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SUGGESTOLOGY and SUGGESTOPEDIA -

- Theory and Practice

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SUGGESTOLOGY AND SUGGESTOPEDIA - THEORY AND PRACTICE

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I. Suggestology

One of mankind's perennial aspirations has been to release man's reserve capacities and to stimulate their development. According to the scanty literary sources, this was successfully achieved in Antiquity in a number of esoteric schools and was in conformity with their different aims.

In modern scientific psychotherapy, whose historical origins derive from esoteric practices, the tapping and stimulating of man's reserve capacities lies mainly within the sphere of treatment for neurotic and psychosomatic diseases. But in proceeding with the treatment, considerable additional and incidental reserve capacities may be released. This happens most often in a state of hypnosis. As an example of this we can take the hypnotic supernormal recollection of forgotten or only vaguely perceived events, the evoked hypnotic changes in the sympathetic nervous system, in metabolism, nutrition, blood composition, etc. On the ground of these phenomena some experimental laboratory research has proved that the state of hypnosis, under certain conditions, can improve not only the memory but also attention, creativity, and the self-control of a number of physiological and biochemical processes in man's organism.

But hypnotic experimentation is of limited significance. It cannot be used on a large scale for the purpose of developing man's personality. The personality's subordinated position in

hypnosis and its weakened volitional self-control, the problem of man's susceptibility to hypnosis, the legal restrictions on hypnosis, and a number of other factors make it contra-indicated, except in hospital or laboratory conditions.

The attempts of some psychologists to replace psychotherapeutical terms in the field of hypnosis with psychological ones, such as expectancy, motivation, attitude and set-up, and thus explain those cases where the tapping of the personality's reserve capacities is manifested in a state of hypnosis, have proved very useful indeed. Laboratory experiments have shown that these psychological terms cannot completely replace the complex psychotherapeutical concepts of "hypnosis" and "suggestion". The reserve capacities which are known in psychotherapy cannot be completely tapped via expectancy, motivation, attitude and set-up alone, without making use of emotional and double-plane stimulation. In this way only insignificant improvements can be achieved in the control of some functions.

The works of T.X.Barber et al.[1,2,3,4,5] are of particular interest . These authors take a cognitive-behavioural view of hypnosis. By giving task-motivating instructions they achieve results similar to those obtained in hypnosis. They do not admit, however, that by using the same means some sleeplike modifications in consciousness, similar to psychogenic derangements, may also arise.

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[1] Barber T.X., Hypnotic age regression: a critical review, Psychosom.Med., 1962, 24, 286-299.

[2] Barber T.X. & P.D.Parker, Hypnosis task-motivating instructions and learning performance, J.abnorm.Psychol., 1964, 69, 499-504.

[3] Barber T.X., The effects of "hypnosis" on learning and recall: a methodological critique, J.clin.Psychol. 1965-a, 21, 19-25.

[4] Barber T.X., Experimental analyses of "hypnotic" behavior: a review of recent empirical findings, J.abnorm.Psychol., 1965-b, 70, 132-154.

[5] Barber T.X., N.P.Spanos & J.F.Chaves, Hypnosis, Imagination and Human Potentialities, Pergamon Press Inc., 1974.

But already in J.Charcot's time hypnosis as a state used to be classified at the Salpêtrière under the psychogenic hysterical derangements of consciousness.

The question of man's reserve capacities and their accelerated harmonious development is of special importance. That is why we went through the literature of some ancient sources and also of some sources of historically later ages where such matters were discussed. We compared these data with data obtained in present-day experiments in the sphere of human reserves in order to see whether there were any common psycho-physiological mechanisms. Besides these researches, we organized a number of experiments in the Physiology Institute of the Bulgarian Academy of Sciences, in the Psychiatry Department of the Institute of Post-Graduate Specialization of Physicians, and in the Municipal Psychoneurology Dispensary of Sofia. In our case it was the part of the experiments which dealt with man's unconscious activities and his reserve capacities in hypnosis that was of importance. We had been carrying out these experiments for a period of fifteen years (before the Suggestology Research Institute was established in 1966). These experiments can be grouped as follows:

1. Graded changes in sympathetic reactivity in accordance with the "depth" of hypnosis suggested[6]. In these experiments an automatic rise and fall in blood pressure was observed, the degree of the rise and fall depending on the suggested "depth" of hypnosis. The same holds good for the pulse rate and other vegetative factors.

2. Graded changes in the latent period of motor reaction,

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[6] Лозанов Г., Въпроси на хипносугестията, Съвременна медицина, 1955, кн.9,стр.71.

associative time and the character of the answers - changes which are in accordance with the suggested 'deeper' or 'shallower' hypnosis[7]. The relations between the mean values of these physiological factors remain constant and are in accordance with the relations between the different grades of hypnotic 'depth'.

3. Searching for the optimal hypnotic 'depth' for the spontaneous appearance of a model of schizophrenia - syndrome of catatonia and stupor with stereotype behaviour (verbigeration, perseveration, echolalia, echopraxia) and mutism. The spontaneous appearance (as a result of the hypnotic 'depth') of schizophrenia-like syndrome proves that A.Bostroem's clinical observations and his belief that stereotypes run nonverbally are correct[8].

4. Hypnotic age regression and the possibility of a spontaneous, reliable and non-simulated manifestation of unconscious past functional levels of personality [9,10,11,12,13]. On the background of the hypnotic 'play', there arise moments of real regression to past functional levels in some activities. New anatomo-

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7 Лозанов Г., Въпроси на хипносугестията, Съвременна медицина, 1955, кн.9, стр.71.

8 Bostroem A., Handbuch der Geisteskrankheiten, Bd.II, Allgemeine Teil II, 1936.

9 Лозанов Г., Диссоциированные движения глазных яблок во физиологическом и гипнотическом сне и теории сна, Журнал невропатологии и психиатрии им. С.С.Корсакова, 1959,9,стр.1095.

10 Лозанов Г., О физиологических механизмах феномена Белла, Доклады БАН, 1963,16,7, стр.781.

11 Лозанов Г., О существовании в подкорие ассоциативных супрануклеарных центров движения глазных яблок. Доклады БАН, 1964,17,2, стр.201.

12 Lozanov G., Deviations from Herring's law of the movements of the eyeballs, Bulletin of the Physiology Institute, Bulgarian Academy of Sciences, 1966,vol.X,p.47.

13 Lozanov G., Zur Frage der experimentallen hypnotischen Regression, In:"Hypnose - aktuelle Probleme in Theorie, Experiment und Klinik", VEB Gustav Fischer Verlag,Jena,1971, s.133-142.

physiological forms of activities are manifested. (Occasional unassociated eyeball movements with regression to the age of a new-born baby; handwriting and drawings very much resembling, when compared later, the handwriting in old letters written in childhood and old drawings).

5. A greater degree of recollection under hypnosis[6].

6. Biochemical changes in blood and urine[6].

7. A lasting hypnotherapeutical effect in cases of psychosomatic diseases.

8. Minor surgical operations performed painlessly and with no bleeding while the patient is in a state of hypnosis.

Some of these experiments corroborated the existing literary data on the possibility of influencing man's psychological and physiological functions when he is in a state of hypnosis. In some of the other experiments a number of objective laws were demonstrated and afterwards these laws were taken into consideration in the development of our concept of the tapping of human reserve capacities without resorting to hypnosis. For instance, the experiments in which we were able to observe graded changes both in the vegetative reactivity and the latent period of motor reaction, the associative time, and the nature of the answers suggested to us that the nervous system has a tendency towards optimal algorithmization in the communicative process and a corresponding adaptational reprogramming at every level. These experiments and those of the spontaneously appearing model of schizophrenia (syndrome of catatonia and stupor) and at times the surprisingly precise ecmnesia in hypnotic age regression showed that: (a) 'nothing is lost' of past life experience; (b) not only conscious but also unconscious perceptions are preserved; (c) the reproduction of past activities is realized by emotionally associating the entire complex of stereo-

types of the past levels with the self-consciousness of the actual time and place. This global past level 'drawn up' to the actual time, carries with it an enormous amount of information about its separate constituents. Attention can be subsequently focused on them; unsuspected 'reminiscences' and manifold variants of model of future normal and pathological reactions and developments are stored in the unconscious forms of mental activity.

The prospects opened up by the hypnotic experiments are, however, of significance only for laboratory work. In mass practice, as we have already said, hypnosis is inapplicable. Thus we have to look for ways of tapping and developing man's reserve capacities with the aid of suggestion in a normal waking state, without hypnosis. Data found in some literary sources show that it is possible to obtain hypnotic phenomena without going through the phase of suggested sleep. Hypnosis, as a sleeplike psychogenic veiling of consciousness, is an unstable state. But suggestion is a communicative factor which, to some extent, controls this state and its somewhat peculiar manifestations. From this standpoint we researched the possibilities of suggestion in a normal waking state, both in psychotherapeutical treatment and laboratory experimentation. We researched:

1. The possibilities of provoking and curing allergic reactions of the antigen-antibody type with the respective changes of the histaminase activity, cholinesterase activity and neurovegetative reactivity[14] by suggestion in a waking state.

2. A suggestively obtained difference in the size of the two

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[14] Lozanov G.,M.Markov und P.Kirchev, Über einen durch Suggestion in wachem Zustand hervorgerufenen und geheilten Urtikariaanfall, Allergie und Asthma, Leipzig, 1962, Band 8, Heft 1, s. 40.

pupils of the eyes[15].

3. Suggestive, non-hypnotic hypermnesia[16,17,18].

4. Suggestive, non-hypnotic anaesthesia and abdominal surgical operation carried out with suggestive anaesthesia and accomplished with the additional effect of less bleeding and of a shortened convalescent period[18,19].

5. Putting all psychotherapeutical methods, with concealed elements of 'placebo' effects in them, on a common suggestive basis and heightening the psychotherapeutical effects by using "integral psychotherapy"[18,20,21].

6. Common suggestive basis of the hypermnestic results of hypnopedy[16,18].

7. Suggestive intellectual activation and hypercreativity[18].

8. "The symptom of the scales" - the autosuggestive linking of two psychosomatic illnesses in a mutual-balance system - one requiring a special psychotherapeutic approach[15].

9. Suggestive control of neurovegetative, trophic, endocrine, inflammatory and other syndromes, not only in cases of psychosomatic diseases but also in those of organic ones[15].

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15 Лозанов Г., Внушението, в кн."Ръководство по психотерапия",п/р Е.Шаранков,Г.Лозанов,И.Петров и А.Атанасов, София,1968, стр.47.

16 Лозанов Г., Сугестопедията - път към хипермнезия в учебния процес, Народна просвета, София, 1968,6, стр.23.

17 Lozanov G., Suggestopedia and Memory, Acta Med.Psychosomatica, Roma,1967,p.535.

18 Лозанов Г., Сугестология, Наука и Изкуство, София, 1971.

19 Lozanov G., Anaesthetization through suggestion in a state of wakefulness, Acta Med.Psychosomatica, Roma,1967,p.339.

20 Lozanov G., Integral Psychotherapy, Acta Med.Psychosomatica, Roma,1967, p.529.

21 Lozanov G., A Common Curative Mechanism of Suggestion Underlying All Psychotherapeutical Methods, International Congress of Group Psychotherapy, Vienna, 1968, p.221.

