.**

1. Due to inertia, tram keeps running after the brakes have been applied in order to stop it.
2. Energy machine loses useful energy because of friction.
3. Without friction we could neither walk nor stand up in spite of our efforts.
4. But for the brakes it would be impossible to stop a moving train in case of emergency.
5. According to Lomonosov's ideas, science should serve the people.
6. Both circulating water and air blasts may be used in order to carry off the heat developed because of friction.
7. For two thousand years it was believed that all heavy objects fell faster than light ones for Aristotle had stated it was so.
8. But for the opposition to the motion of a body, no force would be needed to change its position.
9. The engineers saw that all the devices but one were operating in the proper way.
10. The metric system is adopted by all the countries of the world but America.
11. One cannot but mention that the first work on electricity published in Russia was written by Lomonosov.
12. One of the spheres is four times as large as the other one.
13. Four times four is sixteen.
14. At times a spark appeared between the two ends of the wire.
15. The experiment in question was finished in good time.
16. In order to define a polymer completely its chemical composition is not enough.
17. Diamagnetism is due to the effect of the field on the moving electrons.
18. This simple result no longer holds true.
19. No zirconium was removed from the compound under these conditions.
20. These reactions are no longer used for the synthesis of glycine.
21. No reactions of these compounds with different substituents have been described.
22. Once the melting point had been raised hydrolysis became more pronounced.
23. They had been through with their experiments by the end of the year.
24. An object lying on the table does keep its position unless you move or push it.
25. In order to solve the problem in question you should apply Newton's Laws of Motion.

26. The equilibrium is neutral unless the forces have a tendency to increase or decrease the displacement.
27. It is the only means of solving the problem in question.
28. Inspection of these two substances shows that the latter is usually between  $10^7$  and  $10^{11}$  times as large as the former.
29. The reaction did not start until the next morning.
30. The values obtained have little relevance to the problem under investigation.
31. We obtained these values in terms of the following formula.
32. Both the former and the latter procedures gave little more than 5 per cent yield.
33. The temperature will either slightly rise or drop.
34. In order to determine whether a given compound is organic it is frequently sufficient merely to heat it.
35. This procedure is applicable whether or not the product is pure.
36. Furthermore, since simulation is a common way of testing behavioral processes, the graphic display is best suited for monitoring such processes.
37. Because of the curvature of the Earth, the vehicle is rotating in the north-south plane.
38. Since electronics involves the movement of charge, components are all viewed in terms of how they move signals back and forth across wires.
39. The only errors considered have been those due to the Earth rotation.
40. In addition to weak signals, the uncertainties of weather had to be faced.
41. Such generators are affected by wide temperature changes.
42. Since the devices are so compact, experiments with them are cheap.
43. No longer are robots a luxury on a space station.
44. No one knows the  $f(v, A, t)$  part of the equation.
45. He remembered to have once carried out this reaction.
46. No satisfactory formula for calculating the surface of a particle from its diameter has been devised.
47. The algorithm proposed is applicable to both single and multi-antenna receivers.
48. User interaction is conducted with either a mouse or a dial box.
49. Nothing but a double row of bearings can improve the machine.
50. Because of the closed loop just discussed, the controlled variable is obviously affected by the actions of the control system.
51. Experimental data were presented in some detail and discussed as thoroughly as possible.
52. Water evaporated more and more quickly as the temperature grew.

**New words:**

emergency n – авария

blast n – поток

substituent n – заместитель

melt v – плавить

pronounced a – ярко выраженный

relevance n – отношение

in terms of – исходя из, на основе...

yield n – результат  
behavioral a – поведенческий  
suited a – подходящий  
curvature n – кривизна  
view v –рассматривать  
luxury n – роскошь  
bearing n – подшипник

## **XXVIII. Повторение.**

- 1.Evidently, a fuel with a lower ignition temperature, all other conditions being equal, will ignite more quickly than one with higher ignition temperature.
- 2.There are many considerations to be taken into account in determining space velocity.
- 3.In order for any phenomenon to be shown visually as a function of time it is necessary that it be electrical in nature.
- 4.To obtain one ton of uranium it would be necessary to get at least 40 000 tons of uranium ore.
- 5.One cannot expect a complicated problem like that of using solar energy to be solved in a year or so.
- 6.It is this kind of investigation and presentation of results that can be invaluable in pointing the direction for further development of the whole industry.
- 7.Whatever the nature of metal, the slower the rate of cooling, the larger will be the size of the crystals after solidification.
- 8.The property of plastics being superior to that of wood, the designers are believed to be working at the problem of replacing the latter whenever possible.
- 9.This picture is useful but it can hardly be said to account completely for the remarkable properties of rubber.
- 10.The third case to be considered concerns a ring flexible in its own plane. The applied force is considered to be parallel to the X-axis.
- 11.Having overcome all the difficulties on the way of improving the performance of the engine, there is every reason to believe it to replace the old one.
- 12.Of the numerous methods of conducting similar experiments to be found in literature, the following are among those which have been proved to be most useful.
- 13.We have got Mr. Arthur and Walker's opinion on this question, the former being a scientific worker and the latter director of a large plant.
- 14.Had there been no earth gravitation, the satellite would have moved through airless space in a straight line at a uniform speed. It is the gravitation that makes them move round the Earth.
- 15.The author of the paper claims to have been the first to arrive at such a conclusion.
- 16.If no energy were lost during the transformation, the input and output would be equal and the machine would be perfect as it would change the form of the energy and lose none.