This research under the conditions of suggestion without inducing a state of hypnosis has shown, as has the research of other authors, that most 'hypnotic phenomena' can be brought about without hypnosis. It was especially important for us to establish the fact that, under the conditions of the scientific organization of the suggestive and antisuggestive factors, control and self-control of a number of psychological and somatic functions can be achieved.

Our researching in the field of non-hypnotic suggestion confirmed us more and more in our opinion that suggestion can be used successfully not only in medical practice but also in teaching. It can have its place in all spheres of activity where the highly developed human personality is a decisive factor. For example a wide and still unexplored field is the organization of production processes and labour relations in compliance with the requirements of industrial suggestology. In many places sportsmen are already being trained on a suggestological basis. And the results are undoubtedly good. But we ourselves have directed our efforts mainly to the field of psychotherapy and pedagogy. We had, however, first to try to formulate the concepts, the objective laws, aims of and prospects for this new scientific trend which we called 'Suggestology'. A detailed description of the experimental material and our theoretical reasons for founding this science are to be found in the monography 'Suggestology'. Here we shall go only briefly into its basic concepts, terms and aims.

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Suggestology is the science of tapping man's reserve capacities in the sphere of both mind and body. Consequently it is the science of the accelerated harmonious development of man and his manifold talents.

Suggestion

As the science of suggestion, Suggestology is in an unfavourable position. To begin with, the attempt to found a science on a phenomenon which, for more than a century, has been the subject of keen and controversial discussion, has attracted the attention of both scientists and laymen who hold preconceived ideas about suggestion. Besides that, our standpoint that suggestion is a universal communicative factor which plays its part in every moment of our life, though not always in an organized manner, indicates its significance. That is why it is extremely important that any experimental work on the subject should be based on theoretical clarity and the exact meanings of the terms with which it is operated should be precisely defined. There are many definitions of the term 'suggestion' ('hypnosis', 'light hypnosis', 'inhibition of personality', 'the conditioning and manipulation of personality', 'influence', 'the means of inducing hypnosis', etc.). The word suggestion derives from the Latin word suggero, suggessi, suggestum - to place or bring, to prompt, to hint. This word has acquired a more or less negative meaning in many languages. But in English a shade of meaning has been given to the word which is close to our understanding of it: to offer, to propose. Thus, according to our understanding of the word, suggestion is a communicative factor which is expressed in 'proposing' that the personality should make its choice, and should choose, in accordance with its structure and disposition, from among a wide range of possibilities, of stimuli. These stimuli come from outside or arise in the personality itself not only within the limited sphere of consciousness but also in the various and numerous levels of paraconsciousness. In fact the utilization of the conscious-paraconscious stimuli, well organized and harmonized with the personality, is suggestion in its

most manifest and positive form. Such utilization can reveal the personality's universal reserve capacities and stimulate its creativity. A visual representation of suggestion is art. For is art not the greatest form of suggestion?

Reserve Capacities

Suggestion in its most positive manifestation and when well organized can reveal the personality's reserve capacities. By reserve capacities we understand the unmanifested capacities dwelling mainly in the paraconsciousness and surpassing the normal ones several times over. The laws governing these capacities are, to a certain extent, different from the ordinary psychophysiological laws.

Among the many examples of suggestively tapped reserve capacities we can mention the following: (a) Hypermnesia - supermemory (in long-term memory). This supermemory surpasses the possibilities of ordinary memory several times over. It can be observed sometimes after traumas or when people are in some other states. Sometimes it occurs in psychotherapy - in hypnosis and when applying the methods of catharsis. Hypermnesia underlies the methods of catharsis as one of their curative mechanisms. Mass hypermnesia can be brought about under the conditions of suggestopedic instruction with both healthy and sick people when the educational-curative process is carried out properly. Hypermnesia as an important reserve capacity is characterized by the following specific psychophysiological laws: (i) it is manifested by one of the following two mechanisms - either after a latent period and without any conscious effort, or suddenly and spontaneously; (ii) increasing recollection without reinforcement (reminiscent curve); (iii) amnestic covering and sinking of the basic sense bearing nucleus of the complex stimulus into paraconsciousness until it is

'raised' out of paraconsciousness into consciousness; (iv) making the first recollection easy under the conditions of emotional impetus, of the associative connections of the peripheral perceptions and of concentrative psychorelaxation; (v) great durability of the reproduced memory traces; (vi) decreased susceptibility to tiredness and (vii) a considerable psychotherapeutic, psychohygienic and psychoprophylactic effect. (b) Provoked hypercreativity - suggested or autosuggested creative superproductivity. Intuition is activated and states similar to inspiration arise. These are outwardly expressed in a decidedly greater creative manifestation of personality. A number of experiments have shown that the manifestation of artistic, musical and even mathematical abilities (in accordance with any given person's manifested and potential abilities) increases considerably both quantitatively and qualitatively. Suggestological experiments have shown the possibility of accelerated creative selfdevelopment. Here again we find the same psychophysiological laws as are characteristic of hypermnesia (some absolutely the same and others with certain modifications according to the nature of the reserve phenomena). (c) Suggestive control and selfcontrol of pain, bleeding, the functions of the sympathetic nervous system, nutrition, metabolism, etc.

The tapping of man's reserve capacities can be achieved only under the conditions of excellent suggestive organization and harmonization of the conscious-paraconscious functions. Though inseparably connected with consciousness, yet the basic 'store' of the reserve capacities is paraconsciousness.

Paraconsciousness

By paraconsciousness we understand more or less unconscious mental activity. Here we include everything that, for the given moment, is outside the scope of consciousness. Not all levels of

paraconsciousness have yet found the place they desrve in suggestological experimental work. But by uniting them in one system we ensure that they will be researched in future. We must bear in mind that the psychophysiological laws governing the different levels of paraconsciousness have much in common. Paraconsciousness comprises peripheral perceptions, emotional stimuli, different variants of the unconscious, acquired dispositions (viz. Uznadze's setup, inertia and secondary automated processes, the unconscious components of motivation, attitude, expectancy and needs) and also the innate and genetically conditioned unconscious dispositions. Here we include the genetically conditioned instinctive tendencies which S.Freud reduces to dominating aggressiveness, and I.P.Pavlov explains as the instinctive basis of the conditioned reflexes. No matter which explanation we adhere to, we must take into consideration the significance of the instincts as an archaic heritage derived from philogenesis and ontogenesis, a heritage which unconsciously influences the suggestive dispositions in all directions. The term paraconsciousness comprises also all non-verbal automated activities in their mental reflexion. It also comprises the unconscious automated elements within the limits of conscious mental activity. When we operate with various concepts, when we read or solve problems and are, on the whole, consciously concentrating our attention to some activity, we are not aware of the many unconscious, for the moment, elementary components which constitute these activities. For example, the ideas which build up notions; the letters and even the words of sentences which we happen to be reading; the unconscious judgments and premises hidden in the shortened formulas of thinking, the codes and symbols. The concept of paraconsciousness comprises also the world of exteroceptive and interoceptive subliminal stimuli, the second plane of the communi-

cative process - and also the numerous unconscious forms of associating, coding and symbolizing which have an informational, algorythmical and re-programming effect on personality. Paraconsciousness embraces the unconscious sides of creativity as well as intuition and inspiration.

All these sides of paraconsciousness penetrate each other and take part in the desuggestive-suggestive process.

Antisuggestive Barriers

The more complete is the harmonization achieved, the more significant are the results of the desuggestive-suggestive process. There is no suggestion without desuggestion, without freeing paraconsciousness from the inertia of something old. The means of suggestion are usually mechanically referred only to subliminal stimuli or only to emotional involvement. One often loses sight of the fact that the whole personality takes part in every reaction. Then this means that no effect can be expected if the subliminal perceptions, the peripheral perceptions and the emotional stimuli are not in accord with the manifold and often conflicting dispositions of the personality - both inborn and acquired. It is difficult to realize a suggestive situation if it is not in accord at the moment with the particular needs of the instincts and with the motivation, attitude, setup, expectancy (with the placebo effect), interests, and in general, all the factors of the personality which take an unconscious part in building up the antisuggestive barriers.

As a manifestation of conscious-paraconscious unity, the antisuggestive barriers are a peculiar characteristic of personality. They are, in fact, overcome through harmonization with them. The three antisuggestive barriers: critical-logical, intuitive-affective and ethical, are inseparably connected and are subject

to continual dynamic changes.

Social Suggestive Norm

Overcoming the antisuggestive barriers means also overcoming the social suggestive norm of one or another of the limitations set to what we can do. Caught in the net of the numerous social suggestive norms in most cases, we do not even attempt to do anything that is at variance with them. We do not believe that it is possible to increase our memorization in volume and soundness, to accelerate our creative development, to have more self-control both over our mental and our physiological functions. The social suggestive norm teaches us that it is impossible, and contains a note of warning not to attempt it. And if it really happens somewhere it is considered to be a miracle, an exception or a falsification - things which are dearly paid for. That is why suggestology in its development as a science for liberating personality's reserve capacities (and hence for displacing the social suggestive norm and for freeing larger virgin fields of personality), naturally encounters great opposition.

The Means of Suggestion

The means by which suggestion overcomes the antisuggestive barriers and taps the personality's reserve capacities are complex. It is very difficult to separate them and show them mechanically, all the more so because their realization is a question of both the personality's abilities and its qualification. If we do, however, try to separate them in order to study them they should be put into two basic groups: (1) The means which are, in fact, controlled states of personality and which can be provoked from outside, suggestively or which arise by themselves, autosuggestively, and (2) the means which are factors exercising their influence from outside, suggestively, but which the personality, being an

integral system, has to accept and to juxtapose them and its anti-suggestive barriers.

Infantilization and pseudopassivity belong to the first group. Authority (prestige), doubleplaneness and the factors of doubleplaneness - intonation and rythm - which have more or less an independent significance, belong to the second group.

Infantilization is a controlled state of intuitive activity, emotional plasticity, increased perceptiveness and confidence in the possibility of freeing one or another of the reserve capacities in a given situation. Infantilization arises when a highly harmonized contact is established with a person possessing authority (prestige) but it can come about unaided.

Pseudopassivity (concert pseudopassiveness) is a controlled state, resembling the state in which we find ourselves when listening to classical music. The illustration makes it clear that in fact that is a state of concentrative psychorelaxation. We are speaking neither of the hypnoidal relaxation, nor of the muscle relaxation that is an end in itself, but of a calm mental state free of needless thoughts and movements. On the background of this calm mental state a pleasant, not-tiring concentration is realized - similar to our concentration at a concert.

The part played by authority in creating confidence and emotional stimulus and the part played by harmonious intonation and rhythm do not call for any explanation. They all have their places in the doubleplaneness. This is the harmonization of the first communicative plane with the second, of which the interlocutor is not immediately aware, but which is decisive as a more or less unconscious feedback channel for controlling the reliability of the information. We listen not only to the words, we are also influenced by minute changes in the expression of the face, in the

intonation, in the circumstances at the time of speaking and other indirect factors.

Peripheral Perceptions and Emotional Stimulus (Doubleplaneness and Psychological Orchestration)

All the above-mentioned means are complex by themselves. But they become even more so because of the fact that they usually operate in an indivisible relationship. Their complete utilization is a matter of qualification. However, in practice we do not seek at first for the highest possible effects and allowance can be made for a somewhat lower level in the initial qualification. The most important thing is not to oppose the different means to each other. If we try to simplify our understanding of the means of suggestion, we can reduce them, though somewhat schematically, to two basic physiological mechanisms: peripheral perceptions and emotional stimulus.

The peripheral perceptions are caused by stimuli that are normal in strenght - supraliminal stimuli which, at the moment of perceiving have got into the periphery of attention and consciousness. They do not fall in the focus of consciousness because of its limited volume. The receptive fields of the sense organs and the brain are, however, much wider than the scope of conscious perceptions. Consequently the peripheral perceptions fall into the sphere of paraconsciousness. They are characterized by considerable dynamism. At any moment they can enter again the realm of conscious perception. The peripheral perceptions are realized not only outside the receptive field focused by the consciousness, but also in the field itself. These are the unfocused automated details of the enlarged perception entities since, under ordinary conditions, the stimuli are mostly complex. The peripheral information of unconscious stimuli outside and inside the focused field

may be not only relevant but also irrelevant to the content of the consciousness at the moment. Having reached the brain, this information emerges in the consciousness with some delay or it influences the motives and decisions and is operative in tapping the reserve capacities. This peripheral information included in the paraconsciousness underlies long-term memory. This can be seen from a number of our experimental researches. The suggestive rôle of the peripheral perceptions becomes clear if we analyze the above-mentioned means of suggestion from the point of view of their mechanisms. The physiological mechanism of the peripheral perceptions is most often the leading one, particularly in double-planeness and also in all other cases.

We gain a more profound understanding of the physiological mechanism of the suggestive means if we combine the psychophysiology of peripheral perceptions with the psychophysiology of the emotional stimulus. The peripheral perceptions suggest, 'propose', and control unconsciously but reliably, while the emotional stimulus impregnates all the activities of the personality as a whole. The emotional stimulus also remains, to a great extent, outside the conscious modes of mental activity. Prestige, synchronization of the second plane, intonation and rhythm, infantilization and concentrative psychorelaxation are all accompanied by emotion. As an all-pervading stimulant and a constant psychological orchestration, abounding in paraconscious, peripheral, doubleplane 'accords' and 'overtones', emotion is an important factor in overcoming the antisuggestive barriers and in giving rise to joy because of the freed reserve capacities of personality.

Complex desuggestive-suggestive situations can be controlled and selfcontrolled through the unity of the two basic psychophysiological mechanisms: the peripheral perceptions and the emotio-

nal stimulus. This does not simplify the inexhaustible complexity of the desuggestive-suggestive process, but a more understandable basic mechanism is sought through which to exert an effect on other mechanisms as well.

The Fundamental Principles of Suggestology

Suggestology has developed as an attempt to translate the ancient and perennial searching to tap human reserve capacities into a modern reality. It combines desuggestive-suggestive communicative psychotherapy with the liberating and stimulating aspects of art and some modifications of the old schools of concentrative psychorelaxation. The experimental research and the new theoretical meaning given to the phenomena researched have led to definite psychophysiological conceptions. In close connection with this research the following three inseparable psychophysiological fundamental principles of suggestology have been formulated: (1) Interpersonal communication and mental activity are always conscious and paraconscious at the same time; (2) Every stimulus is associated, coded, symbolized and generalized; (3) Every perception is complex.

An analysis of these three fundamental principles of suggestology will provide us with ways of carrying out experimental and practical work on the problem of tapping human reserve capacities.

We dealt with the first principle in discussing the problem of paraconsciousness, its unity with consciousness and the rôle it plays in harmonizing the entire personality for the purpose of stimulating its harmonious and creative development.

The second fundamental principle shows that, with the continually increasing abstraction, a number of the original levels of perceptions, the original ideas and notional generalizations of a lower level, are being constantly pushed into paraconsciousness

in order to make room for the following higher codes and symbols. This is, for instance, how authority originates. This psychophysiological process of creating a 'hierarchy' can be observed both in the philogenesis and in the ontogenesis. The structure itself of our brain corroborates this. The archaic parts of the brain are gradually being covered with cortical layers which are being incessantly perfected. Besides this, the new functional and structural areas filtrate and modify the pressure of the old ones. But at the same time they are more liable to get hurt and become inhibited in shock situations. Then more often than not the archaic forms of information processing, algorythmization and re-programming push their way through. Thus they show quite clearly that they have not ceased to exist and exert their influence on the new functional formations. Because of their inseparable connection with all the rest of the superstructural forms of processing information they may sometimes exercise a reverse effect and change the established new modes of coding radically. If we proceed from this standpoint, it is easy to understand why the emotional stimulus, as one of the most archaic forms of communication and processing of information can, in spite of what at first sight seems to be seemingly diffuse reactivity, change quite concrete and concentrated creative activities.

The third fundamental principle indicates that under ordinary conditions every stimulus is complex. Consequently there is a natural possibility for peripheral perceptions to be incessantly realized along with the centrally focused perceptions. This possibility arises since the consciousness, because of its limited volume, is not able to take in a complex stimulus with all its component parts all at once. It is still more difficult to take in the always-present normal complex of complex stimuli. Hence the

great biological significance of the peripheral perceptions.

The three fundamental principles of suggestology, no matter how schematically given, are indicative of the possibilities of the two basic psychophysiological mechanisms: the peripheral perceptions and the emotional stimulus. They do not, however, exhaust the diversity of the complex desuggestive-suggestive relationship of personality. It is only now that the intricacy begins: to choose precisely which reserve capacities are to be released - from control over the vegetative functions to hypercreativity and inspiration.

Suggestological Selfdevelopment of Personality

Organized by means of suggestology, the increasing control over the reserve capacities of personality is guided in the beginning by specialists, but gradually the person himself begins to control this process. This selfdevelopment of personality is guided and conditioned by a number of factors. To begin with, owing to the results of suggestological experimental work and also by merely directing attention to the paraconscious forms of communication and the different forms of influence coming from outside, the personality begins consciously to choose the influence to which it is going to subject itself. When we know, for instance, how a given piece of music influences a given person in a given situation, we can choose those concerts which appear suitable for the person and the setup at the moment. The musical therapy will not only be for sick people but also for healthy ones. This holds good for other forms of influence as well - pictures, colours cinema, television, etc. As we try to avoid the effects of unfavourable weather and choose favourable ones, so we should avoid unfavourable mental effects and choose favourable ones. Those are, of course, questions for the future but this is the path along

which we are guided by suggestology.

The ever-increasing use of suggestological forms of education and treatment, accompanied by abundant information about the nature of these suggestological forms will contribute to selfdevelopment and people will learn how to control the different states of mind and body into which they come. They will achieve concentrative psychorelaxation and infantilization very easily. They themselves will take care to organize everything around them according to the requirements of doubleplaneness. They will be turning their lives into a realized form of organization, following the laws of beauty. From the suggestological point of view the improvement of environment and ever-increasing self-control will accelerate the harmonious development of personality. All this on a mass scale sounds like Utopia, but to a certain degree and for some small circles it is even now achievable. As a matter of fact, in the centres where suggestopedic education-and-treatment is being carried out and where the work is well organized and guided with competence, they already achieve at least the minimal results, no matter whether they realize it or not.

II. Suggestopedy

On the basis of this general theory of suggestion which we have outlined we have worked out an educational and curative desuggestive-suggestive pedagogical system - suggestopedagogy, or the so-called suggestopedy (suggestopedia).

All the methods so far developed are in conformity with the norms so far accepted by society that man's capacities are limited. The socially and historically built up norm concerning, above all, the level of man's memory and the speed of automation and the idea of the 'throes' of creative work have brought into being a suggestive setup, which, in fact, slows down the development of man's men-

tal powers. That is why one of the most important aims of suggestology is to liberate, to desuggest all students from the social suggestive norm.

This is achieved by thorough organization of the suggestopedic liberating-stimulating educational system and by concrete methods for freeing and making use of man's locked up resources. Suggestopedy stimulates not only memory but the whole personality - interests, perceptions, intellectual activity, motivation, creativity and moral development.

The humane principle is strongly emphasized in suggestopedy. This principle is vitalized by the student's considerably increased capacities for memorization and automation of the material being studied and the greater creative plasticity in his use of this material in practice. This in itself stimulates and inspires the student and is reflected in the motivation, expectancy, attitude and setup. The organization of the educational process has done very much to humanize it. This humanization is in conformity with the psychotherapeutical requirements of suggestology in unburdening, liberating from discreet micropsychotraumata, in desuggesting the accumulated inadequate ideas about man's limited capacities and in all-round positive stimulating of personality.

Anti-psychotherapeutic, Anti-psychohygienic and Anti-physiological Approach in Pedagogy

The need for considerable acceleration and improvement in teaching and education without additional burdening of the student's nervous system and without harmful effects is more than evident today.

We know, from official data, that overfatigue, neurotic diseases and manifested or unmanifested didactogeny (illnesses or suppression of children's development caused by the teacher's

untactful approach) are becoming wide-spread today.

Instead of creating conditions for the joyous satisfaction of personality's basic need - the thirst for information, and instead of bearing in mind the way the brain functions, teachers often seem to want to 'teach the brain how to function'.

The following are some of the things in ordinary education which are inconsistent with the physiological and psychological functions of personality:

1. It is well known that in no case does the brain function only with its cortex structures, or only with the subcortex, or with only the right or the left hemisphere. The functional unity of the brain is unbreakable no matter that in some cases one activity or another comes to the fore. This means that in pedagogical practice we must reckon with this global activity. Therefore the emotional and motivational complex, the image thinking and logical abstraction must be activated simultaneously, in its complexity, in indivisible unity. But most often there are the following two kinds of deviation from this natural fact:

(a) the teaching is addressed only to the cortical structures and the left hemisphere of the pupil, who is perceived as an emotionless and motivationless cybernetic machine;

(b) at best the pupil is taken as a psychophysiological entity, but the educational process is not directed globally - to all parts of the brain <u>simultaneously</u> - but in steps: subcortical-reticular (emotional) stage, concrete-image (visual) stage, abstract-logical ('cybernetic') stage.

2. It is well known that the analytical-synthetical activity under normal conditions is accomplished simultaneously - there is not such a thing as a stage of pure analysis, or a stage of pure synthesis. This simultaneous and indivisible connectedness of the

physiological processes has its own psychological expression. It also underlies cognition - from the general to the particular (but as an element of the general!) and back to the general. But these natural laws often undergo 'correction' in pedagogical practice in one of the following ways:

(a) elements are studied separately, in isolation from the sense-bearing whole; they are automated through tiring exercises and only then are they connected one after the other and systematically to form the whole;

(b) the whole is studied without paying attention to its component parts and to the mistakes arising in this way.

In both cases attempts are made to break up the natural simultaneity of the processes of analysis and synthesis.

3. Man's personality takes part in every communicative process simultaneously at numerous conscious and unconscious levels. This nature-granted fact is 'utilized' in pedagogical practice most often in the following two ways:

(a) the principle of conscious participation in the educational process is formalized and turned into a fetish. According to it, the pupils must learn and automate each element of the material in a strictly conscious and rational manner, in spite of the fact that it can be learnt to a certain degree spontaneously and unconsciously at the first perception of the globally given lesson;

(b) weight is laid only on the unconscious and intuitive powers of the pupil and the necessity for a conscious finalizing and creative reassessment of the material is overlooked.