17. Such minerals are likely to occur in some other places as well, the probability of discovering them being however limited to certain areas.
18. Both filters employ ladder networks, with the former using two crystals and the latter three ones.
19. In radio communication systems the received signal strength can be affected by fading phenomena due to multipath propagation.
20. The objective is to determine if one scheme is better than the other one.
21. Average model parameters extracted from the experimental data set are provided for the different states and elevation angles considered.
22. The rates and molecular weights are affected by lowering the temperature, the former being decreased and the latter increased.
23. This model is especially appropriated for describing the urban radio multipath channel, when large area effects need to be accounted for.
24. We found new routes of synthesis, the older ones being unsatisfactory.
25. The results were favourable, especially that of Jones and those obtained with new compounds.
26. Theoretical models to predict radiowave propagation in both rectangular and arched tunnels are available.
27. One of the most common problems analysts face is the determination of a spacecraft's location above the Earth and whether it is in range of a ground- or satellite-based antenna.
28. Associated with these experiments are several constraints.
29. To keep the mass of the ship and cost within reason, propellant exhaust velocity would have to be close to 50 km/sec.
30. Without this lumpiness, there would be no Sun, no planets, and no one to wonder about it.
31. Storing the fuel is one difficulty, since any contact with matter would result in an explosion.
32. The antimatter would have to be supercooled to almost absolute zero to form antihydrogen ice, a supertask in itself.
33. By itself, the Big Bang was supposed to produce a black body spectrum, an object in perfect equilibrium, neither emitting nor absorbing energy from surroundings.
34. To measure the rest of the spectrum, instruments would have to be lifted up in rockets or satellites.
35. All they have to do is let the ground know they have found their target.
36. There happened to be some good reasons to believe it to be the case.
37. The searching algorithms we shall consider in detail are sequential and binary search. We search the data items one by one until we either find the item we are looking for or not.
38. It is due to the radio that we receive most information the satellites are collecting in space.
39. While agitating the mixture no temperature rise was observed to take place.
40. In fact, neither cooling nor any other method has yet been found to give an entirely amorphous product.

- 41.They appear to be the first to have suggested the currently accepted reaction mechanism.
- 42.The rates and molecular weights are affected by lowering the temperature, the former being decreased and the latter increased.
- 43.It has not been until very recently that the basic assumptions on this theory have been seriously called in question.
- 44.This step proved to be greatly influenced by the final pH of the solution.
- 45.If the value of the force a particle would experience at any point of a region of space is given, a force field is said to exist in that region.
- 46.The weight of all the molecules of a substance being the same, the molecules are considered to be composed of exactly the same number and the same kind of atoms.
- 47.Does it make any difference whether fluoride to prevent dental caries is added to the milk a family consumes, or to the fruit juice, rather than water?
- 48.It is the physical property of the substance that is known to attract the attention of the scientists.
- 49.We know heat to be a form of energy, but there was a time when it was supposed to be a kind of substance which was believed to flow from a hotter body to a colder one.
- 50.Since there are only 15-20 billion years available since the Big Bang, the theory predicts that there should be no objects in the universe beyond a certain size limit around 100 million light-years across.
- 51.If the American military were to gain the offensive advantage when fighting against enemies who were heavily protected with radar, new aircraft technology that would reduce radar signatures would need to be designed and built.
- 52.Temperature and solvent would expect to play a role in this reaction.
- 53.Some elements possess so few metallic qualities that it is uncertain whether they should be called metals or non-metals.
- 54.That means that composite components wouldn't have to be cooled with excess air as superalloys do.
- 55.We needed to understand several important issues and first of all if we should make the radio modems and antennas ourselves or whether we should buy them from a supplier who could meet our requirements.
- 56.By this experiment, the stability of hierarchical method in estimating the spectral differences is confirmed to be superior to that of the ordinary linear prediction method.

**New words:**

consideration n – соображение  
ore n – руда  
valuable a – ценный  
solidification n – затвердевание  
account for v – отвечать за  
rubber n – резина  
claim v – заявлять  
ladder network – цепная схема  
fade v – затухать

propagation n – распространение  
objective n – цель  
arch n – арка  
constraint n – ограничение  
propellant n – ракетное топливо  
exhaust velocity – скорость истечения  
lumpy a – состоящий из глыб  
matter n –материя, вещество  
Big Bang –Большой (космический) Взрыв  
item n –единица информации  
agitate v – перемешивать  
call in question –подвергать сомнению  
superior a –лучший