Psychophysiological laws: (1) the global participation of the brain, (2) the simultaneous processes of analysis and synthesis and (3) the simultaneous and indivisible participation of the conscious and paraconscious processes are included in the three fun-

damental principles of suggestology. If we do not abide by these unchangeable psychological laws and by the fundamental principles of suggestology, the educational process becomes an inhibiting factor and one causing illness. Any educational process of that kind precludes any tapping of the reserve capacities. What is more, some sociopsychological factors are added to the psychophysiological ones and this increases the difficulties. For example:

1. The mass setup of fear of learning. Many nations have some kind of a proverb that means 'learning is real torture'. Making the process of teaching and learning more intensive often intensifies this fear and also the inner counteraction, both in pupils and teachers.

2. The social suggestive norm of the personality's limited capacities. According to this norm, man can assimilate new material only to a definite level, confirmed by didactics, by textbooks, by authorities in the field of education.

The combination of the fear setup and the social suggestive norm of man's limited capacities under the conditions of a non-medical pedagogical approach results in mass 'covert didactogeny'. Pupils usually suffer to a greater or less degree from 'school neurosis'. They have no confidence in their powers , they do not trust their own inner reserves. For them education has been turned from the natural process of satisfying the personality's essential need - the thirst for knowledge - into a psychotrauma.

It is only too natural that with this setup the non-medical attempts to intensify the educational process may lead to reinforcing inner mental conflicts, to the fixation of neurotic states, and instead of the results of the educational process getting better they get worse.

The setup of fear of learning and the social suggestive norm

of man's limited capacities make the erroneous (from the medical point of view) approaches and methods worse. The following are some examples of how far some of these erroneous approaches and methods can go:

1. The material to be studied is broken up into smaller and smaller elements. These elements must be grasped, memorized and automated. Then they are gradually united into bigger entities. In this way there are formed some useless primitive habits on the lowest level, which have to be given up afterwards in order to build up habits on a higher level. The latter have also to be got rid of. And thus it goes on till at last we acquire habits and skills on the necessary highest operating and creative level. This building up and fixing of elementary habits which have to be given up afterwards in order to acquire fresh higher-level habits is due to the setup of fear of our limited capacities. But creating a 'hierarchy of habits' worsen this setup and lowers motivation. The hierarchy of habits in mass non-medical pedagogy is dangerous for the health. Physiological experiments have shown that one of the main causes of neuroses is the building up and fixation of stereotypes (habits) which subsequently have to be destroyed. This holds good especially for the more inert type of nervous system.

2. Another approach which aims at increasing the quantity and quality of information assimilated per time unit is that of repeated recapitulation of the material to be learnt. There is even a saying: 'Repetition is the mother of knowledge'. Of course, an optimal, creative and varied kind of recapitulation has always had its place in the process of learning. But repetition that is monotonous most often leads to boredome and to a more deeply implanted negative study setup. Mechanical repetition suggests inaptitude of the personality. It seems to signify the necessity of re-

inforcing the brain processes. Consequently dry recapitulation results in demotivation and in delaying the effect of the instruction instead of accelerating it.

3. Very often teachers, aware of the harmful effect which the negative setup of students in regard to instruction and learning brings with it, deliberately introduce intervals for relaxation and joking. But by introducing these intervals they in fact suggest that the pupil needs some relaxation and distraction. They suggest to him that his inner setup of fear of learning and his fatigue and displeasure with it are fully justified. Gaiety that is an end in itself when introduced in lessons, and gay intervals, no matter how refreshing they may be, bring a risk of still more deeply inculcating the conviction that their basic negative setup in regard to instruction is fully justified.

4. Attempts to accelerate the process of instruction are being made through mechanizing and programming it. The pupil communicates with the machines and obtains a feedback through the programmed materials. But then the pupil is isolated from the social environment and the wealth of emotion provided by the group. Irrespective of the favourable aspects of mechanizing and programming instruction, the feedback information, which the pupil obtains about the degree to which he has assimilated the assigned material, through its lack of warmth not only does not stimulate him but even reinforces his negative setup.

This cursory analysis of some of the methods, aimed at bettering the efficiency of the process of teaching and learning, shows that in pedagogical practice, in fact, pressure is exerted on the pupil's personality on the second plane. He reacts against this pressure. The motivation for learning is considerably lowered. Pupils begin to learn only when they are pressed by the necessity

to obtain some kind of qualification for the sake of the practical requirements of their plans in life. Thus the satisfaction of their basic need - the thirst for information - is accompanied with displeasure, instead of pleasure.

Becoming aware of these negative sides of the process of instruction, a number of pedagogues went to the other extreme - advocating full freedom for the pupil. The pupil should be free to choose what and how he is going to learn. However, this reaction, in its essence justifiable, leads in practice to the absence of any sound form of education. Why should the pupil be given freedom in the process of instruction and not be freed from his inner fear of his own limited powers of assimilating new information. Freedom accompanied with fear of learning is equal to giving up learning.

The Psychotherapeutic, Psychohygienic, Physiological and Socio-psychological Aspects of Suggestopedy

The most important thing in our opinion is to do away with mass didactogeny and to bring the process of instruction into line with the laws governing the functioning of the brain. If an educational system succeeds in liberating the pupil from fear and from the social suggestive norm of his limited powers, and is brought into line with psychophysiology, it will easily achieve its other pedagogical aims. But the difficulty arises not so much from considering how to bring about the initial liberation but how to create a system of sustained, continuous inner liberation. The pupil should not only be liberated from his negative setup but should be able to convince himself during the entire period of his study that such a setup of fear is unjustifiable. The pupil's confidence in his own capacities for learning should grow constantly and in this way instruction gradually develops into self-instruction. It will gradually go beyond the limitations of the so-

cial suggestive norm and penetrate into the infinite world of human reserve capacities.

It is this trend towards inner liberation and self-discipline that the Suggestopedic Educational System develops. The Suggestopedic Educational System creates conditions for developing skills and habits of inner concentration on the background of optimal psychorelaxation. It utilizes man's global capacities. The emotional stimulus is enhanced; motivation, interests and setups are taken into consideration and activated; the purposeful participation is organized of as many conscious and unconscious functions of the personality as possible. For example, in regard to attention as an integral element of the pupil's activity, we do the following: The process of instruction is organized in such a way that not only the close active attention of the pupils is made use of, but also their incidental passive attention, and particularly the peripheral perceptions, which take an unconscious part both in active and passive attention.

Suggestopedy looks for ways to overcome the social suggestive norm. It taps reserves also through organizing the paraconscious elements in the conscious-paraconscious complex. In this respect it leans on the Suggestological theory of the paraconscious basis of long-term memory and automations and also on the part played by paraconsciousness in motivating intellectual activation, creativity and global stimulation of personality. In this way it tries to respond better to the globality characteristic of the natural psychophysiological laws.

Suggestopedic Reserve Complex

All the factors mentioned above make it possible for the suggestopedic educational system to release a reserve complex with the following obligatory characteristics:

1. Memory reserves, intellectual activity reserves, creativity reserves and the reserves of the whole personality are tapped. If we do not release many-sided reserve capacities we cannot speak of suggestopedy.

2. Instruction is always accompanied with an effect of relaxation or, at least, one without a feeling of fatigue. If pupils get tired in lessons, we cannot speak of suggestopedy.

3. Suggestopedic teaching and learning is always a pleasant experience.

4. It always has a favourable educational effect, softening aggressive tendencies in pupils and helping them to adapt themselves to society.

5. A significant psychoprophylactic and psychotherapeutical effect can be observed in cases of functional illnesses or functional components of organic illnesses. Suggestopedy can be used as educational psychotherapy, psychoprophylaxis and self-education.

In overcoming the social suggestive norm and in creating a new setup, Suggestopedy acquires considerable sociopsychological functions. At the same time by taking into consideration the psychophysiological laws and the fundamental principles of suggestology it becomes a medical trend in pedagogy. In this way it is both an educational and a curative system. The synchronization, synergisation and harmonization of, if possible, all factors of the process of instruction makes suggestopedy into a holistic pedagogical system.

This globality creates favourable conditions for tapping the reserve complex of suggestopedy.

Principles and Means of Suggestopedy

The principles and means of suggestopedy take into account the age characteristics and the pedagogical aims of students. The

principles are:

1. Joy, absence of tension and concentrative psychorelaxation.

2. Unity of the conscious-unconscious and integral brain activation.

3. Suggestive relationship on the level of the reserve complex.

The principle of 'joy, absence of tension and concentrative psychorelaxation' requires an atmosphere of joyous freedom in the process of instruction. In the pupil's behaviour there should not be any simulation of close attention and artificial good breeding. This principle presupposes mental relaxation and 'non-strained concentration'. The emotional release creates conditions for undisturbed intellectual mnestic and creative activity without causing the fatigue and the considerable consumption of energy that accompanies strained attention.

The observance of these principles means that the teacher should teach his pupils how to learn.

We must emphasize that this principle does not mean passiveness in the sense of lack of will, lack of discrimination and subordination. It calls for calmness, steadiness, inner confidence and trust. This means: passivity of the parasitic mental, emotional, vegetative and motor activities combined with purposeful self-control which does not cause fatigue.

The principle of 'unity of the conscious-paraconscious and integral brain activation' is in fact a principle of globality, a holistic principle. Not only are the pupil's conscious reactions and functions utilized but also his paraconscious activity. This principle calls for the rationalization of the always-simultaneous global participation of the two brain hemispheres and the cortical and subcortical structures, and also of the simultaneously occuring analysis and synthesis. When this principle is observed,

the process of instruction comes nearer to the natural psychological and physiological regularities in personality. The consciousness, in the sense of attitude and motivation, is lifted to a still higher level. The observance of this principle does not mean that in the ordinary process of instruction the paraconscious functions are not utilized to some degree. However, under the conditions of the suggestopedic educational system, the process of instruction is not set against the natural inseparability of the conscious and paraconscious functions.

The principle of 'suggestive relationship on the level of the reserve complex' calls for a reorganization of the educational process which will make it similar to group psychotherapy with the particular relationship established in it. The level of the suggestive relationship is measured by the degree of the tapped reserves in a pupil. The qualitatively different characters of these reserves (a new type of assimilation of material, considerably greater volume and retention of what is assimilated, positive psychohygienic and psychotherapeutic effect, useful educative influence, etc.) make them a reliable criterion for the realization of this principle.

This principle makes it imperative that the process of instruction should always run at the level of the personality's unused reserves. This cannot, however, be achieved if the principles are applied separately (if each principle is observed in isolation from the others).

Many good teachers create a gay, pleasant atmosphere in the classroom. It would seem that they are following the first principle of suggestopedy. But assimilation of the material in this atmosphere does not reach the level of the suggestopedic assimilation with its new objective laws governing the processes and with

its paradoxical favourable psychohygienic effect from the process of instruction. Of particular importance is the fact that these pleasant lessons given by good-hearted teachers do not wipe out the old limiting social suggestive norm. On the contrary, this norm is reinforced. In these circumstances one gives one's smiling confirmation to the validity of the brain's limited capacities and backs up the accepted ideas that studying can only be made more pleasant. Such a smiling confirmation of the old norms, in spite of the gentle approach, can be of little advantage. Under suggestopedic conditions, joy springs not so much from the pleasant outward organization of the educational process, but rather from the easy assimilation of the material and the easy way it can be used in practice. The observance of the three principles simultaneously in every moment of the educational process makes learning joyful and easy, and leads to the tapping of complex reserves.

Means of Suggestopedy

These principles are realized through the indivisible unity of the three groups of suggestopedic means: (1) psychological, (2) didactic, and (3) artistic (means of art).

1. The psychological means are one aspect of the other two groups, but they also possess additional specific significance. To use these means successfully teachers should acquire training similar to that of doctors-psychotherapeutists.

Teachers must be familiar with the numerous variants of paraconscious perceptional and thinking processes, so that they can utilize them in teaching. The teacher should be master of the art of connecting the peripheral perceptions and the emotional stimulus in all-round orchestration with the globally presented material. Therefore, the psychological means for observing the unity

of the three suggestopedic principles make it imperative for teachers to be theoretically and practically well-trained. In the process of 'teaching students how to learn', the teacher must not only give them the respective material, but he must also teach them how to help themselves in learning it.

2. The didactic means call for the generalization of the meaning of the codes and the enlargement of the methodic units. The generalization is brought about on the basis of the main objective laws of the particular subject and one must seek to establish its relation to the other school subjects. In this way, one lesson comprises material (worked out in the above manner) which is given in ordinary schools in five, ten or more lessons. The enlarged methodic unit makes it possible to get a general idea of the essential objective laws of all the material studied, and the generalization of the codes makes it possible to overcome the seeming limitation of short-term memory. This principle demands meaningfulness in teaching, the avoidance of repeated exercises on details and the gradual introduction of the new subjects for study. The habits 'hierarchy' is avoided, high motivation is created and creativity is stimulated.

There is another important and characteristic feature of suggestology involved here: while attention is drawn to the consciously understandable, generalized unity and the sense of it, the processes of unconscious perception and thinking process the implied elements included in the general code: for instance, in teaching foreign languages, the students' attention is directed to the whole sentence, to its meaningful communicative aspect, to its place and rôle in the given amusing life situation. At the same time pronunciation, vocabulary and grammar remain to a great extent on a second plane. They are also assimilated but the well-trained tea-

cher draws the students' attention to them only for a short time and then goes back quickly to the sense of the whole sentence and situation. A considerable part of these elements are learned along with the whole structure without any special attention being paid to them.

For example, in teaching children to read, they do not learn the separate letters first, in order to be able later to join them to form syllables, words and sentences. But neither are they taught by the so-called 'whole-word' method where no interest is shown in the letters that form the words. The children learn meaningful units - words and short sentences and they discover the letters on the second plane, in the form of finding the answer to the picture-puzzle which illustrate the material. Thus they assimilate the whole and its elements simultaneously, their attention being directed, in most cases, to the whole.

3. The artistic means of suggestopedy introduce a special kind of literating-and-stimulating didactic art (music, literature, acting etc.) into the process of teaching and learning. They are not an illustrative stage in the process of learning, but are built into the contents of the lesson. They promote the suggestopedic psychological orchestration by introducing, on the second plane, an abundance of harmonized peripheral perceptions.

The artistic means are used both to create a pleasant atmosphere during the process of receiving, memorizing and understanding the principal information given in the lesson, and to enhance the suggestive setup for reserves, attitude, motivation and expectancy. Through the artistic means part of the material is immediately assimilated. After this the teacher's work becomes easier and pleasanter.

A number of experiments have been carried out in our experi-

mental schools to check this. Table 1, for instance, shows the results obtained after didactic suggestopedic performances of little plays, which were specially written to give new material in mathematics in the first grade.

Table 1: First graders' assimilation of mathematical material taught by means of art.

Grade	Number of schoolchildren	Kind of test	% of correctly solved problems
First	1 312	Before performance	57
	1 312	After performance	74

As can be seen from Table 1, immediately after the performance the children had learnt a considerable amount of the material without noticing it. The difference is statistically significant ($p < 0.001$).

In teaching other subjects, both to children and grown-ups, the didactic suggestopedic performances always give good results if they are correctly organized.

Table 2 (p.37) shows the results of such performances in teaching English in one of the primary schools. It is seen that without making any effort, only by coming into contact with didactic art, the children assimilated part of the material. And the amount of the material they had assimilated increased the following day, without their having been able to do any homework on it or to repeat it. The suggestion law of spontaneous delayed recollection which has already been mentioned, is manifested here. All the differences are statistically significant ($p < 0.001$). It is of interest to note that experimental checks, involving the

Table 2: Primary schoolchildren's assimilation of English taught by means of art.

Kind of test	No. of school-children	Maximum possible correct answers	Correct answers	
			Number	%
Before performance	302	985	49	4.9
Immediately after performance	295	965	130	13.5
Delayed check - the following day (no revision)	278	913	216	23.7

solving of problems and tasks similar to those given in the performances, have shown very good results. The children not only memorize but utilize the knowledge they acquire in these performances for solving other similar problems and tasks.

Our research into the part that the concert session plays in foreign language teaching for adults has also shown that during this artistic stage the biggest percentage of the new material is assimilated by the long-term memory.

The suggestopedic means, like the suggestopedic principles, should not be applied independently. At any stage of the educational process one or another of the suggestopedic means may dominate but always in close connection with the other means. Therefore we speak of the unity of the three suggestopedic principles and of the unity of the three groups of means by which these principles are observed.

Inter-subject Relations

If we carefully analyze the principles and means of suggestopedy, we shall get the idea of how to understand the inter-subject relations.

The principles and means show that the process of teaching

and learning should no longer be considered as 'linear'. This means that the pupil is not to be considered as a multi-storeyed machine in which each storey works independent of the others - in the mathematical lesson 'the mathematical storey' is fed with mathematical knowledge, in the music lesson the 'musical storey' receives the necessary information and so on with all the subjects - each activity detached from all the rest.

When the educational process is of a linear nature, which suggestopedy rejects, it consists of dry logicalized teaching that is separated from the essentially inseparable 'emotional presence'. An educational process of a linear nature has an especially harmful effect in regard to the misunderstood "principle of consciousness", having led to an unsuccessful attempt to break the inherent unity of the conscious and the paraconscious processes. At the same time it has resulted in demotivating and unpleasant conscious learning of isolated senseless elements before the pupils have grasped the idea of the meaningful whole, of the pleasant and motivating global unit which is eventually formed out of these meaningless elements.

Here we shall go into the holistic (global) pedagogical approach of suggestopedy (as a 'stereopedy') together with the analysis of its principles and means. That is why we shall briefly consider only the practical ways of realizing the suggestopedic holistic pedagogical approach through the inter-subject relations under the conditions of primary schools.

The various forms of inter-subject relations, at this stage of the development of suggestopedy can be arranged in order of importance as follows:

1. An emotional atmosphere is introduced in the teaching of those subjects which are more logically directed, and logical

thinking is introduced in teaching those subjects which in themselves create an emotional atmosphere, viz. an emotional-logical balance is aimed at.

This does not signify that emotional and logical phrases should be introduced in the process of instruction alternately, but that these two sides of the human personality should be taken into account in their inherent concomitance.

For example, in teaching mathematics the presentation of the global theme should be as lively and artistic as it is in the work with suggestopedic operas for the first grade. The work in the other grades of the primary school should be based on the same principle.

When subthemes are elaborated and when problems are solved, the situations should be taken from real life and given with a great deal of emotionality and in such a way that the actual interest of the children is aroused. The teacher's mood should be stimulating, without overdoing it in any way and without keeping the children in a constant state of unnatural strain. Children should be given problems taken from the sphere of art to solve. They should sing songs, draw pictures, mould in the mathematical period, but always with some mathematical problems in view. Even the solving of the most difficult and dull problems should be associated with an emotion of some kind of pleasant expectancy. We must bear in mind that pleasant emotions stimulate higher intellectual activity.

Conversely, in music lessons, for instance, singing and listening to music, which are mostly emotionally imbued, should be supplemented with some logical explanation of the structure of the songs or piece of music, with explanations of elements of the theory of music - explanations which are within the capacity of the understanding of children, or, in the first grade, with the rea-

ding of the text under the notes.

An emotional-logical balance should be sought and achieved in a similar way in teaching all other subjects.

2. Conscious-paraconscious balance in the organization of the lesson. This means that the teacher should cultivate a feeling for the conscious and paraconscious constituents of the process of teaching and learning. He should not put the accent only on the conscious grasping of the material nor only on the intuitive perception of it. During the process of teaching and learning any subject, we can turn the informational process to the conscious or to the paraconscious constituents. When the necessary controlled paraconscious background is insufficient, we must increase the supply of information through peripheral perceptions and emotional stimulation. And when the logical processing is insufficient, the conscious rational meaning of the material presented should be augmented. In lessons on a particular subject this optimal balance of conscious-paraconscious functions can be promoted by introducing elements taken from lessons on another subject, one which offers greater possibilities along the line desired. For example, if, during a lesson in mathematics, the teacher cannot think of any way of utilizing the peripheral perceptions within the framework of mathematical activities, he can resort to literature, music, or the fine arts, which give a greater possibility of involving and harmonizing the non-specific mental reactivity, mainly the peripheral perceptions and the emotional presence.

Conversely, understanding of aesthetical subjects is made easier if at any time he is at a loss to know how to utilize the logical aspects of the object of art itself, a teacher resorts to subjects of a critical-logical nature in order to maitain the conscious-paraconscious balance.

3. Inter-subject generalization of themes. This means that global themes should not comprise only definite sections of a given subject following only dry didactic requirements. They should unite, if possible, a great part of other subjects as well, subjects which have some relation to the specific theme, without obliterating the difference between the subjects. The kernel of inter-subject generalization is the knowledge and creative development of the subject which is studied. The other disciplines only give a wider meaning to its problems from another point of view.

Let us take, for example, a global unit in music. It can be enriched by some mathematical rules which are being studied at the moment and which have their place in music. In a mathematical lesson, the teacher can give examples taken from mathematics in the music lesson. Both subjects can be enriched with examples taken fro poetry, where both music and mathematics play their part. And these three subjects can be discovered in history, physical culture, the fine arts, and handwork. Mathematics, music, rhythm, the urge to read are to be found everywhere. But we must be very careful in taking this approach - an exquisite feeling for measure is required here. The work bound up with inter-subject relations can be resorted to in order to help forward the learning of material where some lagging is noticeable in pupils. For example, at the beginning of the first grade every occasion for reading must be made use of. Children should be made to read texts under notes, the texts accompanying their mathematical tasks, the instructions for their games, etc.

Suggestopedic Foreign Language System for Adults

In every suggestologically well-organized communicative process there is a leading procedure with a ritual or 'placebo' meaning. The other stages are more or less subordinate to this focus.

It is so, for example, in psychotherapy when, after the holding of some 'special' session, the patient's recovery is expected. In suggestopedy ritualization and placebo-association are focused in the so-called suggestopedic session.

The conviction that the new material which is to be learnt will be assimilated, become automatic and creatively processed without strain and fatigue, is suggested by the weight and solemnity given to the carrying out of this session. This session must, above all, facilitate the memorizing and psychohygienic sides of teaching and learning, although these are of necessity bound up with the whole personality. The suggestopedic session is adapted to the subject taught and to the age of the pupils. Such a session for little children is quite different from the one for grown-ups. For children this session is most often a didactic opera performance. One of the most important of the peculiar characteristics of the suggestopedic session is that it is a source of aesthetic pleasure for pupils and students.

The recital-like character of the session has the following advantages over all other types of 'special' procedures, séances, etc.:

1. The session is acceptable from the point of view of the ordinary level of culture and of practical experience - in this respect resembling certain forms of art.

2. There are no hypnotizing procedures, nor does the student feel any undesirable suggestive pressure on his personality.

3. The liberating-stimulating, desuggestive-suggestive influence of specially selected music, recitation and histrionic mastery, adapted to the requirements of suggestopedic teaching and learning, are used.

4. Ritualization of the musical-theatrical performance, with

its rich possibilities of additional positive associating and revised according to the requirements of the educational process, is made use of.

5. At the same time as pupils and students are learning, their aesthetic interests are aroused and their ethical development is improved.

6. Instruction is made pleasant, is never tiring and has considerable and favourable motivation strength.

The suggestopedic session in the regular foreign language courses for adults comprises two parts. In the first part the students listen to pre-classical and classical music of an emotional nature, while in the second part they listen to music of the same period, but of a more profound and more philosophical nature.

The new material that is to be learnt is read or recited by a well-trained teacher - once during the first part of the concert and once during the second part of the concert. At the same time the teacher must, while taking into account the peculiar features of the music when reading the material and dual-planewise, with intonation and with behaviour, get a feeling of conviction across to the pupils or students that the material will be mastered very easily. Of course, to do this the teacher must be properly trained.

The musical programme for each session is experimentally checked, both in the electrophysiological laboratory and in the foreign language courses. The following musical compositions are included in our programme:

1) A: W.A.Mozart - Concerto for Violin and Orchestra in A major and Symphony No 40 in G minor.

B: J.S.Bach - Fantasy in G major, Fantasy in C minor and Trio in D minor, Canonic Variations and Tokata in E major.

2) A: Joseph Haydn - Concerto for Violin and String Orchestra, No 1 in C major and No 2 in G major.

B: B.Johan S.Bach - Prelude and Fuga in E flat major and Dogmatic Chorals.

3) A: W.A.Mozart - Symphony Haffner, Symphony Prague, German Dances.

B: G.F.Händel - Concerto for Organ and Orchestra in F major, op. 4, No 4;
J.S.Bach - Choral prelude in A major and Prelude and Fuga in G minor.

4) A: Joseph Haydn - Symphony No 67 in F major and No 68 in B flat major.

B: Archangelo Corelli - Concerti Grossi, op. 6, Nos 4,10, 11,12.

5) A: L.V.Beethoven - Concerto No 5 in E flat major for Piano and Orchestra, op. 73.

B: Antonio Vivaldi - Five Concertos for Flute and Chamber Orchestra.

6) A: L.V.Beethoven - Concerto for Violin and Orchestra in D major.

B: A.Corelli - Concerti Grossi, op.6, Nos 2,8,5,9.

7) A: P.I.Tchaikovsky - Concerto No 1 in B flat minor for Piano and Orchestra.

B: G.F.Händel - 'Wassermusik'.

8) A: J.Brahms - Concerto for Violin and Orchestra in D major, op. 77.

B: F.Couperin - Le Parnesse et l'Astrée - Sonata in G minor
J.P.Rameau - Pièces de Clavecin No 1,2.

9) A: F.Chopin - Waltzes.

B: G.F.Händel - Concerto Grosso, op. 3, Nos 1,2,3,4.

10) A: W.A.Mozart - Concerto for Piano and Orchestra No 18 in B flat major and Concerto for Piano and Orchestra No 23 in A major.

B: A.Vivaldi - The Four Seasons, op. 8.

The whole material for the first course comprises 2 000 lexical units, all the basic grammar of the respective foreign language, and reading matter. The pupils reach a satisfactory level of speaking habits and skills and of understanding. The material is divided up in ten thematically connected dialogues with entertaining plots and sub-plots. One of these dialogues is read at each session.

As was mentioned before, the suggestopedic foreign language system has been moulded with its own definite features standing out in high relief and with the different stages focusing in the suggestopedic session. In this way not only the direct desuggestive-suggestive factors are made use of, but also the association that invariability accompanies them.

There are three principal phases of the suggestopedic lesson in a foreign language: the pre-session phase, the session phase and the post-session phase.

The pre-session phase takes about 15-20 minutes. In this phase the students are made familiar with the new material for the first time. The organizing of this 'first encounter' with the material is of particular importance in creating a positive setup of reserve capacities. A great part of the material is memorized during this phase; anticipation of the next phase, the one consisting of the session, arouses pleasant emotions in the students. The teacher explains the new material and deciphers the thematic dialogue. In doing this, he must suggest through his behaviour that the assimilation of the new material has already begun and all is

pleasant and easy. Already during the deciphering, which is a stage in the giving of the primary information, the following stages should be noted: fixation, reproduction and new creative production.

The session phase comprises the session itself, which has already been described above. It lasts for one academic hour (45 minutes) and with it the day's lessons come to an end.

The post-session phase is devoted to various elaborations of the material to activate its assimilation. The elaboration comprises imitation of the text, questions and answers, reading, etc. An extra text, a monologue, is also read. The students engage in conversation on given themes, and are given small rôles to play. The playing of these little scenes should take place, however, only when the students themselves agree to take the rôles. This is easy for them for on the very first day they have been given new names (in line with the language they are learning and the characters in the text). The teaching and learning thus acquires sense and meaning and in the general emotional stir caused by the play-acting, the language side of the lesson is forgotten and the students use the phrases heard in the session without searching their minds for them or analyzing them. Mistakes made in conversation should not be corrected immediately, but a situation should be created in which the same words or phrases or similar ones are used by the other students or by the teachers themselves.

The last day of the course is dedicated to a final performance of a little show in which every student is included - the level to which he has learnt the material given in the course and his own wishes being taken into consideration. The students themselves think up an interesting play in which most of the themes they have studied are included. Their emotional acting enhances their

self-confidence.

Besides the above-mentioned characteristic features of the suggestopedic system for teaching foreign languages to adults, there are a number of psychological principles which should be observed. For example: good, authoritative organization of the work in the Institute; purposeful, double-plane behaviour of the teacher; motivating initial instructions which are read to the students; the directing of students' attention to sense-bearing wholes and easy and, if possible, unstrained assimilation of the elements; no obligatory homework, but permission can be given to students to go through the new lesson for about 15 or 20 minutes in the morning and in the evening, but only informatively, the way one skims through a newspaper.

The textbook is of special importance. Its contents and layout should contribute to the success of the suggestopedic process of teaching and learning. A light-hearted story with a pleasant, emotional plot should run through the textbook. The greater part of the new material is given in the very first lesson - 600 to 850 unfamiliar words and the greater part of the essential grammar. In this way at the very beginning the students have a wide choice of language possibilities at their disposal, to cope with the tasks given them. Thus they do not feel themselves 'conditioned' to speak within the limits of a few words and patterns. Each line of the textbook contains parts that can be substituted by others. Thus without getting into structuralism <u>per se</u>, hundreds of patterns are assimilated at once and under natural conditions. The pictures used as visual aids are connected with the subjects of the lesson and not with elements of it. This contributes to the communicative freedom. The translation of the lesson in the mother tongue is given to the pupils at the beginning of the lesson to

look through cursorily, and is then taken away. In this way the instruction is modelled on what is natural for adults - to have a translation of the text in the foreign language. But we do not stay long at this stage and quickly pass on to the stage in which there is no translation at all.

The Suggestopedic System for Teaching All Subjects in School and Pre-school Age

The Suggestopedic System has been introduced for teaching all subjects in ordinary schools and in kindergartens for three - to six-year old children. The three suggestopedic principles and the three groups of suggestopedic means are also being successfully used. Of course, the instruction is adapted to the age of the pupils and the specifity of the subject. The fact that, at this early age, the social suggestive norm for the limits of the human personality and for the difficulty of learning has still not been inculcated in the children is of special importance. The motivation for learning is natural, spontaneous, unconscious. It is equal to the natural thirst for information under conditions of play and fairy-tales. That is why one of the most important tasks of the teacher-suggestopedagogue is not to allow the build up of limiting and inhibiting social suggestive norms and to ensure a natural transition from the world of play to the world of creative learning, characterized by a spirit of independence, consciousness and high motivation.

The most typical examples are found in the first grade in teaching reading, writing and mathematics and in the upper grades in teaching history, geography, etc. By describing them we shall give an idea of how the teaching of other subjects is organized. In all cases it is, however, necessary to explain to the parents, in detailed written instructions, how to behave to the child at

home,so that they are no obstacle to the work of the teacher. It is especially important for parents to know that first-graders are exempt from doing homework and that the parents' rôle is, as tactfully as possible, to highten the children's motivation for learning.

A. Teaching and Learning to Read in the First Grade

There is no great difference in the way first-graders and children of pre-school age (three- to five-year olds) are taught to read. With younger children the process is only a little bit slower.

Based on the three suggestopedic principles and with the suggestopedic means, the teaching of reading proceeds in the following way:

1. On the very first day of school 30 or 40 large colour posterlike pictures of scenes from the world of children are placed on the walls of the classroom as decoration. The words corresponding to the pictures or a short sentence describing in writing the meaning of the pictures are written in large typed letters under the respective pictures. The first letters of the words are inscribed and interwoven in the respective pictures as well, in a semi-concealed way. For example, under a large picture of a bear, there is written in large typed letters the word "BEAR" and the letter "B" is introduced in the picture itself, but as a picture-puzzle. The entire alphabet is given in this way and also some of the more difficult letter combinations. These posterlike pictures are placed in the pupils' field of vision. They are left for two days like this, without the children's attention being drawn to them.

2. At the end of the second day of school, they are taken down and shown to the children in random order with the pictures themselves concealed and only the written words showing for the

children to read. Thus a situation like that of playing a game arises. At first in chorus and then separately, the children have to answer the following questions:

(a) Which picture was above this word (or sentence)?

(b) The word (or sentence) of which picture is this?

(c) What is this word (or sentence)?

3. Twenty or thirty pictures of the same kind are hung in the classroom for another two days. Then the teacher proceeds in the same way with them as he did with the first lot. All this is obligatorily organized in the form of a game or of play.

4. All the words and sentences used as captions for the pictures are written separately without seeing the pictures and in an atmosphere of play. The first grade group are then asked to read them quickly in random order, first in chorus and afterwards separately by each child.

5. The words and sentences already learnt are combined in short new sentences, each with one new word. The sentences are connected by some plot. They are read in chorus and, from time to time, by individual pupils, The children are not allowed to read separate letters or syllables. Always the whole word, or the whole sentence! Regardless of this, the teacher suggests in passing that the words are composed of letters; he may ask the children about the letters, but should not stop to dwell on the letters when reading. The teacher goes on to the quick reading of slides and then engages the children in quick-reading contests and games.

6. Didactic opera or theatre performance, often a film or videotaped performance. Part of the words already learnt, and also some of the new words, are given in the specially prepared performance as a way of unravelling the most interesting parts of the plot. All the children join in the chorus together with the tea-

cher and thus 'help' the actors who suggest that reading is pleasant and easy. The same performance comprises some mathematical material.

Note: The day before the performance the children read an illustrated book in chorus, together with the teacher. This book contains the libretto and score of the same little opera performance.

7. Short poems already learnt by heart by the children and made up primarily of words already familiar and of a pleasant nature are read in chorus and individually. The children must follow the place in the text with their first finger, even when the word is unknown to them. A slide projector can be useful also in this part of the lesson.

Note: The whole of this stage takes about ten days.

8. For several days the children read their first entertaining book, which has been specially written for them and contains the words and sentences that were inscribed under the pictures - mostly words and sentences which the children already know. This book is the suggestopedic Primer.

9. The reading of other booklets and texts adapted to the level of knowledge of the children and containing not only familiar words but also unknown ones. The reading is in chorus, but the teacher stops from time to time and wait for the children to continue alone. Sometimes the teacher only lowers his voice, and then raises it again as soon as he notices that the children need his support. The texts should be short, emotional and rhythmical. The speed of the reading should increase gradually, but steadily. The aim is to teach children how to read quickly, fusing the short words with the long ones and avoiding breaking the words up into syllables. In given moments the chorus reading is switched to in-

dividual reading. Each text is read at the most only twice so that in this case the pupils are prevented from memorizing it. After they have read the text, the children re-tell what they have read very briefly to avoid mechanical reading. There should be no reading of texts without a plot and without a positive emotional quality.

After reading the beginners' series of booklets, with texts adapted to the children's ability, we pass on to reading suitable booklets available in the book shops. The aim is to read in chorus and individually as many books as possible. The children's attention is not kept fixed on one book for any length of time and the teachers keep going on quickly to the next one.

Conditions are created for bringing more variety into the repetition by the continual introduction of more and new material for reading. Those pupils who are already well advanced can be left to do quiet individual reading of more difficult booklets, the contents of which they can narrate afterwards to the class. Meantime the class continue to read one new book after another in chorus. A transition is gradually made to increasingly expressive and artistic reading.

GENERAL SURVEY: The method here described for learning to read has at first glance features in common with the method for learning whole words. However, this is only a superficial similarity. We can list a number of features in which the method for learning to read differs essentially from this method. Primarily, the suggestopedic system for learning to read differs from the method for learning whole words in the unity of the three principles of teaching and learning. In the former method the following more essential differentiating traits should be noted:

(a) In suggestopedy the pooling of the material in words and

short expressions is always harmonized in unison with the psychological and artistic means.

(b) The whole word or sentence is learnt to a large degree peripherally and without waste of time and strain for the pupils, because it is presented to them by means of the pictures, which serve as decoration for the room and to which attention is not drawn. Assimilation is achieved by reading or singing memorized passages, particularly by doing or watching theatrical and opera performances, created for the purpose.

(c) The pupils do not dwell for any appreciable length of time on one and the same short sentence to change only a word here and there. They pass on very quickly to new texts and booklets.

(d) The pupils assimilate the word as a whole, but it is cursorily suggested to them that it is composed of letters. The initial letters of the words are incorporated in the pictures as a hidden element of them. The visual-auditory analysis goes to the second plane simultaneously with the cognitive stimulus of the first plane - the word or short sentence as a unit full of meaning.

(e) The synchronous group reading, as a stage in suggestopedic instruction, with its chanting features, rhythm and accelerated tempo, and with the 'conducting' of the children by the teacher, occasionally modulating his voice and speaking in a low tone, is pleasant and adds to the naturalness of the method.

In a word, the suggestopedic system for learning to read is a natural method which in many respects is similar to the processes by which small children learn to speak.

B. Teaching and Learning to Write in the First Grade

Teaching and learning to write begins 10 or 15 days after the beginning of the school year when the children already know how to read. This process has also been brought up to a meaningful level

by introducing global didactic units and by observing the unity of the three principles and three groups of suggestopedic means. The plan for one writing lesson taken in one period is as follows:

1. The teacher writes a short, meaningful, emotional sentence on the blackboard, first in the normal way then leaving a little space between the letters and words.

2. He makes a brief analysis of the contents and structure of the sentence - words, letters and capital letters.

3. The pupils write down the whole sentence in their notebooks.

4. The teacher checks the independent work of the pupils, points out the mistakes and makes them write out the incorrectly written words and letters again - but only once.

5. Then the pupils write out the whole sentence again.

6. After this they write the same sentence as it is dictated to them.

7. Then another sentence with the same words is dictated to them and written down.

8. Gradually they go on to more complicated texts and dictations.

Note: Teachers should be careful to see that the pupils do not find the writing lessons irksome. Pleasant texts should be given for copying and the musical accompaniment of classical music suitable for children should be turned on very often.

C. Teaching and Learning Mathematics in the First Grade

In teaching mathematics to pupils in the first grade, one should seek not only to give the new material globally, but also to find a link with the other subjects. In drawing and manual work, for example, it is possible to introduce, in an unobtrusive way, a number of things the pupils have learnt in their lessons in mathematics. In this way the children will begin to feel that

a knowledge of mathematics is indispensable and at the same time extremely interesting. Such links between mathematics and physical culture and all other subjects can easily be found. For example, in physical culture the children can count themselves, or certain numbers of children can be added to a game or taken out of it. The links with the other subjects should be sought unobtrusively and in a captivating way, so that the children do not feel they are engaged in mathematical exercises.

The mathematical material for the first grade comprises everything that is in the official curriculum for the first and second grades of the other schools. A part of the material for the third grade is also included. The whole material is divided up according to its functions into six global themes. Each theme is studied in the following four stages:

First stage. The most essential of the new themes are first given in little theatrical, operatic or recital-like scenes. The performances of these little shows, with their classical-like music, are prepared in advance by the actors and actresses of the suggestopedic didactic theatre, or they are videotaped. Some of the most essential examples of the respective mathematical theme are skilfully built into the plot of the play or opera, which must be interesting for the children and which must not make them feel it is being used for mathematical exercises. The mathematical examples must not weigh on the performance and hinder its normal fascinating development.

These examples must come into play at the most thrilling emotional moments of the performance, as a form of the means of the denouement. The children in the audience must gradually be drawn into the play in the course of the performance. Thus they imperceptibly become actors and actresses in the play, and often show

creative initiative which improves the performance. The illustrated book with the plot (script or libretto and score) of the performance has been read to them the previous day.

At this stage and before beginning each new theme, pictures, on which are depicted the most essential problems, must be hung on the class-room walls. By analogy whole sections of mathematical problems can be solved from them. Teachers should, however, pay no attention to these pictures; they should hang there on the walls as decoration for the classroom.

Second stage. The following day (in one period in the classroom) the children re-tell the contents of the play or even replay or sing some passages, never failing to mention the didactic problem included in it as the means of unravelling the plot. Then an extra song is sung or a poem is learnt by heart - the song or the poem containing an essential variant of the mathematical example given in the performance.

Third stage. The following day (in two periods in the classroom) the whole theme is given in a generalized way. The beginning is always made by going over the plot of the theatrical performance and the didactic songs and poems. Following this the teacher switches over to didactic games. The material, which is large in volume, is all subject to one and the same functional principle, which must be pointed out to the children. For example, it must be explained to the children that when we add 6 to 7, we add it in the same way as we add 16 to 7 or 46 to 7, or 136 to 7, and so on.

Fourth stage. In the next few days (one period per day) - fixation of the material taught, deepening the children's knowledge and solving creative tasks. Short control tests are given periodically to see the degree to which the material has been mastered and what extra help is necessary for the different pupils.

The teacher goes on to the next theme only when the control tests show that the pupils have mastered on an average 70 or 75 per cent of the material.

Of essential importance is the ability of the teacher to suggest to the pupils through his conduct that the material is extremely easy to master, and to create a bright pleasant atmosphere in the classroom. Homework is not given, because it suggests that there are many difficulties to master and because through homework parents are inclined to force their children to learn.

If a child on his or her own initiative wants to solve mathematical tasks at home and then show them to the teacher, the child should be encouraged, provided that no one insists on his or her doing such tasks every day, except in those cases when the child itself expresses a wish to do them.

Introduction to the material during the first year should take place imperceptibly and in a manner that is pleasant for the children. Parents are instructed to send their children shopping, and to ask for an exact account of the change they bring back after paying for their purchases. In general, all cases in which the children's knowledge acquired at school can be practically applied must be made use of by the parents. Children should not, however, grasp the fact that this is a form of testing their knowledge. Thus high motivation is created within children.

The mistakes which the children make at first are very tactfully corrected, sometimes imperceptibly, or they are even overlooked. Stress is laid on the correct solving of problems, this is underlined and encouraged.

The problems that the children are given to solve should not be formally moulded, only for the sake of the mathematical material itself. In their verbal shaping there are always settings

which are interesting and thrilling for children's mental make up. Thus the child must be unterested in the solution of the problem itself. For instance, if there are a lot of soccer fans in the class, some real figures can be taken in respect to goals and scores and the members of the teams and, on this basis, a mathematical check-up, which would stir the fans of the different teams, can be carried out. In this way a multitude of mathematical tasks can be invented.

The material is increased on the basis of analogy but at the same time due regard is paid to the requirements for uniting opposite operations. With the expansion of codes and methodical units, the requirements of the didactic means of suggestopedy are duly observed. At the same time tne meaningfulness is enhanced and this helps to enhance the motivation of the pupils.

Strict differentiation of the means, the different stages, the themes and the subjects leads to their being brought into opposition. This makes the instruction less effective. In teaching first graders mathematics, it is necessary that unceasing internal integration is realized.

D. Teaching and Learning a Narrative Subject (History, for Example) in the Upper Grades

The teaching and learning of a narrative subject in all grades has common characteristic features. Here we shall give a brief description of the process of teaching history.

The whole material envisaged for one school year or for two school years is generalized according to the most important sections. One global unit of this kind comprises from 5 to 10 ordinary didactic units. In this way the enlarged material is retold, bringing the most outstanding facts to the fore but, at the same time, mentioning a considerable part of the details. This peculiar

summary, which is the global theme, ensures an excellent mark for the pupil if he is examined on the most important facts, and a good mark if he is examined on the details. The pupil is able to get excellent marks on the details, too, after the subthemes have been worked out.

On the basis of this global theme a synopsis is made which must be sufficient to reproduce the whole theme.

A suitable picture illustrates the global theme and its synopsis. By casting only one glance at the picture, the pupil should be able to retell the whole global theme.

The giving of the lesson proceeds in the following way. First of all the global theme with its synopsis and the picture which illustrates it are presented to the pupils. The presentation is lively and artistic; visual and auditory aids, such as suitable films and music, are used. After presenting the global theme, in the following lessons the teacher works on the subthemes always referring to the global theme and to the other subjects.

The teacher goes on to the next theme only after the pupils have learnt on an average 75 per cent of the material and can use it in narrating. Sometimes a concert session is given to the pupils to help them to memorize the synopsis of the global theme. In this respect, however, the proper measure must be observed in order to keep up the expectancy of the pupils. That is why an all-round programme has been worked out for sessions and hours of other mental activities.

Results of the Suggestopedic System

As was mentioned above, suggestopedic instruction, when it is well organized, should release the suggestopedic reserve complex. This does not only mean that the assimilation of new material should be considerably accelerated (usually several times over), that the knowledge should be gained for a more lasting period on

a more creative level. It is also imperative that there should also be the other favourable educational and medical results.

These concomitant favourable effects of a medical nature have been turned into the basis for a whole suggestopedic system that has become a new psychotherapeutical trend. However, the attention of specialists has so far been attracted to the educational results because of their volume, durability, creative tendency and secondary motivating power. These results have been published in a number of papers on the problems of suggestopedy reported at conferences and symposia in Sofia (1971), Los Angeles (1975), Washington (1975) and elsewhere.

The experience accumulated so far shows that steady good results, identical in the different countries, can be expected when the suggestopedic system of teaching and learning is properly organized.

A. Results of the Suggestopedic Foreign Language System of Teaching Adults

There can be different variants of the suggestopedic foreign language system - from courses with several lessons a week to courses of whole days' 'immersion' in the suggestopedic foreign language atmosphere. The leading factor is not the number of lessons but the psychological organization of the process of instruction.

If we take the 24 days' foreign language course with four lessons a day as the basic pattern, the following results can be expected: (1) The students assimilate on the average more than 90 per cent of the vocabulary, which comprises 2 000 lexical units per course; (2) More than 60 per cent of the new vocabulary is used actively and fluently in everyday conversation and the rest of the vocabulary is known at translation level; (3) The students

speak within the framework of the whole essential grammar; (4)Any text can be read; (5) The students can write but make some mistakes; (6) The students make some mistakes in speaking but these mistakes do not hinder the communication; (7) Pronunciation is satisfactory; (8) The students are not afraid of talking to foreigners who speak the same language; (9) The students are eager to continue studying the same foreign language and, if possible, in the same course.

This holds good also for beginners who have never learned the respective foreign language before. It stands to reason that in teaching students who have some preliminary idea of the language, the results will be much better. The assimilation of the new material in the following second and third courses takes place approximatedly at the same speed.

One great advantage of the suggestopedic system for learning foreign languages, as we have already pointed out, is the fact that students are not obliged to do any homework. Only the most diligent of them are allowed to read the new lesson informatively in the evening for 15 or 20 minutes.

B. Results of the Suggestopedic Teaching of Reading in the First Grade

The description of the method makes it clear that children begin reading already in the second week, although a limited volume of reading matter and rather slowly. Reading skills quickly develop during the next few weeks. In the second month of the school year the children can already read any text quite fluently. This motivates them very considerably. They begin to ask for books In the same time schoolchildren learning by the ordinary method in the control schools do not learn the whole of the alphabet and can read only a limited number of words, and very slowly at that,

in syllables or letter by letter.

Of course, we mean here those children who could not read when they came to school and children of pre-school age. Taking into consideration the fact that the suggestopedic experimental schools have a five-day week with less school hours and the pupils have no homework, the results achieved acquire still greater significance. The results of research carried out in 1973/1974, involving only the children of the then experimental school, who could not read when they were admitted to it, were compared with the results obtained in the control school. In this way we obtained the data given in Table 3.

Table 3: Input and Output Reading Levels of Pupils without Preliminary Knowledge at the 122nd (Experimental) and the 139th (Control) School

School	Group	Type of control test	No of pupils	Knew no letters (%)	Knew some letters (%)	Read word by word (%)	Read freely (%)
122nd (experimental)	1st	Input 17/9/73	26	30.77	69.23	–	–
		Output 21/5/74	24	–	–	25.00	75.00
139th (control)		Input 18/9/73	25	36.00	64.00	–	–
		Output 17/5/74	21	–	–	55.00	45.00

From this table it is perfectly clear that these children ended the school year with a considerable lead in proficiency over the children in the experimental group. In the experimental group 75 per cent of the children were able to read freely as compared with 45 per cent in the control group ($p < 0.05$). Similar results, all statistically significant, were obtained in a number of repea-

ted researches carried out with more children. In the school year of 1975/76, the Institute was given 15 experimental schools all over the country with 1 500 first graders and 14 control schools with 1 300 first graders. At the end of the school year under the above-mentioned conditions of a five-day weak and no homework, we got the following results in reading: (1) In the experimental schools the children mastered 91,5 per cent of the material envisaged for two school years (including the initial period of teaching them how to read) in 99 academic hours. At the same time the control schools, with a six-day week and quite a lot of homework, mastered only 79.5 per cent of the material envisaged for only one school year. The children of the experimental suggestopedic schools were able to assimilate in 99 academic hours much better the material which in ordinary schools is covered in 334 academic hours, plus homework.

The data given in Table 4 (p.64) were obtained from the input (at the beginning of the school year), the intermediate (in January) and the output (at the end of the school year) tests, held during the school year of 1977/78 in order to check the dynamic of the children's reading habits.

The difference between the initial tests (input) of the experimental and control groups is statistically insignificant ($p = 0,32$), but the difference shown in the intermediate tests and the output tests are statistically significant ($p < 0,001$ and $p < 0,001$).

The time taken to read one and the same text was on an average 68.62" in all the experimental groups, while for the control groups it was 78.78".

63.53 per cent of the schoolchildren of the experimental schools succeeded in grasping the meaning of a quickly read text,

Table 4: Percentage Distribution of Schoolchildren in Groups According to Their Reading Habits at the Beginning, in the Middle, and at the End of the School Year (1977/78).

Schools	Number of pupils			Read letter by letter (%)			Read in syllables (%)			Read freely (%)		
	a	b	c	a	b	c	a	b	c	a	b	c
Experimental	1413	1443	1414	84.8	24.7	11.8	5.9	22.8	21.5	9.3	52.5	66.7
Control	1228	1391	1404	86.1	45.8	24.1	5.7	19.3	31.2	8.2	34.9	44.7

a = Input tests
b = Intermediate tests
c = Output tests

but only 38.32 per cent of the children of the control schools did so.

It must be pointed out that these results were achieved in the experimental schools (a) at the intermediate test in January 1978 after 60 academic hours devoted to reading, and (b) at the end of the school year - after 90 academic hours. The results were achieved in the control schools (a) at the intermediate test in January 1978 after 90 academic hours, and (b) at the end of the school year - after 155 academic hours devoted to the same subject.

C. Effectiveness of the Suggestopedic Teaching of Mathematics to the First Grade

The suggestopedic teaching of mathematics to the first grade meets all the requirements for developing mathematical thinking in children, and the programme covers a considerably greater amount of material than the one envisaged by the Ministry of Education. The pupils are given no homework to do.

In the 1972/73 academic year the pupils in one school year,

with a smaller number of hours set aside for the study of mathematics than are set aside for it in the programme of the Ministry, took the material for both the first and the second grade.

The question most often raised that year was whether the children were acquiring lasting knowledge in mathematics. For this reason control tests of the children's knowledge of the same material were made in the experimental and the control school before and after the winter holidays. The end results are shown in Table 5.

Table 5: Retention of the Material Taught in Mathematics After the Winter Holidays in the First Grade - 1972/73 School Year

School	Type of control test	Time	% of correctly solved problems
122nd (experimental)	Addition and subtraction with decimal transition up to 20	Before holidays After holidays	72 72
139th (control)	Addition and subtraction with decimal transition up to 20	Before holidays After holidays	65 36

The experimental groups, both before and after the holidays, solved 72 per cent of the problems. The control groups solved 65 per cent before the holidays and 36 per cent after them ($p < 0.001$).

The data on the input and output level (1973/74 academic year) in the experimental (122nd) school in comparison with the control (139th) school can be seen in Table 6 (p.66). It is clear that already on January 31 the pupils in the experimental school solved 86.64 per cent of the tasks for the first grade, and were on approximately the same input level as the control schools. At

the end of the year the experimental group solved 77.39 per cent of the tasks set for second grade pupils, while in the control group the best pupils could cope with only 5.28 per cent of them ($p < 0.001$).

Table 6: Input and Output levels in Mathematics in the First Grade of the 122nd (Experimental) and the 139th (Control) School

	School tested	Type of test	Control date	Problems solved	
				No of pupils	(%)
Addition and subtraction with and without decimal transition up to 20	122nd	input	17/9/73	100	36.13
	139th	input	18/9/73	52	33.17
Control test of all the first-grade material: addition and subtraction with and without decimal transition up to 200	122nd	output	31/1/74	77	86.64
	139th	output	13/5/74	45	63.18
Control test of second grade material: addition and subtraction up to 1000, multiplication and division up to 100	122nd	output	22/5/74	87	77.39
	139th	output	14/5/74	46	5.28

The results achieved in mathematics were corroborated by those obtained in our large-scale experiment. In the 1975/76 school year the 1 500 first graders of the 15 experimental schools learnt on an average 80.3 per cent of the material envisaged for the first grade, without doing homework and with a five-day school-week. At the same time the schoolchildren of the control schools learnt 63.3 per cent of this material (on an average). The first graders of the experimental schools assimilated 81 per cent of the material

envisaged for the second grade, while the second graders of the control schools learnt only 66.4 per cent of the same material. In other words, in 100 academic hours the children were able to get a better knowledge of material which in the school syllabus is to be covered in 289 academic hours, plus homework ($p < 0.001$). The results in mathematics were also corroborated by the results obtained in the following school years.

D. The Psychotherapeutical Results of Suggestopedy

The simultaneous observance of the three suggestopedic principles and the three groups of means results in obtaining the psychotherapeutic effect of suggestopedy. In point of fact, suggestopedy is a kind of psychotherapy-by-learning. Suggestopedy is, to a great extent, the application of our integral psychotherapy in the process of instruction. But if we try to find in what suggestopedy is similar to various other psychotherapeutical methods, we shall discover, in a modified form, elements of musical psychotherapy, art psychotherapy, relaxation, psychodrama, suggestive indirect and non-directive psychotherapy, meditative autosuggestive psychotherapy, the psychotherapy of free creative association, group psychotherapy, etc.

The psychotherapeutical effect of suggestopedy was observed in the very first suggestopedic foreign language courses. Hundreds of students with neurotic or psychosomatic illnesses benefited from the favourable suggestopedic effect. This led to the use of suggestopedy also as a chiefly psychotherapeutic method. More than two hundred persons suffering from serious forms of neurosis were given this treatment - i.e. suggestopedic instruction. The results obtained were much better than the results obtained through other psychotherapeutical methods. What is more, the difference between the results proved statistically significant. In a large-scale

school experiment it was established that neurotic diseases were less frequent in the children of the experimental schools than in those of the control schools.

Experimental Team

All pedagogical, psychological, physiological and other research is carried out by a group of specialists and research associates of the Institute - neurologists, psychiatrists, psychologists, physiologists, pedagogues and philologists. They also collaborate with specialists and research associates of various universities and research institutes - professors and associate professors in psychiatry, school health specialists, physiologists, sports specialists, psychologists, pedagogues and others - 75 people altogether. Collaboration has also been established with specialists and researchers of the universities of other countries: the USSR, the USA, Austria, Hungary, the GDR, the FRG and other States. Theses have been defended in the USSR, the USA, Austria, France and elsewhere.

The Prospects for Suggestopedy

As an educational system suggestopedy introduces a stimulating process of instruction in the primary school, instruction which carries no burden of homework. It heightens the pupils' creative and motivational level and creates the prerequisites for transition to self-instruction in the second part of the pupils' schooling period. The same holds good for adults.

In order to understand suggestopedy properly and to help on its further development, this new pedagogical trend should be considered in all its complexity, from all sides, in its teaching-and-learning, educational, medical, and conceptual aspects.